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THE Motor Car JOURNAL.

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The Medium for all Interested in
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COMMENTS.

Vol. IX.

WITH this issue the *M.C.J.* commences the ninth volume of its chronicle of the automobile movement, a record that can be traced back through *Industries and Iron* to the *Mechanics' Magazine*, which, in the pre-Victorian days, was the only British journal that encouraged the early motor-car movement. Thus the *M.C.J.*, while contemporaneous with the revival of late years, can claim distinguished ancestry, linking up the newspaper history of the movement from the days before legislative stupidity and prejudiced interests set back the wheels of progress, to the present time, when the importance of the automobile is being universally acknowledged and generally encouraged.

Aeroplanes for the Show.

INVENTORS and designers anxious to participate in the honour and rewards that will be associated with the Aero Club Section of the Exhibition at the Agricultural Hall, London, in April, are reminded that entries should be sent to Mr. H. E. Perrin, the secretary of the Aero Club, 166, Piccadilly, W., not later than March 16th. Firms wishing to supply aeroplane accessories, motors, propellers, timber, aluminium, material for covering the "planes," &c., will also be afforded facilities for exhibiting their particular specialities at the Agricultural Hall. The models will be shown in the Berners Hall, reached from the main gallery of the building, while another gallery, capable of accommodating full-sized machines, will also be available. So far entries have been coming in very well and Mr. Perrin anticipates a very successful display. As to the method of starting the models, much will depend upon the wishes of the inventors. It is suggested that a narrow staging, five feet high, should be erected, but its use would be at the discretion of the exhibitors. So far the models promised for the exhibition vary in size from three feet to fifteen feet across the wings, and from three to thirty pounds in weight. Some competitors are entering five or six models.

The Wreck of the "Berlin."

WE regret to have to announce the loss of two gentlemen connected with the motor trade in the wreck of the "Berlin" on the Hook of Holland. Mr. Henry Spyker, who was drowned, is the brother of Mr. John Spyker, the owner of the Trompenburg Manufacturing Company, who make the Spyker car. The deceased gentleman was interested in the motor business, and was also controlling the petroleum wells belonging to the family, in Java. He had come to England to join his brother in transferring the motor business into an English company. Mr. Albert House, of Bradford, who had been associated with Messrs. Spyker Bros. since the commencement of their interest in the English motor-business, sends us a word of appreciation of the deceased gentleman, whose sense of business honour and general character he, in common with all who knew the late Mr. Henry Spyker, valued so highly. The other member of the motor industry who was lost in the ill-fated vessel was Mr. A. Elsworth, of Bradford, who was one of the first victims picked up after the wreck. Though terribly exhausted, he was found to be alive, but he expired in the passage between the vessel and the landing

stage. Mr. Elsworth had been identified with the motor-business for some time and was generally esteemed. The funeral took place on Tuesday afternoon amid every manifestation of sorrow on the part of many friends, while the Town Hall bell was tolled in token of the public sympathy with the bereaved widow and relatives.

A Chief Constable's Friendship.

Now that the Chief Constable of such an important city as Manchester has taken the chair at the opening of an automobile exhibition, it would appear that the lion and the lamb, otherwise the policeman and the motorist, may journey in amity and good fellowship. Mr. Peacock, the gentleman who has thus boldly blessed the automobile movement, declared that in his district, at least, drivers of motor-cars had nothing to fear so long as they acted reasonably and with due regard to the safety of other people on the road and thereabouts. Nearly two thousand motor-cars have been registered in Manchester, and yet there are fewer accidents owing to such vehicles than to any other class of traffic on the street. Evidently the utilitarian aspect of the movement appeals to the northern mind, and the welcome which the authorities have accorded the automobile is generally in striking contrast to the sullen assent accorded to its progress in some of our southern towns.

Trials for Small Motor-Cars.

THE Automobile Club of Great Britain and Ireland announces that its technical committee is considering the subject of holding next year either a series of trials or a race of the Tourist Trophy sort for small motor-cars. It is felt that the step is a necessary one, because the original Tourist Trophy race and such reliability trials as those organised by the Irish and Scottish Automobile Clubs chiefly serve the purpose of encouraging the moderate-powered car, while the Heavy Touring Car race that will be held in the Isle of Man in May next encourages yet a larger class of vehicle. Thus the small car is the only one that is not specially catered for. On Thursday, the entries at ordinary fees for the International Tourist Trophy race and for the Heavy Touring Car race closes, there being twenty-five entries for the Tourist Trophy race and seven for the larger car event.

Roads in Town and Country.

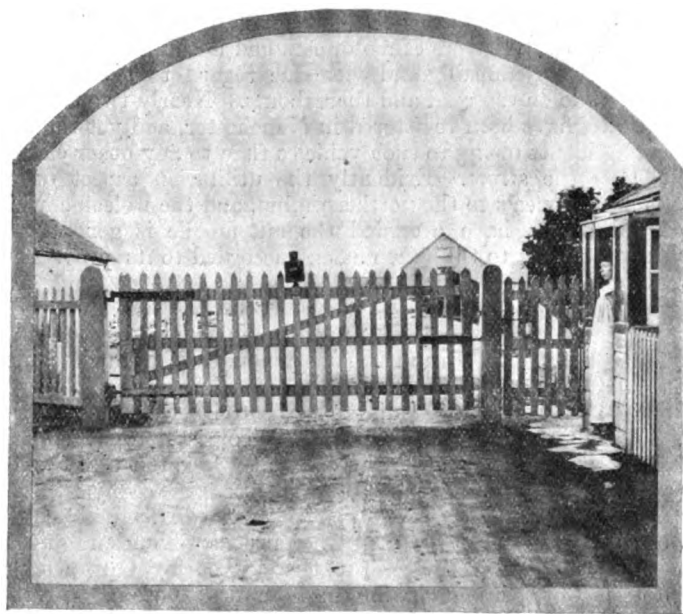
THE roads of a city, town, or urban district are hardly comparable with those of a county, or rural district, as they are constructed and maintained upon entirely different lines. As a rule the principal roads of a town have a solid formation which is not less than 12 in. thick, which may consist of 8 in. or 9 in. foundation, covered with 3 in. or 4 in. of hard macadam thoroughly consolidated, which in the case of Gloucester consists of Clee Hill Dhu stone, a basalt from Ludlow, Shropshire, whereas the majority of county and country roads consist of a coating of macadam, frequently of local stone, simply laid upon and rolled into the natural surface of the ground, which in a long length of road varies considerably. Such a road is very good in fine weather, when consolidated, but it makes a great deal of mud in wet weather, and if the mud and dust is not regularly removed by scavenging operations, motor and other traffic has a great effect upon it. On the other hand, on a town road constructed as already mentioned, the motor

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traffic, as Mr. R. Read, A.M.I.C.E., the City Surveyor of Gloucester, informs us, is a mere incident in the general traffic, and if it were not for the constant breaking up of the streets of a town for water, sewer, gas, electric light and other purposes, motor traffic would have little or no appreciable effect upon the roads. This constant breaking through the crust and foundation of the road causes weak places which take years to recover.

Bridge Tolls.

THE Motor Union recently decided to take action in the case of the tolls imposed at the Langstone Bridge, Havant. The lessee, it is alleged, has been charging excessive tolls for motor-cars crossing the bridge. This bridge is the only means of road communication between Hayling Island and the mainland, and the matter is therefore of importance to motorists travelling to and from the Island. The bridge is leased from the L. B. and S. C. Railway, and it is alleged that, with the consent of the railway company, the lessee raised the charges for motor-cars, though under the Bridge Act he was not entitled to do so. The charge is now 1s. including return, whereas it was formerly 6d. As the result of numerous complaints, the Motor Union obtained a copy of the Act under which the bridge



The Toll Gate at Langstone Bridge connecting Hayling Island with the mainland, concerning the toll for crossing which action has been taken by the Motor Union.

was built, and thoroughly investigated the matter. In the result it instructed its local solicitors, Messrs. G. H. King and Franckeiss, of Portsmouth, to act for Dr. Albert May, of Hayling Island, a member of the Union, who has laid an information before one of the county justices that "being the lessee of the tolls of the Hayling Bridge with the meaning of Section 69 of George IV., Cap. 9, did unlawfully demand an excessive toll under Section 64 of the said Act for a certain carriage with four wheels called a motor-car, propelled by other means than animal power, when passing or repassing over the bridge leading from Havant to Hayling Island, to wit, the sum of sixpence each time of passing or repassing with such motor-car."

Motor-cars regarded as Carriages.

THE case came before the Havant justices on Saturday, Earl Russell appearing in support of the information. Counsel recounted what we have written in the preceding paragraph, adding that in the schedule of charges the toll for every cart or carriage drawn by one horse was sixpence. Motor-cars at that time, added counsel, were not contemplated, but the

Light Locomotives Act of 1896 enacted that motor-cars less than two tons in weight were liable at toll gates to the equivalent charge for a carriage drawn by one horse. In the case of the Langstone Bridge, power was given to reduce the charges, and the price for a one-horse vehicle crossing the bridge was now sixpence return. Until April, 1905, the toll for a motor-car was the same, but after that date the toll was increased to sixpence each way. Counsel contended that the proper charge for a motor-car was the same as that for a carriage, and that, therefore, the charge made to the complainant was excessive. The defendant, on the other hand, urged that he was perfectly within his right in charging the amount mentioned for motor-cars, as that was the toll allowed in the schedule under the Act. He further stated that there was no bridge in England where a less toll than sixpence was charged. The magistrates deferred their decision.

Enthusiasts.

ON Friday, the 8th inst., the annual meeting of the A.C.G.B.I. will be held at the Club House, and the election of the committee is already attracting some notice, the nominations having been concluded. The attendances at committee meetings during the past year give an idea of the amount of work done by those who take a prominent part in the movement. Capt. Dyke Acland made an actual attendance of 63 out of a possible 80; Mr. Worby Beaumont, 61 out of 86; Professor Vernon Boys, 48 out of 73; Dr. Hele-Shaw, 40 out of 70; Mr. Mervyn O'Gorman, 58 out of 91; Earl Russell, 59 out of 78; Mr. A. G. New, 44 out of 66; and Mr. J. Lyons Sampson, 80 out of 90—the best proportion of all. When it is remembered that these gentlemen are distinguished in other walks of life their devotion to the routine of committee is all the more commendable. At the other end of the list is the gentleman who attended 3 times out of 47.

Arbitration v. the Law Courts—and Costs.

MOTORISTS are fairly well schooled in the expensive luxury known as the law. Of course when the police instigate its operation the defendant must have recourse to advice, but there are many misunderstandings in business which are well avoided without appeal to the courts. Recognising this fact, the Motor Union has added an arbitration department to its many activities, and although its existence is often overlooked its value is undoubted. It can be quickly set into motion, bringing into the matter technical experts who understand the subject in dispute without having to be informed by counsel explaining things from two opposing points of view. The other day a Coventry motor firm and a Yorkshire motorist had a difference which would probably have required legal aid to adjust, but a mutual agreement to refer it to the Motor Union has led to the nomination of Mr. Walter Bourke, M.I.C.E., as arbitrator, and it will now be settled with a minimum of expense and delay.

Splashing Pedestrians.

QUITE a careful guard is kept by the Committee of the Sheffield A.C. over the behaviour of the members and their cars, and complaints have lately been made as to local motorists driving fast on dirty roads and splashing with mud the pedestrians unfortunate enough to be on the footpath at the time. So the committee "call attention to this, feeling sure that members will do all in their power to minimise such inconvenience." At Chesterfield, too, trouble has arisen from the same cause, and the matter has been discussed at the meeting of the Town Council by the friends of persons who have been too near to moving motor-cars on muddy days. But, now that so important an organisation as the Sheffield Club has drawn attention to the matter, it may be taken for granted that some mitigation of the nuisance will take place. It is not pleasant to get streams of mud shot up from the roadway, and if motorists are to go slower the local

authorities should move faster in their efforts to keep the streets clean.

The Non-skid Trials.

THE Expert and Technical Committee of the Automobile Club, who acted as the judges in the preliminary test of the Side-slip and Skid Prevention Competition, reported in our issue of the 9th inst., have met and considered the performances of the various devices which underwent this practical test of their capabilities. The following have been permitted to take part in the Road Endurance Test:—No. 7, Floating metal ring, wood-lined (Parsons Non-Skid Co.); No. 8, Floating metal ring (Mr. George B. Winter); No. 22, Three pairs of wheels, back and front steering (Mr. H. B. Molesworth); No. 32, Rubber blocks, multi-sectional in direction of rotation (Hartridge Tyre Syndicate); and No. 34, Tyre of rubber and leather rings (the Westminster Industrial and Finance Developments, Ltd.). This part of the trial is now proceeding daily between Putney and Shoreditch. For this test the devices are fitted to motor-omnibuses, and will be put into actual service until a distance of about 1,000 miles has been covered in suitable weather.

Government Motor-Cars.

THE proceedings of the new committee promised on Monday by Mr. Haldane to examine the engineering establishment at Woolwich, with a view to ascertaining whether other things can be made there beside munitions of war, will need to be carefully watched. The members below the gangway of the House of Commons on the Opposition side have already expressed the view that motor-cars might be designed and made in the Arsenal, and the experts whom they will suggest as members of the committee will probably have such work in mind. As the mobility of the Army is increased the importance of the motor-car will, of course, come into greater prominence, and doubtless some of those who have been affected by the discharges from Woolwich Arsenal feel that the development of automobile manufacture would provide an avenue for their labour. But they have not paid any regard to the difficulties of the undertaking, apart from the commercial policy involved.

A Disinfecting Influence.

SOME market gardeners in the west of England attributed their excellent crops of apples last season to the influence of dust in preventing possible blight. Now the "British Medical Journal" says that an analysis of the dust and oily particles carefully collected by means of sterilised pipettes from under the head of a motor has failed to reveal any micro-organisms whatever, and cultivations gave absolutely negative results. This would seem to show that, so far from being an agent of contamination, the motor, by the heat which it generates, actually disinfects the dust and other foreign matter which comes in contact with it as it rushes along. If this can be shown to be true, the motor would cease to be the nuisance it too often is to all but those whom it carries, and people half-suffocated by the clouds of dust which it raises would, at any rate, have the comfort of believing that the matter which chokes their lungs is aseptic.

Training Grounds for Drivers.

WHERE are motorists to be trained? This is a problem that has perplexed many novices, and has worried their teachers. So far as large towns are concerned it is not always easy to find the silent highway along which the necessary first steps in driving can be made; and there is no doubt that the roadways through parks and open spaces have been freely utilised for the purpose. As a general rule there are certain hours of the day when such thoroughfares are little used by ordinary traffic, and no harm need be done by automobile pupils. But such a practice is illegal, so far as the Royal parks about

London are concerned, and those who receive or give instruction in motor-car driving in such places render themselves liable to arraignment before the Kingston or other Benches—from which, it must be remembered, there is little escape for the motorist. Fortunately a majority of the people who take to motoring have had previous experience of traffic problems—either as drivers of horse-drawn vehicles or cyclists—so that the road-fright, which might otherwise render their pupilage stage somewhat dangerous to the community, is lessened in a great degree. Given this experience, and the knowledge gained in a well-equipped garage, there does not seem much risk in a careful man or woman taking the wheel where traffic is uncongested and roads are fairly wide. Hence the restriction that is now the rule in Royal parks has the appearance of harassment, which should be above the dignity of a Government department. Even the Kingston magistrates have declined to take a serious view of the first cases brought to their notice, and mentioned in last week's *M.C.J.* But there is no reason to expect a continuance of such a reasonable attitude, and those who try their 'prentice hand in Richmond Park should beware—or, cheaper still, try fresh fields for instruction.



A Motor 'Bus in the Snow in Berlin.

Who's Who.

"WHO'S WHO" is bulkier than ever, and as accurate as formerly. That is high praise for the 1907 edition of Messrs. A. and C. Black's annual directory of modern men and women who have made anything of a ripple on the great ocean of fame. Many interesting personal glimpses of living people can be gleaned from its 2,000 pages, and its columns of twice that number. The Rt. Hon. J. H. A. Macdonald, with his host of titles to distinction, and his recreations extending from lawn tennis tournaments to football arbitrations, is one of the few celebrities accorded a column to themselves. Motoring is not placed in the category of Lord Montagu's recreations, nor does it find a place in the pleasures of the Hon. Arthur Stanley. According to "Who's Who," however, it is the sole amusement of Professor Herkomer. Sir Henry Norman, M.P., associates fishing and automobilism with his recreations, while of the recreations of Mr. Timothy Richard, of Shanghai, the famous missionary to the Chinese, it is said that he has "none, if not electricity, petrol engines and flying machines." Altogether this interesting volume is a useful guide to the hobbies as well as the details which make up the lives of men and women of to-day.

SEVEN YEARS OF PROGRESS.

THE accompanying illustration conveys a vivid idea of seven years of development of the White steam car. On the left is the original type, built in 1901. Then follow in order the models of each successive year, terminating with the 1907 pattern on the extreme right. Tracing some of the steps in the development, and comparing, first of all, the 1902 car with that of 1901, it will be noted that the 1902 model was provided with a condenser and that the engine was completely enclosed; also, the comfort of the passengers received more attention, as evidenced by the addition of a hood.

In 1903 the car underwent a considerable change in the arrangement of parts, as well as in size. The engine was placed in front under the bonnet and the car took on the appearance of a "touring car," in the common acceptance of the term. Also, a compound engine took the place of the two simple engines previously employed.

Then in 1904 the alterations were not so pronounced, consisting of an increase in the size and luxury of the tonneau, longer springs, larger oil cups, and other changes to adapt the machine to a wider range of action.

The wheel base, size of wheels, tonneau, &c, were again increased in 1905, and, most important of all, the device of the "free engine" and "emergency gear" were introduced.

In 1906 came a further lengthening of the wheel base, together with the introduction of the down draught burner, a side entrance tonneau, and numerous minor mechanical changes.

The normal seating capacity is raised to seven in the present year, 1907, the power is practically doubled as compared with the 1906 car, and the improvements include a simplified regulating system whereby the pressure and temperature of the steam remain constant under all conditions.

It is interesting to note that the generator, the fundamental feature which distinguishes the White car from all other machines, is absolutely the same in the latest car as in the first, except, of course, for difference in size and capacity. The shaft drive has been consistently employed since 1903, as has also the compound engine of the vertical marine type. Finally, it is convincing evidence of the longevity of the steam car that every one of the cars shown is in good running condition. In fact, excepting the 1901 and 1907 models, which are the property of the White Company, all of the cars shown in the accompanying photograph are in daily use by private owners in Cleveland, Ohio, U.S.A., where the White cars are manufactured, and who loaned their machines for the occasion. It is scarcely necessary to add, Mr. Frederic Coleman, who has lately opened a depot in Edinburgh, represents the interests of the White steam car in this country.

FROM Argylls Ltd. we have received a copy of the 1907 edition of the catalogue of Argyll cars, which is a model of its kind, inasmuch as not only are full particulars given of the different vehicles, but the leading details are illustrated by carefully executed drawings. Several pages are devoted to "Hints to Users," a perusal of which should assist owners of Argyll cars in keeping their vehicles *au point*.

In the early spring days the cautious motorist will review his tyres and get them into running order for the season. Although pneumatics have not yet lost their terrors—as H.M. the King found the other day when delayed by a puncture for two hours on Harpenden Common—the adoption of efficient non-skids will do something to prevent their frequent occurrence. Much depends on the way these are fitted, and as a specimen of excellence in this respect we have had submitted a sample section of the non-skid tread of the Acme Rubber and Tyre Company, of 343, St. Vincent Street, Glasgow. This can be vulcanised to old or new covers, and constitutes a repellant to any pointed arguments that may arise on the road. The rubber is of high grade quality, a remark which also applies to the chrome leather. The Egyptian cloth which is inserted is of the finest brand, and altogether the composition of the tread, with its case-hardened studs, is of a really notable character. The firm have confidence in their productions, which they guarantee for three months.

The Seven Stages of the White Steam Car Development.

CONTINENTAL NOTES.

The Grand Prix Race.

French manufacturers are losing no time in making themselves acquainted with the Seine-Inferieure circuit, on which the Grand Prix race is to be held, Garchet, on a 120-h.p. Clement-Bayard, having already had a run over the course. The three cars which this company are building for the Grand Prix race will, it is stated, have engines comprising four cylinders 160 mm. bore by 160 mm. stroke; while the racing machines the Motobloc Company, of Bordeaux, are constructing will be of 120-h.p.

A Voiturette Race in Italy.

In connection with the Turin Motor-car Exhibition a voiturette race was run off on Sunday last over a 36-kilometre course, which had to be covered three times. There were only five starters—two Lion Peugeots and three O.T.A.V.'s—the winner being Giuppone, who, on one of the first-named cars, covered the distance in 2 h. 33 min. 11 sec.

Encouraging Motor Designers.

With the view of encouraging its members in improving the design of the main parts of motor-cars, the Société des Dessinateurs de l'Industrie Automobile, of Paris, is organising a competition for the best design of (1) clutch, (2) brake, and (3) change-speed gear control. Each competitor is required to mark his drawings and papers with a number or device, repeating the same on a sealed envelope containing his name and address. The awards will be made by a jury consisting of three motor-car manufacturers, the editors of two motor journals, and two chief designers. Four prizes are to be awarded, and the successful designs will remain the competitor's property. The unsuccessful ones are to be burnt without the competitor's name being made known.

Hunting for the Stolen Motor-Car.

The members of the Auto-Moto Club of Marseilles enjoyed an excellent morning's sport on Sunday last when they played a new game—that of hunting for a stolen motor-car. A large car, which it was supposed had been stolen, had been secretly hidden by a motorist on the outskirts of the city, and, after



A Parisian Motor Dust Wagon.

Another French Touring Car Trial.

The automobile clubs of the Auvergne and the Centre are organising an international trial of touring cars, which is to be held from the 8th to the 19th of August next. The competing vehicles will be divided into four categories on a total weight basis, this including the passengers, their luggage, spares, &c.:—(1) 1,600 kilogs. and over, average speed required 30 kilometres per hour; (2) from 1,000 to 1,600 kilogs., average speed 30 kilometres; (3) 650 to 1,000 kilogs., average speed 25 kilometres; (4) 200 to 650 kilogs., average speed 25 kilometres. The programme is as follows:—August 8th, weighing in at Clermont-Ferrand; August 9th, run from Clermont to Le Puy; August 10th, Le Puy to Aurillac; August 11th, Aurillac to Clermont; August 12th, Exhibition; August 13th, Clermont to Bourges, a hill-climbing trial being carried out *en route*; August 14th, a speed trial over a thirty-four kilometre course near Bourges; August 15th, Exhibition; August 16th, Bourges to Vichy; August 17th, Exhibition; August 18th, speed trial at Vichy over the flying kilometre; August 19th, fête and prize distribution. Full particulars of the competition can be obtained from the Automobile Club d'Auvergne, 18, Place de Jaude, Clermont-Ferrand.

a description of the vehicle had been circulated, about a score of motorists turned out at eight a.m. with the view of recovering the "lost property." For an hour or so the amateur detectives scoured the district on their cars, but it was not until near midday that the "thieves" were discovered, and, with their "booty," hauled back to head-quarters. It is said the game proved so successful that it is to be repeated on a later occasion.

Miscellaneous Items.

One result of the decision to hold the Grand Prix race on the Seine-Inferieure circuit is seen in the formation of an automobile club at Eu, near Dieppe.—Public services of motor-cars are being established between Ajaccio, Vico and Sartene, Corsica.—The seventh annual Austrian motor-car exhibition was opened in Vienna on Thursday, the 28th ult., and will continue until the 12th inst.—A public motor-car service is about to be inaugurated between Verona and Chiesannova, Italy, a distance of 20 miles. Two 25-h.p. Orion vehicles will be employed.—M. Van Marcke is continuing his tour on the Hotchkiss six-cylinder car, his journeys during the past week having been from Nice to Toulon, Marseilles, Aix-en-Provence, and Nimes.

SOME CURRENT TOPICS.

Are Cars Becoming Too Complicated?

Some interest has been aroused in motoring circles in France by the somewhat vigorous attack which has lately been made on modern tendencies in motor-car construction by M. Baudry de Saunier in the columns of our French contemporary, "L'Omnia." The main feature of his complaint is that, instead of automobiles becoming simpler, so rendering them available for use by the masses, they are steadily developing towards great complexity, their employment being consequently restricted to the wealthy classes who can afford to employ trained mechanics to look after their vehicles. By way of illustrating his point, he

upon the motor-car as a sort of El Dorado, the outcome being the production of such unnecessary devices as those which cause a bell to ring and so warn the driver whenever a tyre punctures, and a thermometer arranged to be fixed to the dashboard to constantly indicate the temperature of the water in the radiator! If this tendency is persisted in, the result will be, he considers, that just as there are people who would so "improve" present-day conditions as to render life not worth living, so motor-cars will become such works of art that it will be impossible to run them. Although M. Saunier has doubtless purposely given a somewhat exaggerated idea of the tendencies of the times, yet it must be admitted that behind it all there is a substratum of much that is true, and that there are many directions in which the genius of designers can yet be usefully directed.

Some Hints on Steering Gears.

Slackness in the steering gear may be due to several things. The most usual fault is the fairly quick wear on the pins in the



Instructing the Vienna Police in the driving of Motor-Cars.

[Allgemeine Automobil Zeitung.]

draws attention to the fact that, whilst in 1900 cars had a maximum of three pedals, some have now five; that as against two principal organs to feed the carburettor, there are in 1907 at least seven, and that within the same periods the number of main parts in clutches have increased from three to five or six. While this list could be easily extended, M. Saunier readily admits that some alterations which have been effected, notwithstanding that they have added to the number of parts in an automobile, certainly constitute improvements, and in this connection he instances the adoption of ball bearings as not only slightly increasing the efficiency, but as reducing the amount of care and attention this portion of an automobile's anatomy formerly required.

Designers and Inventors on the Wrong Track.

Having drawn the attention of motor designers to what he considers their evil ways, M. Saunier next alludes to the bad example they are setting to inventors, who have begun to look

various joints; also the wear in the ball-and-socket joints, the latter being, in most cars, adjustable. All steering connections should always be covered with leather pockets well filled with grease. Sometimes the wear will be found in the actual steering box. If the steering is of the worm and segment type, looseness in the worm can usually be adjusted by tightening up the thrust pin at the bottom of the box. If play is still apparent, the rivets or bolts which hold the sector to the shaft will in all probability be found loose, in which case new ones should be fitted. Another type of worm steering dispenses with the sector, the screws working in a large nut, which carries two forks on a square each side. There is very rarely much play between the screw and the nut, any looseness arising being due to the forks on the squares opening a little. These may be restored to their former position by carefully closing in a vice. It should be here remarked that it is very bad for any steering gear to be strained—the steering wheel should not be moved unless the car is moving.

THE IRISH RELIABILITY TRIAL.



MEMORIES of the Irish Fortnight and the Gordon Bennett Race of 1903 will be awakened by the announcement of the Reliability Trials which are being organised by the Irish Automobile Club for May 22nd—25th of the present year. In 1906 the motor-car organisation of the Emerald Isle was unfortunate in the fact that a similar event was arranged for a time that clashed with the bolder ad-

ventures of the Scottish Club; but, as a month will intervene between the Scottish and Irish trials this year, the latter will have a better chance of attracting entrants from this side of the water.

In promoting the Trial the Club will have primary regard to reliability in touring, although hill climbs and timing over a measured distance on the level will be introduced to test the all-round efficiency of the vehicles in the competition. There will be two sections, one in which cars may be entered irrespective of ownership and the other limited to vehicles owned by members of the A.C.G.B.I. or any of its affiliated clubs, and "driven by the entrant or a member of his family ordinarily resident in his house." This section will, therefore, be restricted to amateurs and no traders will be eligible to enter a car therein. Entries will be accepted on forms to be obtained from the secretary of the I.A.C., at 34, Dawson Street, Dublin, not later than the 7th inst., those arriving after that date and before April 25th being charged double fees. The classification of the vehicles entered will be as follows, Classes A and B being for two-seated cars:—

Class.	Minimum selling price of cars.	Maximum selling price of cars.
A	...	£150
B	...	£250
C	£150	£250
D	£250	£350
E	£350	£500
F	£500	£650
G	£650	£850
H	£850	...

The selling price means the price of a complete standard vehicle with all necessary tools and lamps and in a properly finished condition. Except in classes A and B all cars must have fixed seating accommodation for four adults, and in all other classes except C all vehicles save those in Section 11 (for amateurs) must have side-entrance bodies with independent doors to the rear seats. In class C the style of body will be optional. Efficient silencers will have to be fitted.

Observers will be appointed as in the Scottish trials and other regulations generally follow familiar lines; as do also the awards, based on (a) reliability in touring, (b) times on the hill climbs, and (c) time over a measured distance on the level.

The routes over a course of 564 miles will be as follows:—

May 22nd (149½ miles).—Dublin to Portrush, *via* Drogheda, Dundalk, Newry (luncheon), Lurgan, Antrim, Ballymena, Ballymoney, Portrush.

May 23rd.—Portrush to Dublin, *via* Coleraine, Magilligan, Limavady, Maghera, Cookstown, Dungannon, Armagh (luncheon), Carrickmacross, Ardee, Slane, Dublin.

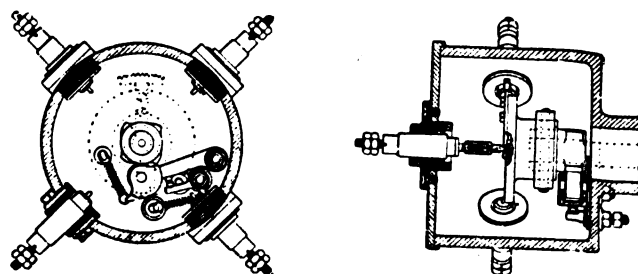
May 24th.—Dublin to Waterford, *via* Blessington, Hollywood, Glendalough (luncheon), Rathdrum, Ovoca, Woodenbridge, Arklow, Gorey, Enniscorthy, New Ross, Waterford.

May 25th.—Waterford to Dublin, *via* New Ross, Graigue-na-Managh, Innistigone, Abbeyleix (luncheon), Maryboro, Monasterevan, Kildare, Newbridge, Naas, Dublin.

THE last day of entry for the Vapour Emission competition of the A.C.G.B.I. is to-day (Saturday). This competition has been inaugurated by the Club with the object of encouraging the improvement of the design of existing petrol-driven motor-cars, in order to diminish the nuisance caused by foul exhaust.

THE E.I.C. HIGH TENSION DISTRIBUTOR.

WITH the view of meeting the demand for a combined contact-maker and high-tension distributor for use on multi-cylinder engines in connection with a single coil, the Electrical Ignition Company, Ltd., Birmingham, have recently introduced the apparatus illustrated herewith. The low-tension make and break device is located at the inner end of the case, and as seen in Fig. 1, it comprises a hardened steel cam fixed on a spindle driven by suitable gearing off the engine; as the cam rotates it lifts by means of a roller a short arm provided with a contact formed of a special platinum alloy and



Figs. 1 and 2.—Sectional views of E.I.C. High Tension Distributor.

brings the latter into connection with a corresponding contact to which the low-tension wire is attached. There is no rubbing action at the points, so that the trouble of pitting is avoided, while provision is made for easily taking up any wear. As regards the high-tension portion, a sectional view of which is seen in Fig. 2, and a front view, with the cover detached, in Fig. 3, it will be seen that on the same spindle as the cam is keyed an insulated disc, to which is attached the metal distributing arm 2. The current is conveyed to the latter by means of the spring contact 3, fixed in the cover of the apparatus. The distributor is made with a sufficient number of terminals for the engine on which it is to be used—four or six cylinders, as the case may be, the illustrations showing it arranged for the former—and as the arm 2, in rotating, passes the various insulated poles, to which

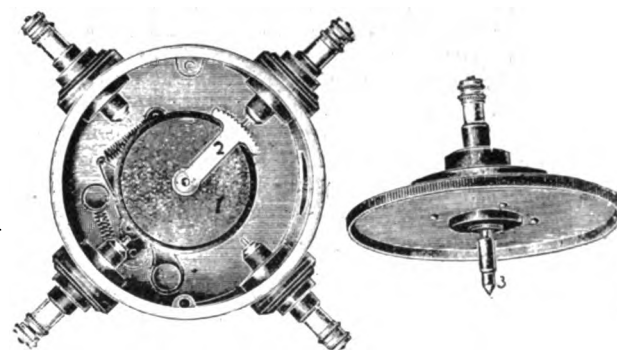


Fig. 3.—General View of the E.I.C. High Tension Distributor with cover shown detached at right.

are connected the wires from the separate plugs, the current jumps to each in turn, thus completing the circuit and causing a spark to pass across the points of the plug in each cylinder in rotation. The timing is so arranged that the low tension contact is made every time the revolving arm 2 passes a high tension terminal. The Electrical Ignition Company have submitted to us for inspection one of the distributors as arranged for a six-cylinder engine; needless to say it is splendidly made and should give excellent results in practice, it being designed to work with reliability even at high speeds. One point to which attention may be drawn is that all the parts are so arranged that they can, if necessary, be easily dismantled.

A VISIT TO COVENTRY.

WHERE THE ROVER CARS ARE MADE.

IT needs but little intuition, on arriving at the City of Spires, to appreciate that Coventry is at present enjoying a wave of industrial prosperity which is of even greater dimensions than that experienced in the palmy days of the cycle trade. That the latter is by no means exhausted is indicated by the many extensions to cycle factories which are at present in hand, and this branch of industry is undoubtedly contributing its quota to the great commercial activity prevailing. At the same time, there can be no doubt that this very satisfactory state of affairs is mainly due to the considerable

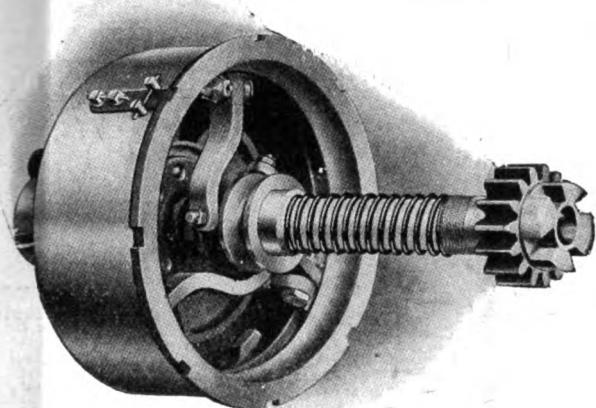


Fig. 1.—General View of the Rover Metal-to-Metal Disc Clutch.

development that has taken place during the past few years in the motor industry. Some idea of this expansion was afforded in a recent issue of the *M.C.J.*, when it was pointed out that in the Daimler works alone 2,500 hands are employed on motor work, that the Humber Company employs 2,500, and, that, in addition to these two prominent firms, there are many others, such as the Swift, Rover, Maudslay, Singer, Deasy, Standard, Rex, West, White and Poppe, all employing an increasing number of men. As for cars, these are almost as numerous in Coventry as flies in summer, vehicles with makeshift bodies flying about in all directions, undergoing their road tests prior to being handed over to the body-building departments.

The object of our visit to the Midlands was to accept the invitation of Mr. Harry Smith, the managing director of the Rover Company, Ltd., to look over the factory in which Rover cars are being turned out. So rapidly have these vehicles sprung into popularity that special steps had to be taken to increase the output, with the result that during the past twelve months practically every available piece of land at the Meteor Works has been covered with large and well-lighted single storey workshops, while already further extensions are in contemplation. As we rapidly passed through the different shops we were able to obtain some idea of the thoroughness with which the Rover Company have taken up the construction of motor-cars. Beginning with the foundry, we saw the men busily engaged on the production of castings in malleable iron, gun metal and aluminium, the variety of the latter ranging from radiator fans to engine base chambers. Attention was next turned to the machine shop, where the operations of cylinder boring, crank shaft turning, as well as others too numerous to mention, were in progress. We were specially interested in watching the manufacture of the special valve cam sleeve, which is of intricate design and forms one of the special features of the Rover cars, permitting, as it does, the engine to be used as a brake. By means of this sleeve, which is so arranged that it can be moved longitudinally on the cam shaft, not only can the inlet valve be kept closed as desired and the admission of petrol vapour thus prevented, but the ordinary cam below the exhaust

valve is withdrawn and its place taken by a double one, which opens the valve twice to every revolution of the shaft, with the result that air is taken in from the exhaust pipe on every downward movement of the piston, compressed on the upward stroke and then exhausted; an arrangement which gives such a pronounced braking effect that ordinary hills may be descended without recourse to the brakes.

From cams we next turned our attention to the cutting of the bevel gears, which constitute an important part in the transmission mechanism of live axle cars; and here again we found that special care is taken in the manufacture in order to ensure the production of silent running gears. A feature of the machine shop is the international character of the tools it contains, for, while the majority is of British construction, the Rover Company have not hesitated to acquire from America or the Continent machines specially designed for particular purposes—in other words, they have adopted the wise policy of making their selection from the best the world has to offer. Unfortunately time did not permit us to give more than a passing glance to the departments in which the manufacture of the Rover carburettor, water circulating pumps, and other components, were being carried on, but, hurrying to the erecting shop, we found somewhat of a surprise in store for us. We have frequently heard it stated that the demand for single-cylinder cars is dead, a view with which, had we been at all inclined to agree, would have been quickly dispelled at the sight of such a large number going through, both of the 6-h.p. and 8-h.p. models, in addition to a goodly proportion of the Rover 16-20-h.p. four-cylinder cars. The chassis, on emerging from this shop, and are being handed over to what is termed the finishing department, where the bodies are fitted, are subjected to a road test of from fifty to seventy-five miles, in the course of which due note is made of any portion which needs adjustment, in order that the cars shall reach the purchasers in perfect condition. In the body department we saw a variety of operations in hand, while in the large paint-shop vehicles were being finished off in a variety of colours equalling that of the rainbow. Still another extensive shop is that in which repairs and adjustments are carried out, while a further large building is devoted to the storage of completed vehicles. It is here that the best idea can, perhaps, be obtained of the extensive business the Rover Company is doing, for since the turn of the year the number of cars despatched has been exceeding thirty per week—a testimony in itself to the popularity the vehicles are enjoying in motoring circles.

At the present time three sizes of cars are being turned out, viz., 6-h.p. and 8-h.p. single-cylinder and 16-20-h.p. four-cylinder, all having three speeds forward and a reverse and transmission by a cardan shaft and bevel gear to a live axle. Among their

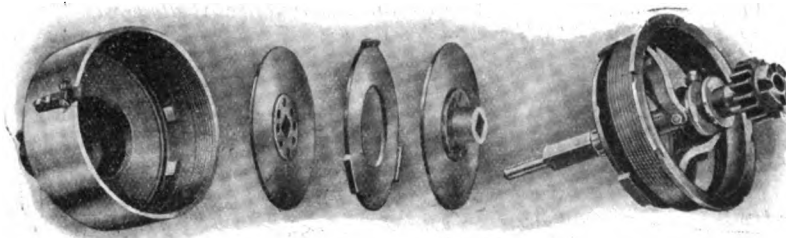


Fig. 2.—The Dissembled parts of the Rover Clutch.

principal features, in addition to the cams which permit the engine to be used as a brake already referred to, are the special Rover carburettor and metal disc clutch, the *bloc* construction of the engine and gear-box, and, in the case of the 8-h.p. and 16-20-h.p. models, the three-point suspension of the frame and the fitting of ball bearings to the crank shafts of the engines.

THE Tyne Improvement Commission, in conjunction with the North Eastern Railway, have issued an illustrated guide to the Tyne as a industrial centre, and showing that on its banks are suitable places for the establishment of new works.

THE Bishop of Cashel has just bought a 15-h.p. Coventry Humber car through the Waterford agent of the company, Mr. W. F. Peare.

MONDAY next is the last day for tendering for the supply of motor-buses for the Metropolitan Asylums Board, which has decided to purchase two vehicles for the use of patients in its institution.

PRINCE LOUIS OF BATTENBERG, the Duchess of Marlborough, Sir Felix Schuster and Mr. Leopold de Rothschild are now owners of Siddeley cars.

MR. W. D. DURRELL, of Benares, used Continental tyres on the Fiat car with which he won distinction in the recent Reliability Trials in South India.

A NEW burner for steam motor vehicles, designed by Mr. S. Stackard, is being put on the market by Messrs. J. A. Curle, Ltd., Horner Road, South Hackney, N.E.

MESSRS. COLIN DEFRIES, LTD., have taken showrooms at 2, Denman Street, Piccadilly, W., where the Porthos car will be seen when present alterations are finished.

BRIGHTON Watch Committee have granted the application of a cab proprietor for permission to transfer the licences of ten horse-cabs to ten motor-cabs, which will be the first run in Brighton.

THE Jedburgh Town Council is suggesting to the Secretary for Scotland that local authorities should have power to fix a speed limit for motor vehicles in towns and villages, and that the courts have power to endorse the licence for a second offence.

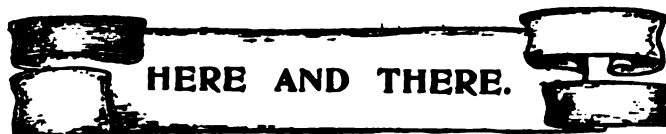
THE Motor Manufacturing Company (1907), Ltd., will close their temporary works at Park Side, Coventry, on the 1st inst. for the purpose of removing the stock to the new M.M.C. works, Manor Street, Clapham, London, S.W., which will be in full swing in about a fortnight.

MR. J. W. STOCKS, in his recent run from London to the Edinburgh Motor Show, found the Dunlop metal non-skids on the rear wheels and the grooved pattern on the front wheels of his car gave great satisfaction and appeared at the end of the journey as though they would continue for an indefinite period.

THE Bridges and Roads Committee of the Kent County Council reported strongly to the County Council, last week, against the speed limit of twelve miles an hour recommended by the Motor Car Commission for towns and populous areas. They considered that the speed limit should be much lower in all such places.

A MAN named R. E. Stewart has been sentenced to three years' penal servitude at Preston for stealing a cheque-book from a motor garage. He bought a motor-car with a stolen cheque. Four years ago he received twelve months for stealing a motor-car at Northampton, and two years ago eighteen months, with police supervision, for stealing a motor-cycle at Ipswich.

REFERENCE was made in a recent issue to the large trade which had grown up, concurrently with the spread of the automobile movement, in connection with the repair of motor tyres, and to the need of care on the part of motorists in seeing that they only entrust their commissions to firms capable of doing reliable work. Amongst the concerns in Scotland who are gradually building up a large business in connection with the retreading and relining of motor covers is the Caledonian Tyre Repairing Company, St. Enoch Square, Glasgow, who a few months ago carried out an excellent repair to a badly worn tyre we submitted to them. The cover in question, in addition to the rubber being worn almost to the canvas, had for some reason or another developed two nasty large holes, so bad that we practically considered it as entirely done for. Not so the Caledonian Company, however, who not only retreaded the cover but effected such a thorough repair that we almost failed to recognise it on its return. Although, owing to the somewhat severe weather, the car on which the tyre in question is fitted has not made a very big mileage lately, the cover is standing up to its work excellently, and gives promise of having re-entered on a long and useful career.



LADIES are to be admitted to the lectures in motor engineering which commenced on Tuesday at the Technical Institute, Tunbridge Wells.

THE first British-built motor revolving fire ladder is being sent from the works of Messrs. J. Morris and Sons, at Salford, to Cape Town. It is mounted on a 40-50-h.p. petrol motor chassis and will extend to 90ft. in height.

SIR WILLIAM EDEN, Bart., has purchased a 40-h.p. six-cylinder Napier touring car.

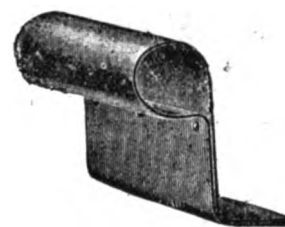
THE Archbishop of Westminster has placed an order with the Daimler Company for one of their 1907 model cars.

A MOTOR fire engine is to be provided at Withington in order to increase the protection of South Manchester from fire.

THE motor-car garage at the Royal Mews, Piccadilly, cost £1,804, according to the Government Appropriation accounts just issued.

THE Doherty Motor Components, Ltd., Coventry, have just completed some further extensions to their factory by adding a department exclusively intended for presswork. Owing to the difficulty in obtaining skilled labour, the firm have devised several labour-saving tools, which are facilitating their output. The shops are all on the ground floor and splendidly lighted and ventilated.

A NEW frame for motor-cars has been introduced by Messrs. Barit and Gadenne, of Lille. It is made on the Lazerges system and is known as the *chassis semi-tubulaire*. As will be seen from the illustration, which shows a section of a side member, the



frame is a combination of the pressed steel and tubular types; at the bottom it is of channel section, but the top is bent over and rounded, then finally turned down and riveted to the side, the whole giving the appearance of an angle section surmounted by a tube. Long stiffeners set at an angle to the frame sides are provided, the whole forming, it is claimed, a lighter and stronger construction than the ordinary type.

COLONEL J. E. CAPPER, R.E., who is the head of the military ballooning department of the Army, stated in a lecture before the Aldershot Military Society last week that motor-driven aeroplanes would probably be seen in the near future in war as aerial scouts. It was probable that such a thing would make its debut this year, and that in five years' time considerable numbers would be employed.

LINCOLN will be well to the fore in the automobile movement this year, and the summer meeting of the Motor Union will attract a goodly number of motorists to the ancient city. Just now much local interest is being taken in the display of motor-cars which Messrs. R. M. Wright and Company have arranged in their Water Lane garage, where they have ample accommodation for a large number of cars.

WITH reference to the recent correspondence in our columns as to platinum tips in connection with electric horns, it is of interest to hear from Messrs. John Child Meredith, Ltd., of Birmingham, that they have been experimenting in the direction of finding a substitute for platinum. In this they have been successful, and are now placing on the market a special hard metal for contact tips which costs about one-sixth the price of platinum.

DESPITE the severe weather experienced during the first eleven days of the Long Distance Trial with a 40-h.p. Siddeley car which is being undertaken by the A.C.G.B.I., the car has made a splendid beginning of its arduous task. The roads, owing to the exceptional bad weather, have been extremely heavy in places, yet the car has run with unerring regularity, and at the close of last Saturday's run the distance covered was 1,628 miles. The "Elastes" filled tyres are reported to be giving an excellent account of themselves.

THE Kennedy Motor Company have removed from Cathcart to Eglington Toll, N.B.

MR. HALE, of Burslem, is acting as agent for the "Brown" car in the Staffordshire district.

LADY RODD has placed an order with Messrs. E. H. Bentall and Company, Heybridge, for one of their 16-h.p. landaulets.

At the last meeting of the Staffordshire County Council the clerk reported that 540 motor cars and 691 motor-cycles had been registered within their area.

THE conditions of the Scottish Trial will be issued shortly. The classification, which will be altered slightly from that of last year, will again be by price.

At Acton Vale the new works of Messrs. Panhard and Levassor present an example of modern workshop organisation and equipment the inspection of which would have been a liberal education to the engineer of a generation ago. They have the appearance of permanence, stone, steel, and concrete being prominent in their construction. In addition to the large showroom, extending the whole length of the main frontage, there are separate trading counters, from which spares, supplies, and parts will be retailed, while staff, clients', and executive entrances are all independent of each other and of the commodious offices. The tool equipment is more than one expects to find in a professed garage and repair works—it is



worthy of a constructing factory. Labour-lightening devices of all kinds are employed, and power is provided by two independent sources, the electricity for lighting, &c., being generated on the premises, while many of the tools are electrically driven. There are two long inspection pits of 150 ft. each, sunk in solid concrete, and capacious tool, smiths', body painting, varnishing, upholstering, and vulcanising shops, as well as a magneto room, coppersmiths' room for lamp work, and wheelwrights' shop. Alterations (including the Panhard body-lengthening process) overhauls and repairs to cars of any power or type are undertaken; in fact, Mr. W. A. Turpin, the works manager, need be only pleasurably concerned if he were asked to commence building cars! The greatest consideration for the staff's well-being is manifested in the provision of well-furnished kitchens, dining halls, recreation rooms, &c., and the accommodation for washing is practically unique. Everything, in fact, is provided for on progressive lines, and the working of every department has been so well organised that Messrs. Panhard and Levassor can undertake any overhauls or repairs.

THE annual conversazione of the Battersea Polytechnic was held on Saturday last, when the laboratories and workshops were all open for inspection. The equipment of the motor class now comprises a Darracq car, a four-cylinder Mors, and the chassis of a Clarkson steam vehicle, so that students are now able to receive instruction in both classes of automobile.

THE Camperdown Motor Works at Winchester Road Romsey, have opened a garage with Mr. H. Gill in charge.

A NEW garage and repairing works has been established at Balham Hill by the Waldorf Motor and Engineering Company.

THE MOTOR UNION would remind readers of the *M.C.J.* that Monday next is the last day for receiving essays on the coming Parliamentary struggle with regard to motoring legislation.

WALTON's motor lifeboat was out several days last week escorting the Ramsgate and Newhaven boats, which have been fitted with motor power and have been at Harwich on trial.

REPLYING to a question in the House of Commons on Monday Mr. John Burns said he was unable to make any statement as to the introduction of a Bill dealing with motor-cars.

FOREMOST among the motoring contributions in the weekly press must be regarded those which appear in the "Onlooker," these being informative and accurate as well as good reading.

ON Tuesday last a motor-car show was opened in the Exhibition Buildings, York, by Earl Fitzwilliam, the collection of cars being the largest which has so far been seen in the cathedral city.

SIDNEY HONE, a motor-car driver, was charged at the Brighton Police Court on Monday with unlawfully causing the death of Mathias Medhurst last week. The hearing of the case has been adjourned to Monday next.

WE learn that Mr. Mawdsley Brooke, of Lowestoft, had originally intended to cross from Harwich to Amsterdam by the Berlin on the night she foundered, but at the last moment had to delay his journey till two days later.

MR. L. H. BARNES, of the Highways Protection League, which has offices at 7, Fig Tree Court, Temple, E.C., is preparing a petition for presentation to Parliament praying for legislation restraining motorists from driving recklessly.

A MOTOR works that will employ five hundred men was opened on Saturday at Crossens, a little village near Southport, at the mouth of the Ribble. The Mayor of the town and members of the Corporation were present at a dinner given by the firm—the Vulcan Motor Company—in the evening.

THE third annual smoking concert of Messrs. Friswell, Ltd., took place at the Albany Hotel, Great Portland Street, N.W., when Mr. F. Guy Lewin (director), of Messrs. Friswell (1906) took the chair, being supported by Messrs. Chamberlain, Allen J. Owen, and J. Taylor. Under the direction of Mr. Harry Cramer everything went with a swing.

A COVENTRY firm which is specialising on the production of radiators, bonnets, tanks, lubricators, and other necessary petrol engine accessories, is the Coventry Motor Fittings Company. Under the guidance of Mr. Tyler we recently had an opportunity of going over the well-arranged factory, and were much interested in seeing the different types of radiators—honeycomb and gilled tube—in process of manufacture. The range of patterns in both forms of cooler is an extensive one, as practically every firm now employs a distinctive shape as well as its own pattern of bonnet. So far, however, the firm have been able to meet all requirements in this direction; and, to ensure that their production shall give satisfactory results in practice, the radiators before being sent out are all given a lengthy test for leakage, water being circulated through them by a hydraulic pump.

THE patent speed and mileage recorder invented by Mr. Henry Hartley, of Birmingham, and of which we shall publish a description in an early issue, is an ingenious and successful effort to secure a combination of advantages that will appeal to every practical motorist. By the use of this instrument the driver of a car can learn the time taken by each mile travelled, as well as the total length of his journey. The duration of every stop is recorded—a point that gives Mr. Hartley's indicator an advantage likely to be appreciated by owners of trade delivery vans. More than that, the instrument can be adjusted so as operate at any given maximum of speed, thus warning the driver should he go beyond the limit allowed. The means by which these results are obtained are simple and reliable, while the absence of complications will ensure accuracy and durability.

CORRESPONDENCE

[Letters to the Editor should be addressed to the office,
87-88, Charing Cross Road, W.C.]

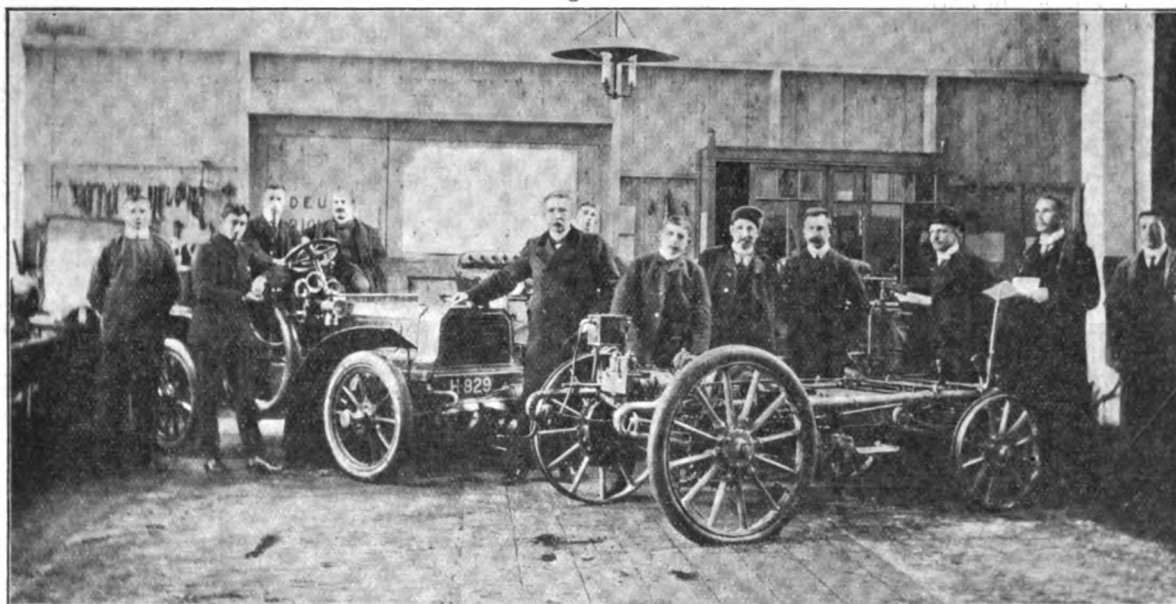
CLUB GARAGES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your "Comments" of your issue of February 23rd you mention the Derby Motor Club's doings as regards club garages. It may be of interest to some of your readers to know that we have incorporated a garage, workshop and club-room with our club from its commencement, three months ago. In fact, the great desirability of a garage and workshop from the local motorists' point of view prompted the starting of a club providing such accommodation. I enclose a circular which was distributed amongst such motorists as were interested, and, although we cannot claim to have got ideal premises, they have already in their incomplete state proved a great boon to many members. Garage for approximately two cars or four tri-cars and about half a dozen motor-bicycles is provided, and although the demand for temporary storage will greatly increase with the coming of the season, our twenty-five motoring members have found it quite sufficient so far. The workshop at present only comprises a good sound bench, vices and bench drill, with the usual hand tools and a portable forge, but these will be greatly supplemented as

disadvantage of the coil and accumulator. It was to gain some definite knowledge as to this that I decided upon carrying out these experiments. I took an ordinary 40-h.p. six-cylinder Napier engine with synchronised ignition. The engine had just been delivered to the testing department and could in no sense be said to be either tuned up or specially arranged to demonstrate any one point. The motor was started up and allowed to run for some time so that an even temperature might be obtained, and so have general road conditions present.

The engine was fitted with a standard coil adjusted as in ordinary practice, run off an accumulator showing 4.2 on the voltmeter. When everything was ready to commence the motor was run and the horse-power taken for a period of two minutes. It developed an average of 40.9-h.p. over that period. The next test was made with a special coil, but the same accumulator was used—in other words, the conditions, other than the coil, were identical. This time the engine gave 42.5-b.h.p. In another test that was made the same coil was employed, but six volts were used to work it; the trembler blade remained the same and 42-h.p. was developed in place of the 42.5 previously. Subsequently the same coil and six volts were employed, but the trembler blade was adjusted lightly. The result was precisely the same as regards b.h.p., i.e., 42 was registered. In the next test the trembler blade was adjusted a little more heavily and eight volts were used to run the coil. The result in b.h.p. was 42.6. Later ten volts were used. The adjustment of the trembler blade remained the same, and the h.p. registered was 42. Afterwards four volts were used, with the trembler blade adjusted the same, and 42.2-h.p. was recorded; when the trembler blade was adjusted a little more lightly, four volts being used, the record was 42.1-h.p. In the last test the standard coil was replaced and an accumulator showing



A Motor Instruction School at Grafenhausen, Holland.

[D: Auto.]

soon as pressure of business allows. The advantages of a really good garage and workshop can hardly be understated, but briefly it gives the motorist a splendid opportunity of thoroughly understanding his machine and making experiments and alterations, and doing quite extensive repairs himself (we have not yet been able to afford a permanent mechanic.) As I mentioned before, we also have a club room, where nearly all the motor weeklies are provided, and once a fortnight a lecture or debate on various subjects of general interest. Therefore, I think other clubs will be doing well in considering the advisability of the provision of a garage.—Yours truly,

R. K. HUBBARD, *Hon. Sec.*

Basingstoke and District Motor Club.

[The circular enclosed by Mr. Hubbard refers to the premises in Mark Lane, London Street, Basingstoke, and gives evidence of a carefully considered scheme.]

EXPERIMENTS WITH ACCUMULATOR AND COIL IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I recently had some rather interesting experiments carried out in connection with the much-vexed question of ignition on cars, and am sending you the results in the hope that they may be found useful. There has been a lot of discussion as to the great advantage of the fierceness of the spark increasing on magneto engines as the engine speed rises, so that as ignition theoretically became more difficult, the spark is more powerful, with beneficial results to the running of the motor; this has always been rather considered as an advantage of the magneto and a

4.2 volts was fixed up; the horse-power registered was 42. The idea in going back to the standard coil with small voltage and special coil with small voltage again was to see whether any alteration had taken place in the engine itself. As will be noticed, the horse-power still remained approximately 42.

The tests show that the horse-power varied very slightly from 42-b.h.p., no matter what the voltage was, or whether the trembler blade was adjusted lightly or heavily. The main point that was noticed, however, was that with the lower voltage the engine would run with a spark very much advanced; in other words, for a given speed the motor commenced to knock with less advance with a high voltage sooner than with the lower voltage, and it looks on the face of it as if nothing were gained by having a fiercer spark than that obtained from a good, healthy four-volt accumulator, except that the engine will run faster with less advance, but as it is not a very laborious process to advance the ignition a little more, and as it conceivably may even be an advantage that an engine did not really knock in the hands of a novice, the advantages of a very fierce spark would almost fall to the ground.

The engine was not altered in any shape or form during the tests, except with regard to the ignition, as indicated. Possibly there might have been combinations of carburation and ignition that would have been better allied with each other, but had any alteration been made to the carburettor it would have complicated the result and made it not so clear. It is certainly a very interesting point, and it would be useful to have the views of others on this much-vexed question. The point, in a nutshell, is that the power could not be increased by exploding the mixture with a hotter spark. The only thing that seemed to alter was the degree the spark could be advanced—in other words,

the same power could be obtained with less advance—the horse power remaining practically constant.—Yours truly,

S. F. EDGE.

SUBSTITUTES FOR PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reference to "Borneo's" letter on the above subject, in the last issue of the *M.C.J.*, I have found a "stubborn" engine start easily on Borneo spirit when a piece of coarse linen has been placed over the air intake. A handkerchief will do. It should be placed singly across the mouth of the pipe and twisted up at the back to keep it in position while turning the handle, the friction of the air passing through the cloth being sufficient to warm it. The handkerchief should, of course, be removed when the engine is under way. I may also mention that in my car, a 10-12-h.p. Peugeot, I screwed the jet up about 1-16th inch so that no Borneo flowed though the jet of its own accord.—Yours truly,

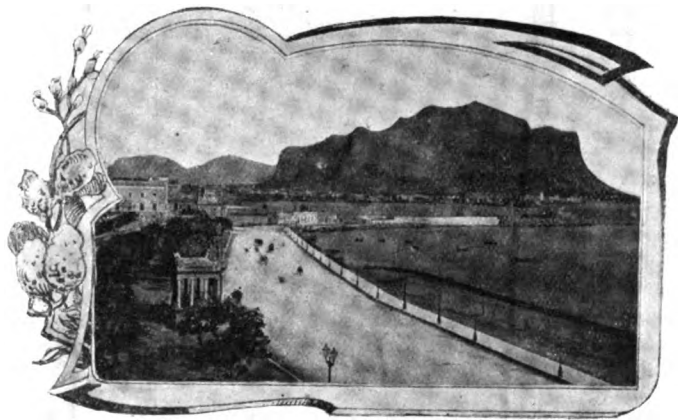
HERBERT J. CHAPMAN.

ANOTHER INGREDIENT OF "CARBONACEOUS" DEPOSITS IN ENGINE CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Noticing in one of your contemporaries an article on the prevention of carbon deposits, I send you copy of a letter which I wrote some months ago, but did not publish.

VERB I have been interested in examining the deposits formed on the piston and cylinder heads of several motor-cars, and was astonished to find that in many cases these deposits contained a far larger proportion of mineral matter than of carbon. In one case a friend used five gallons of a certain oil which only contained mineral matter equal to 0.01 per



Touring in Sicily.—The Marine Promenade, Palermo.

cent., and yet, after he had finished the whole five gallons, he collected from his cylinders almost a one ounce weight of so-called carbonaceous deposit, which amount did not represent the whole of the deposit, as a complete collection was practically impossible. Now this ounce of deposit, on analysis, showed the presence of just over 0.75 oz. of mineral matter, largely of a silicious composition, whereas 0.01 per cent. of five gallons of the oil only means 0.07 oz. Therefore the difference, i.e., 0.68 oz. of mineral matter, must have come from some external source.

The only conclusion that I can arrive at is that some of the dust, which necessarily is drawn into the cylinders at each suction stroke, is caught by the film or oil as on a fly paper, and so gradually accumulates, forming, with the help of the carbonisation which also occurs, a hard cake. Further, I have found that in the summer this proportion of mineral matter to carbon is greater than in winter, when there is less dust. And further, it is noticeable, with an oil that carbonises badly, the proportion of carbon is much greater in comparison with that of the mineral matter.—Yours truly,

A. DUCKHAM.

IS THE LEATHER-FACED CONE CLUTCH DOOMED?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is with much regret that I notice a tendency amongst motor-car manufacturers to substitute metal clutches for our old friend the leather-faced cone. I say old friend, for, after some experience with the multiple disc type, I must say that the new-comer is not without its troubles, and I, for one, plump for leather, as being the one most suitable for the motorist of moderate means. To my mind, the reason why the metal clutch has been so largely adopted is merely a question of fashion, the fact that the — car is fitted with them being sufficient to cause other makers to follow the example, so that they may appear to be keeping abreast of the times. The leather-faced cone

clutch may sometimes be fierce, and at others slip owing to the presence of grease on its surface. But, after all, the remedy is not very difficult to apply. The subject is one which interests me very much, and I should be glad if other motorists would, with your permission, air their views on the matter in the always interesting correspondence columns of the *M.C.J.*—Yours truly,

F. C. BURTON.

FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with interest the report of the discussion on the four *versus* six-cylinder question at the Automobile Club, and, if you will allow me, I should like to make some remarks thereon. As a manufacturer, my sole aim is the progress of "Automobilism," and this is the reason why I am taking the trouble to comment on the matter, believing, at the same time, in the survival of the fittest. No doubt you have seen my challenge to compete against any six-cylinder car, at any place, under certain heads, these heads being:—

- (1) Quiet running of the engine when the car is standing.
- (2) Quiet and slow running of the engine on top gear.
- (3) Quick acceleration up to twenty miles per hour; top gear only to be used.

It is a condition of the trial that the standard gear of the respective vehicles shall be fitted. For my part, the 14-16-h.p. Argyll is made as a touring car, with only one gear ratio, and this can be easily proved, all parts being made interchangeable.

Now these are the points which the six-cylinder advocates claim to excel in, and it is an astounding fact that none of them have accepted my challenge. I agree that individual makers can hardly stem the tide of battle, and it certainly would be unwise of them to pin their colours to the mast, and fight for the four-cylinder principle, as if the six-cylinder idea was completely inimical to the best interests of automobilism; but I contend that, if the six-cylinder principle does not excel on the points I have challenged it on, then there is no reason for its existence, because:—

1. Given two engines of the same power, one six-cylinder and the other four-cylinder, the six-cylinder engine would be much heavier.
2. There are many more parts.
3. It is more difficult to keep in adjustment and keep running well.
4. There are more frictional losses.
5. It requires more lubricating oil.
6. Being a heavier engine, more load is thrown on the tyres.
7. It will use more petrol.
8. It is more costly to produce.

The public should be protected from this attempt which is being made to make the six-cylinder fashionable, until it is demonstrated beyond all doubt that they are getting a relative advantage from the increased cost of car, and the increased complication of the car after they have got it. I believe it will be possible for them to appreciate the difference in smooth running and vibration—with the aid of a stethoscope—but, for all ordinary mortals, and for ordinary purposes, believe me that, at any rate for engines up to 40-h.p., the six-cylinder principle is a bubble that will surely burst.—Yours truly,

A. GOVAN.

THE NON-SKID TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The private non-skid trials held by the Automobile Club and the process of elimination adopted by that body seem to have left very few devices in for the final test. The result almost warrants the opinion that the methods adopted by the Club for the discovery of a successful non-skid device are not the best, and probably further trials may be necessary. It is hoped that if these are arranged they will be conducted on broader and more reasonable lines than the competition now partly concluded.

The idea of conducting these trials in a semi-private manner and on the premises of a private trading concern does not appeal to the general public as a good one. Why could not some well-known venue have been selected? There is no doubt that the immense influence of the Club is sufficiently great to have arranged for this. The rules in connection with the present trials leave too much in the hands of the Club or of the few members nominated to act in connection with the selection of devices to pass the preliminary test of examination of the drawings. Why could not a competition be arranged at, say, the Crystal Palace, where any device, the entrant paying for the privilege, could be entered and tried? The matter could be made sufficiently attractive to the public to bring a large number of visitors and the competition could be repeated daily for, say, six days. Prizes might be offered for the most successful device whose aggregate of marks for efficiency throughout the week's trial would reach the highest total.

Such a test would be much more conclusive than that made on a few yards of wood pavement at Ladbroke Grove. The Local Government Board and the police are probably anxious that some simple device may be found to attain the object desired, and would no doubt assist at such a trial. Let the competition be thrown thoroughly open without preliminary examination of drawings by a coterie of Club experts whose investigations are conducted in private and who are "not required to give any reason for elimination," *vide* the Club rules. No doubt the result, would well repay the experiment. The competition, if sufficiently open, might be made to pay all expenses, including the prizes, if some small

charge were made for admission. It is highly probable that the bus companies would interest themselves, and there is no doubt that sufficient entries could be made to guarantee a successful show.—Yours truly,
J. YARWOOD.

SMALL STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to Mr. Broughton's letter in the *M.C.J.* of the 9th ult. I can give my experience of a small steam car. First of all it cost considerably under £50; engine, Mason C superheater, steam, air and water pump, to seat two or four persons, paraffin fuel. With the above car I can climb any hill as easy as any petrol car. I have twice the power, the water consumption about thirty miles on one filling. There is no bucket work required, as I have a water lift fitted, with hose attached, and this can be put into a pond or trough, enabling the water supply to be thereby replenished in less than five minutes. The lighting up process is very simple—a small blow lamp—and steam can be raised in ten minutes. During that time the driver can be occupied in oiling up. Paraffin I purchase at 6d. per gallon, and twelve miles can be run on one gallon in the winter and naturally a longer distance when the roads are good. The car will stand any length of time without relighting. By having a steam air pump fitted no hand work is required; water pumping by hand I never have done on the road as the pump on engine is more than required, therefore I have the by-pass open quite a third of the time. Lubricants cost a mere trifle compared to a petrol car; having a mechanical lubricator fitted to feed the cylinders it requires half a pint of cylinder oil to fifty miles. My car being a second-hand one, I expected a lot of trouble; when I had done, during the bad weather, about 700 miles, I had a new vapourizer, at a cost of about 15s. I do about eighteen miles per hour. I cannot do more, the car having tiller steering and a short wheel base; steam is always well up and there is no smell; hills are nothing. If Mr. Broughton, or others, think of purchasing a second-hand car, my advice is to go in for a steamer and call on Messrs. Morris, of Stroud Green Road, N.; they might be able to find a car suitable, which they did for me, also tuition. I am in no way connected with the above firm, but have my repairs done through them. I might say there is no danger with fire on a steamer when paraffin is used for fuel; in fact, there is less than on a petrol car, as the pipe connections on a steamer are more secure.—Yours truly,

OXON.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to Major J. C. P. Perry's letter re small steam cars in the *M.C.J.* of February 16th, it would be interesting to hear of the writer's personal experience as to their reliability, life of boiler, &c. Does he consider them suitable for rough Irish roads?—Yours truly,
LYALL P. JACKSON.

WIRE OR WOODEN WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to your invitation to express an opinion as to the respective values of wire and wooden wheels, may I, as an owner of two cars fitted with these respective types of wheels, venture to express an opinion? Theoretically, no doubt, the wire wheel is as strong as the wooden one when the strain applied occurs in the same plane as the wheel, but when a side strain, such as skidding or knocking a kerb when rounding a corner too closely, happens, a compressing stress must occur, owing to the wheel not being absolutely rigid, and as a result the wheel buckles; not so in a wooden one, as the wood can clearly stand a much greater force of this kind than wire, although, of course, it has its limit. And I think, under all other circumstances, the wooden wheel compares more favourably with the wire wheel, especially as regards the matter of appearance, as undoubtedly it gives the car a smarter and more substantial appearance, and, judging from the number of artillery-wheeled cars on the road, it seems to be the opinion of most people in this respect.—Yours truly,

K. J. G.

THE SIX-CYLINDER DISCUSSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Why is it a large number of people clamour for six cylinders? The question is not difficult to answer. Because they wish to be considered absolutely up-to-date, so that none of their friends can go one better! It was the same in the cycling days. People who could afford them had the most expensive machine, as they were quite sure that only the reasonably wealthy bought such a machine. It would have been such a blow to Lady M., for instance, to have found that her maid rode the same make of machine as herself, so *infra dig.* Now, if the six-cylinder car had not been cleverly boomed, and if those responsible for the boom had not a formidable list of titled patrons, we should all have been very contented with the four-cylinder. The public lose sight of the fact that, although the six-cylinder has some small advantages, they do not really want it, and if they were to consider the question carefully, they certainly would not pay an enormous extra for two more cylinders.

The increased price of the six-cylinder car is out of all proportion to the increased cost of manufacture, but this does not trouble a certain section of the public—not a bit of it. "Lord M.," they say, "has got one, that is good enough for us."

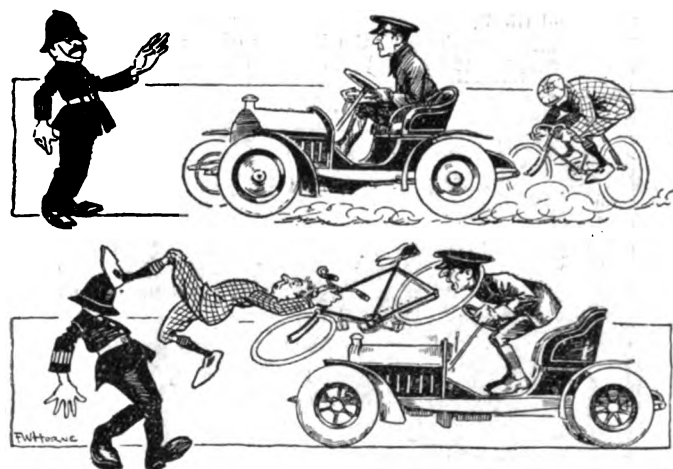
Then there is to be considered the extra trouble in connection with two extra cylinders. It is childish to say that this argument is used by six-cylinder opponents only, and that the extra trouble is grossly exaggerated. There is no getting away from the fact that the two extra cylinders contain four valves and two plugs. And there are also the necessary additions to the ignition. Do we get valve troubles and ignition troubles on four-cylinder engines? Sometimes. Therefore we are just as liable to get them on the six-cylinder, only there is a little more field for them. Those interested in the sale of six-cylindered cars explain all this, at the same time drawing attention to the fact that with the six-cylinder, should one cylinder fail, you have five to go on with, instead of three in the case of a four-cylinder. Quite so; a sort of "reductio ad infinitum" which reminds the writer of a new car (not yet built) which for the same reason will have forty-two cylinders! But that is another story.—Yours truly,

A. C. R.

MOTORING RECORDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Nearly three years ago I bought an 18-h.p. Star car. To-day, and somewhat to my regret, I am parting with her. It will, I am sure, interest you to hear that she has carried myself and members of my family 13,223 miles without a single failure on the road other than, of course, temporary adjustments, and that only very rarely. The car has been in constant use the whole time excepting for one brief period, when I had new piston rings fitted; this, and one coat of varnish on the body, has been my total cost for repairs. The vehicle is still quiet running, speedy, and develops good power, and I am told by the fitter who



A Plain Tale of the Road.

examined gear, &c., that all is in capital condition, no loose bearings, in fact, no necessity for taking down to overhaul.

Of course the car has been well looked after, particularly the body washing and lubrication, and has always been driven by myself or by my son. My tyre bill has been particularly small, and you will be astonished to hear that the near front wheel has the original cover still on and same has never been punctured. The car still looks bright and smart and works as smoothly as some of the newer designs, and, had the body a side entrance, I would on no account dispose of her.—Yours truly,

E. W. HILL.

A CHANGE-SPEED GEAR TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Would you or any reader of the *M.C.J.* advise me what to do respecting the low gear pinion of a 12-16-h.p. Peugeot car? I am constantly fitting a new low pinion, as they wear down in a very short time. On climbing a hill using the low gear it grinds and makes a noise, this sometimes also when starting on the level; when I look at this gear it is quite worn away, the others are perfect.

The gear-box is a very large one and I think is inclined to spring. Perhaps you could recommend some method to make this gear more perfect and last longer.—Yours truly,

PERFECT PINION.

THE STANDARDISATION OF NUTS.—Mr. C. R. Garrard writes:—"Referring to my letter in the last issue of the *M.C.J.*, the range of pitches should have read from .75 mm. pitch to 2 mm. pitch (not 1½ and 2). Thus the five pitches used are: .75 mm., 1 mm., 1.25 mm., 1.50 mm. and 2.0 mm."

THE French Motor Accessories Company, Ltd., 101, Gray's Inn Road, London, W.C., write that their show rooms have been broken into and a certain amount of goods stolen. Amongst those taken were several dozen voltmeters and volt-ammeters, all of which were marked "Perez." If any of our readers are offered any such so marked, otherwise than through their usual agent, the firm will be grateful of a notification of the fact.

CLUBS AND ASSOCIATIONS.

THE MOTOR UNION.

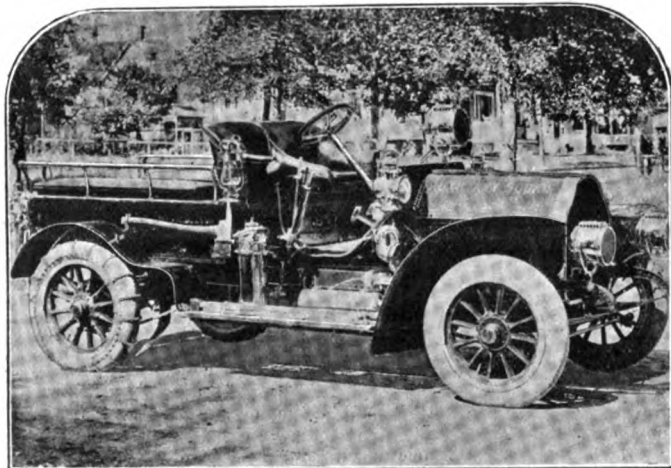
THERE was a large attendance at the February meeting of the General Committee of the Motor Union. The bodies represented included the A.C.G.B.I., twenty-five provincial clubs, the Motor Van, Wagon, and Omnibus Users' Association, the Auto-cycle Club, and the individual members of the Union. The Hon. Arthur Stanley, M.P., presided.

The committee unanimously approved the suggested agreement between the Motor Union and the Auto-cycle Club, which had been drawn up by the representatives of the Union and the A.C.C. The scheme provides for the admission of motor-cycle clubs to the membership of the Union on payment of a very moderate affiliation fee.

Forty-two applications for legal advice and assistance were dealt with, in one of which the Union undertook the entire cost of a prosecution. The Union decided to seek information as to the practice of some County Councils in demanding the renewal of driving licences on the 1st of January in each year, and the payment of a fresh fee of 5s., without regard to the date on which the licence is taken out.

It was resolved to object to the making of ten-mile speed limits at Llandudno and Ilford.

The committee authorised the holding of a competition, offering prizes amounting to £12 for the best artistic design for the Motor Union Almanac.



The Knox 35-40-h.p. Service Car recently put in operation by the Fire Brigade of Springfield, Mass., U.S.A. The vehicle is fitted with a four-cylinder air-cooled engine.

A number of special signboards were ordered to be erected upon the highway to indicate "Concealed Turnings" and "Schools"; applications for these boards should be made to the secretary, at 1, Albemarle Street, W.

Two new clubs joined the Union during the month—the Westmorland A.C. and the Manchester Motor Club.

The Fuels Committee of the Motor Union have met weekly during the month of February under the chairmanship of Dr. H. S. Hele-Shaw, F.R.S. The following gentlemen have attended the meetings of the committee, and have given valuable evidence as to the supply, distribution, and consumption of petroleum spirit:—Mr. Philip Tennant, managing director of the Gas Lighting Improvement Company, Ltd.; Mr. F. P. S. Harris, of the Asiatic Petroleum Company, Ltd.; Mr. R. Bell, engineer of the London Motor Omnibus Company, Ltd. The information given by all these witnesses was of a confidential character and will be valuable to the committee in preparing their report and framing their recommendations.

HARROGATE.

At a meeting of the Harrogate A.C. on Thursday of last week Dr. Holroyd read a paper on "The car of the future, steam or petrol," in which he declared in favour of the steam vehicle, remarking that their demands were for power, comfort, flexibility, and last, but not least, cheapness of running and maintenance. There was a type of car which came very near, if not altogether up to their requirements, and that was the steam car. The cause of steam had suffered on account of the early experimental cars introduced into this country, and he believed that, in

the future, it would come to its own again. He was prepared to assert that once a man had driven a good steam car he was not eager to return to the petrol vehicle. He gave the credit for silence and reliability to the steam car, which was also easier to control. On the question of cost of running and maintenance Dr. Holroyd mentioned the rise in the cost of petrol that had occurred within the last year, and said that the steam car required a less costly fuel.

Mr. T. S. Watney opened a discussion on the merits of petrol and steam cars, and an interesting evening was spent by the members of this active club.

HERTFORDSHIRE.

THE Hertfordshire County Automobile Club will open its season on the 22nd inst. with a reception at the Corn Exchange, Watford. An interesting programme of fixtures for the coming season has been prepared, the two principal features being the open hill-climbs—one, on April 13th, for motor-cycles; and the Aston hill-climb for cars only, which, this year, will take place on July 6th. The conditions for both of these events are now in the press and will be obtainable in the course of a few days from the hon. sec., Mr. W. Whittall, Darley Dale, Watford.

The following gentlemen have recently been elected to membership of the club:—Messrs. J. Lindsay (Hertford), J. B. Wellington (Elstree), F. J. Jenkins (Ealing), J. Howard (Chesham), H. McLatchie (Harpenden), A. Tidd (Colney Heath), S. Spoor (Putney), and R. Nisbet (Watford). The representatives of the club on the General Committee of the Motor Union for 1907 are:—Messrs. E. Webster, J. S. Harwood, T. Williams, and W. Whittall.

WELSH.

THE third annual general meeting of the Welsh Automobile Club was held at the Tenby Hotel on the 21st ult., when there was a good attendance of members. The report and balance-sheet were adopted, the President, in moving their adoption, remarking on the very valuable work performed by the committee during the year.

The report draws the attention of members to the proposed arrangement regarding the dust-proofing of the Mumbles road—a beautiful stretch running round Swansea Bay for a distance of five miles and a very favourite promenade in summer. The committee are in touch with the Glamorganshire County Council Roads and Bridges Committee and have made them an offer of £100 towards the total cost, estimated at £300, for doing the work. It is expected that it will be put in hand in April. Mr. Basil Valentin was elected president for the year. The retiring president, Mr. F. Cory Yeo, announced his intention of presenting the club with a 20-guinea challenge cup to be competed for as the committee decides. Captain Hughes-Morgan, of Brecon, has also announced his intention of presenting the club with a challenge cup. Mr. S. L. Gregor was re-elected hon. secretary and Mr. H. G. Davies re-elected hon. treasurer. Twelve new members were elected, which brings the membership up to 125.

AUTO-CYCLE CLUB.

THE committee has decided to present a special gold medal to any affiliated club having a motor-cycle membership of not less than forty, such medal to be put up for any competition the committee of the affiliated club may think fit. It has been decided that the destination for the twenty-four hours' ride shall be Plymouth. A start will be made, probably from Hounslow, on Friday, July 26th, the whole journey there and back having to be completed within the twenty-four hours.

For the International Auto-Cycle Tourist Trophy race a fuel limit has been fixed of one gallon for every ninety miles of the course, for the purpose of reducing the speed. Each machine must be a *bona-fide* touring machine. The latest date for receiving entries is Tuesday, May 14th.

NORTH-EAST LANCASHIRE A.C.

THE members of the North-East Lancashire Automobile Club have had a lecture by Mr. Leveson Scarth. Up to the time of railways an ancient Greek or Roman could travel as quickly as an Englishman. Throughout English history, from the first recorded use of wheels by King John to the present day use of motor carriages by King Edward VII., movement on the roads has been limited by the paces of a horse, which has set a constant rate of ten miles an hour, or the mean speed maintained by a coach-and-four under favourable conditions on a long journey. Even the cyclist has only increased the speed to twelve miles an hour. Into this placid, slow-pacing world the motor-car has entered with a rush. Whenever the speed limit was abolished there would be no observable quickening in the general pace of motor-cars. Drivers would move then, as now, at a pace which agreed from moment to moment with the safety of the public and the circumstances of the road.

SOUTH WALES AND MONMOUTHSHIRE A.C.

THE annual dinner of the South Wales and Monmouthshire Automobile Club was held at the Park Hotel, Cardiff, on Saturday. Dr. E. Tenison Collins was in the chair, and amongst others present were Messrs. W. Rees Jeffreys, J. L. Wheatley (town clerk), J. Arthur Jones, Principal Griffiths, Messrs. G. A. Phillips (county surveyor of Glamorgan), Wm. McKenzie (head constable of Cardiff), J. J. Neale,

F. C. Shackel, E. Nicholl, V. E. Brukewich, J. J. Handcock, J. Thompson Willows (hon. secretary), W. Parker Thomas, Gibbon, Brooks, Dryden Lewis, C. Russell Gray, H. West, R. Clay, and D. K. Roberts.

Mr. E. Nicholl proposed the toast of "The city of Cardiff," Messrs. J. L. Wheatley and J. A. Jones responding.

Principal Griffiths proposed "The Automobile Club and the Motor Union." He thought they should rejoice at the probable postponement of motor legislation, for the public prejudice against automobilism was decreasing. The development of the automobile would supply the means of scattering our population and relieve the density which we now suffered. The motor-omnibus would be the future vehicle of the public, and for that reason if he were a member of the corporation he would be unwilling to spend a penny more than held legal on electric tramways. He noticed that the popular outcry against the motor-car always subsided in the winter and rose again in the summer. The public had realised that they were not in danger from it, that it was a safer vehicle than the ordinary horse-drawn vehicle. The whole of the public prejudice against the motor-car was due to the nuisance which they must admit was caused by the dust they lifted.

Mr. Rees Jeffreys responded. He said the longer they waited the more satisfactory was the next legislation likely to be. The next Act would probably be a permanent measure, and, therefore, must be well considered. They intended to introduce a Motor Union badge, which it was intended should be the badge of the considerate driver.

SCOTTISH MOTOR TRADE ASSOCIATION.

THE business proceedings connected with the Scottish Motor Trade Association have taken place in Edinburgh, where the general meeting of the organisation was held. The annual report disclosed that the Association was in a flourishing condition. The principal officials appointed were:—President, Mr. Thomas Shaw, Dundee; vice-president, Mr. John Love, Kirkcaldy.

Mr. Shaw presided at the supper during the Show week, when Mr. J. S. Matthew, Glasgow, proposing the toast of "The Association," said he thought he voiced the opinion of the trade when he said that in Scotland one Association should be ample. Mr. Shaw hoped that every member of the motor trade in Scotland would rally round the Association, and make it a power in Scotland.

OWING to the pressure on our space the report of the paper read by Mr. A. Towler to the Yorkshire A.C. on Tuesday is unavoidably held over.

THE Wirral and District Automobile Club has been formed, with Mr. J. A. Satterfield Hassal, of Graham Road, West Kirby, Cheshire, as secretary.

ON Sunday the North West London Motor Cycle Club held its opening run to Redbourn. Mr. H. V. Davidson, 22, Olive Road, Cricklewood, N.W., is the hon. secretary.

THE Bristol and Gloucestershire A.C., which will hold its annual meeting at the Royal Hotel, College Green, Bristol, on the 13th inst., has arranged for the provision of a motor house for its members.

AUTO-CYCLE CLUB'S SILENCER COMPETITION.

ON Tuesday the Silencer trials organised by the Auto-Cycle Club were commenced at the Notting Hill works of the Clement-Talbot Company. Only nine entries were received, and of these three were to the credit of Sharpe's Patents Company, Ltd., 58, Fleet Street, E.C. These were (1) the "Universal" silencer, consisting of a cylinder containing two bulbs connected together, which act as an expansion chamber. The exhaust passes out of the end of the second bulb into the cylinder, and finally enters the open at the top end through a number of small holes. (2) the "Universal-Paragon" silencer, with similar action, except that the expansion chamber consists of an inside cylinder; and (3) the "Universal Victoria" silencer, consisting of two bulbs, with a pipe running down centre with a stop equi-distant from each end of both bulbs. The exhaust enters the pipe and goes into the bulb through a number of small holes, again entering the pipe through a further number of similar holes, and goes into the second bulb, when the same action takes place, the exhaust finally reaching the open through holes in the end of the pipe.

Mr. G. Aldington, 50, Haydon's Park Road, Wimbledon, S.W., entered the "Silent" Silencer, in which a cylindrical expansion chamber is encircled by an outer cylinder, into which the exhaust passes. This outer cylinder is filled with a number of aluminum balls, breaking up the exhaust, which finally reaches the open through a number of small holes in end of silencer. The same competitor also entered the "Aldington's Combined Silencer, Footrests, and Footwarmer," which is constructed of steel tubing, 1½ in. diameter, so as to form the foot-rests of a machine. The tube answers as an expansion chamber, and near each end is an aluminium box shaped to the foot, into which the exhaust passes, when passing into the open through a number of small holes. The heat is regulated by means of a disc worked by the rider's foot.

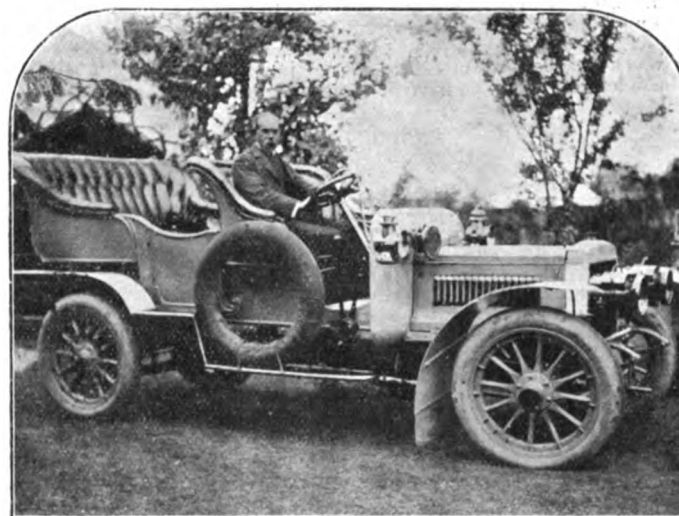
The "Radio" silencer was in the name of Messrs. Wood and Co., Cavendish Street, Ashton-under-Lyne, their speciality comprising a number of tubes, radiating the heat quickly, and owing to the combined length of tubes a perfect scavenging of cylinder is effected at every

stroke. Messrs. Montgomery and Co., Ensign Cycle Works, Bury St. Edmunds, had their "Montgomery" Silencer, consisting of a cylindrical expansion chamber, encircled by coils, in the form of a double spiral. The exhaust enters the spiral at the bottom of the cylinder and passes into the open by means of small holes drilled in the coils throughout their length. Another competitor was Mr. Wm. McAuslane, Appleby, Westmoreland, who had the "Wat-Not" Silencer, consisting of a cylinder divided into six sections. Down the centre of the cylinder passes a pipe, also in six sections overlapping each other, so that the end one is much smaller than the first. As the exhaust passes down this pipe, a proportion of it escapes at each overlap into the respective sections, and finally reaches the open through small holes in the walls of the cylinder. Messrs. Collier and Son were also competitors.

In connection with the test a 3½-h.p. engine was fixed to a bench, and connected with the exhaust was a three-way piece, at one end of which a silencer was fixed as a standard, control by a shut-off cock. The remaining end was open, for connecting the silencer to be tested. Between the two silencers and the engine a pressure gauge was fixed, which registered the back pressure resistance given by the tested silencers. A brake was fixed on the flywheel of the engine, loaded with a weight of about 7 kilos, and the engine was run with this constant brake pressure, at a uniform speed of 1,500 revolutions a minute. The actual difference of noise with each silencer was obtained with a Hughes audiometer. Colonel Holden, who was in charge of the trial, and Messrs. J. Lyons Sampson, B. Chatterton, and A. Sharp, the judges, put each silencer to exactly the same test; and the report of their investigations will be made known in a few days.

A CHARGE OF MANSLAUGHTER.

THE Leeds Stipendiary Magistrate concluded on the 21st ult. the hearing of a charge of manslaughter arising out of a motor smash last



Mr. T. Scott-Foster, of Southsea, at the wheel of his 28-36-h.p. Daimler Car

August. The accused was Mr. H. S. Atkinson, motor-car dealer, of Albion Street, Leeds, and the man killed was the driver in charge of a horse and cart, with which the motor-car collided. Mr. H. F. Atter (from the Town Clerk's office) prosecuted, and the accused was represented by Mr. E. O. Simpson. The evidence for the prosecution having been given, the formal charge was read over to the accused, who replied "Not guilty." Mr. Simpson submitted that it was a case which ought not to be sent for trial. He argued that on the evidence before the court no jury would be likely to hold the accused responsible for the accident. As a matter of fact, the evidence went to show that the mischief was caused by the cart coming down the wrong side of the road and colliding with the motor-car. The magistrate said that, in his opinion, it was a question of speed. Was the accused travelling at an improper rate of speed? If the answer were in the affirmative, the question arose—"If he had been driving at a reasonable and proper speed, would the injuries to the persons concerned have been caused?" The accused was committed for trial at the next Leeds Assizes, bail being allowed.

THE EVIDENCE OF A SPEEDOMETER.

ROBERT CHAMBERLAIN, a chauffeur, was summoned, before Mr. Marsham, at Bow Street (London) Police Court, for driving a motor-car in St. James's Park at a greater rate than the regulation limit of ten miles an hour. Mr. Staplee Firth appeared for the defendant. According to the evidence of Park-keeper Gould and two of his colleagues, the defendant drove a motor-car containing Mr. McCall, K.C., in Birdcage Walk at a rate exceeding eighteen miles an hour. The defendant was

called, and said the park-keepers had made a great mistake, as his speedometer showed that when he was stopped his car was travelling at less than ten miles an hour. Mr. McCall, K.C., gave evidence to the same effect. On the occasion referred to in the summons he (Mr. McCall) was watching the speedometer carefully, and was sure that it did not register ten miles an hour. It was pulled up within its own length when the park-keeper signalled, and that would have been impossible had it been travelling at the rate alleged by the park-keepers. He saw two motor-cars going at a much more rapid pace than his was, and a hansom cab passed his car at the railing near Buckingham Palace. Mr. Firth submitted that the park-keepers lost time when signalling to each other, and had over-estimated the speed at which the defendant was driving his car. Mr. Marsham said the park-keepers' watches had been tested, and he did not think there had been the error suggested. The defendant would be fined 40s. and 2s. costs. Mr. McCall was said to feel very strongly on the matter, and intended to appeal against the magistrate's decision.

OBSTRUCTING A MOTORIST.

THOMAS FROUD, of Brunswick Street, Blackfriars, appeared before Mr. Marsham, at Bow Street, London, for not keeping a van, of which he was the driver, on the near side of the road to allow the free passage of a motor-car. Earl Russell (counsel to the Automobile Association) stated that on the afternoon of the 15th ult. he was driving a motor-car along Kingsway towards Holborn. When he reached the entrance to the underground tramway, in the centre of the road, he had to pull up because a van, of which the defendant was in charge, was being driven close to the obstruction. He sounded his hooter, and someone in the van shouted, "Do you want all the road?" The witness again sounded his hooter, but the defendant refused to pull in to the near side, although there was no traffic to prevent him doing so. Owing to the defendant's conduct the witness was obstructed for a distance of about 100 yards. He then called a policeman, and told the defendant that he would be summoned. The defendant said he tried to pull in to the near side, but was unable to do so, as the road was very greasy. There was ample room for Earl Russell's car to pass him on the near side. Mr. Marsham said it was a great inconvenience to motorists to be delayed in this manner. The defendant ought to have given way, and he would be fined 10s., and 2s. costs.

PUBLIC MOTOR SERVICES.

FOOT GONGS instead of motor-horns as a means of warning are being tried by the London Road Car Company on their motor-omnibuses now in operation in the Metropolis.

A NEW motor-bus service will soon be at work in Torquay with steam-buses that have hitherto done duty at Llangollen, in the place of those that have been removed to Harrogate.

A MOTOR-BUS driver has been fined 5s. and costs at the Lambeth Police Court for loitering—or, as the police termed it, "driving very slowly" at Camberwell Green.

SIX motor-cars are to be acquired by the newly formed Motor Transport Proprietary, Ltd., of 395, Collins Street, Melbourne, for general hire and passenger work in that colonial city.

A MOVEMENT is being projected locally to establish a motor-car service between Hawick and Jedburgh, and Kelso and Jedburgh.

THE Cardiff Watch Committee has been considering the question of licensing motor-buses to run in the district. Three applications have been received for permission to run motor-buses, one from the old Cardiff Tramways Company, for the substitution of motor vehicles for their present horse-buses from North Road to Whitechurch, and from Castle Street to Llandaff; one from a projected new company, to be called the Cardiff and District Motor-Bus Company; and the third from Mr. E. Allen, of Penarth, for a new motor service between Penarth and Cardiff. After a long discussion it was decided to reply to the application of the Cardiff Tramways Company that, having regard to the safety of the public, the corporation could not see their way clear to grant licences for motor-buses to run along the existing routes, but that licences be granted for motor-buses in substitution for all present licences for horse-buses, provided that the buses shall not ply within the city, except so far as the tramway terminus in Cathedral Road, or, if the company preferred, as far as the junction of Severn Road and Cowbridge Road, and also from North Road towards Whitechurch. With respect to the application of the projected Cardiff and District Motor-Bus Company, it was decided that, considering the facilities already provided and the safety of the public and the congested state of the streets, the corporation could not see its way clear to grant the licence asked for. The application from Mr. Allen, of Penarth, was dealt with in the same way.

AFTER one successful season the Island Motor Omnibus Company was in the unfortunate position at its annual meeting just held to report a deficit of £3,323 on the second year's working. The principal factors accounting for the large increase in expenditure are the larger number of omnibuses during the busy season, charge for depreciation, and exceptionally heavy charges for compensation for damage and legal expenses. The gross earnings decreased by £1,742 15s. 6d., although the omnibuses had covered an additional 19,000 miles in the Isle of Wight during 1906.

THE directors of the London General Omnibus Company, in their report for the half-year ended December 31st, report that the amount standing to the credit of the motor fund on June 30th last was £22,523. During the half-year £9,168 had been spent on garages. The directors propose a dividend at the rate of 5 per cent. per annum.

CASES UNDER THE MOTOR-CAR ACT.

A QUARTETTE OF SUMMONSES.

At Woolwich, William James Fox, of King Street, Hammersmith, was summoned, before Mr. Baggallay, on four summonses. The first was for driving a motor-car without being licensed at Woolwich Road, Charlton, on February 2nd; secondly, for being the owner of the car and not registering his change of address; thirdly, for driving the car in a manner dangerous to the public; and lastly, for not stopping when requested by the police to do so. Police-Sergeant 18 R stated that the defendant was travelling, in his opinion, 25 miles an hour, and declined to stop. Witness blew his whistle and a constable further up the road put his hands up for the defendant to stop, but he steered past him. He was subsequently traced by the number of his car. Mr. Baggallay imposed a fine of £5 for driving to the danger of the public, £5 for failing to stop when requested, and 5s. each on the other two summonses, with 8s. costs.

RECKLESS DRIVING.

The magistrates sitting in the Church Police Court have fined Walter Crute, a chauffeur in the employ of Messrs. Worthington, £10 and costs. The charge against him was that he drove a motor-car to the danger of the public. The prosecution gave the Bench a description of the car, which is the shape of a bottle and weighs two tons. On the 7th ult. Crute was driving it along the Burnley road towards Accrington. A lorry was coming in the opposite direction, and from behind that vehicle a coal cart turned right in front of the motor. Trying to avoid a collision, Crute ran into the side of a house. A large hole was made in the wall, the fireplace was damaged, and a cupboard was smashed. The chairman of the Bench said that accidents of this kind were becoming too frequent. Motorists, seeing a clear road in front of them, were unprepared for anything suddenly getting into their track. If a child had suddenly rushed from one of the houses and the driver had failed to avoid a collision, it might have been killed. Leave to appeal was granted.

At Woolwich, Herbert John Silver, Islington, was summoned for driving a motor-car at a dangerous speed in Woolwich Road, Charlton, on February 2nd. Defendant, who was driving a car with 12 cwt. of newspapers, said the car could not travel twenty-five miles an hour. He was fined £5 and 2s. costs.

William Phillips was summoned for a similar offence at the same time and place. It was stated that he was certainly travelling over twenty miles an hour. He was also carrying newspapers. Mr. Hutton said people were in a hurry to get the papers, and he supposed the defendant was driving quickly to supply his customers. Defendant admitted that he was travelling sixteen to eighteen miles an hour. A fine of £5 and 2s. costs was inflicted.

ALLEGED RECKLESS DRIVING.

At the Yealmpton Petty Sessions a youth engaged as a chauffeur by Mr. Williams, of Old Town Street, Plymouth, has been summoned for driving a motor-car recklessly in the parish of Plympton. Mr. Pearce explained that he appeared nominally for the police, but really for Mr. Gilbert Popplestone, who laid the information. The prosecution was taken under section 1 of the Motor Act, 1903. The facts were that on January 19th, about 6.20 p.m., Mr. Popplestone and his groom were returning after a day's hunting to Plymouth, coming along the Plymouth road and going across the bridge at Plympton. When on the bridge they saw two lights rapidly advancing towards them. They did not hear the horn, and they had barely got off the bridge when the car passed them very close. Mr. Popplestone and his groom shouted loudly, and the car swerved as it passed them with less than a foot margin. The car was on the wrong side of the road, and he submitted that it constituted a grave danger. It passed on without the occupants paying any attention to the shouting of Mr. Popplestone and his groom. The former regarded his escape as a miraculous one. Mr. Ward, for the defence, submitted that the vehicle was under control, and the Bench dismissed the case.

At Brighton Mr. Clifford Earp has been summoned for riding a motor-cycle at a dangerous speed on the King's Road on the 3rd ult. Mr. Louis Meaden appeared for the defendant and pleaded guilty on his behalf. He (Mr. Meaden) thought his licence would have been sent on, but it had not arrived. That, however, need not prevent the Bench making an order, as it was an offence not to produce the licence within a reasonable time after conviction. The magistrates decided to adjourn the case for a week for the production of the licence, and the attendance of the defendant.

MOTOR-BUS ACCIDENT.

AN alarming collision between a motor-omnibus and an automobile occurred on Sunday afternoon at Westminster. One of Tilling's motor-buses, which ran from Peckham to Oxford Circus, had rounded the corner of Bridge Street into Parliament Street, and was proceeding towards Trafalgar Square, when it came into collision with a motor-car which was running in the opposite direction. The impact was so great that the panes of glass in the omnibus were smashed to fragments, and a lady and gentleman passenger were badly cut and bruised. The occupants of the motor-car, however, escaped injury.

A FURTHER repeat order to tyre fifty-four wheels for the War Office has been received by the Sirdar Rubber Company, Ltd.

THE MANCHESTER MOTOR-CAR SHOW.

THE second of the motor-car exhibitions in Manchester during the present season was opened on Friday last week in St. James's Hall, the organisers in this case being the Manchester Motor Trades Association. The show comprises a very complete selection of pleasure cars, but the exhibits of commercial vehicles are confined to one or two light vans and lorries. One of the largest stands is that of Messrs. Newton and Bennett, Ltd., comprising as it does examples of the Napier, Fiat, Belsize, Clement, Rover, and Enfield. Before the show is closed they hope also to have on view a new Italian vehicle, known as the S.C.A.T., and built by the Società Ceirano Automobili, of Turin, but at the time of our visit the car had not arrived. It is of 16-20-h.p., and is provided with a four-cylinder engine, 90 mm. bore by 120 mm. stroke. The clutch is of the multiple disc type, and the transmission through a gate-controlled change-speed gear and cardan shaft to a live axle. The Renault and Talbot cars are to be seen at the stand of Messrs. Joseph Cockshott and Co., Ltd., a notable feature being the bodywork, which is the production of the firm's own factories. Darracq, Humber, and Singer cars are staged by Mr. T. Garner, Manchester. The Bolton Motor Car Company, Ltd., display the Adams-Hewitt and Humber cars, notable among the latter being a 30-h.p. single landaulet. In addition to a full range of motor accessories, Messrs. Brown Bros., Ltd., exhibit examples of the Brown 35-40-h.p. six-cylinder, 25-30-h.p., 20-22-h.p., and 18-20-h.p. four-cylinder cars. The Mercedes, Berliet and Panhard cars are shown by Messrs. J. A. Lawton and Co., Messrs. Andrew Allen and Co., Manchester, and the Commercial Motor Company, Leeds, the Lancashire and Yorkshire agents respectively, jointly show a series of new cars made by the British United Engineering Company. The largest is of 32-36-h.p. and is fitted with a double landaulet body. The four-cylinder engine is provided with both high tension magneto and accumulator ignition; the four speeds forward and

acetylene lamps and the system of lighting by means of dissolved acetylene. Motor oils and greases are shown by Price's Patent Candle Company, Ltd., Messrs. John S. Morris and Son, the Auto-Lubrine Company, Messrs. E. Brooksbank and Co., Ltd., and Messrs. Marshall and Co., Moseley. The tyre exhibits include the Elastes, Continental, Dunlop, Gaulois, Dook-Swain, Moseley, Macintosh, and Shrewsbury and Challiner. The Dook-Swain Tyre Company have a novelty in a non-bursting inner tube, the rubber being covered with a special canvas woven to the inflated dimension of the tube before the ends of the latter are vulcanised together. The show closes to-day (Saturday).

COMPANY NEWS.

NEW COMPANIES REGISTERED.

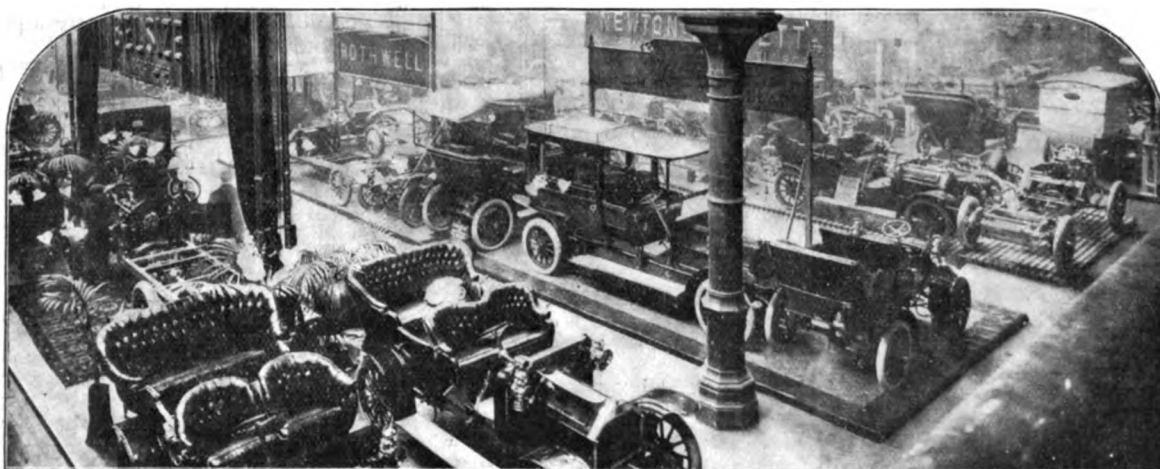
BERKELEY MOTOR COMPANY.—£10,000. To adopt an agreement with Mr. H. S. W. Pennington.

E. D. HEINEMANN.—£10,500. To adopt an agreement with Mr. E. D. Heinemann and Mr. S. O. Heinemann, and to manufacture and deal in motor-cars and other conveyances, &c. E. D. Heinemann is managing director, and may retain office while holding 3,090 shares. 26, Cranley Mews, South Kensington, S.W.

"ARGYLL MOTORS" (CONTINENTAL).—£16,000. To adopt an agreement with Mr. A. Leicester for the acquisition of his interest in a concession granted to him by Argyll Motors, Ltd. 17, Newman Street, W.

TARMACISER.—£3,012. To acquire (when granted) certain patents of Mr. R. Ames for inventions for treating roads with heated tar. First directors: Messrs. R. Ames, H. Beadle, and H. Wettern. 7, Victoria Street, S.W.

LLANDUDNO MOTOR AND GARAGE COMPANY.—£5,000. First directors: Messrs. J. J. Wooler, W. E. Watson, and W. Broomfield. Argyll Road, Llandudno.



A General View of the Manchester Show.

a reverse are controlled by a "gate" lever, and the final transmission is by a cardan shaft to a live axle. A 16-20-h.p. car and a 35 cwt. lorry with side chain drive are also on view. Messrs. Humber, Ltd., show examples of both the Beeston and Coventry Humber cars; the Wolseley Tool and Motor-car Company, Ltd., exhibit a range of the Wolseley-Siddeley vehicles, including a 45-h.p. six-cylinder chassis. The display of Belsize Motors, Ltd., includes a 60-h.p. six-cylinder chassis, and examples of the 20-h.p. and 30-h.p. vehicles, and that of the Daimler Motor Company, Ltd., comprises a 28-45-h.p. car with "Kenilworth" body, and a 30-55-h.p. limousine. The Central Motor Garage, Blackpool, show the Weigel and Sunbeam cars; the Hollindrake Automobile Company, Ltd., Stockport, the Clement-Talbot and De la Buire; Messrs. McNeil Hutchison Company, the Cottareau; Messrs. Horsfall and Bickham, the Horbick; and Argylls Manchester, Ltd., the Argyll. Other exhibitors of cars include Mr. J. Robertson, Rusholme, Manchester, the Lanchester Motor Company, the Eclipse Machine Company, Ltd. (Rothwell cars), Mr. R. Ramsbottom (Cadillac and Gladiator), Messrs. Bell Brothers (Bell), Mr. G. W. Lowcock (Simms-Welbeck), Mr. H. A. Timberlake, Wigan (Vulcan), Iris Cars, Ltd. (Iris), Messrs. J. E. Hutton and Company, Ltd. (Panhard, Mercedes, and Berliet), Mr. F. Wilkinson (Stanley steam cars), the British Automobile Commercial Syndicate (Spyker), the Manchester Motor Company (Ford and Deasy cars).

The exhibitors in the accessory section include Messrs. S. Smith and Sons, Ltd. (speed and mileage indicators), the New Motor and General Rubber Company, London (rubber and metal non-skids), Messrs. Meade-King, Robinson and Co. (Giant motor spirit), Mr. W. Cort, Market Harborough (Cort's detachable non-skids), the County Chemical Company, Ltd. (vulcanisers, oils, greases, carbide, etc.), and Pettett's Safety Filler Company (safety filler for emptying petrol from tins to tanks). Messrs. Joseph Cockshott and Co., Ltd., draw attention to the Rushmore

COMPANY MEETINGS.

ELASTES COMPANY, LTD.—The first ordinary general, or statutory, meeting of the Elastes Company, Ltd., was held at 78 and 80, York Street, Westminster, S.W., Lieutenant A. Trevor Dawson, R.N., presiding. The secretary (Mr. W. J. H. Moll) read the notice convening the meeting and the auditors' report. The Chairman said that manufacture of Elastes in this country had now been started and orders were steadily increasing. Elastes was an unqualified success, as they had numerous unsolicited testimonials which bore out the claim that Elastes, in addition to overcoming the bugbear of punctures and burst tyres, in spite of its first cost, proves an economy in reducing the item of tyres in motor-car upkeep, which undoubtedly was the most serious one motor-car users have to face. It had been definitely proved by some of the leading motor-car manufacturers that, provided the car was efficiently sprung and balanced, the Elastes tyres could be applied to give equal results in regard to resiliency and smoothness in running as with the pneumatic tyres. As a personal instance of such efficiency, he stated that he had himself ridden in a motor-car which had run over 5,000 miles on one set of Elastes filled tyres, and the running of the car was equal to the running of an ordinary car on pneumatics. Major F. Lindsay Lloyd, R.E. (manager and director), said after seeing the merits of Elastes he introduced it to the notice of the War Office Mechanical Transport Committee with the object of having it applied to military motor-cars. The manufacture was commenced at Erith on January 15th last. There was one thing they were very pleased to notice, and that was the growing use among all classes of motor vehicles of the movable rim, which, although it is not an essential to Elastes, makes the application of the substance much easier for the owner, as it will not be necessary for him to dismount his wheel to have Elastes fitted to it. The movable rim itself, or the spare rim, was simply sent to the mounting room and the Elastes filled tyre was

mounted there without any inconvenience to the owner of the car. A vote of thanks to the chairman concluded the proceedings.

MOTOR UNION INSURANCE COMPANY, LTD.—The first statutory meeting of the shareholders of the Motor Union Insurance Company, Ltd., was held at 1, Albemarle Street, W., on Monday. Mr. C. H. Dodd, chairman of the board of directors, and vice-chairman of the Motor Union, presided, and, in moving the adoption of the report, said that though the company had received their certificate enabling them to commence business in November last, they did not begin to issue policies until the 1st of January, and the business which had been done had exceeded the most sanguine expectations of the directors. Mr. Dodd went on to speak of the policies issued by the company. The special Motor Union policy had been very favourably received, and he thought it must be generally admitted that it marked a great advance upon any policy of motor insurance which had hitherto been issued. In settling the terms of the policy, the directors had endeavoured as far as possible to make it perfectly clear and free from those irritating exceptions and restrictions which had been such a prominent feature in many motor insurance policies in the past. They had aimed at simplicity combined with the fullest cover which could reasonably be given. Already the directors had seen their way to improve the terms of the Motor Union policy in many particulars and without addition to the existing scale of premiums. They had, for instance, decided that damage to rubber tyres should be covered in the event of an accident in which some other portion of the car was damaged. The directors had also decided to cover tools against theft or damage which might occur at the time of an accident to the car, to cover all damage to cars done by lightning, and, perhaps most important of all, to extend the cover of those owners who insured against personal accident to accidents which they might sustain when driving or being driven in any motor-car not used for public hire. The intention of the directors was also to devise a scheme by which some share of the profits might be divided amongst the policy holders who did not make claims, such share of the profits being applied towards the payment of future premiums. The motion was duly seconded and carried, and a formal vote of thanks passed to the chairman.

ROAD REPORTS.

STIRLINGSHIRE.—Eleven roads in the county have been closed to motor-car traffic by order of the Secretary for Scotland, and fifty-nine other roads are affected by a new speed limit order.

STONEBRIDGE.—Success seems to have attended the experimental road surface recently laid near Stonebridge, on the road from Coleshill to Coventry. Although on a recent day all the neighbouring roads were muddy, both the experimental surfaces—the one tarred, the other consisting of blast furnace slag impregnated with tar—were quite free from potential dust and side-slip mixture.

HORSHAM.—Pending the result of the tests about to be made in connection with treating the roads with tar, the Horsham Rural District Council has decided to suspend further action in the matter so that the best methods may be adopted.

SOUTHPORT.—Mr. Tronson, of Southport, has been in communication with some motorists at Liverpool with a view to taking up the question of shortening the road from Liverpool to Southport. This, he says, can be done very considerably, but the interest of the ground landlords will have to be secured to do it cheaply. He has announced that there was a scheme in hand to lay a special track for motorists at Southport.

THE DANGERS OF THE ROAD.

As the result of an accident, the death took place, in Sussex County Hospital at Brighton, on Sunday, of a young man named Medhurst. He and his brother were cycling to Brighton, and near Clayton Hill met a motor-car driven by Mr. Sidney Holmes, of Oxford Mansions, London. Medhurst was caught by the car and flung over it into the air. He was picked up unconscious by the occupants of the car and taken in another vehicle to Brighton, where he died.

While a party of motorists from West Hoathley were descending a hill at Lindfield on Saturday, a pony and trap, containing an hotel-keeper and his wife, named Card, were making an ascent when the pony got frightened and plunged across the road. To avoid a collision the chauffeur turned the motor into a ditch. The car, however, struck the trap, and Mr. and Mrs. Card were thrown into the road. The motoring party escaped without serious injury, but it was several hours before the motor was removed from the ditch.

COMMITTED FOR TRIAL.

The Slough magistrates have heard a charge of manslaughter against Edward Maurice Harrison, chauffeur to Mr. Redfern Russell, of Oxford. On the morning of January 27th prisoner was driving his employer and Mr. F. H. Goodhart, from Oxford to Slough. At the latter place the car ran into an elderly man named William Hawkins, who was crossing the roadway, and who died shortly after as the result of the accident. George Martin said the car was going slower than the G.W.R. 'bus, and Dr. Adams said deceased was suffering from double cataract, and his hearing was bad. The Bench sent Harrison for trial at the Bucks Assizes, admitting him to bail.

BUSINESS NEWS.

CAPTAIN THEO MASUI, who went to India last November in order to introduce the German car to that country, is now on his way back after having had a very successful business tour. The car on which he made his non-stop run from Bombay to Agra has been purchased by Major Warren, of the Commander-in-Chief's Staff, who is an authority on motoring in India; a duplicate of the vehicle has also been purchased by the Maharajah of Balrampur, whilst a large number of orders have been received from various parts of the Peninsula.

LORD HOWARD DE WALDEN has just placed an order with the Motor Supply Company, Ltd., for a 45-h.p. six-cylinder Siddeley, which will be fitted with a limousine body.

MR. J. THOMAS, of Cardiff, has fitted up the Wyndham Mews, in that town, as a motor garage. His showrooms at Cowbridge Road, Cardiff, will be continued.

MESSRS. GROSE, LTD., have just fitted a motor cover with its fourth leather band, and frequently fit two or three of their non-skid bands to the same cover before it is worn out.

MR. EDWARD KENNARD, who has been a consistent user of Napier cars since he purchased the first one that was built, finds that his repairs for six years averaged under £11 annually for a total distance of 36,000 miles.

MR. C. FONTEYN, 78, Newman Street, London, W., has acquired the British agency for M. Jules Cury Fils, of Deville, Ardennes, France, manufacturers of castings for motor cylinders, pistons, &c.

THE E.I.C. Company, of Sampson Road, Birmingham, have recently been making extensive alterations to their premises. In addition to fitting two 30-h.p. National gas engines, they have established a laboratory where all materials will be tested before being passed into the works for manufacture. They have also made some important additions to their testing shop, and as a general result of these improvements will now guarantee all their manufactures for two years.

MESSRS. ALFRED HERBERT, LTD., of Coventry, have issued a catalogue descriptive of their combination turret lathes.

SIR THOMAS PILKINGTON, Bart., has recently acquired a Hotchkiss car from the London and Parisian Motor Co., Ltd.

THE DUCHESS OF PORTLAND is one of the most recent purchasers of Iris cars, her Grace having ordered a 25-h.p. chassis to be fitted with limousine body.

THE Daimler Company are making good progress with their export trade, an order having just been cabled from Soerabaija, Java, for a "Milverton" pattern, 45-h.p. Daimler car, the first of a series which have been arranged for in this country during the coming season.

CLIMAX MOTORS, LTD., Coventry, inform us that they have now completed their arrangements for the manufacture of Dixon's metal cone clutch, of which an illustrated description was given in the *M.C.J.* of November 17th last, and that they are now in a position to supply it promptly.

THE Daimler Motor Company have sent us a photograph which serves to show the usefulness of the petrol motor. Owing to the recent frost the cement foundation of the floor of an extension of the works, at Coventry, had not set as quickly as was desired, as it was necessary to move into this particular shop at a certain date. Luckily the heating apparatus had just been installed, which consisted of large fans in the roof which blow air over steam radiators and deliver it on to the shop floor through sheet-iron pipes. These fans were ready to run, but the electric power destined to drive them had not been installed. Nothing daunted, the engineers hastily fixed up some old car motors on test-stands, with the result that the cement set in time to enable the shop to be used at the desired time.

A **MOTORIST** who has driven a West-Aster car more than 5,000 miles writes that he has done so at a cost of only 10s. for repairs or replacements.

At the **Edinburgh Motor Show**, which closed on Saturday, about 34 per cent. of the motor-cars exhibited were fitted with Continental tyres.

MESSRS. FRISWELL, LTD., write that they are desirous, in view of recent movements and statements made in the daily press, of pointing out that their firm may justly lay claim to the title of "England's First and Foremost Motor Auctioneers." They first promoted this class of auction business on February 7th, 1901, and inaugurated the weekly sales on Thursdays, and have periodically held auctions in various parts of the country for firm standing stock and motor-bus service. Their premises have been repeatedly increased until they now cover an area of 46,000 superficial feet, and they can provide for the storage of 800 cars.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

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COMMENTS.

MOTOR-CARS are responsible for many new problems, and even some of the steamship companies are having to consider the coming of the car as it affects their special business. Motorists touring with their cars require attention from the great ocean liners, and although we do not anticipate they need establish garages with exercising tracks, so that drivers may keep their hand upon the wheel, they will certainly

have to provide for the conveyance of cars without crates. Many Americans who tour in England and on the Continent with their cars have found that the system of packing cars in crates has many disadvantages, vehicles being scratched and marred to a far greater degree than when they are merely shipped in a way that has become the custom in Europe. Here automobiles are simply hoisted aboard vessels by means of suitable tackle and let down on to the main deck of the ship. They are then secured in a convenient corner, covered with tarpaulin, and taken from the vessel without damage—a condition of things that does not usually follow crate shipment on an Atlantic liner.

The Police and Motorists.

DOUBTLESS a grave sense of official etiquette was responsible for the expressed inability of the Home Secretary to answer a question addressed to him by Mr. Luddell in the House of Commons on Tuesday. Following up a question as to a summons dismissed at the West London Police-court for driving a motor-car at an excessive speed, he asked Mr. Gladstone what would be done to compensate motorists in case of false charges made against them by the police. The response was that the question could not be answered—a vague form of comment. It revealed a state of things that only motorists can appreciate. The difficulties of obtaining costs against the police even when cases are dismissed are known to all our readers. To secure compensation for loss of time and disturbance to business caused by having to appear to answer charges that have little basis in fact is even more impossible; but the matter should not be overlooked by friends of the movement in Parliament.

The Hooded Van Danger.

A READY response has been received to the inquiries of the Motor Union respecting the use of hooded vans. Particulars have been received in regard to a large number of towns and counties. From these it seems that there are four towns in which there is a by-law in operation—viz., Liverpool, Wolverhampton, Bristol, and Cardiff, while at Bristol the by-law is not rigidly enforced. In Scotland the hooded van is comparatively little known, and in consequence a by-law is said to be unnecessary. In some of the districts from which information comes it is stated that a by-law is "very necessary," while in others the majority of hooded vans comply with the London County Council regulation, which enacts that a vehicle shall be

so constructed that the driver shall have in front and on each side of the vehicle an uninterrupted view of the traffic. The Berkshire County Council, it seems, will not take up the matter until various boroughs have done so. At Hereford and Coventry the police favour such a by-law, and in Essex the County A.C. is approaching the Chief Constable on the subject. It is apparent, therefore, that concerted action is necessary to effect the removal of the danger attached to the vans so constructed that the driver cannot see the overtaking traffic. Steps, indeed, should be taken without delay, as the hooded van claims many victims. A case in point occurred at Burnley recently. Two little boys coming out from school were run over and killed by a cart with a sheet down one side, which prevented the driver from having a view of the traffic. The coroner pointed out this fact when summing up the evidence for the jury. Motorists and others should therefore continue to press their local councils to adopt suitable by-laws.

The Sussex A.C.

NOT often do motorists require prompting towards organisation, but we really feel the advantages of combination are not sufficiently appreciated by many of the owners of cars resident in the county of Sussex. The whole area enjoys a notoriety throughout the country so far as police vigilance and magisterial prejudice is concerned, and there is still much to be done to convince local authorities with regard to the desire of drivers to live at peace with all men. Why, then, should the club have to record a slight decline in its membership? The question need not be unduly pressed, but we would ask all motorists in the county not yet in association to join the Sussex A.C., and give it numerical as well as financial support. The presence of strong, active clubs in areas of opposition has a good effect, and in such a county as Sussex the need for such an organisation is very urgent.

The British Industry.

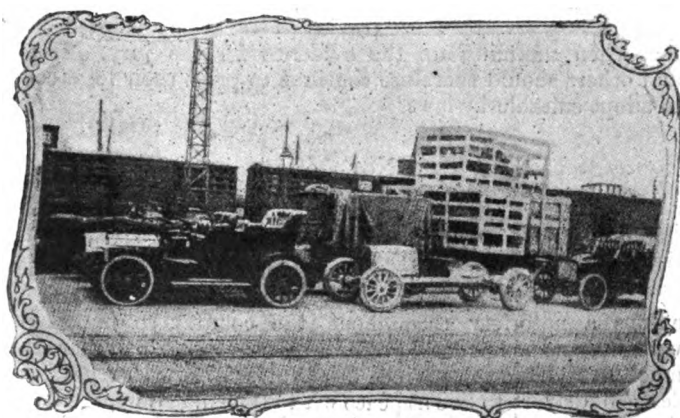
EARL FITZWILLIAM, in declaring the York motor show open, made interesting reference to the prospects of the British automobile industry, which is finding a "local habitation and a name" in the county of broad acres. He rightly attributed to the excellence of the work of our mechanics some of the great progress that has been made. Other countries had obtained the lead, but the British engineer was making considerable advance, and soon the contest will be, if it is not already so, on more equal terms than was the case a few years ago. All this is good news to the industrial workers of the country, who are adapting themselves to a new industry that promises to expand in a very healthy way.

Where Motor Works are Located.

MOTOR works will loom large in the Census of Production that will shortly be taken by Mr. Llewellyn Smith, who has been appointed by the Board of Trade to carry recent legislation on that subject into actual operation. Already the widespread nature of the industry is apparent to those who attend exhibitions or study the advertising pages of the motor

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Press. London and Manchester are regarded as the chief markets for the motor-car, but there are scores of places in the country interested in the sale of cars whose aggregate swells into a considerable volume. Apart from the selling aspect, the manufacturing importance of the industry is widely distributed, and a writer in the "Manchester Guardian" mentions that about the Metropolis are thirty works, four specialising on heavy commercial vehicles. Essex has three factories, Kent three, Surrey five, Hampshire three—all for the production of commercial vehicles, Berkshire three, Lincolnshire five, Lancashire fourteen, Warwickshire twenty-eight, and Yorkshire eight. Around Glasgow there are eight works actively engaged in the production of automobiles. These figures are only approximate, but they do not exaggerate the present position of the industry, which is certainly expanding in a way that must be gratifying to all anxious about the national prosperity. Many of these works are quite new, and their existence has set flowing a flood of activity in many directions where stagnation was threatening the future. Emphasis may rightly be placed upon this view of things, so that the Labour members in the House of Commons will readily see that the development of automobilism means more avenues of employment to workmen of every grade.



A snapshot on the Quay at Boulogne.—Cars awaiting shipment to England.

Is a Motor Driver a Labourer?

IN the course of an action heard at Marylebone by Sir William Selfe and a jury on Tuesday, an important point as to the position of the motor driver with regard to the Employers' Liability Act was raised. A motor-bus driver sued the London General Omnibus Co. for damage under the Act in respect of a broken arm. The plaintiff was starting a vehicle when the engine back-fired, and the handle he was holding flew backwards and broke his arm in two places. For the defendant company it was submitted that the accident was due to the driver's unskilful use of the lever and that the motor was in perfect order just before and just after the mishap. His Honour left to the jury the question of deciding on the evidence whether they considered a motor-bus driver a manual labourer, in view of the many brakes and control levers he had to manipulate in driving a vehicle of that kind. The jury found that the plaintiff was a manual labourer, and judgment was accordingly entered for the defendants.

The Motor Union and Bridge Tolls.

This was reported in our last issue. The Bench hold that, applying the Acts of Parliament dealing with light locomotives on the highways to the Hayling Bridge Act, the maximum toll

fixed by that Act for a locomotive under two tons weight apparently equalled the toll for a carriage drawn by one horse, the sum being ninepence, whereas the toll in the schedule to the lease was fixed at threepence. There was no other sum in the schedule to the lease which corresponded with the toll in Section 64 of the Bridge Act, the tolls in that section being the maximum, whereas those in the schedule to the lease were the minimum. The defendant had produced no evidence, as required in the lease, authorising him to collect any greater toll than threepence for a carriage. The magistrates were of opinion that in the absence of proof of any such consent from the lessors, the defendant had no authority to demand or collect from the complainant any greater toll than threepence each way for passing his motor-car over the bridge. They were not called on to say what was a fair toll to be demanded. Judgment would, therefore, be entered for the complainant for sixpence, the amount overpaid on each of the two days complained of, with costs, and £2 2s. solicitor's fee. We congratulate the Motor Union.

Motor-bus Services.

ONE result of the avidity with which enterprising companies rushed into the public arena with their motor-buses, before the latter were quite ready for commercial success, is seen in the position of some of the concerns interested in London traffic problems. Of the eight companies formed to run motor-buses only two have proved profitable to their shareholders up to the present, while the London General and the Road Car companies, though carrying considerably more passengers than they did in the days when the horse had the monopoly, have found expenses rising beyond anything to which they were hitherto accustomed. Some of the more cautious men in the bus trade of the metropolis advised caution in introducing the mechanical vehicle on to the streets, and had their experience been followed we should not have had the rush which has occurred, and which has had the effect of depreciating the passenger traffic companies in the eyes of the public. It must be confessed that the position is hardly satisfactory, and that rigorous organisation will have to be encouraged if the companies are all to emerge from the present chaos.

Motoring in Manxland.

EVIDENTLY there is enthusiasm among the motorists of the Isle of Man, whose number is steadily advancing. The Manxland Automobile Club has now its official organ, published, as those responsible modestly say, "at irregular intervals, when occasion requires, and when the editors find leisure." To this members are invited to contribute, and those who go to Cordingley's Motor Show in London are specially invited to forward notes on the novelties they see. We also note that the club is open to ladies as well as to gentlemen. Mr. G. Drinkwater is president, Mr. Gillmore treasurer and editor, and Mr. Douglas Everard secretary of the club, which has twenty-three resident car and motor-cycle owners in membership, as well as half a dozen other resident members, and thirty-five who do not reside in the island. It is gratifying to see the efforts of the club to awaken local authorities to a sense of their responsibility with regard to the roads of the island, for upon these much of its prosperity depends.

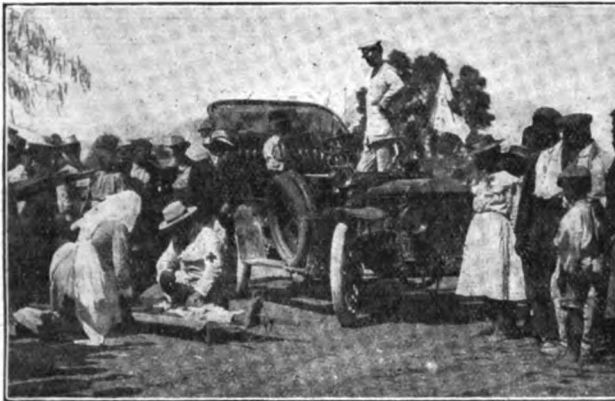
The Tourist Trophy Race.

OUR readers in Manxland will be interested in the fact that there are so far thirty entries for the International Tourist Trophy Race, the full list now comprising the following cars:—Rolls-Royce, Darracq (2), Berliet (2), James and Browne, Arrol-Johnston (2), Metallurgique, Thornycroft, Scout, Coventry-Humber, Beeston-Humber, Star (2), West (2), Gregoire (2), Vulcan, Clement, Gladiator, Rover (2) Hillman-Coatalen, Vici, New Leader, Vinot, Aries, Daimler-Mercedes. For the International Heavy Touring Car Race there are now

fourteen entries, which may be summarised as follows:—Siddeley (2), Beeston-Humber, Berliet (2), Gladiator (2), Armstrong-Whitworth (2), New Arrol-Johnston, Aries, Straker-Squire "C.S.B.," Ariel (2). From what we hear interest is also being whetted in the Tourist Trophy Race for Small Cars to be instituted next year. This will complete the opportunities for the testing of every description of motor-car on our roads.

Motor-Car and Relief Work.

WHEN the recent earthquake occurred in Jamaica we were able to publish some interesting news with regard to British motorists who were then on the island. Previously, in our issue of November 10th, reference had been made to the delightful roads in Jamaica, and the regulations under which motor-cars were allowed on the roads, the Jamaica Motor Union being mentioned as willing to render good service. Now we are able to present our readers with illustrations showing the devastation caused by the event, and also to demonstrate the service which the motor-car was able to render in the relief of the sufferings of the wounded. Dr. Bacon sailed from New York for Jamaica by the first boat that left after the earthquake, and lent his aid to the local doctors. On a White steam car he was conveyed to the mountain districts, which had been left without much medical assistance, as nearly every doctor had gone to Kingston. The



The Earthquake in Jamaica.—A Motor Car in the Relief Service.

car carried the Red Cross flags, and from many a wayside hut victims of the disaster were brought out for medical aid. After touring the country districts Dr. Bacon visited Kingston, from whence a scheme of rendering service throughout the island was matured.

Jamaica.

WHEN the urgent calls of the first few days had been attended to some reflections on the state of the island became possible. Dr. Bacon learned that Mr. Victor Camp's White steam car, in which he travelled, had covered over 10,000 miles in Jamaica on one set of tyres—a tribute to the roads of the place, seeing that an equally long distance was yet expected to be travelled. As regards the destruction wrought by the earthquake, it should be stated that it was mainly confined to Kingston, some appearance of the ruin of which may be gleaned from the reproduction of photographs for which we are indebted to Mr. Frederic Coleman.

Motor-cars v. Motor-cyclists.

AN interesting point in connection with the relations on the road between drivers of motor-cars and motor-cyclists has been raised by Mr. W. E. Scarritt, chairman of the Committee of Public Safety of the Automobile Club of America. The silent running of the modern car is a factor of

somewhat dubious value as regards public safety; the whirr of the engine is a warning of the coming of the vehicle to pedestrians or others. But the position is intensified in the case of the motor-cyclist, whose machine has a music, as well as an occasional discord, of its own, overwhelming the slight indication of the presence of the car on the road. So that the motor-cyclist listening to the noise of his engine may be entirely deaf to the sound of cars rounding corners, or coming along suddenly from the rear. Inquiries among motor-cyclists prove that there is real danger in the point, and hence the appeal, that cannot too frequently be made, to motorists of all degrees to exercise caution and show consideration when on the road.

A Motorist on the Needful Policy.

IT was the serviceability of the motor-car in connection with Parliamentary elections that first induced Col. H. F. Bowles, of Enfield, to take up motoring. Now he continues its use because of its value in social circles and in making new neighbours. He began his motoring career with a car of small power and has added a Daimler vehicle. With regard to the driving and care of the car, he has come to the conclusion that a coachman who has an aptitude for machinery makes the best driver of an automobile, after a little training. Col. Bowles is not only an enthusiastic motorist for his own pleasure but



has associated himself with the North London A.C., of which he is the president, and his views on automobile policy are therefore of value as well as interest. He has just favoured us with his opinion to the effect that the motor tax ought to be ear-marked for the improvement of the roads. The whole regulation of our system of road making should be changed and it should be dealt with by a Government department. He believes that the car should be a certain height from the ground, and that the speed limit should vary. No danger signal ought to be passed at a rate exceeding ten miles an hour. His own County Council of Middlesex has put up a great many road signs, but they have not had the attention they should have had.

Stands at Shows.

AMONG the restrictions that are now forced upon the exhibitors at Olympia is that preventing freedom of individual taste in the display of their cars. This is in contradiction to the policy that prevails at the Agricultural Hall Exhibition, where each exhibitor will have opportunity for showing cars to the best advantage, according to his own ideas of catching the public eye. The result of this is that many exhibitors will be able to bring over the stands that have delighted the automobile world at the Paris Exhibition, and the forthcoming display will have the advantage of variety and brilliancy in the stands whereon will be shown many novelties for the season.

SOME REMARKS ON RADIATOR FANS.

BY A. E. S. CRAIG.

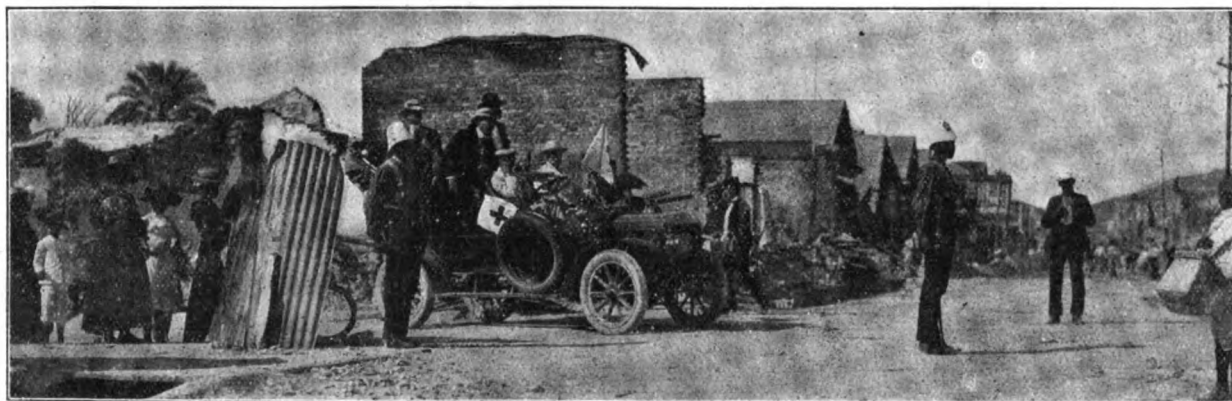
I DO not think that fans as auxiliary to the cooling system on automobiles have evolved to anything like that state of efficiency to which other parts of the mechanism have progressed. Considering that the mere fact of a fan being placed on a car is *prima facie* evidence the designer admits the cooling system would be deficient without it, and as, moreover, on the efficiency of the said cooling depends not only the satisfactory working of the car, but also the safety of the most expensive portion of its anatomy, I think it may be granted that the subject is one worthy of very serious attention. The question as to whether or not fans are necessary, except for quite small powers, I answer in the affirmative; because to do without them means depending on natural as against forced draught, and this involves carrying a much larger radiating surface and consequently much more weight than is otherwise requisite or desirable.

These premises being granted, we are faced with the questions as to the most efficient form of fan to adopt, and as to the most effective place to put it. In both cases we find much diversity of opinions, and, judging by many of the designs that one sees on lifting up engine bonnets, the propulsion of the car would appear to have in many cases absorbed all the best efforts of the designer.

consequence. No doubt all fan systems, except the Renault, offend in this respect; but I do not see that this matters much, for all the best modern motors have their cam gear, &c., duly encased in dust-proof and oil-retaining coverings, and there is every indication of future practice even enclosing the valve tappets and springs, &c. For myself, I like a draught past the engine, even at the risk of having to clean it occasionally, and certainly the best way of getting this draught is to place both the radiator and fan in front of the cylinders.

The question of the size and shape and number of blades for a fan is of great importance. Some fans are altogether too small in relation to the area of the cooler, and others have far too many blades. I am certainly of opinion that the fan should work in a hood the larger diameter of which is fitted behind the honeycomb or ribbed tubes and covering the entire area of the same and the other end of the hood surrounding the fan blades. I find that six blades are ample, and in a fan 15 in. diameter a parallel width of 2 in. gives excellent results. The blades should have a slight double curve like a flattened out S. A fan of this size should run at 1,500 revs. per minute or more, assuming the angle of approximately 45 deg., which is the best, be adhered to.

Whilst on the subject of fans it is perhaps within our province to discuss the various modes of driving them. It is, I consider, a great mistake to drive by positive gearing such as spur pinions, as it puts too much strain on them when the speed varies suddenly. And exposed gear wheels, which to my mind



The Earthquake in Jamaica.—Some of the Ruins at Kingston. (See page 21.)

Fortunately the majority at least have decided on the best position for the fan, and that is directly behind the radiator, and the latter, of course, directly in front of the chassis. I am aware that some very large and important firms put their fans as far away as they can get them, i.e.—in the flywheel under the dashboard, but they do so at the expense of efficiency. The reasons for this assertion I will cite as follows:—1st, because it involves combining the fan with the flywheel, the blades of the fan forming the spokes of the wheel, which militates against the design being as perfect as it should be. 2nd, because the action of the fan is impeded by being partly hidden by the crank chamber of the engine. 3rd, because the distance of the fan from the radiator, and the various intervening chances of air being sucked in, prevents the draught through the cooler being as fierce as it otherwise would be. 4th, because they can only be applied with any attempt at success to engines with large flywheels and of comparatively slow speed. When I speak of fans in the flywheel, I of course exclude those placed on the periphery thereof as coming under the objections numbers 1 and 2 cited above, and in the Renault system, in which the radiator is placed next to the dash, objection number 3 is wiped away. I consider, however, that in the Renault system the objections still remain that there is lost a lot of natural cooling effect by placing the radiator behind the engine, and also there is more or less stagnation of air around the cylinders.

Some people make a great outcry against the dust drawn in by fans, and point to the early destruction of the engines in

are an abhorrence, are also usually to be seen in connection with the same. The best method of driving a fan is by a belt, and the best form of belt is a helical spring. This has the following advantages—it takes up very little room, and has a good grip, which is automatically released if a sudden pull takes place. Failing this, I like a good flat belt with automatic tension arrangement such as is now fitted on a good many cars.

CLASSES for the instruction of mechanics, drivers and owners in motor-car engineering have been established at the Department of Applied Science of the Sheffield University, under the supervision of Mr. Alf. P. Hill, A.M.I.M.E. During this session Mr. Hill has arranged a series of visits to some of the largest motor works, and a party of about thirty-five students have visited the Daimler works at Coventry. To each five students a draughtsman was appointed as conductor, and the smallest details of construction were carefully explained. This admirable arrangement was carried out by Mr. C. Ridley, the works engineer, and the thanks of the party were cordially given to him and the firm for their extreme courtesy. Next month the students will visit the Humber works at Coventry, and afterwards those of the Sheffield Simplex Car Co. In the laboratory work of the classes much help has been given by manufacturers, amongst others being Messrs. Clement-Talbot, Argylls Ltd., and the Wolseley Co., the two latter having loaned complete four-cylinder chassis for demonstration purposes.

SOME CURRENT TOPICS.

The Importance of Good Compression.

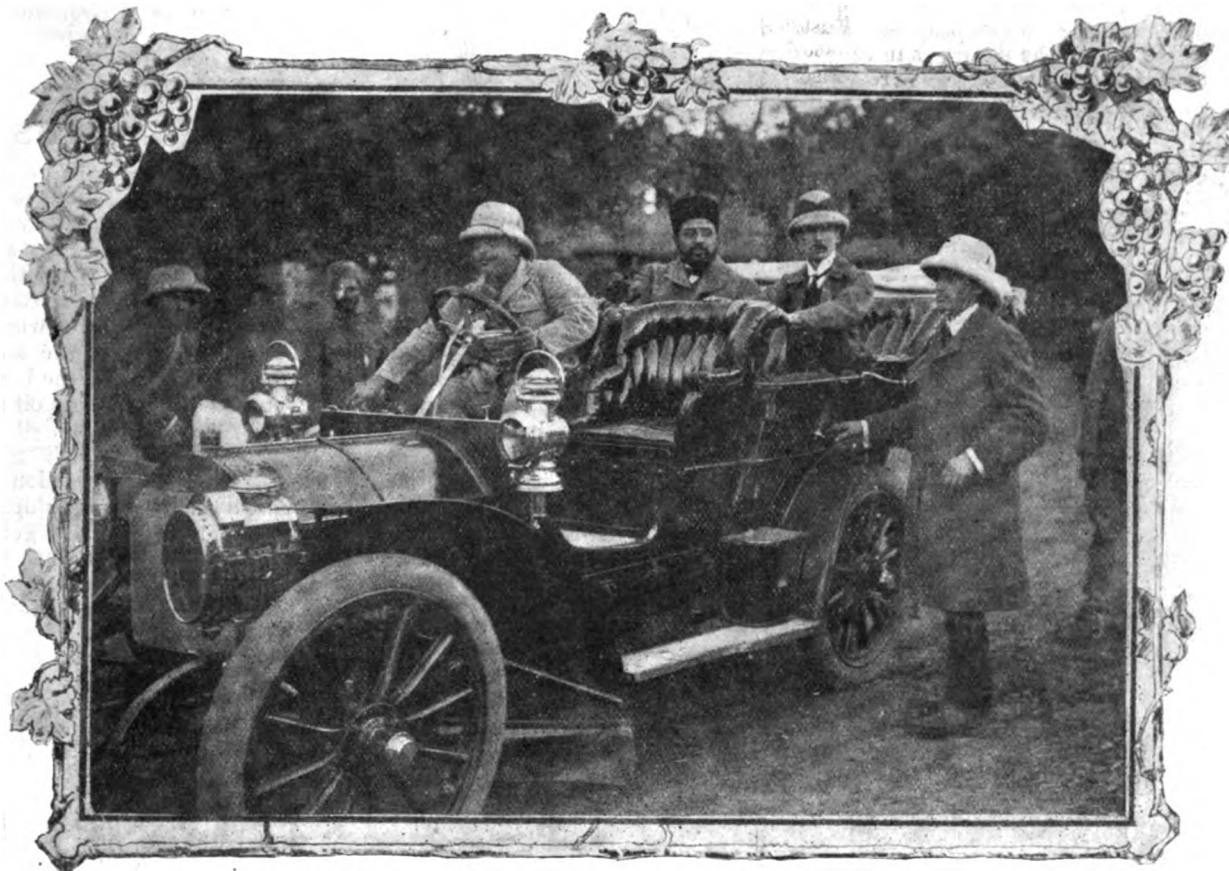
Upon the perfection of the compression attained within the cylinders of a petrol engine depends to a very important degree the efficiency of its operation. A failure to attain and to hold the expected compression pressure is due to a lack of tightness of those elements which are supposed to confine the gases during this portion of the cycle—namely, the valves, the cylinder walls, head and passages, and the piston and its rings. Faulty compression acts in three ways to reduce the useful work developed. After the full charge has been drawn into the cylinder and the compression stroke commenced, a portion of the mixture leaks out either into the crank case or the exhaust pipe, or is forced

other parts of petrol cars has now been issued, and of which we give a summary below. Considering first the question of motor-car frames, M. Perissé shows that the pressed steel variety has made further progress during the past twelve months, the percentage having increased from only 46 per cent. in 1903 to 90 per cent. in 1906, the proportions of other types of frames being indicated in the subjoined table:—

Motor-car Frames.	1903. Per cent.	1904. Per cent.	1905. Per cent.	1906. Per cent.
Pressed Steel ...	46	76	82	90
Armoured Wood ...	32	16	14	10
Tabular ...	22	8	4	—

The Progress of the Metal-to-metal Clutch.

An interesting section of the return is that dealing with friction clutches, as it shows that although the metal-to-metal type is still advancing in favour, the progress is relatively a slow one, the leather-faced cone being still by far the most widely used. Thus, while last year 66 per cent. of the cars were fitted



H.M. the Amir of Afghanistan during his visit to India has enjoyed many motor trips. The above illustration depicts him returning from a tiger shoot at Laashkeer, Gwalior, on H.H. Maharaja Scindia's Fiat Car. The Amir is seated at the side of Sir Henry McMahon, while the Maharaja is at the wheel.

back into the admission pipe, and by the time ignition takes place there is a considerably reduced amount of fuel within the cylinder. The condition is, in effect, as if a partly throttled charge instead of a full charge had been admitted, although in point of fact a full charge of fuel has been expended. When such leaky conditions obtain, not only is the initial pressure upon explosion abnormally low, but a certain proportion of the expanded gases escape prematurely through the leaks and reduce the working pressure at an excessive rate, rendering the useful pressure upon the piston during the later portion of the stroke much lower than it should be.

More Technical Statistics.

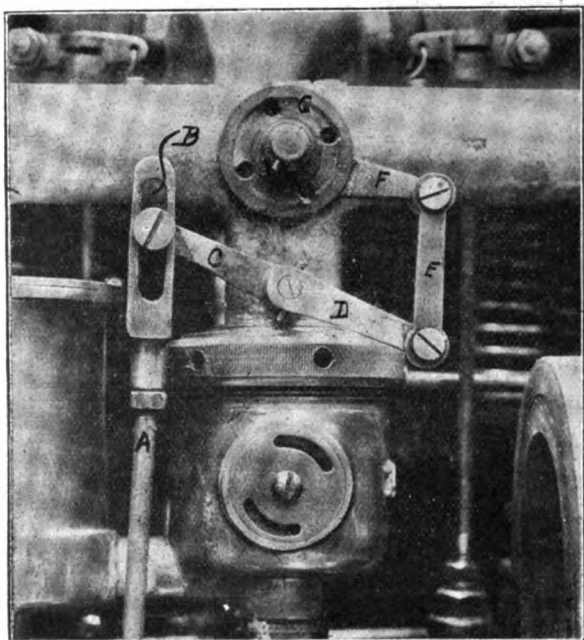
In a recent issue we gave some extracts from the interesting technical statistics of the petrol motors at the Paris Salon, compiled by M. L. Perissé. A further series of figures dealing with

with the latter, the proportion is now 64 per cent., metal clutches having advanced in the same period from 34 per cent. to 36 per cent.; so that M. Perissé's anticipation, expressed at the beginning of 1906, that "by the end of the present year the metal variety will outnumber the leather-faced cone type," has not been realised.

A LITTLE brochure entitled "Automobile Formalities in France" has been issued by the makers of the Hotchkiss car. The booklet gives the particulars of the forms and formalities to be observed in placing a motor-car in commission anywhere in the French Republic. It outlines the process to obtain a driver's licence, the declaration at the office of the prefecture of police, matter of declaration for taxation purposes, the details of insurance, various points regarding speed limits, and many helpful hints particularly applicable to motorists who intend to tour abroad.

THE REGENT CAR.

A CAR which is steadily gaining in popularity is the 18-h.p. Regent which was put on the market a year or so ago by Messrs. S. F. Edge, Ltd., to meet the growing demand for an easy and silent running vehicle at a moderate price. The principal features of the car have already been dealt with in the *M.C.J.*, but it may be mentioned that while there are no radical departures from what may be termed the standard practice in modern live-axle cars, special attention has been devoted in its construction to the questions of simplicity and accessibility, instances of which are found in the readily detachable covers fitted to the gear-box and the differential casing. The four-cylinder engine, which develops 18-h.p. at a speed of 1,000 revs. per minute, is provided with low-tension magneto ignition, with a simple method of advance and retard. An interesting detail is also seen in the combination governor and hand control of the throttle and extra air inlet fitted in the admission pipe, as shown in the accompanying illustration. The upright arm on the left of the picture is in connection with the throttle lever on the steering wheel, and in response to the motion of the latter for closing the throttle this arm is pulled down-



The Regent Throttle Control.

wards, and, conversely, an upward motion opens the throttle. It will be noticed that the arm is slotted for some distance where it joins the lever C from the butterfly valve, the slot B allowing an independent movement of the butterfly, which is given it from the other side by the engine governor. The control by one lever is effected as follows:—Starting with the throttle lever on the steering wheel only a notch or two forward, the engine is getting just enough gas to keep it turning quietly; two or three notches more cause it to govern ready to receive the load; two-thirds of the way round the quadrant the throttle is full open, the end of the slot in the control arm A being then reached; a movement of another notch or two then cuts out the governor, while the last two inches on the rack admits extra air when the engine is running at high speed. This is effected by the link E, seen at the right of the picture, moving a plate G drilled with four holes which gradually coincide with corresponding holes in the inlet pipe. The transmission is through a leather-faced cone clutch to a gear-box giving three speeds forward and a reverse with direct drive on top speed, ball bearings being fitted to all parts except the engine.

A few days ago an opportunity was afforded us of putting one of the latest Regent cars through its paces, when we found

it answer all the claims made for it in the way of smooth and easy running. In the course of a spin out as far as Reigate and back we found that it was possible to do the bulk of the running on the top, direct gear, a drop to second being only necessary on very steep gradients. The springs are of good length and materially add to the comfort of the passengers and render the chassis well adapted to be fitted with landaulet bodies, of which we understand a large number are now being turned out. Taking a turn at the wheel, we were able to prove for ourselves the claim that the car is an exceedingly simple one to control, the work being practically confined to steering and to actuating the throttle lever on the steering wheel; moreover, the combination butterfly valve and extra air inlet referred to above gives excellent results in practice, the quickness with which the engine responds to any alteration in the position of the lever being very noteworthy. Altogether the Regent car, which, needless to say, attains a good turn of speed on the level, will be found an excellent example of modern automobile construction, and should meet the requirements of a large section of the motoring public.

SOME USEFUL NOTES.

WHEN a thick cloud of blue pungent smoke is emitted by the silencer it is a sign that the motor is being over-lubricated. While it must be admitted that this is good for many engines, specially when new, it must not be forgotten that such an emission is highly objectionable to everybody except those in the car. In most engines a cock is provided by which an excess of oil can be drawn off, while many makers are now adopting the expedient of fitting an overflow pipe in the bottom of the crank case to prevent the engine getting more oil than is good for it.

A GOOD method of testing the compression in a multi-cylinder engine is by removing all the sparking plugs except one. By slowly turning the starting handle one will get an idea of the compression in the cylinder where the plug has been allowed to remain. This can then be removed and another cylinder tested, and so on until all are tried. The unsatisfactory cylinders can readily be distinguished by the ease of their compression points.

THE fact that one tyre of a pair of wheels shows more wear than the other is an indication that the alignment of the wheel is not straight and is to some extent being dragged sideways on the road by the other true running wheels. It is somewhat difficult to ascertain the exact alignment of wheels when the tyres are attached to the rims. With the tyres removed the relation of the wheels to each other, as well as to the frame of the car, can be readily determined by attaching long straight edges to the sides of the wheels, touching the rims at two points, and measuring the distance at the extreme ends of the straight edges.

A SUDDEN and complete stopping of the motor almost invariably indicates a break in the ignition system; gradual slowing down and weakening of the motor may be due to either the ignition or failure of the fuel supply, while spasmodic running is most often caused by the former. These and a few other fundamental principles of like nature, if constantly borne in mind, will frequently enable one to quickly ascertain the cause of the trouble.

WHERE motor-cars are used regularly or periodically during the winter months it is advisable to keep them in a heated motor house, as this greatly facilitates starting of the motor when the car is to be taken out, and renders any work on the vehicle more congenial than if it must be done in a cold atmosphere; in fact, the mechanism is much more likely to receive its proper attention if the motor house has a heating installation.

CONTINENTAL NOTES.

The Targa Florio Race.

The entry list for the Targa Florio race, which is to be held in Sicily on April 21st, closed last week end. Altogether fifty-two cars have been entered for the event as follows:—Two each Lucia, De Dietrich, Darracq, Berliet, Diatto Clement, Digne and Radia; three each Benz, Clement-Bayard, De Luca-Daimler, Junior, Rapid and Gobron; four each Fiat, Itala, Isotta-Fraschini and Züst; and one each Opel, Gaggenau, Metallurgique and C.V.R. There will thus be five nations represented in the contest—Italy by twenty-seven vehicles, France by fifteen, Germany by five, Belgium by one, and Switzerland by four.

An Automobile Meeting at Hyeres.

An automobile meeting is to be held at Hyeres, in the South of France, from the 16th to the 20th inst. It is being organised by the Automobile Club of Hyeres, and the programme comprises a motor paper chase for the 16th inst., an automobile flower show for the 17th inst., a series of kilometre speed trials for the 18th inst., a consumption test and hill-climbing trial for the 19th inst., and a gymkhana and elegance competition for the 20th inst.

Motoring in Sweden.

The annual motor competition between Stockholm and Gothenburg, organised by the Swedish Automobile Club, has just been held. The winner was Salmson, who, on a Fiat, covered the distance in 38 h. 33 min.; Skaenbarg, on a Moto-bloc, was second in 39 h. 28 min.; and Buschirer, on a Horch, third in 39 h. 33 min. Owing to the bad state of the roads and the severe weather encountered, the time occupied was much longer than last year.

A Motor Drivers' Benefit Fund.

At the annual meeting of the German Imperial Automobile Club it was decided, at the instance of the Kaiser, to form a benefit fund for the benefit of motor-car drivers. A sum of £250 is already in hand for the fund, which will be maintained by deductions from the members' annual subscriptions, the latter having been increased for this purpose. Any claim upon the fund pre-supposes at least three years' service with a member of the club; and it is proposed that £500 shall be paid, on the death of a driver, to the nearest relative, at least £500 in cases of permanent disablement, and 3s. per day in case of sickness.

The Grand Prix Race.

No further developments have taken place during the past week in connection with the forthcoming race for the A.C.F. Grand Prix. The three cars which the Germain Company are building for the contest will be driven by Messrs. Degrais, Roch-Brault, and Perpère. They will be of relatively small horse-power—from 70 to 80-h.p.—but the weight of the cars is being kept down very low; in fact, it is stated that they will turn the scale at about 550 kilog., as against the old 1,000 kilog. limit.

An Italian Reliability Trial.

The Turin Automobile Club is organising a reliability trial of medium-power touring cars, to be held from June 24th to 28th next, the weight of the vehicles having to be in proportion to the piston area. There will be four daily runs of about 300 kilometres, the competition concluding with a hill-climbing test on Mont Cenis.

A Voiturette Race in Sicily.

The Targa Florio race, to which reference was made in our last issue, forms one of a series of events to be held during what is known as the Sicilian week, other items in the programme comprising motor-boat contests and a race for voiturettes. The latter is to be held on April 18th, and the competing machines will be divided into two classes as follows:—1, single-cylinder machines of a bore from 85 to 120 mm., and 2, two-cylinder cars from 70 to 90 mm. bore, the weight of the vehicle being in proportion to the cylinder bore on the basis of 433 kilogs. for

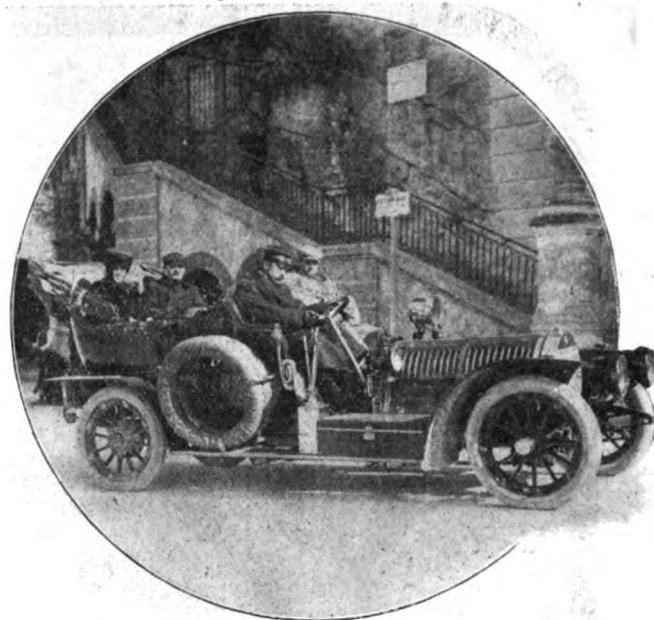
85 mm. and 742 kilogs. for 70 mm. The contest will be held on the Targa Florio course over a distance of 250 to 300 kilometres. The winner will secure a cup and a cash prize of £80; the second a silver medal and £40, and the third a bronze medal and £24. So far two Florentias and six De Dions have been entered.

Touring in Algeria.

The Automobile Club of Algeria is organising a motor excursion into the interior of the country for Easter. The party will leave Algiers on April 2nd, the first day's run being to Bougie, 230 kilometres; on the 3rd, the destination will be Setif, 114 kilometres; on the 4th, El Kantara, 150 kilometres; on the 5th, Biskra, 52 kilometres; on the 6th, stay in Biskra; on the 7th, Biskra to El Kantara, 52 kilometres; on the 8th, El Kantara to Batna, 138 kilometres; on the 9th, Batna to Constantine (where the excursion will officially end), 117 kilometres.

Public Services in Germany.

Arrangements are in hand for the establishment of a motor-car service between Schwerin and Ostorf. Four twenty-seated motor-buses are being acquired for a projected service between Lengenfeld, Falkenstein and Planen.



M. Van Marcke on the Hotchkiss Six-Cylinder Car on which he is making a tour of France. The illustration is reproduced from a photograph taken at Nice.

Miscellaneous Items.

It is proposed to hold a trial of heavy motor vehicles in Madrid in May next, on the occasion of the motor-car exhibition in the Spanish capital.—A motor-car exhibition was opened at Nyköping, Denmark, on the 2nd inst.—A competition of silencers for motor-cycles is to be held in Vienna on the 10th inst.—The Berlin municipal authorities have lately put a motor street watering wagon in service, the chassis, which has a 16-18-h.p. four-cylinder petrol motor, having been supplied by the N.A.G. Co.—A motor-boat volunteer corps is being formed in Berlin.—A motor racing track has just been opened in the Parc Royal de la Favorita, at Palermo, Sicily.—Messrs. Panhard and Levassor have just completed three 18-h.p. motor ambulances for the French military authorities.—Tyre-changing competitions are just now very popular on the Continent. One has just been held at Turin, while the Automobile Club du Rhone, of Lyons, is organising a similar event for the 18th, 19th, and 20th inst.—M. Van Marcke is continuing his tour of France on a six-cylinder Hotchkiss. During the past week he has visited Alais, Montpellier, Beziers, Perpignan, Carcassonne, Toulouse, and Tarbes.

THE SCOTTISH RELIABILITY TRIAL.



THE rules and regulations of the third annual Scottish Reliability Trial are now ready and may be obtained from the secretary, Mr. R. J. Smith, 59, St. Vincent Street, Glasgow. As we have already announced, the coming event will be largely on the lines of the Trials of 1905 and 1906, but the route will provide an even more severe test of the competing vehicles.

In each class only one car of any specific make, type, and horse-power will be accepted; and no cars will be considered as of different h.p. unless the cylinder capacities vary by at least fifteen per cent. In determining such variation fifteen per cent. shall be deducted from the larger of the cylinder capacities. Preference will be given to entries by (1) a maker, or (2) the nominee of a maker.

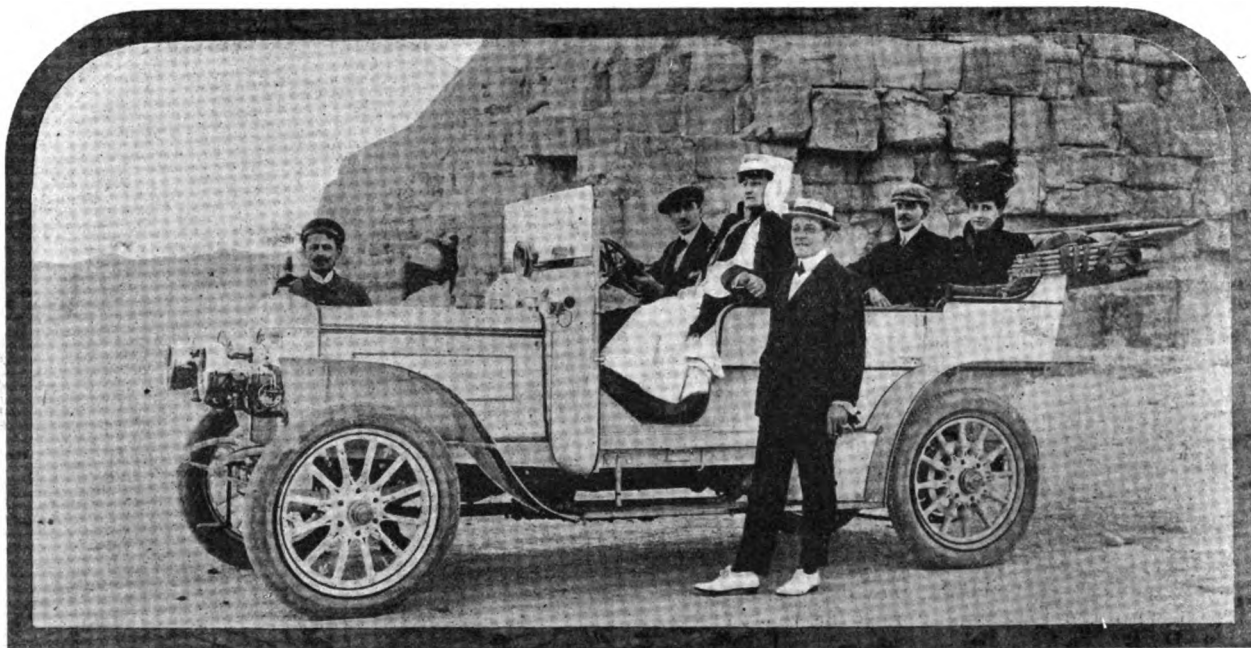
The classification of vehicles will be as follows:—

1. Vehicles, the selling price of the chassis of which, with tyres, does not exceed £200.
2. Vehicles, the selling price of the chassis of which, with tyres, exceeds £200 but does not exceed £300.

wise provided for, on the following basis:—(a) For each stop not exceeding five minutes—one mark for every minute or part of a minute. (b) For each stop exceeding five minutes and not exceeding fifteen minutes—ten marks for the first five minutes, and three marks for each succeeding minute or part of a minute. (c) For each stop exceeding fifteen minutes—forty-five marks for the first fifteen minutes, and four marks for each succeeding minute or part of a minute. Where two or more stops from a like or similar cause take place within short intervals the committee reserve power to determine that such shall be reckoned as one stop under above rule.

There will be compulsory stops of one hour on each day for luncheon, and compulsory stops may also be announced on the afternoons of the first and second days for tea. No ladies are to be carried as passengers.

Every vehicle in Classes 3, 4, 5, and 6 must be fitted with a standard side-entrance body, and have a minimum dimension from the front of dashboard to the front of the rear wheel tyres of 4 ft. 6 in. The fuel tank must be of sufficient capacity for the maximum single day's journey (say 170 miles), and will have to be fitted on the bottom with a draw-off tap, with an outlet not less than $\frac{5}{8}$ in. in diameter, to facilitate speedy emptying before



Motoring in Egypt.—Mr. Percy Warren and party in his Daimler Car at the foot of the Pyramids.

3. Vehicles, the selling price of the chassis of which, with tyres, exceeds £300 but does not exceed £400.
4. Vehicles, the selling price of the chassis of which, with tyres, exceeds £400 but does not exceed £600.
5. Vehicles, the selling price of the chassis of which, with tyres, exceeds £600 but does not exceed £800.
6. Vehicles, the selling price of the chassis of which, with tyres, exceeds £800.

No car showing more than 15-h.p. on the basis of the following formula must have a seating capacity of less than four:—

$$\frac{\text{Cylinder diameter in inches}^2 \times \text{number of cylinders.}}{2.5}$$

The Trial will take place from June 25th to 29th inclusive and entries will be received up to May 14th, although the committee reserve to themselves the right to accept them at double fees for twenty-one days after that date.

There will be a maximum number of marks for the run, and points will be deducted for every minute or part of a minute during which the vehicle is at rest from the time of starting to the conclusion of the run (except for tyre troubles), or as other-

and after the trial for the purpose of determining the fuel consumption. A ring or eye must be fitted to the cap of the supply vent of the fuel tank, and another to the tank to facilitate the sealing of the same by the committee. One fuel tank only may be fitted, and it must be in a standard position, but need not necessarily be of the size standard to, and to be sold with, the vehicle. There shall be no auxiliary tank of any size or description.

There will be hill climbing tests and also brake and stopping and starting tests. The proposed route is as follows:—

June 25.—(152½ miles), Glasgow, Arrochar, Inverary (luncheon), Killin, Aberfeldy to Perth.

June 26.—(158½ miles), Perth, Braemar (luncheon), Banchory, Stonehaven, Fettercairn, Banchory, Aberdeen.

June 27.—(160½ miles), Aberdeen, Huntly, Dufftown, Tomintoul, Grantown-on-Spey (luncheon), Elgin, Forres, Nairn, Inverness.

June 28.—(154½ miles), Inverness, Spean Bridge, Kingussie (luncheon), Tummel Bridge, Pitlochry.

June 29.—(122½ miles), Pitlochry, Aberfeldy, Lochearnhead, Callander (luncheon), Glasgow.

ATTENTION in the Midlands is being drawn to the fact that there are no facilities for automobile instruction in the University of Birmingham.

A MOTOR track from the Fort at the mouth of the harbour at Shoreham to a point west of the North Bridge is in contemplation by the purchaser of the famous Bungalow town, Mr. W. F. Crier.

THE annual dinner of the Ripley road-menders took place on Saturday at the White Lion Hotel, Cobham, with the District Surveyor of Walton-on-Thames in the chair.

A NEW list of registering authorities in the United Kingdom in connection with the Motor Car Act of 1903 has just been issued by authority of the Local Government Board.

RIVAL bill-stickers engaged during the County Council elections in London last week are reported to have employed motor-cars in their midnight attacks on the hoardings of opponents.

OVER 250 signs denoting the names of villages, distances from London, and other useful information, have already been fixed in accordance with the Automobile Association's programme.

THE Taunton Motor and Cycle Company, of which Mr. B. E. Denning is the proprietor, have made extensive alterations to their garage, where they now have accommodation for forty vehicles.

REPLYING to a question in the House of Commons, Mr. R. B. Haldane, the Secretary for War, says that the question of the supply of horses to the army is being thoroughly considered, the disuse of horses for omnibus work having made the subject one of pressing importance to the military authorities.

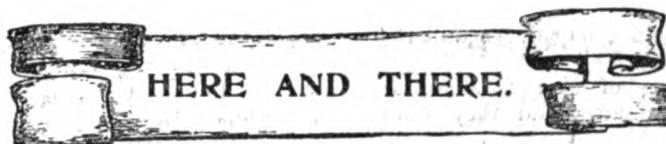
IT may not be generally known that Humber, Ltd., closed down their Wolverhampton works some years ago and transferred that part of the business to their other works. As they have now built still larger works at Coventry, it is not likely that they will ever require Wolverhampton works again, and they are now anxious to dispose of them.

MR. T. SPONG has taken 205, Shaftesbury Avenue, W.C., near the London depot of the Daimler Company, and for the purpose of his expanding business in non-skids and motor tyres he has also taken the premises at 384, Euston Road, N.W., where he will carry large stocks. The warehouse and store-rooms at 76, Neal Street, W., will be continued.

WE learn from Paris that one of King Edward's motor-cars was destroyed by fire at the Quai d'Orsay Station on Monday night. The car had been placed on a special railway truck for conveyance to Biarritz, and it is stated that in running off the petrol the woodwork of the wagon became saturated, and, owing to some cause which has not yet been ascertained, caught fire, the car being practically destroyed.

SEVERAL new departures in connection with carburettors with the view of effecting economy in petrol consumption are announced. One is known as W. S. Surgeant's power vapour container, with which some experiments have just been made at the works of Messrs. Aster, Ltd., at Wembley. The other is the Gillet-Lehmann carburettor attachment, which is being introduced by Carburation, Ltd., Byron House, Fleet Street, E.C.

AT 19, Store Street, Tottenham Court Road, London, W.C., Messrs. G. T. Riches and Co. have a comprehensive stock of motor accessories and spare parts for all types of automobiles. In addition they undertake re-magnetising, the charging of accumulators, &c. Some idea of the variety and extent of goods they are able to supply by return of post may be gleaned from the fact that the index to the firm's new catalogue has nearly a thousand references. Thanks to the careful way in which this has been compiled, the motorist in quest of spare parts, accessories, &c., will have no difficulty in ascertaining that it can be supplied by Messrs. G. T. Riches and Co. The book extends to 130 pages, and there is a plentitude of illustration which considerably adds to its value as a work of reference useful in the garage as well as on the shelves of the private owner. With such a list, where completeness is evident, it is scarcely possible to particularise any section; all are equally good.



CAPTAIN DEASY starts from Dublin on Monday on a thousand mile trip under the observation of the Irish Automobile Club.

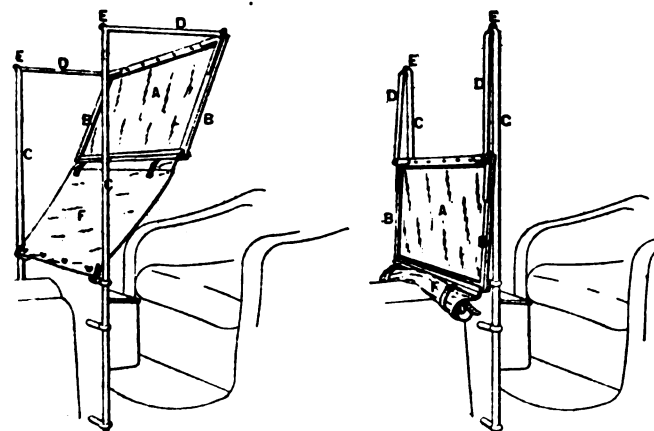
OWING to the perversity of the weather the non-skid devices fitted to motor-omnibuses in actual service between Putney and Shoreditch have only been tested for their durability, apart from their value in avoiding side-slips.

A CLASS of soldiers and sailors who have been instructed in motor-car driving and mechanism will be examined at Plymouth on Tuesday next for the A.C.G.B.I.'s driving certificate.

MR. LIONEL JAMES, the war correspondent to "The Times," and Sir George Warrender, Commodore of the Eastern Fleet, are amongst the recent purchasers of Rover cars.

THE Autocar Company having taken over the business lately carried on by the Montgomery Motor Company, Ltd., in the Lincoln Road, Peterborough, are now arranging garage accommodation for about thirty vehicles. Mr. M. J. Rowe is the general manager of the new venture.

CONSIDERABLE interest was evinced in the wind shield brought out a year or so ago by M. Huillier, of the Mors Company. The great objection to any glass front is that it obstructs the view ahead in rainy weather. It also interferes with the view of the driver at night when the head lamps are not lighted, which is a matter of considerable moment, as in some large cities—Paris,



Huillier's Improved Wind Shield.

for instance—it is forbidden to use powerful lights. M. Huillier has now introduced the improved shield illustrated herewith; it is now made in such a manner that the top half (of glass) can be readily swung down into the position of the lower half when desired, and the leather forming the lower half be rolled up. When the wind shield is thus lowered it has still a certain protective effect, but leaves the view ahead free and unobstructed.

AN international character will be given the display of the Aero Club at Cordingley's Motor Car Exhibition at the Agricultural Hall by exhibitors from the United States, as well as from France, Belgium, and other European countries.

REED'S Perth Carriage and Motor Works, of Perth, N.B., who are now devoting considerable attention to motor body work, have sent us a photograph of a neat landaulet body they have recently completed and fitted to a 10-12-h.p. Humber chassis for a Stirlingshire motorist.

AN American firm has lately introduced a small automobile intended for the use of children. The miniature car, which weighs about 60lb., is equipped with artillery wheels and ball bearings, pneumatic tyres, oil lamps, horn, number plate, and an imitation coil box. Instead of a petrol motor it depends upon a large steel coil spring for its source of energy. The speed of the car is never greater than five miles an hour while the power is being used, and it is extremely simple to operate, there being only two pedals that need attention. The spring motor, which is wound up by a handle and one winding, will run the car a distance of an eighth of a mile.

THE Chairman of Messrs. Maple and Company regards the motor-car as a cause of "economy in luxuries."

AT the ordinary general meeting of Messrs. Measures Bros., Ltd., Mr. R. H. Measures, who presided, said they were arranging to make motor castings.

AT a meeting of the Institute of Marine Engineers, on Monday last, Mr. T. D. Kelly read a paper on "High Speed Two-stroke Engines, with some remarks on Internal Water Cooling."

IN connection with the discussion on Accessibility at the recent meeting of the Institution of Automobile Engineers, the new method of fixing the carriage body on the chassis lately introduced by Messrs. Pack and Sons, of the Carriage Works, George Street, Brighton East, is of interest. The illustrations given herewith show the arrangement so clearly that but little description is necessary. It will be seen, however, that the

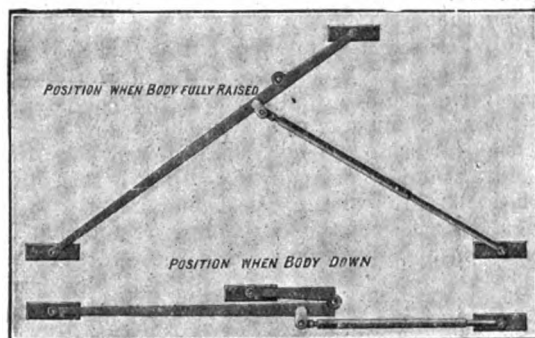


Fig. 1.

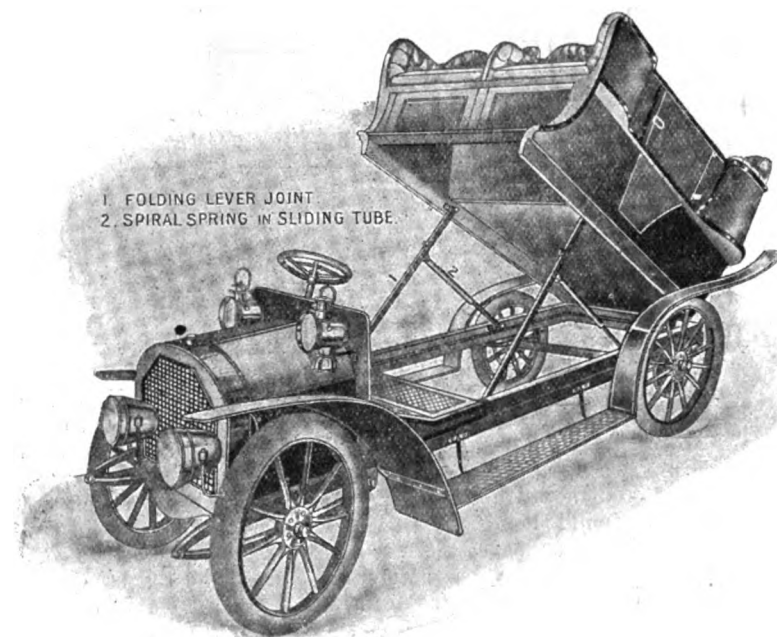


Fig. 2.

body is hinged to the chassis at the rear, and can be raised up to enable any necessary work—greasing, adjustment, or repairs—to be carried out in connection with the clutch, gear-box, brakes, or other parts of the mechanism, with a minimum of trouble. The makers claim that, with their levers fitted, a car body can be raised by one man, and that it is rigidly held up when the lever joint is fully extended.

THE magistrates of Glasgow having had under consideration a communication from the secretary of the Highways Protection League, suggesting that a memorandum of amendment be addressed to the Secretary for Scotland, report that, in their opinion, no alteration of the existing law is required, and that it is unnecessary and inadvisable to petition the Secretary for Scotland as desired by the said league. This recommendation was unanimously adopted by the Corporation.

MOTORISTS passing through Arbroath will find assistance in the way of accessories, &c., from Mr. C. Moore, 62, Keplie Street, Mr. D. Robbie, at 24, Brothock Bridge, and Messrs. J. S. Smith and Sons in the High Street.

FROM Messrs. W. G. Walker and Co., Emery Hill Street, Westminster, comes a descriptive circular of their special dynamometer for quickly and accurately testing the brake horsepower of petrol motors from $\frac{1}{2}$ to 60-h.p.

MESSRS. A. W. GAMAGE, LTD., have had a sale at their place in Holborn, London, and naturally take occasion to point to their progress as phenomenal. In 1878 the frontage of the shop was 16 ft. and the capital £40. To-day the capital is £200,000, the frontage to Holborn alone is 160 ft. and to Leather Lane 300 ft., while the floor space equals five acres. In normal times the number of employees is 600; often it rises to 1,000. The motor department is responsible for a large number, and its assortment of goods is singularly varied and up to date.

MESSRS. RUSH AND ALOOF, LTD., are the proprietors of the Motor Drivers' Employment Agency, 199, Piccadilly, London, W., which has been formed to supply reliable drivers to employers. In view of the Workmen's Compensation Act, they are advising chauffeurs to be satisfied as to their medical fitness for the work. The grant of certificates on this point after an examination by a medical man is a special feature of the agency's operations. No fees are charged for registering applications, and the employer is charged when a situation is found. Those in search of situations will probably find the agency of service.

THE attention of motorists is being drawn to the use of the ordinary household Hudson's dry soap for the rapid and easy cleaning of greasy spare parts as well as grimy hands. With the view of facilitating its use, the firm have brought out a small canister with a special lid, to act as a sprinkler for the powdered soap.

RURAL district councils should now be called upon to exercise their powers to compel occupiers of land adjoining the highways to cut the hedges, particularly in the vicinity of cross roads. In view of the motoring season, it is difficult to exaggerate the importance of having the roadside hedges cut.

MESSRS. WELDEN AND BLERIOT, LTD., 53-54, Long Acre, W.C., are the agents for an automatic lighter of great interest to motorists. A few drops of methol alcohol on a wick in one compartment are ignited by the withdrawal of the igniting device therefrom—thus obviating the need for matches. The lighter is of a convenient size for the vest pocket.

MESSRS. A. MILNE AND SONS have ample facilities for meeting the requirements of motorists in the High Street and Castle Montrose. They have also branches at Brechin and Edzell for the supply of spare parts. At Brechin also Messrs. A. Simpson and Son have repair shops, and Mr. Theim, the proprietor of the Panmure Arms Hotel at Edzell, has a well-arranged garage.

IN an article in the "Manchester Guardian" on the Automobile Industry, reference is made to the "main object of all the firms who started manufacturing cars in the early nineties as being to imitate the leading French and German designs as closely as possible. Even so recently as 1903 Sir Alfred Harmsworth bought a Mercedes of the newest type turned out of the Cannstatt works, and exhibited the chassis at Cordingley's Exhibition for the benefit of English makers."

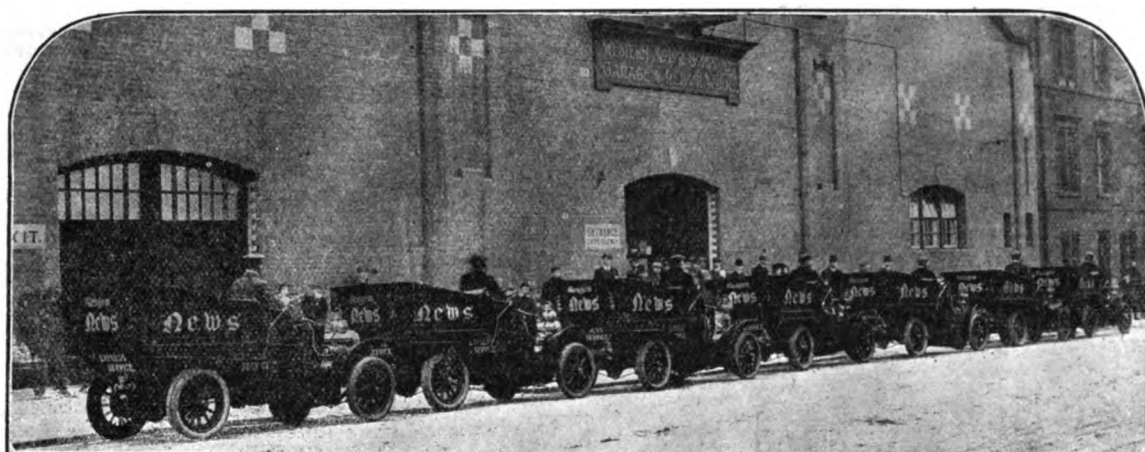
FROM the offices of the "Electric Accumulator" (15, Queen Street, Cheapside, E.C.) comes a copy of a work they have just published entitled "The Treatment of Storage Batteries." It is from the pen of Mr. R. W. Vicarey, who explains in the preface that his object has been to assist in promoting a better knowledge of the secondary battery, and also to improve the commercial value of the accumulator. While the shape of the book is not one we like, yet its contents will be found to comprise a large amount of useful information to those motorists whose cars are fitted with coil and accumulator ignition. The work concludes with an alphabetically arranged glossary of technical terms connected with accumulators and also a few useful tables.

RAILWAY COMPANIES AND THEIR MOTOR SERVICES.

RAILWAY companies are feeling the rivalry of the automobile in connection with their suburban traffic, but they are using the self-propelled vehicle to feed their trains in the country. There is really no occasion for alarm where the directors and management of the great trunk lines approach the new locomotion in a common-sense way, recognising that there will be inevitable losses in some directions, which may, however, find compensation in others. The Great Western Railway Company was one of the first to discover the revenue value of the motor-car as well as its competitive power. At the last half-yearly meeting of the concern, Mr. Alfred Baldwin, the chairman, remarked that an analysis of the returns showed that they were losing a good deal of short distance and first class traffic owing to the motor-car services which other people had established. But, as a set-off to this, the adoption of motor-cars in other districts by the railway companies had prevented further diversion from their line, and enabled them to make up for losses elsewhere. This is the proper view to take. And tramway authorities, too, instead of denouncing and harassing the motor-bus, should recognise that vehicle as a possible feeder, bringing passengers from localities as yet un-

The Great Western Railway Company has road motor services between Slough, Eton, and Windsor; Windsor, Winkfield, and Ascot; Slough, Farnham, and Beaconsfield; Marlborough and Calne—a journey of an hour and a half for 1s. 6d.; Weymouth and Wyke Regis, Paignton and Totnes, Torquay and Paignton, Penzance and Pendeen, Stourbridge and Catshill, Wrexham and Aldford, and Aberystwyth and Aberayron. Motor-omnibuses are also being run between Bridgwater and Nether Stowey, Moretonhampstead and Chagford, Plymouth and Roborough, Plymouth, Saltash and Albaston, Helston and the Lizard, Penzance and Land's End, Penzance and St. Just, Stroud and Rainswick, Abergavenny and Brecon, and Lampeter and Aberayron. All these in conjunction with the ordinary train service from London and other important towns. Parcels are conveyed in many cases, and books of tickets are issued in connection with some of the suburban services. In addition arrangements can be made with the station-masters at Slough, Windsor, or Mr. W. A. Hart, the divisional superintendent at Paddington, for special cars for the conveyance of small private parties.

Motor-omnibus services organised by the London and North Western Railway Co. are now running between Watford, Bushey Heath and Harrow and Wealdstone; also between Croxley Green and Watford. These serve a wide area, and a time table has been drawn up showing the trains from Euston that



Some-time ago the "Glasgow News" placed an order with Argyll Motors, Limited, for the construction of seven cars, specially designed for the conveyance of newspapers, and the full motor delivery in connection with their Express Service to the various districts of the City is now in operation, as will be seen from the above illustration. By means of the vehicles not only are newsgents in Glasgow enabled to get their parcels more quickly, but the cars are also being utilised for the conveyance of Country Newsgents' parcels, a rapid and effective service being maintained.

served by regular systems of conveyance, thus postponing for a season the advent of the long-distance motor routes that may eventually restrict the area of tramcar utility.

During the last season or two many of the companies have considerably developed their motor-car services, and their preparations for the summer months of 1907 indicate a great extension that will surprise many of the organisers of slower going services.

Some of the companies, like the North Eastern, are still making arrangements for the extension of their services during the coming season. Meanwhile, the following particulars of the services now in actual operation will show how general is the utilisation of the motor-car by the leading lines.

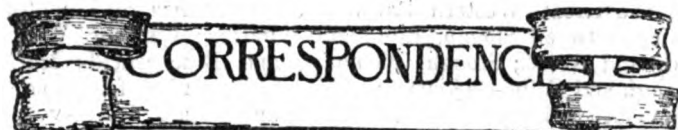
A great many motor-omnibus services are being run by the Great Eastern Railway Company in the eastern counties at the present time. The vehicles run from Chelmsford in three directions, viz., to Danbury, Great Waltham, and Oxney Green, opening up new residential districts. A motor-bus goes from Colchester to West Mersea, taking an hour on the journey, the fare being 10d. Shotley is connected with Ipswich by an all-year-round service, and motor-buses run from Lowestoft to Kessingland Beach and Southwold. In the same district buses run from Norwich station to Loddon and Beccles to Loddon, 65 or 45 minutes' journey, respectively.

they meet. In North Wales, too, the company have motor-omnibus services in operation between Holywell station and town, Holywell and Mold, and Connah's Quay and Mold. The Rhymney Railway Company has decided to run motor-cars on their line.

The Great Northern Railway Co. is running a motor-car service between Finchley and Edgware—Saturdays and Sundays excepted. Nineteen trips each way are made on the other days of the week.

In addition to the English lines the Scottish railways have recognised the value of the motor-car in connection with their passenger services, and splendid facilities are being provided for visitors to the Aberdeen district seeing much of the beauties of that part of the country by road. During the coming season a comprehensive scheme will be inaugurated, of the success of which there can be little doubt. Run in conjunction with the railway system, and having the merits of punctuality and convenience, all the services of motor-cars established by the railway companies to run on ordinary roads should have every condition of success.

A MANCHESTER firm—Messrs. Cookson Bros., of 511, Chester Road, Old Trafford—have struck out a new line, that of hiring out charged accumulators at a charge of one shilling per week.



[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

MOTOR LUBRICATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My recent communication to you on motor lubrication has, I am pleased to note, produced some interesting information on the subject. The point I raised in my last letter as one which in my opinion has been overlooked was the all-important one of friction reduction. I desired to draw attention to the fact that much has been written on chemical tests, smoke, carbonisation, viscosity, &c., but little on the most important point, viz., how to obtain the greatest development of power with the smallest consumption of energy in overcoming the friction between the surfaces in contact, whether sliding or rolling.

It is assumed by many that so long as the surfaces are kept apart by a film of oil, perfect lubrication is attained. This idea is erroneous. Two moving parts can be prevented from touching without being ever fairly lubricated. An oil that will do excellently for one purpose will fail altogether under different conditions. Take, for example, the delicate mechanism of a watch; a motor oil would certainly prevent contact between the frictional parts, but would not lubricate them. So with a petrol engine; what would prove satisfactory for, say steam cylinders—a heavy, highly viscous oil, which retains its body



Touring in Italy.—St. Martin's Church, San Martino.

under great heat, would be useless for the cylinders of an internal combustion engine. And yet it has been stated that all oils, thin and heavy, are brought practically to the same level under the influence of the heat of the cylinder walls and pistons. There is no oil so heavy and which retains its viscosity so effectively at high temperature as a steam cylinder oil. Then why is it not used for internal combustion motors? Motor oils cannot be used for steam cylinder lubrication—why? Because they thin down too rapidly and cannot advantageously be applied continuously, as in a petrol engine. But a steam cylinder oil could be used for a petrol engine. Then why is it not? Simply because it is too heavy! Such oil would stop an engine in a very short space of time. In the first place, it would carbonise so freely that the rings would in all probability seize, or, if this did not actually happen, the thickness of the oil, which would continue to thicken under the influence of extreme heat, would so augment the friction that before long the power required to overcome the combined friction of the moving parts and of the oil itself would be greater than that produced, and the engine would cease working. I mention this as an exaggerated case, for, no sane people would dream of using such an oil for a petrol engine, as I wish to make it quite clear that all oils at high temperatures do not stand on the same footing, and that thick oils are not necessarily good lubricants simply because they are thick and keep the metal surfaces out of contact.

Then as to the thick oils—not of the steam cylinder class—so much used for petrol engines, there is no reason why they should be employed, unless it be to cushion a defective or loose bearing, or to hide the deficiencies of a wrongly-designed system of lubrication. It is admitted that they carbonise more freely than the thin oils. This, however, is only one of their drawbacks. Their great failing is that they take up too much power in overcoming the friction between their own molecules. When two surfaces are lubricated part of the oil adheres to each, and it is these two oil films that rub against one another and so take the friction off the metal. Now, if the oil is thick, it follows that the two oppo-

sing films are more securely locked together and take more power to drag asunder than with a thin oil, where the molecular resistance is greatly reduced and the liquid friction therefore correspondingly low.

It is this avoidable waste of power which everyone interested in motor-cars, whether manufacturer, agent, or user, should know about. The present thick oils are simply a survival of the old air-cooled engine practice, where thick oils were always used. There is no doubt whatever that at least 20 per cent. of power is lost through imperfect lubrication. Look what this means in additional expenditure; besides which, there is the dissatisfaction of not getting out of an engine what one ought to do. From the investigations I have made, I feel that in putting the average preventable waste of power at 20 per cent. I am not oversteating.

With the present day methods of applying the oil in a continuous stream or spray, there is no need for heavy oil, which, were the feed not regular, might be necessary in order not to let the surfaces run dry before receiving a fresh application of oil. For engines with small frictional surfaces, high speeds, light weights and comparatively easy conditions of work, a thin oil is the most efficient, and it is a pity to clog them with thick, heavy oil which only absorbs power. Some of the oils now used by motorists seem more suitable for the bearings of the "Dreadnought's" main engines.

I am indebted to Messrs. Wakefield and Co., who have all along advocated thin as opposed to the heavy oils, for assistance in making tests and in placing at my disposal valuable data, &c., on this important matter.—Yours truly,

J. S. CRITCHLEY.

THE A.A. AND ITS CORRESPONDENTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With your permission I should like, through the medium of your paper, to correct an entirely erroneous opinion which I am given to understand is held by certain of the committee of the Yorkshire and provincial clubs with reference to the payment of correspondents of the Automobile Association. Speaking personally, although I hold myself responsible to a great extent (with the right royal assistance of Mr. Stenson Cooke) for extending the work of the A.A. in Yorkshire, I have never received, nor do I anticipate receiving, any remuneration whatsoever. Had the Automobile Association been operating in Yorkshire last year as it is doing during 1907, and had I been a member, I know it would have saved me something like £50. No more benefits accrue to me than to any other ordinary member. Were the aims and objects of the A.A. more widely known (and I am doing my best to make them so) I very much doubt if there is a single motorist who would not wish his name to appear among its members.—Yours truly,

SYDNEY S. DIXON.

CORRUPT PRACTICES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I note you make comments on the fact that the Automobile Club is calling the attention of its members to the "Corrupt Practices Act," in relation to chauffeurs' commissions. They are starting at the right end. The employer is the person really to blame in the matter. Frequently the whole management of a car, the ordering of parts, arranging for repairs, and every other matter, is left in the chauffeur's hands, with the inevitable result that those who pay no commission are always "out of stock," "incapable," or "expensive," and the owner thinks what a considerate chauffeur he has got. Under the present condition it seems that those who do not give presents go bankrupt and those who do will presently go to prison. Employers have a far better chance than all the Acts of Parliament ever passed to put down this undesirable practice; undesirable, not only from the view of employer and trader, but also from the view of the honest chauffeur. There is no doubt that it is this practice that induces so many "wasters" to take up motor driving, and keeps many a good man out of a job.

Masters, wake up! Look after your own affairs, in spite of the Corrupt Practices Act being in operation. I don't think your time will be wasted. Go and see the people you are dealing with. They will be very pleased to see you.—Yours truly,

PETROL.

EXHAUST VALVE TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—One of the exhaust valve guides of my 7-h.p. Panhard was badly worn, so I had it bored out and a thicker valve fitted, which stopped the noise it used to make, but the valve, instead of dropping into its seating, now strikes one side and then slides down. The explosion must evidently take place before it gets there, as there is no power in that cylinder. I ground the valve in well and took the car for the first run yesterday; the engine pulled well for a mile, then I had to get home on one cylinder. On taking the valve out I found about half an inch of the face very bright and the rest black. The tappet—I think you call the stem that the valve rests on—is pulled away from the engine by the spring below. If it could be made to push instead of pull, it would bring it in line with the valve stem and

push it up straight, instead of all one side. I think this must be the reason the guide wore before, although it has never lost power like this, and I have constantly used the car for two years. I thought of screwing a penny flat on top of the tappet and cutting the valve down. Would this, do you think, send it up straight, or do you think it has not been put together properly after the engine was taken down. If you could suggest something to help me out of my trouble I shall be obliged.—Yours truly,

TOM WOOTTWELL.

[We should be inclined to think that our correspondent's trouble was caused by the valve stem being slightly too long, as this is often the trouble with an old-type Panhard where the tappets are taken away from the valve stems for the purpose of governing. Undoubtedly there must have been something overlooked in the re-erection of the engine. The screwing of a penny on the top of the tappet would be useless; in the first place, the metal would not be hard enough to stand any length of time, the ends of the valve and tappet being usually hardened. In the second place, the fixing of a piece of metal on the top would not permit the tappet leaving the valve stem, therefore the engine would constantly fire when the governor was cutting out. When the tappet is on its lowest point the top should be low enough to clear the end of the valve stem.]

FOUR OR SIX CYLINDERS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a keen motorist, but not at the present time an absolute convert to six cylinders, I have been following the discussion which has

troversey the side which is most accurate in its statements generally succeeds. There is an old saying that lookers on! see most of the game.—Yours truly,

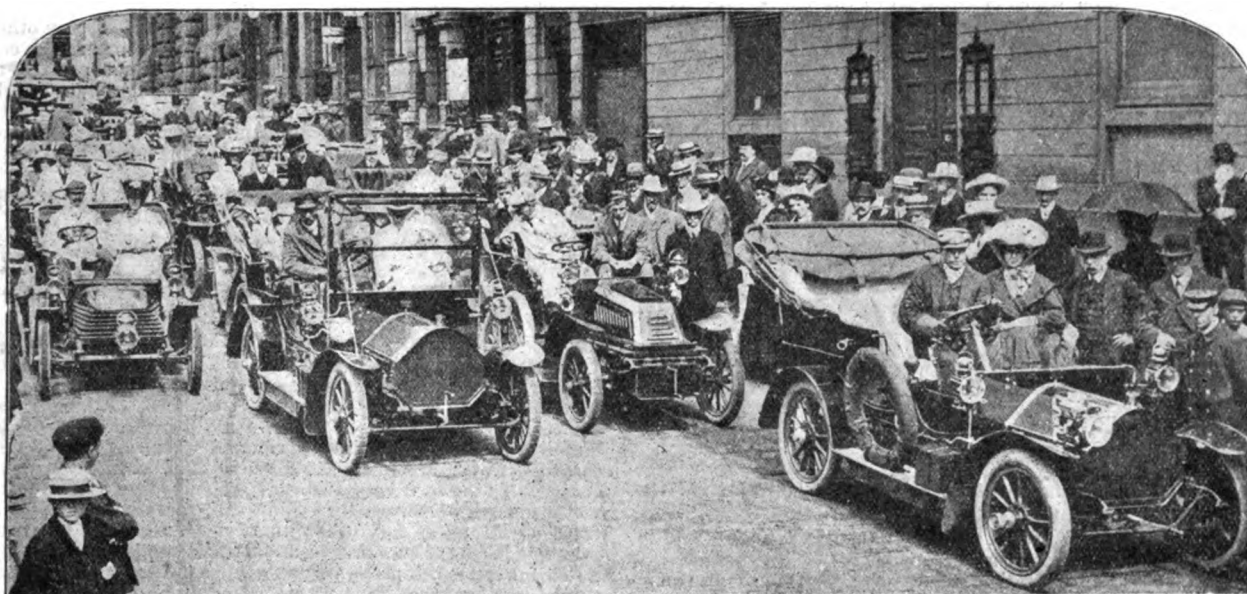
ENGINEER.

ARE CARS TOO COMPLICATED?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—We notice in the last issue of your *Journal* the question is asked, "Are cars too complicated?" We are astonished that, when everything is being done to simplify things, this question should arise. It seems to us that simplicity itself has been attained in the recognised up-to-date motor-car. For instance, as far as we are concerned, only two pedals are used in the 1907 Peugeot, except in the very large size, where a third is, although not necessary, desirable. The two pedals which are used in the ordinary models are the brake and clutch, and these have been so long in existence that there is certainly no extra increase of complication here. Lubrication is now reduced to automatic action of a pump. There are no drips to adjust, no springs to break, and the desired lubrication is simply obtained by a plain gear wheel pump, which is absolutely simple in its action. Ball bearings are used on the road wheels and in the gear-box, the lubrication of the latter being effected by splash off the gear wheels. For the whole car there is only one lubricator on the dash, which can be turned either on or off. When sufficient oil has run into the crank chamber lubrication ceases. Can anything be more simple than this?

Where the trouble always has been, and probably the only trouble for the last two years, is the carburettor. The Peugeot device is now



The Meet of the Automobile Club of Australia in Sydney for the Opening Run of the Season.

been taking place in your paper with very great interest, but when I see Mr. Weigel so grossly misrepresenting facts and figures and misrepresenting the arguments put forward in favour of six cylinders, I feel that there must be a great deal of merit in the six-cylinder, or else there would not be so much bitterness shown to them by those interested in the four. In Mr. Weigel's letter he very cleverly, but I think most unfairly, suggests that the four-cylinder engine was really a bigger and more powerful engine than the six-cylinder, and that Mr. Edge did not show the respective sizes of both engines. Now I cannot believe that Mr. Weigel did not carefully read every word of Mr. Edge's paper. If he did not do so, then I think he had no right to enter into the controversy.

In dealing with the four and six cylinder engines Mr. Edge carefully pointed out that the four-cylinder engine had 453 cubic inches and that the six-cylinder engine had 301, and that the four-cylinder engine had to be half as big again as the six-cylinder to develop the same horsepower at the same piston speed. This all seemed to me to be stated extremely fairly, and if Mr. Weigel really wants private people unconnected with the trade to continue to believe in four-cylinders he really must not mis-state his opponent.

Mr. Edge's paper seems to me exceedingly moderate, and my mind is almost now made up that my next car will be a six-cylinder. I am quite satisfied that actually a six-cylinder is the best, and it has only been the fact that the best six-cylinders have been rather expensive that even makes me hesitate at the moment, and now that the prices of the four and six of equal quality are becoming practically the same I am afraid I shall soon be numbered amongst the six-cylinder enthusiasts; but, as one probably a good deal older than Mr. Weigel, I hope he will take a little friendly advice from me—that in public con-

acted by throttle lever, and has automatic air intake, such things as springs and rubber disc being discarded in favour of a plain ball lifted by the suction of the engine, which never requires attention or adjustment, and, above all, gives a constant mixture at all speeds. An improvement in the steering has been effected by putting an adjusting ring, which allows of the wear being taken up. The ordinary leather clutch is still used, causing no trouble whatever; it is far more simple than the multiple disc arrangement, and just as flexible. The adjustment of brakes is another feature which has been simplified by the turning of a thumb-screw to make the necessary adjustment. We think it will be admitted that the absence from the dash of endless lubricating pipes, coils, air levers and voltmeters, must all make toward simplification, and we certainly cannot understand the contention of M. Baudry de Saunier.—Yours truly,

F. GUY LEWIN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see you raise the question in the last issue of the *M.C.J.* "Are cars becoming too complicated?" To my mind there is only one answer to the question, and that is an emphatic "Yes!" In the recent discussion on the subject of "four or six cylinders," at the Automobile Club, Mr. S. F. Edge was asked the number of parts in a six-cylinder engine, and how they compared with those in a four. He was unable to give the exact number of parts, but admitted there were sixty-four more in a six than in a four-cylinder. This is, I venture to think, ample evidence of unnecessary complication, and, in my opinion, one of the greatest objections to the increase in the number of cylinders, even admitting that a six may have a slight advantage over a four, which

the advocates of the latter deny. The present "artistic" automobile productions are all very well so long as the demand for high-priced, high-powered cars lasts, but the time is rapidly approaching when manufacturers will have to devote attention to the man of moderate means much more seriously than they have done in the past, and possibly then greater simplicity will at last begin to receive the attention it deserves.—Yours truly,

R. WARBURTON.

A CHANGE-SPEED GEAR TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to "Peugeot Pinion's" letter in the last issue of the *M.C.J.*, your correspondent evidently refers to one of the old type 12-16-h.p. chain-driven Peugeots, which have very large gear-boxes, and the shells of which sometimes crack, being somewhat thin and without any strengthening ribs. He tells us that his low gear grinds, especially when climbing a hill, and that he has had to have the pinion renewed more than once. The trouble must be attributed to one of the following causes, which I place in the order of their probability:—(1) The counter-shaft is bent, being very long between its bearings, and if the clutch has at any time been fierce, the strains received will be quite sufficient to account for the shaft getting distorted. The remedy is, of course, to have the shaft carefully straightened, or to have a new one made of a very high grade steel; the latter, however, would be expensive, owing to the flanges for the second and third speed rings being solid with the shaft, as also the engagement for the fourth speed with dog clutch; (2) the shaft may be out of alignment, and perhaps it will be found on careful examination that the shell of the box is cracked near the bearing; (3) the low speed pinion, which is keyed on to the shaft, may be out of truth sideways, if the hole in the former is not a driving fit on the shaft, as the keying up may have set the wheel over slightly.

To properly diagnose the trouble, a very careful examination by a thoroughly competent mechanic must be made, and the fault will undoubtedly be found to lie as indicated above. I may say that the low speed pinion in this gear-box is usually left soft, but in having a new one made I strongly recommend the "Penax" brand produced by Messrs. Buckley, of Sheffield, which, although it does require to be case-hardened, is toughened by a special process that is eminently suitable for gears.—Yours truly,

C. A. E. S.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to "Peugeot Pinion's" query in your last issue, this trouble is a very common one with the old-type Peugeot cars; it is due to the exceptionally long shaft springing and allowing the gears to come out of mesh. The only remedy is to have an extra strong shaft fitted, which of course necessitates altering the bore of the gear wheels or fitting an intermediate bearing.—Yours truly,

T. J. H.

IS THE LEATHER-FACED CONE CLUTCH DOOMED?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, F. C. Burton, asked in your issue of March 2nd if the leather-faced cone clutch is doomed. In my opinion a discussion as to the value of the leather clutch over the metal or the metal over the leather is a somewhat futile proceeding, for, before the advocates of the two types can finish what they have to say, both the leather and metal clutch will be a thing of the past. Why should the motorist be harassed by so prolific a cause of discomfort, when it may be avoided by the substitution of the epicyclic gear? The cars at present using this more advanced form of gear are undoubtedly forging away ahead of those which still cling to the old nerve-racking type, and it has become a positive infliction for the owners of rotary gear cars to drive occasionally in cars of the clash gear type.

No one who has used a car with an improved rotary gear will ever be induced to go back to the old form, and that is why the manufacturers who have adopted the epicyclic gear, such as the Lanchester, or better still the Adams, on account of the simplification of the control, find themselves in the advance guard of the motor industry.—Yours truly,

C. H. MOWER.

LUBRICATION TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you or any readers of the *M.C.J.* explain the cause of lubricating oil blowing back and getting hot? The engine is a two-cylinder 12-h.p. Mutel, the lubricator a gravity drip feed on the dashboard, the tubes the entering cylinders on the exhaust side. I have tried a ball release valve in the crank chamber, but with no result. The engine runs quite satisfactorily, but the only lubrication it gets is in the crank chamber, the lubricator for this being a pump one. Occasionally the oil has blown back in this also.—Yours truly,

E. G. YOUNG.

[The trouble of the oil blowing back into the lubricating pipes and getting hot can only arise through a leak past one or more of the pistons. It may be very slight and not sufficient to noticeably affect the power of the engine, but quite enough to drive back the oil in the gravity-fed

pipes. We advise Mr. Young to have the cylinders removed and the pistons and rings carefully examined, and, if necessary, to have new rings fitted. At the same time the crowns of the pistons should be scrutinized for a possible blowhole; also the fit of the gudgeon pins in the pistons is a point that should not be overlooked. Perhaps the oil-pipes are fixed higher up in the cylinder walls than is advisable, so that pressure leaks direct into them past one or more rings when the piston is at the bottom of the stroke. Therefore the present holes can be plugged up and new ones drilled and tapped about one inch lower down. Instead of the ball valve that our correspondent has fitted, he would have done better to have put a copper vent pipe of large diameter projecting vertically from the crank chamber and fitted with a hinge cap, free to release pressure instantly.]

SMALL STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have pleasure in complying with Mr. Lyall Jackson's request in your last week's issue for more information concerning the reliability of small steam cars, and the length of life of their boilers, &c. I consider there is no more reliable car than a steamer, while their speed on the level and on hills is nearly double that of a petrol car of similar horse-power, and they do their work without "talking." There are no gears or clutches, or electrical connections, to get out of order, and the delight of driving a car which has none of these contrivances can only be appreciated by those who have experienced it. It is essential, however, when purchasing a second-hand car, to be sure that its vitals, such as engine, boiler, and running gear, are sound, otherwise there will be nothing but trouble to look forward to. A new boiler should easily last five years in constant use, if properly cared for and blown out regularly.

Steam cars are just as suitable for rough roads as any other car, and here again their life largely depends on their sound frame construction and the care exercised in running them over rough surfaces at suitable speeds. I am inclined to the belief that for long life on rough roads, as one has to contend against in country districts in Ireland, a car should be strongly built on a steel frame and nicely sprung, and not as some American firms turn out their cars. My personal experience has forced me to decide never again to have a steam car that uses petrol as fuel. In the first place it is highly inflammable and dangerous, and secondly the price of spirit is steadily rising.—Yours truly,

L. C. P. PERRY.

Major R.A.M.C.

WIRE OR WOODEN WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The most important point regarding the relative merits of metal and wooden wheels seems to have been overlooked. Much has been said about the employment of the cycle pattern of tangent wire wheels, but no one has, so far as I am aware, pinned his faith to the hollow metal spoked and metal rimmed wheel. I do not refer to mere castings, which are inadvisable where light weight and strength is requisite. In my own cars I always prefer to fit a special form of hollow metal spoked wheel, which I think all practical men will agree is at least as strong as any other kind. Not being on the tangent wire principle it resists buckling, and not being wooden but wholly of metal no shrinkage takes place, while the appearance is better than wood. I think, further, that this wheel fitted with a quickly detachable secondary rim, such as the Cave, is the beau-ideal of strength and simplicity.—Yours truly,

E. H. OWEN.

CARELESS 'BUS DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—At one of the stopping places of motor-buses in Peckham I have just witnessed an incident which, I am afraid, is only typical of what goes on to a very general extent. I was standing by the kerb smoking a cigarette, and noticed a continuous dropping from below the driver's seat of a motor-bus, which was halting there some minute. Steeping down I discerned that the liquid was petrol. Had I, or anyone else, thrown a lighted match, or the rejected end of a cigarette, the result would have been disastrous to the motor-bus. When I told the driver of what was happening, and of the danger he was in, he merely laughed and took no further notice.

In view of the lack of public knowledge of the dangers associated with many innovations now being made, steps should be taken to secure that those concerned with the direction of new methods should be convinced of the necessity of taking heed. The bus companies should emphasise the risks of petrol when allowed to escape in that way in the public streets, on drivers and conductors. Otherwise motor-buses may attempt to navigate the air—with results disastrous to all within the range of their activity.—Yours truly,

A. W. WHITE.

A MOTORIST writes, in appreciative terms, of the merits of the motor soap brought out by the Sanitas Company.

TYRE FOUND.—A new motor tyre was found on the road near Ascot on the 2nd ult., and is now at Ascot police station. Inquiry from the owner will be welcomed by Inspector Jannaway.

CLUBS AND ASSOCIATIONS.

AUTOMOBILE MUTUAL PROTECTION ASSOCIATION.

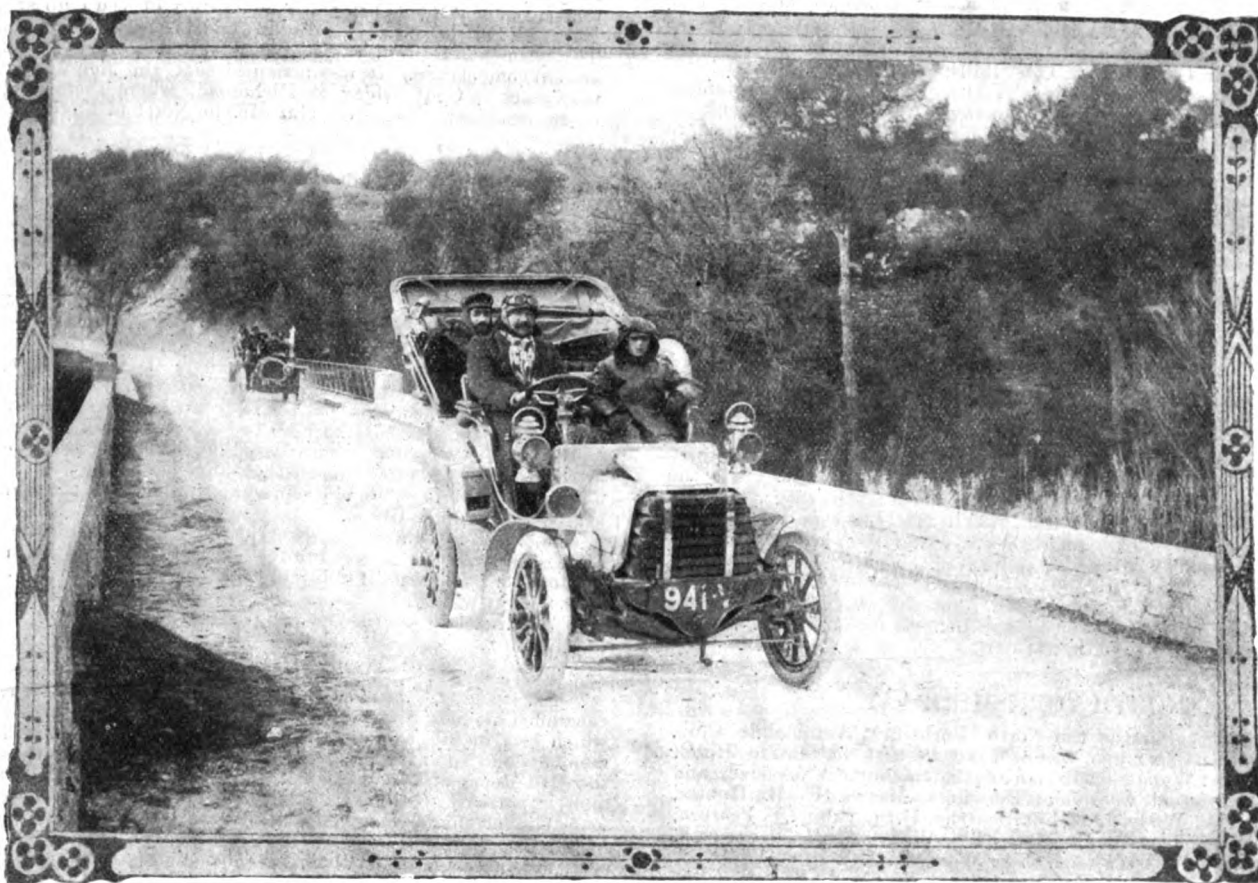
THE Finance and General Purposes Committee of the Association met at the offices, 109, Victoria Street, Westminster, S.W., on Wednesday of last week. The chair was taken by the Earl of Shrewsbury and Talbot. The secretary reported that he had examined all private bills deposited for this session, and had arranged with the Motor Union that opposition should be made to the Portsmouth and Hornsea Light Railway Extension Order, and the London County Council Tramways along New Oxford Street, as well as several new bridges and level crossings proposed in railway bills.

The secretary reported that the National Dustless Roads Committee had been formed to take over the work which had previously been done

Booth, A. Wright, F. K. Ward, Faulkner, H. A. Marshall, Sutton Clifford, Huskinson, J. W. Taylor, Stagg, Jeavons, F. Pochin, T. C. King, T. Gerrard, J. Hartopp, J. A. Doran, Ewart, L. Pierpont, H. C. Wright, Bircumshaw, Booth Granger (Nottingham), Allin and Leach (Derby), and Mr. A. McAlpin (hon. secretary of the Leicestershire Automobile Club).

The loyal toasts having been duly honoured, Sir J. Herbert Marshall proposed "The Automobile Club of Great Britain and Ireland, and the Motor Union of Great Britain and Ireland." He asked if they all realised the enormous amount of work which was being done by the Automobile Club in the interest of motorists and those who were interested in motor-ing. He knew the character of the work done by officials and individuals, many of whom devoted practically the best part of their lives to doing everything in the best possible way they could to bring the greatest amount of success to the great motor industry. One of the great features in connection with the two institutions was the fact that they endeavoured to promote the motor industry, which was a thing they wanted more than anything else at the present time.

Earl Russell, in acknowledging the toast, said that the Automobile Club did really try to conduct itself in the interest of automobilism as a whole. The Technical Committee did work which they could not get done by any other club except the Automobile Club, while the institution performed a great function in connection with competitions. It



Winter Motoring in the South of France. A Snapshot from Draguignan (Var).

by the Dustless Roads Joint Committee which was originally formed by this Association and the Roads Improvement Association. Lord Shrewsbury and Mr. Albert Brown were appointed to represent the Association on the National Dustless Roads Committee. Eight new firms were elected to membership.

The secretary was instructed to make arrangements to hold the annual general meeting at the Agricultural Hall, on Thursday, April 11th, 1907, at 2.30 p.m. The draft report and balance-sheet for 1906 was submitted, showing that the funds of the Association had increased by £102 in the year, so that the Association had nearly £1,000 placed to reserve.

LEICESTERSHIRE AUTOMOBILE CLUB.

THE annual dinner of the Leicestershire Automobile Club was held at the Grand Hotel, Leicester. The company numbered about 140. Mr. E. G. Mawbey, the president, occupied the chair, amongst those present being Earl Russell, Sir J. Herbert Marshall, Colonel Piercey, Major E. M. P. de Lisle (High Sheriff of Leicestershire), Mr. Rees Jeffreys, Messrs. Orson Wright, Maurice Mawbey, McAllister Hewlings, Dr. Partridge, Steinitz, Langmore, Goodwin, J. McAlpin, Wildt,

was of great importance to the movement that automobilists should be associated in their particular localities, for as far as political propaganda was concerned they were not yet out of the wood. They needed certain restrictions removed, and until they had their real and full liberty it was necessary they should work together. Mr. Rees Jeffreys (secretary of the Motor Union), submitted the toast of "The Leicestershire Automobile Club." He said he regarded the Leicestershire Automobile Club as one of the pillars of the Motor Union, and the position it occupied in this respect was due to the fact that it was composed of a body of sportsmen, and that it was fortunate in its officers. Having paid a tribute of praise to Mr. Mawbey and Mr. McAlpin, Mr. Jeffreys went on to refer to the question of taxation. Motors, he considered, were already taxed out of due proportion to any other class of road vehicle. The Motor Union had two objects of great importance, amongst others. In the first place it wanted to protect its members against vexatious prosecutions, and to defend them when they became victims to excessive zeal on the part of the police force. Another object was to put down the inconsiderate driver. They had adopted a new device to secure these objects. They were going to introduce a Motor Union badge, which was to be regarded as the badge of the considerate driver. They wanted

to make that badge an insurance against vexatious prosecutions, and to ensure that every member wearing that badge, if wrongly prosecuted, should be entitled to half his legal expenses provided by the Motor Union.

The Chairman responded, and pointed out that the Leicestershire Club had had a successful year with 140 members. He thanked the officers of the Leicestershire Club, and made particular reference to the work of the secretary, Mr McAlpin.

Mr. Orson Wright proposed "The Visitors," to which Major E. M. P. de Lisle and Mr. Sutton Clifford responded.

THE AERO CLUB.

THE Aero Club have completed arrangements, which have been in course of preparation for some considerable time, for the carrying out of a series of important practical experiments in connection with aerial navigation. These experiments will be subdivided into the following classes:—(1) Propellers; (2) Aeroplanes; (3) Engines. The experiments regarding propellers will be carried out by Professor Waynforth, the Honorary Technical Adviser to the Club, and the authorities of King's College, London, have kindly allowed the use of their engineering laboratory for the purpose.

Lord Howard de Walden has already given £100 to the Aero Club for experimenting purposes, and at a special meeting of the committee of the Club additional subscriptions have been obtained from the following members:—Messrs. F. H. Butler, E. Bucknall, Martin Dale, P. Alexander, Colonel J. E. Capper, C.B., R.E., Professor A. L. Hunt-ington, J. T. C. Moore-Brabazon, S. Spooner, Admiral of the Fleet Sir Edward Seymour, G.C.B., Hon. C. S. Rolls, and Roger Wallace, K.C.

As these experiments may involve the expenditure of considerable sums of money, it has been decided to invite further subscriptions, for which cheques, crossed "Barclay and Co.," should be sent to the Aero Club, 166, Piccadilly, London, W.

The Hon. Mrs. Harbord has just effected a long distance balloon voyage. Ascending, accompanied by Mr. C. F. Pollock, of the Aero Club, in her new balloon, "The Nebula," at Chelsea, on a recent Thursday, and favoured by a north-west wind, she crossed the Channel in the neighbourhood of Calais, and descended about 9.30 the following morning in a violent snowstorm at Stavelot, in Belgium, a small town about 15 miles to the south of Aix-la-Chapelle. The average speed of the balloon was about 25 miles per hour.

NOTTINGHAMSHIRE.

AN instructive lecture was delivered by Mr. Fred Thoresby, to the members of the Notts. Automobile Club, at a gathering at the Black Boy Hotel, Nottingham. His subject was "The Evolution of the Motor Car," and over 100 slides were shown. Illustrations had been obtained from all quarters. The history of the motor-car was traced up to the present time, particular attention being paid to those of the early and latter part of last century—from 1789 to 1841, and from 1882 to 1900. Steam was the force relied upon in the early examples, but from 1882 up to the present petrol had been mainly used. The first example of a petrol car was the Cugnot in 1789, and it was followed by the Trevithick, the Symington, and the Murdock. Mr. Thoresby also exhibited a complete set of slides illustrating the Gordon Bennett race from 1900, when the first event took place, to that of 1905.

NORTH YORKSHIRE A.C.

THE annual meeting of the North Yorkshire Automobile Club, which was formed a year ago, was held last week at the Station Hotel, York. Mr. H. A. Watson (chairman of the committee) presided, and other members present were Lord Deramore, Messrs. C. E. Hunter, Arthur H. Kerr, C. Wade, Lionel Saltmarsh, H. Strickland, S. Pearson, G. W. T. Wade, Colonel W. H. Mott, E. S. Wade, A. H. Barkworth, E. S. Angove, W. F. Greenwood, C. E. Wood, A. J. Walker, W. H. R. Hopkins, and Francis Ware (hon. secretary).

The balance-sheet, prepared by Mr. Edwin Gray, hon. treasurer, showed the income to have been £116 6s. 4d., including £99 15s. for subscriptions. After the payment of expenses a credit balance of £26 15s. 4d. remains. The balance-sheet was approved, on the motion of Dr. Angove, seconded by Mr. C. E. Hunter. The committee reported that an arrangement had been entered into with the Yorkshire Insurance Company for specially favourable terms for insurance being granted to members of the club. They had also been able to arrange for free casual storage at reduced terms of members' cars with the following garage proprietors:—North-Eastern Garages, Ltd., York; Mr. H. J. Lloyd, York; Hull City Garage, Ltd., Hull; Messrs. Wales and Sons, York; and the York Electrical Company, Ltd., York. The membership of the club on December 31st was 92.

Lord Wenlock was re-elected president of the club. The Marquis of Zetland, the Marquis of Ripon, and the Earl of Lonsborough were re-elected vice-presidents, and Lord Bolton was also elected a vice-president.

With regard to the committee, it had been arranged that the following elected members should retire:—Major R. L. Bower, Mr. T. N. F. Bardwell, Mr. A. J. Cholmley, Mr. E. Lycett Green, Mr. H. Harrison-Broadley, M.P., the Hon. W. Algar Orde Powlett, Mr. W. E. Meade, and Mr. A. C. Stamer. The last two had already tendered their resignation owing to having left the district. The committee nominated

the following members of the club to fill the vacancies:—Major R. L. Bower, Mr. H. Copperthwaite, Lord Deramore, Mr. A. E. Learoyd, Mr. Sutton H. Lowe, Lieutenant-Colonel H. C. Page-Henderson, Mr. P. M. Stewart, and Mr. G. W. T. Wade.

Following the annual meeting the first dinner of the club was held at the Station Hotel, York. Mr. H. A. Watson presided, and after the loyal toasts had been honoured Mr. A. W. M. Bosville proposed "The North Yorkshire A.C.," remarking that the lust of speed was decreasing. In reply, the Chairman said the North Yorkshire A.C. had always regarded the considerate use of the highways as a matter of importance.

Mr. C. E. Hunter eulogised the work of the Motor Union in proposing success to the organisation. Mr. Sturmeys reply and the toast of "Our Guests," responded to by the Lord Mayor of the city, brought the speechmaking to a close.

BRADFORD MOTOR-CYCLE CLUB.

A WELL-ATTENDED meeting of the recently-formed Bradford Motor-cycle Club has been held at the Royal Hotel, Bradford, Mr. G. E. Vint, of Idle, presiding. A further batch of new members was proposed, bringing the total membership of the organisation up to nearly sixty. The Chairman expressed satisfaction that the club had been established on a sound basis in so short a period. He congratulated Mr. Bernard Read, who has undertaken the hon. secretaryship, on having so successfully organised the new body. Rules were adopted and officers elected, and it was decided that the headquarters of the club should be the Imperial Hotel. Mr. T. G. Bullus, hon. treasurer, announced that Mr. T. Dyson had consented to give a valuable trophy to the club for annual competition. It was arranged that the first club run should take place on Good Friday to Richmond, where there is to be a meet of the principal motor-cycle clubs in the North of England.

SUSSEX A.C.

ON Saturday the annual meeting of the Sussex A.C. was held at Warne's Hotel, Worthing, with Mr. C. Scrase Dickens, J.P., in the chair. The committee's report showed that the club was in a very satisfactory position, although the membership had decreased slightly. They had succeeded in getting a warning board erected at Handcross. Regret was expressed at the retirement of Mr. W. James and Mr. M. F. Mievill from the presidency and secretaryship respectively.

It was resolved to ask Mr. James to reconsider his decision as to the former office, and Mr. Mievill having explained that, owing to ill-health, he could not continue as secretary, Mr. F. H. Nye, of Broadwater Manor, Worthing, was elected in succession. On the motion of Earl Russell, it was resolved:—"That the committee be authorised to make arrangements for the club to be worked in two sections—East and West Sussex—if it is considered advisable that the club should be so divided." It was resolved that Earl Russell and Mr. Myddelton-Gavey, of Tonbridge, should represent the club on the General Committee of the Motor Union.

Replying to a vote of thanks, the Chairman thought that in such a large county as Sussex more interest ought to be displayed in the work of the club. The club's funds and influence were at all times available for members when they had any grievances or legal difficulties, or when they required any information.

LADIES' A.C.

MR. CURRIE, the Ladies' Automobile Club engineer, has just concluded his fourth course of technical lessons. These lessons, each of which had on an average an audience of some twenty-five of the members and their friends, were, with the exception of the last, held in the Red Room of the club. All the lessons were well illustrated by many "parts" of both new and old design, among these being a modern four-cylinder engine complete with all the latest improvements. The final lesson was a *resume* of all the preceding ones, and, as it required a complete chassis in order that members might be enabled to see the assembled parts in place, Messrs. Warwick Wright, Ltd., of 110, High Street, Marylebone, very kindly placed at the disposal of the club a large room, a six-cylinder Minerva, and an example of the Cave detachable rim.

IRISH A.C.

THE annual general meeting of the Irish Automobile Club took place on Wednesday of last week at the headquarters, Dawson Street, Dublin. Sir William G. D. Goff, Bart., D.L., J.P., chairman, presided. The hon. secretary submitted the annual report, which showed the club to be in a highly satisfactory condition, and referred to the success that attended the various competitions held throughout the year, making special reference to the fact that His Excellency the Lord Lieutenant and the Countess of Aberdeen attended the opening ceremony at the club garage on April 30th. The statement of account which followed showed the club to be in a sound financial position, over 180 new members being elected during the past year, bringing the total up to 450.

The Chairman, in proposing the adoption of the annual report and statement of account, took the opportunity of making, on behalf of the members of the club, a presentation to the hon. sec., Mr. E. White, for his services to the club and his earnest work in the interests of the sport and pastime of motoring. The presentation, consisting of a valuable silver tea service and an old Sheffield silver salver, was

handed to Mr. White, who replied in feeling terms to the generosity and kindness extended to him by the members.

The election of officials for the coming year resulted in all the hon. office holders being elected as follows:—President, Right Hon. Sir Horace Plunkett, K.C.V.O.; vice-presidents, the Marquis of Waterford, the Earl of Drogheda; chairman, Sir W. G. D. Goff, Bart.; vice-chairman, T. Talbot Power; hon. treasurer, Walton Sexton; hon. sec., E. White. The following were elected on the committee:—Messrs. T. Plunkett, D. E. Magor Wallesey, R. J. Meccredy, F. W. Perry, J. M. Davies, Hum Bland, J.P., J. B. Dunlop, jun., F. H. Hall, W. S. Hayes, C. W. Seagrave, G. O'Grady, T. Henshaw, J. C. Percy, J.P., T. J. Consedine, Colonel Chaulver Knox, C. Wisdom Hely, J. E. St. George, H. S. Close, Pryce Peacock, M.D., and F. Morgan Mooney.

MOTOR YACHT CLUB

At the last meeting of the committee of the Motor Yacht Club it was decided to offer a challenge cup for the best cruise of the year in a privately owned motor-boat, and the matter was referred to the Races Committee to draft the necessary regulations.

A special meeting of the committee was held last week to consider the formation of a class of small one-design motor-boats for the Solent. It is proposed that the boats shall be of a staunch cruiser type, but provided with sufficient power to give them a fair turn of speed for their size. Weekly or fortnightly races would be held in Southampton Water and the boats would be available at other times for day cruising. By building, say, half a dozen of these little vessels it would be possible to obtain a very useful boat at a very moderate price, and the scheme should help to secure many new recruits to motor-boating.

THE CRYSTAL PALACE.

THE A.C.G.B.I. has given approval to the Crystal Palace A.C.'s intention of holding a Flexibility Trial on Saturday, the 23rd inst. There will be a run of about 60 miles, then an interval to have a fast and slow race, followed by a run back of another 60 miles. A maximum number of marks will be allotted, and any deviation from the top gear will incur a penalty which will be deducted from this mark allowance.

MR. C. STEWARD, 92, Bromley Street, Stepney, E., is hon. secretary of the Black Prince Motor Club.

OF the 127 members of the South West Ham Rovers Cycling and Motoring Club, thirty-three are motorists.

BETWEEN thirty and forty members of the Woolwich and District Motor Club were present at the annual dinner, over which Mr. B. Hardcastle presided.

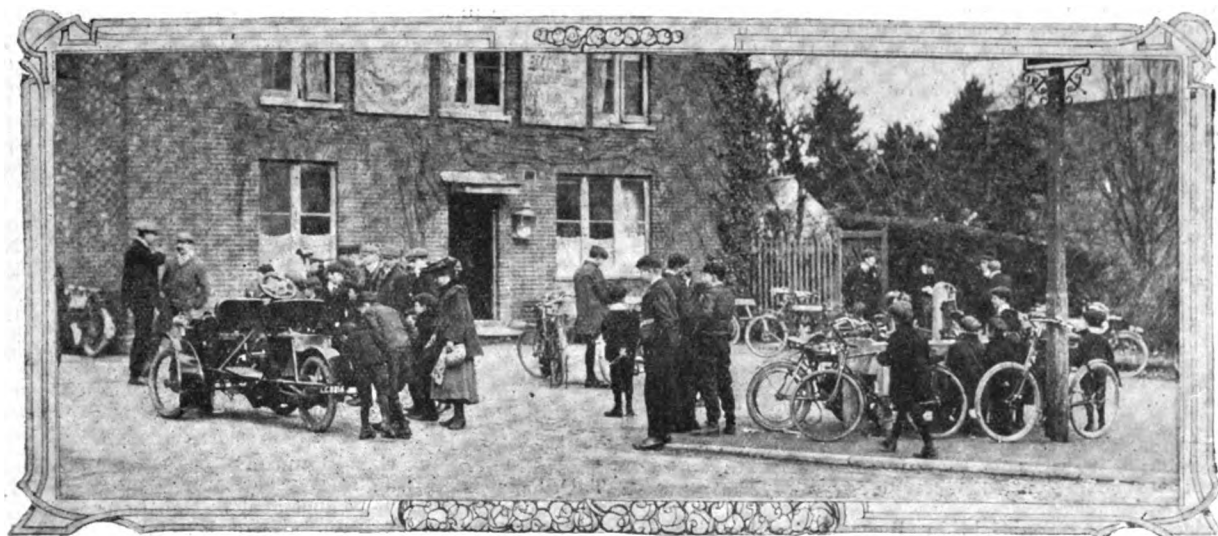
AN association of northern users of motor-lorries and vans has been formed, with Councillor Kay, J.P., as chairman, and Mr. J. Miller, 295, Deansgate, Manchester, as secretary *pro tem*.

THE slow race up hill organised by the Motor Cycle Club for July 13th will be divided into two classes—one for single geared motor-bicycles and the other for machines with change-speed gears.

THE Kent A.C. has offered a gold medal to the candidate obtaining the highest relative number of marks in the examination for the Mechanical Proficiency certificate by the A.C.G.B.I. at Maidstone in April.

MOTOR-CAR ACCIDENTS.

AN army pensioner, who acted as caretaker of the Volunteer drill hall at Guildford, was on Saturday night knocked down by a motor-car whilst he was walking along the middle of the road between Guildford and



The Lewisham A.C.'s Hill-Climbing Competition—Some of the Competitors at Hildenborough.

was The annual general meeting of the club took place on Thursday of last week. Lord Montagu of Beaulieu was elected Vice-Commodore in the place of Sir Boverton Redwood, who has been compelled to resign the post through press of business.

BRITISH MOTOR-BOAT CLUB.

THE annual general meeting of the club was held on Thursday of last week, when there was a good attendance. The report of the committee stated that the membership had steadily increased, and that the club had offered for competition prizes, cups and gold medals to the value of over £800. The Commodore, Admiral Sir William Kennedy, Vice-Commodore, the Marquis of Ailsa, Rear Commodore, Mr. W. Miall Green, and hon. treasurer, Mr. Oswald B. Colls, were re-elected with acclamation. The following will be the committee for the forthcoming season:—Messrs. A. Harden, Capt. W. Windham, J. S. Holmes, F. R. Simms, Lieut. H. G. Vereker, C. Jarrott, G. de Holden Stone, F. B. East, Oswald B. Colls, W. Lawrence, G. Neill, F. C. Blake, N. B. Kenedy, E. Owers, Mawdsley Brooke, L. Miles, W. Miall Green, L. Stroud, Seaton Edge, Lieut. Markham, L. M. Waterhouse, A. Lee Guinness, F. May, J. A. Smith, K. O. Searle, E. W. Shave, C. G. F. Loder, J. Day, P. Bonthron, W. Scott Hayward, and P. Lowcock.

NAVAL MOTOR.

THIS club, of which Lt. Groves, of H.M. Submarine Depot, Gosport, Hants, is hon. sec., has now forty members. Several important fixtures have been made for the coming season, including an A.C.G.B.I. examination at Portsmouth.

Shalford. When the motorist got out he found the man was dead. No blame is attached to the driver, who was going slowly and the hooter was being sounded.

A VERDICT of "Accidental death" was returned at the Lambeth Coroner's Court at the inquest on the body of Harry Killmaster, aged 10, who was knocked down in Vauxhall Bridge Road by a motor-car, in which the traffic manager to the London County Council was riding. The evidence showed that the boy, who had just left his father's house to play with some companions, ran from the pavement into the motor-car, the driver of which sounded his horn and swerved across the road. The mudguard struck the boy, who was taken to St. Thomas's Hospital in the car, where he died an hour later, the cause of death being an extensive fracture of the skull.

A COLLISION between a cyclist and a motor-car belonging to Messrs. Carter, Paterson, and Co. took place at Old Steine, Brighton, whereby the cyclist received an injury to his right temple, being thrown off his machine.

A SERIES motor accident occurred in Edinburgh on Tuesday. Dr. Alexander Brown Walker, of Glasgow, and Mr. S. F. Ross, a motor-car agent, of Glasgow, were proceeding from Glasgow to Gullane when, on the Regent Road, Edinburgh, something went wrong with the steering-gear, and before the brakes could be applied the car dashed into an iron railing surrounding a tree, smashing the railing and uprooting the tree. The car then dashed against an electric lamp-post and overturned. The motorists were discovered by a cyclist about a quarter-past six in an unconscious condition. Both were removed to the infirmary, and it was found that Ross had a leg broken and other injuries, while the condition of Mr. Walker was found to be very grave.

THE WORK AND WORRIES OF CAR PARTS.

DOES the average owner, as he calmly steers his way, ever realise the maelstrom of forces which are developed in the different parts of his car? To all outside appearances it moves with as little effort as a soaring gull, making no noise save a gentle purring which reminds one of the domestic feline in its more contented moods. Below this peaceful exterior, however, pandemonium reigns supreme. Temperatures which can easily melt the most refractory metals have to be kept within bounds; pressures of immense magnitude and frightful suddenness are robbed of their destructive force, and peacefully give up their power, while crashing impacts between moving parts are incessant. Science itself can hardly keep pace with the many-sided problems. Engineering has been set tasks previously deemed impossible.

To begin with, just fancy what a cylinder has to do. In a two-hundredth part of a second the pressure rises 320 lbs. per square inch, and the temperature about 2,000 deg. Fabr. Now to stand these conditions a high grade nickel-steel would be a very good material, but the complexity of shape practically forces the engineer to use cast-iron, which has a low melting point, and is about the last metal in the world which would be selected to stand sudden and frequently applied blows. It is no easy task to successfully fulfil the conditions. Most iron-founders undertake the order with the idea that with extra care in moulding and metal they can produce a satisfactory petrol engine cylinder. It is only when they receive from 30 to 40 per cent. of their output back again that they realise that they have yet got a lot to learn before they can produce this, the highest product of the founder's art. As a matter of fact, remarks Mr. Allan Coates, B.Sc., in the Argyll Co.'s publication, "The Motorist," there are exceedingly few firms in this country who produce satisfactory cylinders with any regularity. Minute specks which require a concentrated light to discover are sufficient to condemn a cylinder; for a high-class firm cannot afford to take the risk of particles of sand eventually being dislodged, owing to the high temperature, vibration, and oil, with the result that the piston seizes and the cylinder is badly scored. The metal must be just not too hard to cut, and yet very hard in order to wear well; also the unmachined parts at the top and round the valves must be perfectly smooth, with no projecting parts to heat or holes to gather soot.

The wretched piston, too, leads a dog's life. One talks of there being no rest for the wicked, and judged by that standard a piston must have had a fearful past. Forty times every second is it started on its wild career, and no sooner has a decent speed been attained than the order goes forth to come back again, and although prompt obedience is the unvarying rule, the only reward is to get a terrific two-ton bang on the head that nearly shatters it; and, as if that was not enough, it is at the same time hurled violently against the opposite side of the cylinder with force enough to knock most things silly. Here again steel is naturally a better metal, but the practical difficulty is to make it the necessary shape, though there are possibilities of advance in this direction. The same care must also be taken of the castings here. A single grain of sand coming out of a blown hole is quite able and willing to seriously damage both cylinder and piston. The top must also be smooth and free from minute holes, else soot might gather and cause pre-ignition. Care must be taken in design that there is sufficient metal to carry away the heat from the centre of the piston head.

As for the gudgeon pin, it is doubtful if in all engineering there is a more severely tried bearing. Scorching heat radiates on it from every side, and, owing to its cramped position, the bearing surface is cut down to a minimum; and, to crown all, oil, to ease its torments, can only be supplied sparingly, and is indeed difficult to supply at all. This is the most accurate fit in the whole car. The pin must be glass hard, true, and polished; the connecting rod bearing of the finest phosphor-bronze, reamed true and smooth. The thousandth of an inch is not good enough here; half that amount is all that can be thought of, and the result is that this most difficult part seldom gives trouble.

The connecting rod bottom has difficulties of a different kind, chief of which is finding the crank pin not quite circular. By this is meant that it must be mathematically true. Now, by an unfortunate coincidence, the crank pin happens to be the one part of a car that is difficult to make quite circular. The overhang is great and the shaft springy, and with ordinary methods only an approximation can be arrived at. The final truing up is a long and tedious process.

The crank shaft is the despair of the automobile engineer. Endless attempts have been made to cheapen it, but the bending, twisting, and pounding which have to be endured, with a design obviously unsuited to such treatment, allow no alternative but to use the highest grade nickel or vanadium steel, and plenty of it.

The gear-box is in some ways the hardest worked part of the car. Each tooth has to take up and drop a load of several thousand pounds, and only gets about one three-hundredth part of a second to do it in. One might as well take a large hammer and lay into them for all one is worth. When we remember what a noise is caused by even a light tapping of one piece of metal on another, it seems wonderful that gears can be so noiseless as they are. The teeth must be cut with extraordinary accuracy. The slightest space between them at once sets up an unendurable noise; even one tooth being two-thousandths thicker than its neighbour is distinctly noticeable. Fortunately in case-hardened steel we possess a material admirably adapted for the purpose, the

outside hard shell withstanding the heavy pressures, while the tough inside prevents the teeth from being so brittle as to break off. What the teeth have to suffer owing to unskilled handling no words can tell.

Go open the inspection lid,
Look at the gears that have been slid,
Think of the man the deed who did,
Hope that through shame his face he hid!

THE FIRST HILL-CLIMB OF THE SEASON.

THE Lewisham A.C. held the first motor competition of the season on Saturday last at River Hill, the event being an open handicap for tri-cars and motor-cycles. Of the forty-six entrants thirty-eight actually started. In the results given below the winner's time is represented by zero, the figures credited to other competitors being the difference between their time and the winner.

In Class 1, for motor-cycles with single-cylinder engines, the result was:—

Place.	Rider.	H'cap.	Machine.	Net Time.
1st	R. M. Brice	Scr.	3½-h.p. Brown	zero.
2nd	C. H. Gold...	4 sec.	4-h.p. (Stevens) Rip	1 sec.
3rd	F. W. Applebee	7 sec.	3½-h.p. Rex	9 sec.
4th	W. W. Genn	4 sec.	3½-h.p. Minerva	14 2-5 sec.
5th	Webb	5 sec.	3½-h.p. Quadrant	30 sec.
6th	W. Goelett...	5 sec.	3½-h.p. N.S.U.	35 4-5 sec.

Class 2 was for motor-cycles with two or more cylinder engines, and the presence of Miss Muriel Hind gave added interest to the event. She, however, only obtained ninth place, other competitors being as follows:—

Place.	Rider.	Handicap.	Machine.	Net Time.
1st	C. R. Collier	Scr.	6 J. A. P. Matchless	zero.
2nd	O. C. Godfrey...	5 sec.	5 Rex	3 3-5 sec.
3rd	W. H. Wells	Scr.	5 Vindec Special	10 3-5 sec.
4th	W. Getting	10 sec.	5½ N.S.U.	11 2-5 sec.
5th	W. A. Jacobs	10 sec.	5 Rex	11 4-5 sec.
6th	A. C. Pritchard	7 sec.	5 Rip	12 2-5 sec.
7th	M. Greger	Scr.	6 N.S.U.	12 3-5 sec.

Mr. Collier's machine was fitted with Dunlop tyres.

The tri-car class brought ten entries, a lady entrant winning the silver medal. Those placed were as follows:—

Place.	Rider.	Handicap.	Machine.	Net Time.
1st	Bert. Pattison...	Scr.	16 Daneville	zero.
2nd	J. Browning	10 sec.	9 Riley	5 sec.
3rd	Mrs. Hilda B. Hewlett	15 sec.	10 Lagonda	19 4-5 sec.
4th	Wilbur Gunn...	10 sec.	10 Lagonda	30 4-5 sec.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

NON-EXPLOSIVE GAS SYNDICATE.—£5,000. Agreement with Mr. T. G. Payne and Mr. F. J. Cox. First directors: Messrs. T. G. Payne, F. J. Cox, and others to be appointed by signatories.

AUTOMOBILES DE LUXE (WEST END AGENCY).—£2,000. First directors: Mr. P. Baxter and others to be appointed by subscribers.

PERRY, THORNTON, AND SCHREIBER.—£10,000. To adopt an agreement between the Central Motor-Car Company, Limited, and Mr. W. J. Longley, and to carry on the business of manufacturers of and dealers in motor-cars, &c. First directors: Messrs. P. L. D. Perry, B. M. Thornton, and W. E. B. Schreiber. 117-119, Long Acre, W.C.

EAST LANCASHIRE MOTOR TRANSPORT COMPANY.—£2,000. To take over the business of general carriers carried on at Church, Lancashire, by Messrs. J. W. Bowker, J. J. Sayer, J. Pilkington, J. J. Miller, S. Walsh, M. M. Williamson, and Mrs. I. A. Sefton, as the East Lancashire Motor Transport Company. First directors: Messrs. J. Pilkington, J. J. Sayer, J. J. Miller, J. W. Bowker, and S. Walsh. 18, Cemetery Road, Church, Lancashire.

HORLEY MOTOR AND ENGINEERING COMPANY.—£10,000. To take over the business carried on by Messrs. L. H. Hodgson and E. Dewhurst, at Horley, Surrey, as the Horley Motor and Engineering Company. First directors: Messrs. H. L. Hodgson, E. Dewhurst, J. E. Wilson and H. G. Wilson.

LUDFORD MOTOR-CAR HIRE COMPANY.—£1,000. First directors: Messrs. R. P. Mitchell, S. Jackson, and A. E. Murrell. 6, Ludford Street, Grimsby.

VICTORY TYRE AND RUBBER COMPANY.—£10,000. To adopt an agreement with Mr. R. Lord for the acquisition of the business of an indiarubber manufacturer and dealer carried on at Sudell Works, Tontine Street, Blackburn. Mr. R. Lord is permanent director, with power to appoint other directors. 24, Tontine Street, Blackburn.

CONTINENTAL MOTOR-CABS.—£400,000. To manufacture, buy, sell, and let on hire motor-cabs, &c. 5, Copthall Buildings, E.C.

ARA.—£6,500. To acquire any inventions relating to indiarubber or compounds thereof, to the repairing of indiarubber articles, or to the manufacture of goods from indiarubber and its compounds. 33, Chancery Lane, W.C.

ON SELECTING A CAR.*

BY ALFRED TOWLER, M.I.MECH.E.

ASSUMING our man of moderate means can afford to spend from £60 to £200 per year on motoring, including interest, depreciation, insurance, housing, running expenses, and maintenance, what ought he to pay for his car? If he can only afford the lower figure, he must be satisfied with a second-hand small-powered car, buy and sell it well and do his own driving, cleaning and minor repairs. If, however, he can afford more, he may get a reliable single-cylinder for £250 or a four-cylinder car of modest power for £350, and he will probably find his running expenses pretty much in the same proportion.

It cannot be denied that the popular car is one with a multi-cylinder engine, with a honeycomb type radiator and side entrance body, and, as the saying goes, "You might as well be out of the world as out of the fashion." But it may be asked, "How does this affect a man of moderate means?" A four or five seated car with side entrance, to be as strong as a similar seated tonneau car, weighs from 2 cwt. to 3 cwt. heavier than the latter, and as the additional weight is usually carried on the same size and strength of tyres, tyre troubles are more frequent. Again, moderate powered multi-cylinder cars are usually from 50 per cent. to 100 per cent. more powerful than single-cylinder cars and capable of going 25 per cent. faster, which involves greater strain, necessitating a stronger structure, increased weight and a heavier tyre bill.

Either some of the motor-car manufacturers who are catering for the popular priced multi-cylinder car buyers for 1907 seem to have placed a four-cylinder engine on a single-cylinder chassis, or some of the firms of longer experience and higher catalogue price continue to make their chassis much too strong. It may be found that the lighter cars may be strong enough for the expert driver who handles his car humanely, but what about the other man? The safest, and perhaps the cheapest, thing for him to do is to wait until the stronger car becomes second-hand.

With regard to repairs, I would remind you of the proverb "A stitch in time saves nine," and assure you that it applies to every detail appertaining to a motor-car. Some tyre troubles no amount of observation and forethought can prevent, but probably 90 per cent. of other involuntary stoppages can be prevented. Overhauling, however, is a more serious matter and should be done periodically, at least every 3,000 miles. A practised ear can generally detect any unusual or abnormal sound, and the cause should be sought at once. I believe there are a great many owners of cars who are very fond of motoring, yet possess very little mechanical aptitude, and this applies, I fear, to some paid drivers. It is needless to say a car is greatly handicapped in such hands.

It seems to me that the purchaser of a car is often unduly influenced by the number and size of the cylinders. If all manufacturers' details were the same for cars of equal selling price, such a preference would be reasonable. Objection is sometimes taken to what is termed "paying for a name," but it must be admitted that no firm can obtain a high reputation without earning it, neither can a firm of repute rest upon its laurels. Again, it follows that a firm who can manufacture cars in large numbers has an advantage in cost of production over another firm who can only turn out cars in small numbers, assuming that the methods of production are up-to-date. Therefore, the former, if they choose to, are in a position to give better value. The most reliable guide as to the relative value of different makes of cars that I know of may be got by a careful perusal of second-hand cars given in current Motor Journals, and the results tabulated. It will be found that cars made by different makers of approximately equal selling price when new depreciate very unequally. By this means anyone may satisfy himself as to which are the desirable cars to buy from this point of view.

CASES UNDER THE MOTOR-CAR ACT.

EXCEEDING SPEED LIMIT.

At Shoreham (Sussex) Petty Sessions, on Monday, Alfred James Du Cros, of Regent Street, London, was fined £8 10s., including costs, for driving a motor-car at an excessive speed at Southwick on February 17th. Witnesses for the prosecution put the speed at between 25 and 35 miles an hour. The defendant pleaded not guilty, and said the road was clear. He had no speed indicator, and could not fix the pace at which he was travelling. He added that he had been continuously driving since the earliest days of motor-cars, and had never been in trouble before.

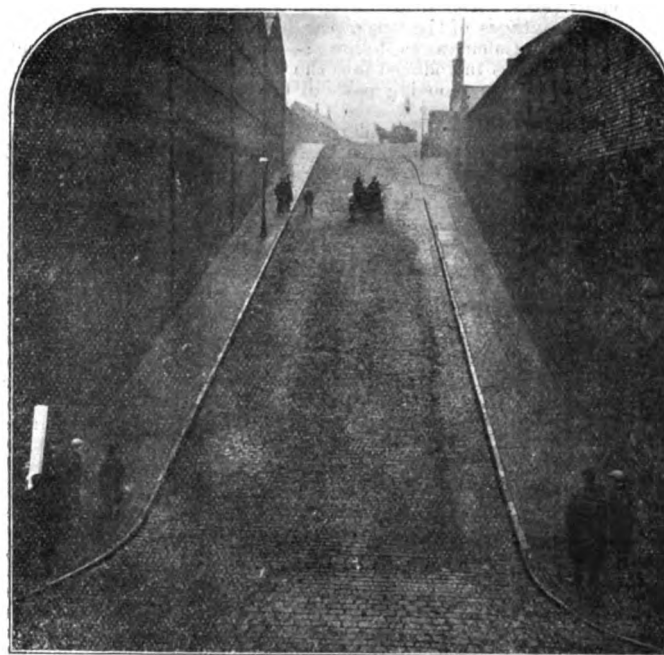
RECKLESS DRIVING.

At Gateshead, Duncan Campbell has been charged with having driven a motor-car at a dangerous speed in Durham Road on January 14th. It was alleged that the defendant's speed was about twenty-five miles an hour. Mr. C. Ritson, who defended, complained that, owing to the wording of the summons and the fact that the car was not stopped, the defendant would have been unable to call any evidence if he had wished to do so. He was charged with having driven a car at a dangerous speed in a road which was three miles long. The police authorities, he knew, could not have issued the summons in any other form, but it would be better if they were allowed to state in the summons the particular point at which the offence was alleged to have taken place. The magistrates imposed a fine of £5 and costs.

*From a paper read at the Yorkshire Automobile Club, Hotel Metropole, Leeds, on the 26th ult.

SOME INTERESTING IGNITION EXPERIMENTS.

At a recent meeting at the Automobile Club of Great Britain and Ireland, Professor W. Watson, D.Sc., F.R.S., read an interesting paper under the title "The Effect of the Character of the Spark on the Power Developed by a Petrol Motor." We have not space to print the whole of the paper but give below a summary of the author's conclusions as based on the results he obtained in the experiments carried out. In his opening remarks Professor Watson mentioned that it appears to be a commonly accepted opinion that a strong or "fat" spark is better than a weak one, when used to ignite the charge in a petrol motor, and that there can be no doubt that in the case of most engines the power developed is considerably greater when the voltage of the ignition battery is well up to its normal value than when the battery has run down, although the engine continues to fire regularly. Not feeling satisfied as to the cause of the above, and not being able to find the record of any direct experiments, the author made a series of tests on a double-cylinder engine having a bore of 3.5 in. and a stroke of 4 in. The inlet valves were mechanically operated, and both the inlet and exhaust opened into a pocket on one side of the cylinder head. The sparking plug screwed into the cap used to close the hole over the inlet valve, the spark points being well inside a recess in this cap. All the experiments were made on one cylinder only, the other working with the trembler coil ordinarily employed with the ordinary four-volt battery. The speed at which the engine was run varied between 950 and 1,000 revolutions per minute.



Mr. R. Ramsbottom, of the Sportsman's Depot, Manchester, has sent us the photograph reproduced above of a 10-h.p. Single Cylinder Cadillac successfully making the ascent of Junction-street (Stony-brow), behind London Road Station, Manchester. The grade, which is said to be one of the steepest in Lancashire, is 1 in 51, with a portion of 1 in 41. On one trip up the hill the vehicle was stopped half way for the photograph to be taken, and afterwards completed the ascent, although carrying a full load of four persons.

The conclusions drawn by Professor Watson from the experiments he made are as follows:—

(1) As far as a petrol engine of the type used is concerned, the character of the spark which ignites the charge has no appreciable influence on the power developed.

(2) With a trembler coil the time at which the spark occurs is liable to vary greatly, and on this account the power developed may be considerably reduced.

(3) The variation in the time of firing obtained with trembler coils is different for different coils, and hence a multi-cylinder engine in which a separate coil is used for each cylinder is unlikely to develop its maximum power, particularly at high speeds; the reason being that although the tremblers of the coils may possibly be so adjusted for some particular voltage that each cylinder fires at the same point of the stroke, yet this adjustment will no longer be true if the voltage of the battery alters, particularly if it falls much below the value for which the tremblers were adjusted.

(4) When a single coil is used in combination with a high-tension distributor, it is of very great importance that the current in the primary should never be allowed to fall to a value near what has been called above the critical value for the particular coil. In this connection it may be mentioned that, in the author's experience, when the trembler is so adjusted for any given voltage of the battery, i.e., for a given

current, that the note produced is very clear and "pure," then a very slight decrease in current, due to a small fall in the voltage of the battery, will cause the timing to be defective, owing to the region of the critical current being approached. Hence, with the normal current passing—i.e., with the battery fully charged—it is advisable to adjust the trembler so as to give a somewhat harsh and shrill sound, for then the current may be considerably reduced before the critical value is reached.

(5) When selecting a coil, regularity in the working of the trembler for considerable variation in the current passing in the primary is of more importance than length or fatness of spark. Further, a coil taking a small current is to be preferred to one taking a large current, since trouble with the adjustment of the trembler blade will be decreased, owing to the reduced sparking at the platinum points with a small current.

(6) Except for the fact that the engine cannot be started on the switch, the plain coil with a rapid break on the two-to-one shaft seems preferable to a trembler coil, since over a very large range of current—in fact, whenever the current is large enough to cause the passage of a spark in the cylinder—the timing is exactly the same. The advantage of the trembler might be retained by using a switch, so that after the engine is started the trembler can be cut out, allowing the coil to act as a plain coil, a second condenser being provided.

STEAM v. PETROL.

AT the A.C.G.B.I. last week a discussion on steam v. petrol was introduced by Mr. Frederic Coleman, Mr. W. Worby Beaumont being in the chair.

The advantages of the steam car from his point of view were set forth by Mr. Coleman as follows:—The fact that the products of combustion are not introduced into the cylinder, and thus do not come into contact with any moving parts of the mechanism, which effects a saving of the wear and tear due to the introduction of carbon and other impurities into the engine cylinders. None of the working parts of the external combustion engine are subjected to the full heat of combustion, which is the father of the internal combustion engine's water jacket. The internal combustion system requires but one simple combustion chamber, with its steadily burning pilot lamp, while the internal combustion system is burdened with four, six, or eight independent combustion chambers, each of which must have its own particular pilot lamp in the shape of a sparking plug, with all the attendant electrical apparatus necessary to light and extinguish each one of these pilot lamps many hundreds of times per minute. The one external combustion chamber referred to is kept at a practically steady temperature, which in itself is an advantage in system when one considers that in each twentieth of a second the internal combustion chambers—four, six, or eight, as the case may be—must change from a temperature a little above that of the atmosphere to a temperature of nearly 3,000 deg. Fahr. The fact that with this external combustion chamber there is a storage of energy which enables the car to be restarted after stopping without recourse to the starting handle, that inevitable adjunct of the internal combustion chambers, no matter if their number be four, six or eight. The surety derived from the continuity of the combustion in this external combustion chamber, in contradistinction to the essentially intermittent combustion of the four, six, or eight internal combustion chambers, which has called into being the delicate and intricate timing systems, and even brought forth those marvels of latter-day ingenuity, the patent synchronised ignition systems. There is also the lack of necessity in the external combustion system for care as to the richness of the actual combustible mixture, which is an ever-present factor in the operation of the internal combustion system. And, finally, the total elimination on the part of the external combustion engine of the Otto cycle.

Mr. Dugald Clerk opened the discussion. He thought that Mr. Coleman had a little misapprehended the tests made in this country with petrol engines. He gave petrol engines some slight advantage in consumption, but it was common knowledge that a gradual improvement in the consumption of the petrol engine had taken place during the last few years. With any good modern petrol engine, provided the carburettor was properly adjusted and everything in good working order, a consumption of about .08 gallons per b.h.p. should be got. Mr. Coleman might take it from him that any good petrol engine of, say, 30-h.p. would be able on the bench, not on the road—because it must be under the same conditions as the White engine—to give .01 per gallon per b.h.p. per hour at the maximum power. There was no doubt at all that the economy of the steam engine could be greatly improved by sufficient superheating, working at sufficiently high pressure. But, taking the steam engine at its best, and taking the petrol engine at its best, he thought the steam engine would never be able, as a steam engine, to give an efficiency greater than one half of the thermal efficiency of the internal combustion motor. The internal combustion motor at present gave 35 per cent. efficiency, but the best the steam engine could do even with very large engines was something like 15 per cent.

Mr. Ashton Jonson approached the subject entirely from the point of view of an amateur, but he would like to say that he had bought a White steam car in which he had never yet failed to reach home. As to the reliability of running, whether he had ten, twenty, or thirty miles to run, he could always calculate to within five minutes the time when he arrived. So much for the reliability of that engine, which only required the burner to be properly adjusted. As to ease of manœuvring

if the White steam car had to turn round in a narrow lane it was so much simpler to manage than the petrol car, which made a great fuss about reversing.

Lieut.-Col. Holden, Professor Boys, Sir James Duke, Messrs. J. S. Critchley, A. G. New, Mercer Adams, O. Thompson, P. Dawson and Heckstall-Smith having spoken, Mr. Coleman replied expressing the hope that the Club would give a sufficient chance for competitions between steam and petrol.

ROAD REPORTS.

NORTHAMPTON.—The Northamptonshire A.C. has been considering the unsatisfactory way in which the main road from Northampton to Welby has been repaired, and the attention of the County Council is to be called to the matter.

SOLIDIFIED TAR.—Attention is being called by the Tar (Patents) Solidifying and Distilling Company, Ltd., 15, Mansion House Chambers, 11, Queen Victoria Street, E.C., to their system of solidified tar, which is claimed to render tar economically applicable to road-making, &c. By this process the tar is made easily portable, an important consideration in view of the favour with which it has been regarded in connection with the mitigation of the dust nuisance.

SUSSEX.—There are 572 miles of main roads in Sussex, or eleven times the whole of the distance from London to Brighton. The outgoing on these, together with district roads and bridges, for 1905-6, was £55,172 in East Sussex and £19,495 in the western division.

NORWICH.—The work of road repairs in Norwich, which Mr. A. E. Collins, the City Engineer, tries to distribute evenly throughout the year, has been disorganised by reason of prolonged frosts. Consequently, for the next few weeks these operations will have to be conducted on a larger scale than is usually the case. Every endeavour will be made to avoid having any considerable length of main road broken up at one time.

PUBLIC MOTOR SERVICES.

THE recommendation of the Watch Committee to grant licences to six motor-cabs to ply in the streets of Chester has been rejected by the City Council.

A SYNDICATE desirous of establishing a motor-omnibus service in Blackpool and runs into the country by motor char-à-bancs have approached the Watch Committee with the object of obtaining licences. The Committee, however, have declined to entertain any such application.

BUSINESS NEWS.

LORD PORTARLINGTON has placed an order with the Daimler Company for a 45-h.p. 9½ feet wheelbase chassis, and Sir Victor Horsley one for a car of similar power with 10½ feet wheelbase.

FROM the London and Parisian Motor Company, Ltd., comes a copy of the 1907 catalogue of Hotchkiss cars, which gives full particulars and illustrations of the four and six cylinder vehicles now being turned out by the Hotchkiss Company.

USERS of Rover cars should obtain a copy of the Useful Hints the Rover Company, Ltd., have issued with regard to the running of their vehicles.

COL. R. E. CROMPTON, C.B., writes:—"I saw a small car come out of Young Street into the Kensington High Street at a good speed and turn sharply round to the right, so as to draw in close to the wrong side, i.e., the near side of the road. As I saw the man make the turn I said he was perfectly certain to make a swing. To my surprise he did not swing, and the tracks left by the wheels were extremely sharp under the stress of a side movement. I went up to the car to note the tyres used, and to my surprise they had no projections or metal points of any kind, but only Palmer tyres with the square tread. I spoke to the driver and he told me that his experience was remarkably good, and that all that was required with these tyres was to keep them pumped hard to invariably obtain the same results."

THE Standard Metal Engraving Company have removed to Buchanan Buildings, 24, Holborn, E.C.

WE are informed that Iris Cars, Ltd., are about to open a London depot at 7, 8, and 9, Bird Street, Oxford Street, W., adjoining the depot of the "Times" Book Club. The premises comprise well-lighted show rooms, a good suite of offices, and a large basement.

A NEW depot for the sale of Horch cars is being opened at 34, Shaftesbury Avenue, W.C., by Horch Motors, Ltd. It will be remembered that it was a vehicle of this type which won the Herkomer touring trophy contest last year.

To give some idea of the immense stock large motor companies are compelled to carry, Messrs. Argyls London, Ltd., announce that they have over 20,000 spare parts which they can supply at a moment's notice from their premises in Newman Street, Oxford Street, W.

THE Daimler Motor Company announce that they have secured the sole manufacturing rights for the world (except France) of the Renard train, which will be on exhibition at the Daimler Stand at the Commercial Vehicle Exhibition, Olympia.

1907 MODELS of the Peugeot car can be seen at Messrs. Friswell's establishment at Regent's Park, N.W.

THE Motor-Car Journal.

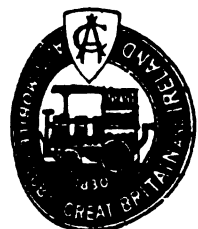
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COMMENTS.



THE Automobile Club of Great Britain and Ireland will no longer disport itself under that comprehensive title, but has emerged from its earlier state into the Royal Automobile Club. Ireland is omitted in the new designation, and Scotland's recognition in Britain finds no place in the exalted cognomen of the club. This, however, need cause no discussion, for both parts of the Empire now enjoy the benefits of organisation in clubs that have secured the right to represent

Motorism within their areas, while all parts of the Empire will gladly acknowledge allegiance to the Royal Automobile Club. This is becoming more and more comprehensive of the great movement within the British Empire, and clubs from the colonies and the great dependency of India are seeking association with the parent organisation. All this is to the advantage of motorists everywhere, for the close touch into which the various associations are now getting with each other will secure the possibility of uniformity in legislation wherever the Union Jack flies.

The Brooklands Track.

It is unfortunate that the opening of the Brooklands Motor Course, which was originally intended to take place a month after the Cordingley Motor Show, will not be available till July. It has now been decided that the opening meeting shall take place on the first Saturday in that month, entries closing on the 25th of the preceding month. The events notified in the *M.C.J.* of December 22nd last will be run off with the exception of the Naval and Military Plate, which will be omitted to make way for a special race for amateurs. An event for steam cars has also been added to the programme; although under a classification that seems very inadequate and hardly like to appear to the steam car advocates to place them on a level with the classes for petrol cars. It is regrettable that the weather experienced in the early weeks of the present year should have had the effect of retarding operations; but previously expressed good wishes for the success of the undertaking may be repeated with equal heartiness as the welcome already given the Brooklands Automobile Racing Club.

The Aero Section of Cordingley's Show.

APART from the interest which is being awakened in the Motor Car Exhibition at the Agricultural Hall next month, much recognition will be given by the public to the section which is being arranged by the Aero Club. In discussing this exhibition Prof. Huntingdon has remarked to a Press representative that it will do much to stimulate the inventive faculty and advance the movement in this country. The prizes amount to £250. Mr. H. E. Perrin, the secretary, says that between twenty-five and thirty model flying machines have already been entered for the Exhibition. The list of entries closes to-day (Saturday), and by that time it is quite possible there may be twice the number already mentioned. The prizes of £150, £75, and £25 offered in the competition by

the proprietors of the "Daily Mail" have, indeed, aroused very widespread interest, and America, France and Belgium will be represented at the exhibition as well as Great Britain and Ireland. An interesting feature of the competition is the encouragement it has afforded to amateurs and mechanics, amongst the intending exhibitors being men in humble circumstances. The exhibition will give to all who have ideas a chance of bringing them out and showing what can be done. There is very little that can be patented in a flying machine, so that there is little use in a man saying "I'm not going to let anyone see what I have done, but am going to keep it secret." Excellent results may be anticipated from bringing together the men with ideas, and letting each see what the other has done.

Motor-car Imports and Exports.

ALTHOUGH, as compared with the first month of the year, there was an increased importation of foreign motor-car productions into Great Britain during February, the returns show a falling off from the high total recorded in the same month a year ago. The number of vehicles which reached this country during February is returned at 445, their value being given as £197,390. Parts were responsible for an additional £182,876, which gives a total of £380,266, as against £396,422 in the corresponding month of last year, and £252,751 in February, 1905. Turning to the exports of British motor-cars and parts, these, on the other hand, continue to exhibit a very satisfactory increase. The number of cars shipped in February was 155, of a value of £58,692, while parts accounted for a further £43,167, the total of £101,859 contrasting with only £39,331 in the corresponding month of 1906.

The Motor Union Car Badge.

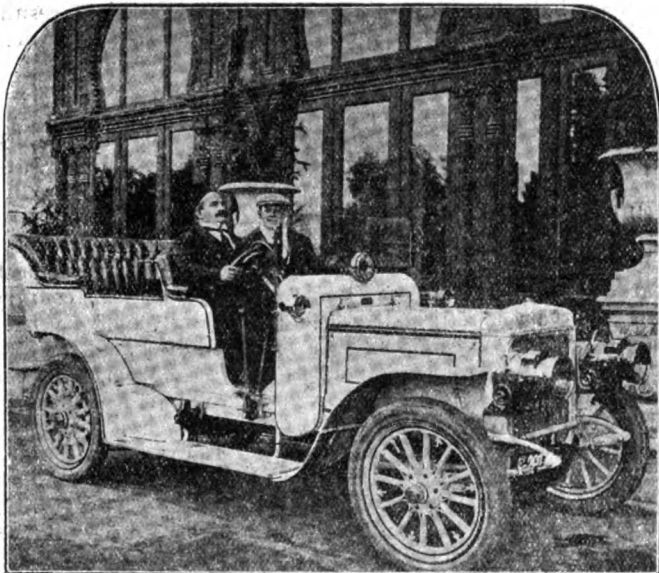
THE Motor Union has decided to issue a badge for attachment to motor-cars as the distinguishing mark of its members. The object of the Motor Union badge is to discourage inconsiderate and reckless driving, and at the same time to protect those carrying it from vexatious prosecutions. It is made of metal, and when fastened to the car dashboard or other convenient place will enable a member of the Motor Union to be readily identified upon the road. It will thus serve also to maintain and increase that excellent *esprit de corps* which has played such an important part in the growth and development of automobilism. The Union attaches great importance to the badge being everywhere recognised as the sign of the considerate driver, so much so that the Union reserves the right of securing its return in the event of any driver using it being found guilty of reckless driving or neglect of the amenities of the road.

The Police and Licences.

ANOTHER instance of the police over-reaching themselves has occurred at Epsom, where a motorist, summoned for not producing his licence when requested to by a constable, has had the satisfaction of demonstrating a piece of illegality. The effect of this should be to prevent similar high-handed

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practice within the area of the jurisdiction of that court and elsewhere. Mr. Staplee Firth said the licence had been produced, but the motorist had declined to allow its examination by the policeman. The latter asserted in court that he had written instructions from Captain Sant, the Chief Constable of the county, to examine the backs of all licences—an entirely unauthorised procedure never contemplated by the Motor Car Act, and entirely alien to the ordinary methods of justice in this country. Prisoners when in court are never confronted with a record of past convictions until their trial is complete. But here in the case of motorists the police apparently seek to obtain a record of previous alleged offences before even the decision to issue a summons is taken. This is decidedly un-English, and we were glad to see that Mr. Firth was not only able to secure the dismissal of his client at Epsom, but also an expression from the chairman of the Bench, Sir William Vincent, to the effect that the police had no right to attempt to see any endorsements that might happen to be on the back of the licence. Motorists upon whom a similar demand is made elsewhere should make a note of this case, and decline to do more than exhibit their licence to officious policemen.



The above illustration shows the Representative of the Daimler Company, Mr. Percy Warren, of Brighton, seated in his car with H.H. Prince Mahmoud Hundi Pasha, son of the late Khedive Ismail Pasha. In the background is the entrance to the Ghazirah Palace, which was built by the late Khedive Ismail Pasha, and is one of the finest palaces in Egypt.

Sheffield Welcomes the Car.

PROVINCIAL motor-car exhibitions give opportunities for the men of light and leading in the various localities to lend their voices to the general chorus of automobile appreciation that is ever strengthening. At Sheffield the other day Alderman Robert Styring, the Lord Mayor, gave the usual eulogy of the motor-car and mentioned that the Corporation spent £1,500 per week in keeping the roads in repair. Having regard to the fact that the rubber tyres of cars wore the road to a very small degree as compared to the iron tyres of other vehicles, he pointed out that the rubber-tyred vehicles would be an economy to the local authorities. Certainly the Sheffield Corporation welcomed the automobile and would be glad to see the works that had been established in the city for the production of cars eminently successful. They were also proposing to augment the tramway service by introducing motor-cars into outlying districts, where the traffic was hardly likely to be sufficient to warrant the laying of tracks and all the expense incidental to the tramway system.

Tram Standards.

AT the special meeting of the Nottinghamshire A.C. Mr. Charles Hardy made an announcement of more than local concern. He said that the tram standards now in the centre of the streets of the town are to be moved to the sides, a start to be made on the Derby road ere long. Around the metropolis these unsightly and dangerous obstructions in the centre of the roadway are irritatingly familiar to motorists, who have often united their voices against the way in which local authorities have allowed their erection. Unfortunately, however, this has generally been to little purpose; hence the interest that will be felt in the announcement that comes from Nottingham, which, we understand, is in the nature of an experiment. The point is also of value in giving new demonstration of the value of a virile organisation looking after the interests of motorists in every district of the country. The club in the lace centre has always been energetic and watchful; and, incidentally, we hope its unity will in no way be affected by the incident mentioned at the special meeting last week, in which the old question of the association of trade members in club life was partially revived, as will be seen from our report on another page.

Restrictions of Business.

SOME amusement is being caused in the trade by a notice which is to be found in one or two showrooms to the effect that purchasers of motor-cars therein must not show their vehicles at any exhibition within a score of miles from Charing Cross, without the seller's express authority in writing. This is somewhat absurd, for it cannot be expected that the buyer of a vehicle will promise to forego any pleasure he may have in his purchase at the bidding of the seller. If he wishes to exhibit his car to friends in any show, he will do so; if he wants to run the vehicle on Handcross Hill, he will do so; if he makes up his mind to re-sell the vehicle, he will do so. The car is his—to run, show, or to smash-up, if he is foolish enough to perform the latter operation. Such attempted restrictions are frivolous and useless; and motorists only smile when they see them in print.

The Emission of Vapour.

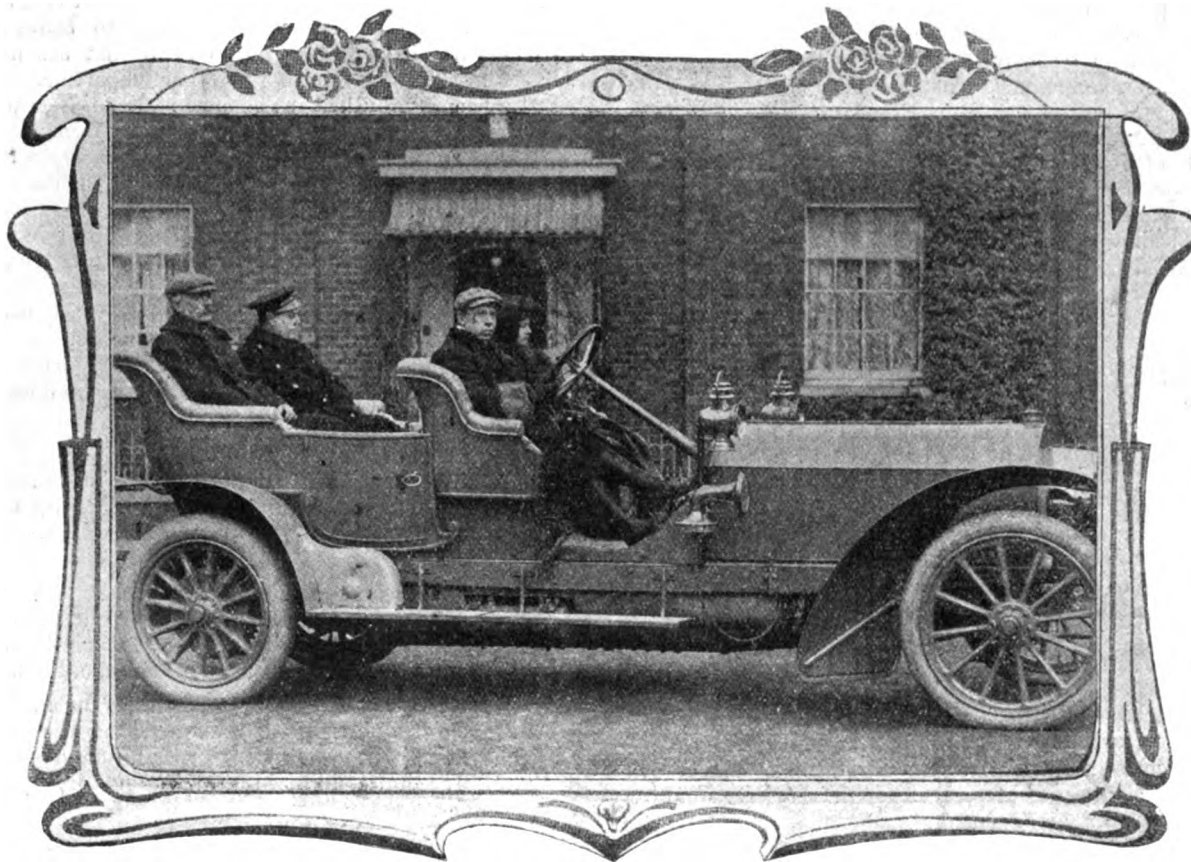
IN all probability, though it is not finally settled, the Vapour Emission competition of the Automobile Club will be held on Tuesday next. This trial has been inaugurated with the object of encouraging the improvement of the design of existing petrol-driven motor-cars, in order to diminish the nuisance caused by foul exhaust. The trouble generally arises from two causes: Firstly, from an improper mixture, giving an excess of poisonous carbonic oxide in the exhaust gases; secondly, from excessive lubrication, causing an emission of blue smoke, due to the lubricant finding its way into the upper parts of the cylinders. The competition will be divided into two parts—a road test, consisting of a run of about 150 miles, and an incline test. The judges will observe the cars, causing the same programme to be carried out by each competitor, and will note the results. It may be necessary for them to order cars to be over-lubricated or worked with improper mixture, in order that they may judge of the effectiveness of the means employed to correct these errors. In the incline test the cars will be tested standing on an incline of about 1 in 7 in each direction for ten minutes, with the engine running at normal speed. A half-inch cock must be fitted into some part of the silencer or pipes leading thereto, for the purpose of coupling a gas analysis apparatus. The following points will be taken into consideration in making the awards, namely:—(a) The car which, independently of the skill or care of its driver, gives an exhaust least offensive to the public using the road; (b) the car best constructed to enable the driver, by reasonable care, to obtain continuously an inoffensive exhaust; (c) the best system or device to enable the driver to observe continuously

the nature of his exhaust (such as a small by-pass to observe part of the exhaust, or a mirror to observe the whole). Devices which from their nature are always in action will be given the preference over those which depend on the attention of the driver.

Motor Boats.

LOOKING back over the last twelve years, and having in view the display of motor-boats in the Annexe to the Olympia Show, we would recall the first occasion that such craft were publicly exhibited in this country. It was at one of the earliest of the series of Cordingley Motor Shows at the Agricultural Hall, when a tank was devised in the gallery wherein motor-boats disported themselves, to the edification of the learned and the amusement of the crowd. The propelling power was electricity, and the occasion was useful in arresting the attention of the public to the possibilities of other forces than

matter to remain in much the same position as it was two years ago. At the same time, Mr. Tyrer is of the opinion that the use of alcohol must increase for motor purposes, and that the present difficulties are by no means insurmountable. He says that the Motor Union might do service by bringing influence to bear on the authorities, with a view to amendments and to getting alterations in the Spirits Act of 1880, which governs the manufacture of alcohol, and constitute, in his opinion, at the present moment one of the hindrances to the production of cheaper alcohol. He is sanguine that important changes in the future will take place. America, stimulated by what has been done in this country, has advanced in such a way that cannot fail eventually to influence our Excise authorities. Experiments on the use of alcohol for motors, without too great a regard to expense, would be one great factor in this direction—such as, for instance, experimental trials to determine the extent of corrosion of working parts and the composition of a suitable metal.



Mr. and Mrs. E. E. Whadcoat on their new 75-h.p. Six-Cylinder Mercedes. (See page 47.)

Photo by]

[Illingworth, Northampton.

steam. The automobile education of the public then begun has continued at a very rapid rate, and "We are all motorists now" might be an adaptation of the late Sir William Harcourt's favourite phrase on the part of those who take their pleasures on the water—at least in theory, although the idea has not been realised in fact.

Alcohol for Motors.

AMONG the witnesses before the Fuels Committee of the Motor Union has been Mr. Thomas Tyrer, who was one of the signatories of the report of the Departmental Committee on Industrial Alcohol issued in 1905. Since then, he believes, it is possible that the use of alcohol has increased for agricultural motors and for military wagons; but the high price of the spirit and the fact that a different carburettor is required in using alcohol than is the case with petrol, have caused the

Commercial Vehicles for Pleasure.

IN some way, though not in the excitement it created, the Commercial Vehicle meet which was held on the Thames Embankment on Sunday recalled an other assemblage at one of the early Cordingley Motor Shows, when motor-vehicles of all degrees were driven to Hounslow, to demonstrate that the cars then shown at the Agricultural Hall were capable of progression in traffic. Some of the makers of vehicles shown at Olympia enjoyed a run from the Thames Embankment to Ripley on Sunday. The start was made shortly after 11 a.m., the F.I.A.T. 40-h.p. omnibus taking the lead, followed by a Maudslay 'bus, a Darracq-Serpollet 'bus, a 28-h.p. Straker-Squire B.T.H. petrol-electric 'bus, a 40-h.p. Ryknield 'bus, a Dennis van, and a four-ton "Commercial Cars" van. Argylls, Ltd., made a brave array with a 16-20-h.p. two-ton covered van, a 10-12-h.p. light-delivery van, and the 14-16-h.p. motor-cab.

The Adams 10-h.p. delivery van and the 30-h.p. four-ton Berna lorry were the whippers-in to the procession. The passengers on the top of the high 'buses had rather anxious moments at times, having to dodge branches of trees overhanging the roads. After lunch the return journey was made, and, taken as a whole, the trip was very successful.

Touring Difficulties on the Continent.

WHEN contemplating a tour in France there are several small points that should be remembered. Owing to the French rule of the road to keep to the right, the tail lamp should be carried on the left instead of on the right, as in England. It is difficult to obtain a ready-made tail lamp and bracket for this position in England, and it is a frequent complaint that the engine appears to lose power in France without any apparent cause. This may often be traced to the brand of petrol used. Some makes are much denser than any used in this country, and do not, therefore, suit an English carburettor. Before taking the latter entirely to pieces, therefore, the weekly report of the Royal Automobile Club advises motorists to try changing the brand of petrol. A club member recently reported a most discouraging experience in this connection. The car had been running perfectly in England, but on arrival in France it seemed to be immediately afflicted with galloping consumption; no speed could be got out of it. The unfortunate driver spent half of each night in adjusting everything visible, but it grew weaker and weaker after each operation. At last another brand of spirit was tried; the patient recovered immediately, and since then they have tried no others.

The Action of a Magneto.

MR. W. HIBBERT, A.M.I.C.E., has been discoursing before the members of the Automobile Club on some points in the action of a magneto. Referring to recent experimental investigations with regard to the battery and coil, he said they proved that higher voltage needs less advance. It probably means hotter sparks, but there is nothing to show that the heat of the spark has any appreciable effect on the rapidity with which the explosion is propagated. It is to be remembered that the significance of higher voltage lies in the fact that the current grows more quickly towards its final value. Consequently, reckoning from the moment at which the commutator completes the circuit, the current reaches the necessary exciting value earlier when urged by 6 volts instead of 4, and the spark occurs a trifle sooner. The data available for the magneto form of ignition is very meagre. Mr. Hibbert's own measurements on a low-tension magneto of the "Castle" type are of interest, although they were only relative. But from the arrangements made and the current delivered the mean value of the pressure must have been about seven volts, and from this, together with other facts, some useful deductions may be drawn. The maximum voltage is much higher than seven, and, therefore, gives a large margin of reduction before it becomes useless for the purpose of exciting the coil employed with it. This means that if the contact is broken at about the maximum position it will need very little advance. Again, if we suppose that the voltage would serve even if it fell to half the maximum value, it is available not merely at a particular moment, but for a period comparable with one-quarter of the half revolution. Or, if one-third the maximum voltage will suffice, it is available for about one-half the time of a half revolution. We trust Mr. Hibbert will continue his investigations until we have as much reliable data for this form of ignition as for the battery system.

THE Motor Union is taking steps to secure the amendment of Section 33 of the Offences Against the Person Act, 1861, so as to enable magistrates to order boys between the ages of seven and thirteen found guilty of stone throwing upon the highway to be birched.

THE ROVER DEPOT.

NOTABLE for location and with ample facilities for dealing with an expanding business, the new depot of the Rover Company in London constitutes a worthy addition to the long list of showrooms devoted to motor-cars. In fact, the premises in New Oxford Street, at the corner of Shaftesbury Avenue, enable a window display that is exceptionally well proportioned to the area of the building. On three sides of the depot cars can be shown to the public, and on the three floors between forty and fifty vehicles, from the little 6-h.p. car with its hood, for professional men, to the 16-20-h.p. vehicle can be exhibited, while the provision for storing parts is equally good. Here intending motorists can not only inspect cars that are ready to be driven away to their own houses, but they can examine models and actual parts of the mechanism. The fact that it is intended to keep at Albion House—the name of the new depot—a stock of vehicles for immediate delivery is a matter of some importance, and Mr. F. J. Jenkins, the London manager, whose supervision will ensure success to the new venture, hopes for a spell of seasonable weather to bring along those customers who have already ordered cars that are now awaiting delivery in the show rooms. A repair department and garage has also been established in Theobalds Road, N., equipped with a complete plant and manned by mechanics from Coventry. In connection with the opening of the depot pressmen foregathered on Monday, when Sir F. Dixon Hartland, the chairman of the Rover Company, paid a tribute to the work that has been done by Mr. Harry Smith, the managing director, who, in the course of his speech, declared that the policy of the future would be, as in the past, to supply cars for the multitude at prices that were within the reach of people who had not previously been regarded as carriage folk—a policy that finds expression in the vehicles now to be seen in New Oxford Street. The depot is near the British Museum, Mudie's Library and the well-known motor depots of Shaftesbury Avenue.

THE last report from the Automobile Club was to the effect that there were three devices left in the Side-slip Competition, those of Mr. G. B. Winter, Mr. H. B. Molesworth, and the Hartridge Tyre Syndicate, Ltd.

REPLYING to a questioner in the House of Commons, Mr. Gladstone, the Home Secretary, has naively stated that "the number of deaths registered in 1906 as having been caused by motor-cars could not be stated until several months had elapsed."

THE International Tourist Trophy Race for auto-cycles is to be held in the Isle of Man one day during the week ending June 1st. The first entries received are two Triumph motor-bicycles by Mr. M. J. Schulte, and two Matchless motor-bicycles by Mr. H. A. Collier.

ON visiting the works of the Birmingham Aluminium Castings Company a few days ago, we were much struck with the rapid development which has taken place in this branch of trade during the past two years. Although additional workshops and furnaces have been made, and a heavy stock of aluminium carried, it is almost impossible to keep pace with the demand for aluminium goods.

MR. H. J. CLIFFORD, of Elm Road, Wisbech, has sent us a copy of a useful little card he has just published. It is entitled "H.P. at a Glance," and gives in tabular form the horse-power of motors of from one to six cylinders and of cylinder diameter ranging from 2½ in. to 6 in. (advancing by ½ in.) as based on the A.C. rating of diameter of cylinder squared × No. of cylinders ÷ 2.5.

A MOTORIST who has had evidence of the good work of the Middlesex Motor Carriage Company, Ltd., of Cricklewood, N.W., writes to say that their new garage will be at Avenue Close, and that the works will be well equipped for all classes of repairs. Accommodation for men as well as cars is provided and the establishment has the reputation of being thoroughly up to date.

AUTOMOBILISM IN CEYLON.

MOTORING in Ceylon has made great progress during the past few years. At first some doubt was expressed as to whether difficulties due to the tropical climate would ever permit of the motor-car becoming a popular vehicle; but these were not found so serious as had been feared, and a little experience soon overcame them. The advent of the automobile in Ceylon synchronized with the commencement of the rubber boom. The number of cars which have reached Ceylon during recent years is very large in proportion to the European and well-to-do native population. At present the chief purchasers are the British planters, brokers and other commercial men in Colombo, the capital and chief city, but the wealthiest natives are also beginning to succumb to the fascination of motoring, and in the future they will probably offer a good field for firms wishing to extend their business, especially as, equally with the Europeans, they are sharing in the benefits of the increasing trade of the island.

Side by side with the enhanced commercial prospects of Ceylon its reputation as a tourist resort has been rapidly growing. This also has given an impetus to automobilism. Some time ago a company was formed for the purpose of

some parts of the year, and a good deal of care is required in looking after the mechanism.

One of the chief uses of a motor-car in Ceylon is to facilitate visits to high elevations from the enervating plains. Some of the hills are ten or twelve miles long, but they can be negotiated on the second speed, which means ten to twelve miles an hour. The highest hill station, Newara Ellya, has an elevation of only 6,000 feet, and the shade temperature in the day time is about 80 degrees Fahr. This is comparatively cool, and proportionately delightful to the tropical resident, but the drop in temperature is not so great as to affect the motor to any appreciable extent.

Commercial automobilism is as yet in a very youthful stage. There are a few steam motor lorries in the island, but experiments that have hitherto been carried out for developing a motor carrying trade, in which motors should take the place of carts and bullock wagons for the conveyance of produce in districts which are not reached by the railways, have not met with much success. The Government has decided to establish a motor-car service between Bandarawella, the terminus of one of its railway lines, and another centre about fifty miles away. If it proves successful similar services will undoubtedly be started in other parts of the country. The roads are on the whole good,



Ready to start from Soerabaija.



A Primitive Bridge at Preanger.

MOTORING IN JAVA.

hiring motor-cars to the large number of passengers that arrive almost daily on their way to and from the Far East, Australia and Europe. Most of the steamers stop a day and sometimes two days in port, and passengers were thus enabled to take motor trips to some of the most interesting spots in the island. This undertaking, however, proved a failure, it being found that the charge of a rupee a mile was not a remunerative one and that people were not willing to pay more. The cars at present in use in the island have invariably been imported from England, and are of English, Continental and American construction. The chief makes are the Wolseley, Rover, Gladiator, Albion, Argyll, De Dion, Fiat, Beaufort, Clement-Talbot, Humber, Star and Oldsmobile. The greatest demand is for two-seated cars with vertical engine in front, which gives plenty of room for luggage. This sort of vehicle is found most useful by planters, who use them both for pleasure and business. Among family cars the most popular are the four-seated side-entrance phaeton, again with vertical engine in front, and in future there will probably be demand for nothing less than four-cylinder engines. In a tropical country, naturally Cape cart hoods are a *sine qua non*, being required as much as a protection against the sudden and heavy downpours of rain as against the strong sun. Curiously enough, an attempt to ingratiate canopy tops with motorists failed. The climate is very moist, in addition to being hot, during

though dusty during the dry season, and increasing attention is being paid to them by the Government, which maintains all public highways. The old-fashioned toll system which used to be in vogue in England is still in existence, but there is an ordinance at present before the Legislative Council for abolishing it. It is proposed to make up the loss in revenue by an increased tax on motor-cars and vehicles of all kinds. It is, however, doubtful whether the ordinance as it stands will go through, as there is a great deal of opposition to it. The tolls are vexatious to motorists, necessitating frequent stops on the road, and their abolition would be greatly welcomed.

There are no repairing facilities except in a few of the towns situated widely apart, and travellers have to chance a breakdown. The pleasures of motoring in Ceylon are, however, so great that most people accept the risk without hesitation. There is probably no country in the world that offers greater attraction to the motorist. The tourist motoring through the low country, gliding past picturesque jungle and palm forest, and along the banks of bamboo-fringed rivers, has not had time to weary of the gleaming kaleidoscope of tropical colour before he finds himself in the rugged hill country and in the midst of mountain scenery rivalling that of Switzerland in grandeur. Besides, he obtains a glimpse of Oriental life that is most interesting to a European.

SOME FACTS ABOUT LEATHER-FACED CLUTCHES.

A FAIR number of cars are still turned out with leather-faced cone clutches, so it may be concluded that this form of transmitting power from the engine to the gear-box has its advantages and is still popular. The majority consist of a female drum—the fly wheel—which is hollowed out to receive the coned leather-faced male portion. The flywheel is keyed to the end of the crank shaft and the male part, by some form of coupling, to the first motion shaft of the gear-box. The two portions are kept in close contact by a powerful spring—in some cases by more than one—and a lever worked by a pedal allows of their separation.

In some the male member recedes from the female, in others the female from the male, and in one variety the male disengages by pushing forwards in lieu of being pulled back. Still the principle is identical. Provided the cone is of sufficient length and suitably tapered so as to permit a gradual engagement, and the springs keeping the two in contact are capable of adjustment, so that if they become weak they can be tightened, then this method has certainly the advantage of simplicity and ease of adjustment. The troubles



The "Free Farms for Willing Workers" travelling demonstration van, built by the Darracq-Serpellet Co. for the Emigration Department of the Canadian Government.

that may occur are, like most automobile worries, nearly always preventible, and certainly capable of roadside repair. Roughly, two conditions of anxiety may present themselves.

The clutch is too fierce. This is known by the car jerking forward when the clutch is let in. The danger of this is that it throws an excessive and needless strain on the transmission gear, and as a result the shafts in the gear-box may bend or fracture, bevel pinions strip, or the differential sleeve break. A fierce clutch causing jumping of the car on starting may be excellent for the passenger's liver, but is certainly improper treatment for the car's transmission gear. The application to the leather of a little castor oil or patent dressing will, as a rule, avoid this complication. Occasionally the leather gets rucked up slightly—that is, the cone is no longer a true fit. Removing the male portion and turning the same in the lathe is the remedy. Care is required in doing this, and but a shade should be removed, say a sixty-fourth. Before replacing a dressing of equal parts of paraffin and castor oil should be applied and allowed to dry in. This certainly prolongs the life of the leather.

Should the leather be worn so that the screws or rivets fixing it to the cone project, a new leather is required. Any saddler will supply the required material—cod oil dressed harness leather; that cut from the thickest part of the butt is the most suitable. It should be from four to five sixteenths of an inch thick,

and, what is most important, of the same thickness throughout—that is, in its entire length. It is best put on in segments and the ends butted and scarfed. The leather should be well stretched prior to attachment. The screws or rivets used must be well countersunk so that they do not project even after considerable wear, and to prevent the possibility of these working loose it is as well to rivet the end projecting on the inner side of the cone; if at some future time the leather has to be taken off, a small chisel will speedily remove the burr. After it is fixed it should be spun in the lathe so that it is absolutely true. Prior to use castor oil should be applied. A good method to ensure sweetness of engagement is to file three recesses in the circumference of the cone three-quarters of an inch long and an eighth of an inch deep, the gaps being arranged equally distant from one another. A piece of watchspring should be slipped into each cleft before the leather is attached. These cause a slight bulging, which is gradually overcome as the clutch engages, and so a more gradual engagement results. Since adopting this idea on my two-cylinder Star car I have driven it almost daily for two and a half years without any clutch trouble, and it is now sweet and minus slip. I can but conclude my remarks on fierce clutches with this aphorism, "Use castor oil for the clutch, and thus avoid repairers' bills."

The Clutch Slips.—If this should occur when one is showing the car off on a hill, provided there is a spring and it is down, or the brakes are in working order, little harm results beyond injury to one's pride, otherwise there will be a surgeon's as well as a repairer's bill. Keeping the leather free of lubricant, or, if it is greasy, dusting on a little Fuller's earth, will generally prevent these torts, which are by far the reverse of pleasant. Slipping, in addition to an oily face, may be due to the clutch spring becoming too weak. Most cars are now constructed so that the tension of the spring can be adjusted, otherwise it must be taken off and backed up with washers. It is as well, too, to carry a spare spring in case of breakage. As a result of a neglected slipping clutch the leather may become charred and then stick, so that it is no longer possible to disconnect the engine from the part it drives, which is inconvenient in traffic, as, if one once comes to a stop by switching off the electricity, unless on a hill, the car only becomes restarted by the aid of a few pushers from behind. Soaking with paraffin will facilitate the separation of the parts; occasionally, however, their disconnection will entail the taking down of the whole flywheel. I have a vivid remembrance of being held up outside Ipswich with a stuck-in clutch, which was only ultimately released by taking down and driving in a wedge between the parts. The early treatment of the slipping clutch would have obviated all the trouble. Possibly in the near future there will be a Society for Prevention of Cruelty to Automobiles, and they, without doubt, will have inspectors to see that all diseased clutches receive early and prompt medicine. Truly in all slight as well as gross motor complaints a stitch in time saves nine.

CHARLES T. W. HIRSCH.

LADY MONTAGU OF BEAULIEU, in her interesting Motoring Causerie in "The Throne," refers with evident approval to our recent Comments on the wisdom of settling motor disputes by arbitration through the good services of the Motor Union rather than by the expensive methods of the Law Courts.

MESSRS. S. SMITH AND SON, LIMITED, have brought out a new taximeter, which has been specially constructed to meet the requirements of the London motor-cab. On the dial on the left of the apparatus time is shown by the hour, and on the other dial the distance traversed in miles. Neither of these dials can work together, when one is in action the other must be stationary. Thus, when the distance traversed is between two and three miles and the "fare" gets out, the cabman has only to press a lever and the time he is kept waiting will be recorded. On starting he will re-press his lever and it will continue to record the distance traversed. Therefore, at the end of the journey, there will be a record showing exactly the number of miles traversed and the time kept waiting.

SOME CURRENT TOPICS.

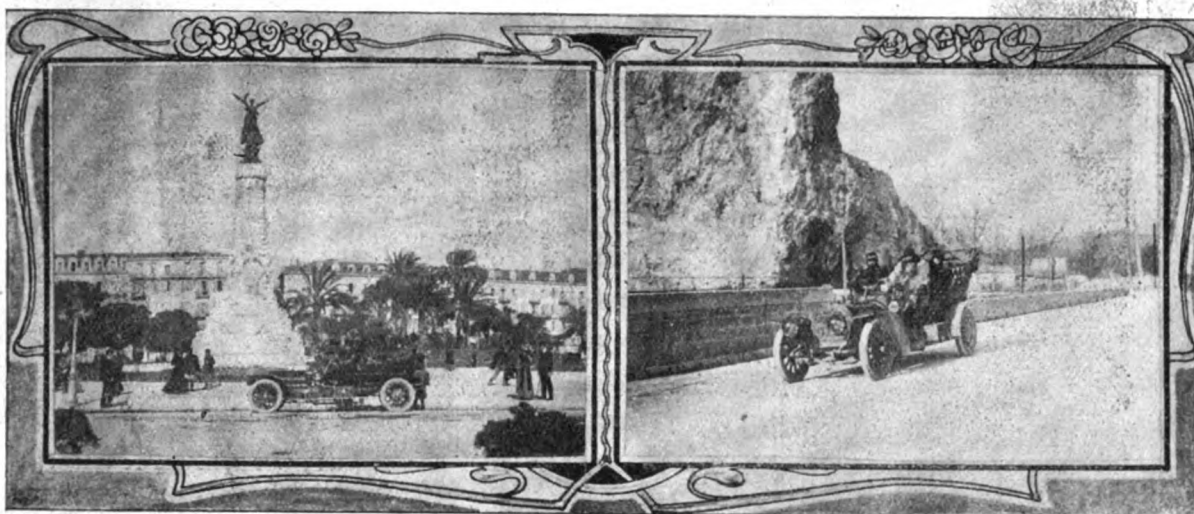
Valve Operation—One or Two Cam Shafts.

Continuing our review of the interesting statistical return prepared by M. Lucien Perissé, in connection with the last Paris Salon, we come to the method of operating the valves of petrol motors. He confirms the view that there is a tendency to adopt a single cam shaft—that is, with the valves arranged on one side of the cylinders—by showing that the motors so constructed have advanced from 28 to 39 per cent. Those with the valves located on opposite sides, and operated off separate cam shafts, although the percentage has been reduced, are, however, still largely in the majority, representing 55 per cent. of the total, as against 64 per cent. a year ago. The balance of 6 per cent. have the valves in the cylinder heads. In connection with the interesting question as to whether governors are necessary, M. Perrissé shows that only about 33 per cent. of engines are now fitted therewith.

will no doubt be of interest. One expert, who is responsible for the design and construction of a well-known car, writes:—"I do not pose as being a leader or attempting to lead the public ideas in this matter. As regards my own personal opinion, however, I distinctly disavow adding any feature to a car that can reasonably be done without. One sweeps away a lot of complications by not connecting either brake to the clutch, but of course our French friends are unable to do this except in the case of cars they export to England, as the authorities in France insist that when the brake is on the engine shall be disconnected. On my own private car I would never think of having such a thing as a speed indicator, simply because one always has a speed indicator on the vehicle in the form of the manometer, and it is quite easy to know what the car is doing from the needle on this device."

An Advocate of Simplicity.

The designer of another very popular British car writes with reference to the article on "Are Cars Too Complicated?" in the *M.C.J.* of the 2nd inst.:—"I will say right away that, whatever anybody else's opinion on the subject may be, I know they are. I heartily endorse what M. Baudry de Saunier says, and I am of opinion that he has not exaggerated at all; quite the contrary, he



At the Casino at Nice. On the Road to Avignon.
THE TOUR OF FRANCE BY A HOTCHKISS SIX-CYLINDER CAR.

Water Cooling Systems.

Passing to the matter of water circulation, the statistics show that the thermo-siphon system has slightly advanced in favour, being now found on 14 per cent. of the cars, as against only 12 per cent. a year ago, engines with pump circulation having declined from 88 per cent. to 86 per cent., the position being thus the same as at the end of 1904. By far the majority of pumps are now gear driven, only 1 per cent. being operated by friction off the flywheel and 5 per cent. by a spring drive. As regards the battle of the radiators, the *nid d'abeilles* or honeycomb variety appears to be rapidly losing its popularity, the proportion being now only 40 per cent. as against 59 per cent. at the 1905 Salon, the ribbed tube variety having increased from 41 per cent. to 60 per cent. All but 7 per cent. of the cars are now fitted with a fan to draw a current of air through the radiator, the proportion of fans being 63 per cent. behind the radiator, 15 per cent. flywheel fans, and 15 per cent. both systems combined.

Are Cars too Complicated.

Our recent remarks on this subject appear to have attracted considerable notice, for not only have we received communications on the matter from a number of motorists, but also from several well-known British motor experts. Unfortunately, we cannot publish their letters in full, but the following extract

has not been strong enough in his comments. Those who have been making motor-cars for many years know quite well that, in point of efficiency, the car of to-day, with its complicated parts, is very little in advance of the plain machines that were made years ago. I have always tried, as far as possible, to build cars with as few component parts as possible, and that these components should be easily get-at-able and also easily dismantled without removing others. I am not at all of opinion that the internals of engines, or the gear-box or back axle either, want to be accessible, except to be able to put the necessary lubricant into same, but consider that these parts themselves, engines, gear-boxes, back axles, carburettors, pumps, &c., should be of the simplest construction. I am sure that in complicated cars the resulting efficiency is hardly appreciable over the simple vehicle. While I admit that these beautiful complicated pieces of machinery are great improvements on what was made years ago in the point of mechanical contrivances, still I am certain that their utility has not been enhanced to any great extent by their complexity, certainly in no way in proportion to the extra expense and liability of derangement. My opinion is that the motor-car of the future, the commercial car, the car that will be handled by the masses, will be a very simple one and, practically speaking, fool proof. Briefly, my ideas on the subject are that it is a great mistake to sacrifice simplicity to a very small percentage of extra efficiency.

CONTINENTAL NOTES.

Motor Vehicles in the German Army.

An important addition to the German Army Transport Department is about to be made by the creation of a regular automobile section, the first duties of which will be to test the efficiency and safety of motor vehicles as a means of transport under actual war conditions, and, further, to train a special body of men, to be known as the Automobile Corps.

The Late M. Hospitalier.

France has so far this year suffered heavily by the death of prominent scientists and engineers. The death of M. Leon Serpollet was followed by that of M. Moissan, to whose labours was largely due the great development in acetylene lighting, while now we have to record the death of M. Edouard Hospitalier, the vice-president of the Technical Committee of the French Automobile Club, at the early age of fifty-five years.

metres on his 20-24-h.p. Clement-Bayard; Liegard being second, with 7.66 kilometres to the credit of his 18-h.p. Peugeot.

The Kaiser's Cup Race.

The ballot for the order of starting in the race for the Kaiser's cup, which is to be held on the Taunus course in June next, has resulted in the first place being taken by a Durkopp; an English Daimler is twenty-ninth, and a Napier thirty-ninth. It has been decided that the cars of the different nations shall be painted in distinctive colours, Germany being white, England green, Austria black and yellow, Belgium yellow, France blue, Italy red, and Switzerland red and yellow.

Public Services in Germany.

A company has been formed at Wolfach (Baden) to start a public motor-car service between that town and Rippoldsau. Arrangements are also in hand to inaugurate a service between Freudenstadt and Achern, Wurtemberg.



Touring in Sicily.—The main street of Caltavuturo, one of the little towns on the Targa Florio Circuit.

A German Light Car Trial.

The German Motor-cyclists' Union is organising a reliability trial for light cars for the 6th, 7th and 8th May next. The competing vehicles will be divided into three classes as follows:—(1) Vehicles costing up to £150; (2) ditto from £150 to £225; and (3) ditto from £225 to £300. The first day's run will be from Dresden to Berlin, the second from Berlin to Kiel, and the third from Kiel to Hanover.

The Cannes Automobile Meeting.

The automobile meeting at Cannes commenced on the 6th inst. with a hill-climbing competition. M. Quinson, on a 22-h.p. Berliet, took the first place. A flying kilometre speed trial was held on the 7th inst., when Heurtard, on a 25-h.p. Gobron, made the best time, 55 sec.; Gallice, on a 24-h.p. Clement-Bayard, being second in 1 min. 2 sec. Saturday last was devoted to a consumption test, each competitor being served with a litre of spirit. Durand ran the farthest distance, covering 9.7 kilo-

Miscellaneous Items.

A series of kilometre and five kilometre speed contests are to be held at Verona, Italy, on the 19th instant.—A military motor-testing track is about to be established on Government land near the huge drill ground at Tempelhof, Berlin.—A motor-car exhibition is to be held in Copenhagen from September 28th to October 7th next.—The exports of motor-cars and parts from France during January last amounted to only £363,360, a decrease of about 16 per cent. as compared with the corresponding month of 1906.—It is proposed to organise an automobile relay race in May next from Vienna to Kiel, with the view of conveying a letter between the two places in record time.—It is stated that the Sporting Commission of the A.C.F. has decided to hold the Grand Prix and Commission Sportive races on one day, the competitors in the former being started at 6 a.m., and in the latter at 9 a.m.—During the past week M. van Marcke, on the six-cylinder Hotchkiss car, has continued his tour of France, visiting Agen, Bordeaux, Perigueux and Brive, the last two days' running having been made in bad weather. Altogether the car has so far covered about 2,300 miles.

THE Tourist Trophy motor-cycle race will probably be run on the early morning of one of the days of the first week in June next.

THE borough of Smethwick will be constituted a county borough on the 1st prox., and has been assigned the letters HA as the Index Mark in connection with the registration of motor-cars.

MESSRS. R. SEYMOUR AND SON, whose garage is on the main road at Sale, in Cheshire, have excellent facilities for the repair of vehicles.

VISITORS to the Isle of Man will find a new garage conveniently situated in Athol Street, Douglas, where Mr. W. J. Lewin will be able to accommodate eight or nine cars.

ACCORDING to Mr. F. Street, of Somersham, who has been lecturing on the "Breeding of Heavy Horses at Colchester," there never was a greater demand for big weighty geldings than at present.

THE first annual chauffeurs' dinner has just taken place at the Three Tuns Hotel, Melton Mowbray, Mr. W. Pearce presiding, and Mr. T. Gowan occupying the vice-chair. There were upwards of forty chauffeurs present.

A MOST interesting Yeomanry staff tour was carried out from the 20th to the 23rd February, in the Southern Command, under the direction of Brigadier-General Bethune, in which ten officers of the Army Motor Reserve took part.

MESSRS. CROOKSHANKS AND COMPANY have opened the Blenheim Motor and Engineering Works at 146, Brixton Hill, London, S.W., as an up-to-date garage. Repairs to cars will be undertaken and business done in the sale of second-hand vehicles.

THE second annual motor-car exhibition held under the patronage of the Sheffield Automobile Club was opened in the Artillery Drill Hall, Sheffield, on the 8th inst. Altogether there are about eighty stands, on which are to be seen examples of the principal British and Continental cars. The show closes to-day (Saturday).

THERE is a pathos in the unpunctuality of some of the cars that have appeared too late at the enclosure in the Tourist Trophy race, and the Rev. J. M. Spicer, a Manxland minister, has been drawing some moral lessons from the unreadiness of their drivers—a new use for the A.C.G.B.I. competition in furnishing texts for ministerial observers of automobilism.

THE business of Messrs. Sawyer and Co. and that of the Paddington Motor Company, Ltd., will in future be conducted under the name of the Motor Stores, at 315, Euston Road, N.W. The well-known Sawyer non-skid band will still be manufactured at the company's works in Banister Road, Kensal Rise, W., under the personal supervision of Mr. A. T. Sawyer.

MESSRS. J. P. HUXLEY AND COMPANY, of Whitchurch, Salop, send us a photograph of a shooting brake body they have recently built and fitted to a 40-h.p. chassis for Mr. J. D. Knoop, of Calverley Hall, Cheshire. The body, which was completed within seven days of the receipt of the order—a smart piece of work—is constructed of walnut, with turn-up seats, upholstered in pig-skin, and fitted with spring cushions.

ON page 41 of the present issue we reproduce a photograph of Mr. and Mrs. E. E. Whadcoat on their new Mercedes 75-h.p. six-cylinder car, which was delivered to them on Saturday last by Mr. Victor Ashby, of the Motor Works, Towcester, after having been fitted with a body by Messrs. Salmon and Sons, of Newport Pagnell, in the remarkable time of three days. Mr. Ashby, who is seen in the back of the car at the side of the chauffeur, writes:—"I believe the car to be actually the first completed one of the type in this country, as I understand the Duke of Westminster's vehicle to be yet in the coachbuilder's hands. I may say the running of the car is most beautiful; when it arrived in this country I filled up with petrol, and one pull of a quarter turn at the starting handle set it purring silently."

HERE AND THERE.

MESSRS. WELDEN AND BLERIOT, LTD., have a good selection of electric roof lamps for motor-cars at their depot, 53 and 54, Long Acre, W.C.

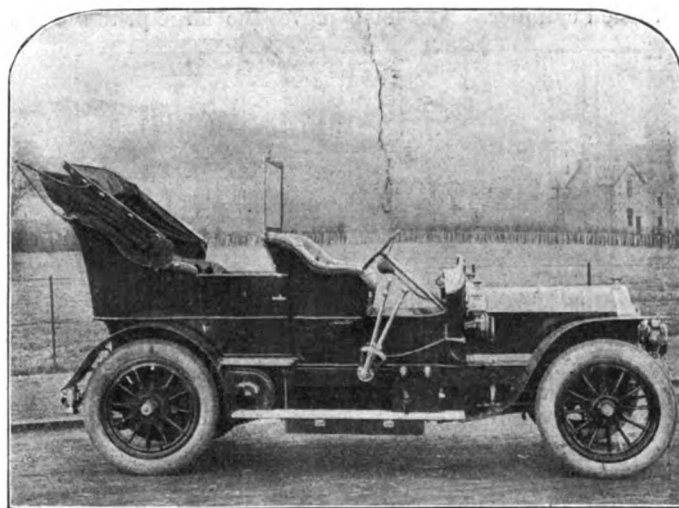
A CORRESPONDENT of the "Scotsman" says that thirty years ago a steam propelled omnibus stood in the Industrial Museum in Chambers Street, Edinburgh, and asks "Where is it now?"

AT 4, Hans Road, Brompton Road, S.W., motor showrooms have been opened by Messrs. Sadgrove and Co. Stocks of accessories will also be maintained.

THE alleged excessive speed of the motor fire engine belonging to the town of Wellington, N.Z., when going to a fire, has been condemned by the local coroner.

AN examination in connection with the A.C.G.B.I.'s scheme was held at Plymouth on the 12th inst. Others will take place at Nottingham on the 20th prox., and at Bristol on May 4th.

THE organisers of the motor-boat exhibition which is to be held in Kiel, Germany, from the 15th to the 30th June next have issued an illustrated guide to the town, which, as it is printed in English, should prove useful to intending visitors from this country.



The 24-h.p. Albion Car recently completed for Mr. J. F. Henderson, one of the Managing Directors of the Albion Motor Car Co., Ltd.

ORDNANCE Survey maps of Bristol and also of Monmouth, each on a scale of two miles to one inch, have been published by Mr. T. Fisher Unwin. The features of these maps are well known to motorists, and those for the districts named will be of interest to all in the West of England.

FROM Messrs. Dunod and Pinat, 49, Quai des Grands Augustins, Paris, comes a copy of the book entitled "Le Breviary du Chauffeur," by Dr. Bommier. As may be gathered from the title, the work is intended as a sort of guide to the mechanical portions of motor-cars, the arrangement adopted being such that in a series of chapters the main components of automobiles are not only clearly described but their functions and the derangements to which they are subject are explained. In this way the chassis or frame, axles, springs, tyres, the engine and its necessary adjuncts in the way of ignition apparatus, carburettor, water circulation, transmission, brakes, &c., are all carefully gone into, a large number of illustrations amplifying and elucidating the text. The book is written in as far as possible in non-technical language, and although it is, of course, in French, should prove of interest to many English motorists and motor-car drivers. The popularity of the work in France is evidenced by the fact that although the first edition only made its appearance eight months ago, a second one has already become necessary.

THERE are said to be 800 motor-cars in Bradford.

THE Countess of Ravensworth has recently acquired an Itala car with laudaulet body.

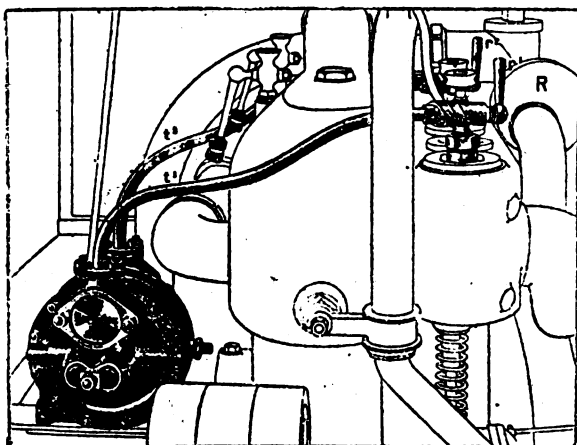
A MOTOR-CAR is to be purchased for the service of the engineer to the Woolwich Borough Council.

LORD FARQUHAR has ordered a 60-h.p. six-cylinder Napier fitted with a limousine body from Messrs. S. F. Edge, Ltd.

THE Argyll car will not be in the Tourist Trophy race this year, as a result of the incident that occurred on the last occasion.

THE motor lorry of Messrs. J. M. Dent and Co., the publishers, conveying material to and from London and their works at the Garden City, is now a familiar object on the Hertfordshire main roads.

ONE of the latest novelties of the Michelin Tyre Company is a tyre inflator, in which the compression of two of the cylinders of a four-cylinder engine is employed, a two-way cock on the admission pipe being provided, by means of which the mixture supply to the two cylinders can be cut off and an air valve opened. The inflator comprises three small cylinders, two small and a central large one, in which are free to move corresponding pistons, all mounted on a common spindle. Each cylinder is connected with one side of the inflator by a branched pipe, one conveying the compressed air to one side of the large piston, and the other leading to a valve at the end of the small compression cylinder. As the air moves the large piston to the



right the smaller one sucks in a quantity through a valve, and on the return stroke compresses the same and delivers it to the tube connected with the tyre to be pumped up, at five times the original pressure. As one of the small pistons is compressing its charge the other is sucking in its supply of air ready for compression on the return stroke. By means of the device it is claimed that a 120 mm. can be fully inflated within five to six minutes, and this with no more trouble than turning the two-way cock on the admission pipe and connecting up the air delivery tube to the valve of the tyre. The inflator measures only about 5 in. by 2 in., so that it can be located near the engine in any suitable position.

A CONFERENCE has been held at New York between motor-car makers and representatives of the shipping concerns with reference to the transport of motor-cars. The latter declined to adopt a suggestion that crates should be dispensed with in conveying cars, although they agreed to reconsider the matter in cases where a score or so of vehicles were likely to be despatched together.

THE City Ignition Company, of 14, Spencer Street, Goswell Street, E.C., have issued a catalogue of their automobile accessories, which include the "Malcolm" high tension distributor and contact breaker, the "Cicoy" high-speed trembler coils and accumulators, the "Standard" and other types of sparking plugs, voltmeters, the "Dependence" tail lamps, and the garage safety lamp recently illustrated in our columns. A large selection of goggles is illustrated in the list, in which we also notice the well-known Rub-metal non-skids are given deserved mention.

LORD HOWARD DE WALDEN has recently ordered a six cylinder Siddeley car, fitted with a special limousine body.

SIR EDWARD CARSON, K.C., M.P., has placed an order with the Daimler Company for one of their 28-h.p. Milverton landaulets.

A COMPANY has just been formed in New York with a capital of £3,600,000 and the title the United States Industrial Alcohol Company, to manufacture denatured alcohol.

ELSEWHERE in the present issue we publish some interesting notes on motoring in Ceylon, taken from an article on the subject by Mr. T. Jones in the "Horseless Age."

THE magneto business of the Simms Manufacturing Company, Ltd., has been acquired by the Magnetos Simms-Bosch, Ltd., who will deal with orders from 33, Store Street, W.C.

MR. CHARLES SMITH, who recently resigned the secretaryship of the North London A.C., has entered the motor trade as a dealer and expert. He will open a depot at Hoppers Road, Winchmore Hill, N.

WE hear that the Royal Automobile Club will shortly enter into new premises, a change principally necessitated for the accommodation of the official staff, which is growing to large dimensions.

At the annual meeting of the Derby Chamber of Commerce it was mentioned that the coming of the motor had revolutionised the carriage trade and the local demand for bodies for cars had been successfully met.

WITH regard to the Lord Mayor's reference to the motor-bus at the opening of the exhibition now closing at Olympia, it may be remembered that one of the earliest services of such vehicles was organised by the Eastbourne Town Council.

LYNDHURST, the chief town of the New Forest, has an excellent motor garage and repair works, where Mr. J. Haynes, the proprietor, can accommodate about fifty vehicles and have repairs executed by skilled workpeople. He is also the district agent for the A.A.

THE Central Garage and Motor Company of Bath send us particulars of a new automatic carburettor for petrol motors, known as the G. and R., they have recently introduced. The idea of the inventors has been to produce a carburetting device which shall give a constant mixture at all engine speeds and loads without employing any delicate springs or complicated mechanism.

THE Victoria Street Garage and Showrooms, 94, Victoria Street, Westminster, on Saturday afternoon received a cable from Australia asking them to try and procure a Renault car complete with body, hood, and all accessories. These were bought, packed and delivered on board at Tilbury Docks by Tuesday, and left by the mail steamer two mornings later en route for Australia.

SOME of the modern characteristics of the ancient city of York, which has been the scene of a motor-car exhibition during the last few days, are well brought out in a pamphlet published by Messrs. J. E. Gibbs and Company, whose garage facilities have been of service to many motorists journeying north. Their workshops are well equipped not only for the repair of motor-cars, but also the construction of steam wagons for haulage purposes.

OLEOBLITZ is the name of the lubricating oil which has assisted many Italian motorists to prominence in the automobile world during recent months. Its pre-eminent quality is the resistance to high temperatures, Oleoblitz being produced from oils treated by special refining processes, imparting to it the property of not being liable to decomposition at the temperatures usually obtaining in the cylinders of motors. It is free from acids, resins, tar and other substances capable of yielding residues or corroding metals. To suit the varying requirements of the automobile it is made in several degrees of density, viz., liquid, thick and extra thick, while a medium type has been prepared for motors with a fan-cooling arrangement. Some idea of the esteem in which this lubricant is held in Italy is found in its selection by the National Touring Club as the lubricant to be supplied to its depots on the main roads. Here it is being placed on the market by Messrs. Bertelli and Co., 1, Albemarle Street, W.

CORRESPONDENCE

[Letters to the Editor should be addressed to the office,
87-88, Charing Cross Road, W.C.]

ARE CARS TOO COMPLICATED?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the interesting article on this subject in the *M.C.J.* of the 2nd inst., we are great believers in simplicity, and in designing the N.E.C. cars have devoted a great deal of thought and time to securing the utmost possible simplification. It seems to us obviously the right policy. The fewer the parts the more simple is the car to fit up, and, therefore, the more likely it is to be correct when delivered. The simplification both in the number and the complicity of parts unquestionably cheapens production, and also cheapens the upkeep.

It is always a marvel to us that a car with five pedals can find a purchaser. To learn to drive such a car must be like learning to play an organ. We manage to do everything we require with two pedals, and we only have one lever. Our carburettor and float chamber are all complete in one casting, and we have only one piston valve, which operates both the main throttle and the auxiliary throttle which keeps correct the proportions of petrol and air. The clutch, too, we think, should certainly be kept as simple as possible, and for this reason we

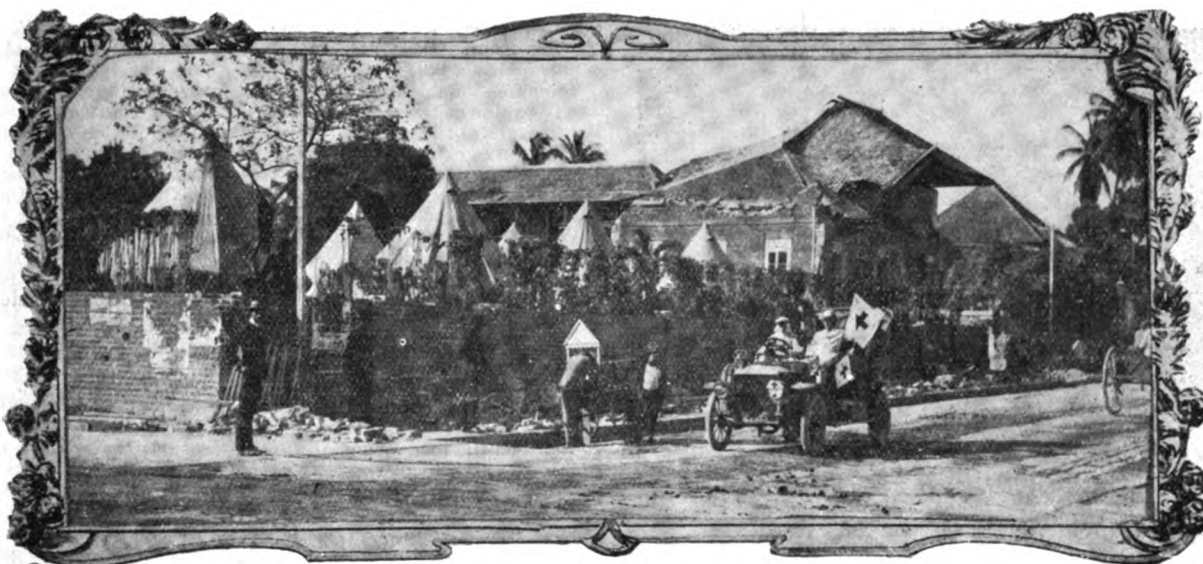
paid mechanic. You speak of cars having as many as five pedals. I saw one in the Strand the other day that had no less than six. Seeing that the ordinary human being has only two legs, one wonders what the driver might do, or might not do, if he found himself in a tight corner when safety depended on prompt action. To my mind no car should have more than two pedals—clutch and foot brake; two side levers—change-speed and hand brake; and two levers on the steering wheel—throttle and ignition. That it is possible to properly operate a car with less than these there can be no doubt, as I recently enjoyed a run on one which had only two pedals and two side levers, the steering wheel and column being absolutely free of any encumbrances of the kind; and if one designer can so simplify his vehicle, what is the reason and what is the good of multiplying pedals and levers to such an extent as is done by some manufacturers?—Yours truly,

ARGONAUT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to your remarks on this subject I may say that I am thoroughly in accord with M. Baudry de Sannier, so far as the fitting of an excessive amount of pedals and levers is concerned. I certainly think that preferably not more than two or at the very most three pedals ought to be the limit, and the number of hand levers to which the driver has to give attention ought certainly to be kept down to a minimum as well. To fit five pedals on the car is a very near approach to courting disaster, as in some emergency the driver is almost sure to operate the wrong pedals, and to find out his mistake too late to avert disaster.

Where, however, complication has been introduced to render the vehicle as a whole more reliable and more efficient, then there is ample justification for such complication. The tendency of design should be



The Jamaica Earthquake.—A Temporary Encampment in the Grounds of the Jamaica Club.

have adhered to the old type of leather and metal cone. Brakes, too, we think, should be kept as simple as possible. Then on our own cars we have suppressed the water pump and depend entirely upon thermo-syphon action for water circulation, with excellent results. A separate fan, too, has been abolished, and instead we have a fan on the rim of the flywheel.

We have suppressed every part that could be suppressed and made each item in itself as simple as possible, but there are certainly some parts of a car where we think the simplest possible arrangements are not desirable. For instance, in the lubrication of the engine and in the use of ball and roller bearings throughout the gear-box and axles. The old-fashioned splash lubrication cannot, we think, be compared for efficiency with a system in which the oil is kept constantly flowing over the parts to be lubricated by means of a pump. The essential feature of this system is a large filter and reservoir where all dirt and foreign matter is collected, and it is imperative that this filter should be readily accessible and easily cleaned. We are very much against complications being introduced by fitting duplicate form of ignition. We believe it is far better to stick to one system and thoroughly duplicate the parts.—Yours truly,

J. C. MORT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am glad to see you drawing attention to the growing complication of motor-cars, and trust that now the question has been raised some efforts will be made by motor-car designers in the opposite direction—that of simplifying automobiles. As at present built, many vehicles with multi-cylinder engines cannot be used except by those who are sufficiently well off to be able to afford to employ a highly-

to make as many of the functions of the engine and mechanism automatic as possible; for instance, lubrication, control of ignition advance, supply and richness of mixture, these undoubtedly can be much better left to be automatically regulated by the engine, thus making the vehicle simpler to manage and probably more efficient, as even the most careful cannot give constant attention to all these matters.

Having provided for the automatic control of these and any other functions which may conveniently and economically be controlled in such manner, the aim of the designer should be to simplify the vehicle as a whole wherever possible without sacrificing anything to efficiency or simplicity of handling. Of course, at the present time, there is a large class of buyers who make a hobby of fitting to their cars all sorts of more or less useful accessories, many of which are quite unnecessary, but this can scarcely be used as an argument to prove that motor-cars are becoming too complex in construction, as they are purely accessories to the standard vehicle.—Yours truly,

T. BLACKWOOD MURRAY.

EXHAUST VALVE TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. Wootwell's letter in the last issue, his car is apparently fitted with one of the old two-cylinder Phoenix engines, and I am afraid that the job that he has had done, i.e., valve guide bored out and a thicker valve fitted, is the cause of his trouble. Evidently the boring has been badly done, and therefore the valve stem does not now align with the tappet. It is possible, of course, as he suggests, that the latter has not been re-assembled properly, but it is difficult to guess what error can have been made in putting this action together. In any case the idea of fitting a penny on the top of the tappet

will not be of the slightest use; nothing but hard steel is any use where such hammering as is occasioned by lifting exhaust valves is concerned. The best thing to do is to have the valve guide bored out and then bushed to take a standard size Panhard valve, and at the same time the seating can be trued up with a proper rose cutter. Odd-sized valves—or anything else, for that matter—are a nuisance, and the aim of competent repairers should always lie in the direction of letting their work adhere to the makers' standard sizes.—Yours truly,

C.

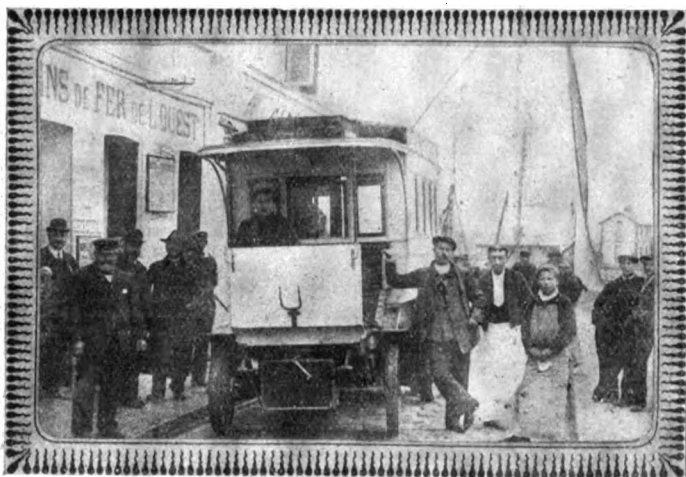
LOSS OF POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be very much obliged if any of your readers could let me know if they have had experience with a 22-h.p. Minerva (1906) car. My machine runs very well on first and second speed, but when on top the power seems to die away, sometimes even on the level. I think myself it is the carburettor that is to blame. It seems to fail to give a sufficient quantity of gas to the engine when on top speed. I have had it in experts' hands several times, but they do little or no good to it.—Yours truly,

CARBURETTOR.

[We are inclined to think that our correspondent's trouble is due to the carburettor, owing, no doubt, to too much air being admitted when the engine is running slowly, although when running at high speed on the first and second gear the mixture is of proper proportions. If the carburettor is fitted with hand control of the air admission, it might be closed a trifle when changing to top gear and opened as the car increased in speed; or, if automatic, we would advise adjusting the airway to admit slightly less air.]



A French Public Service.—A Snapshot from Honfleur.

FOUR OR SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a motorist of considerable experience during the last ten years, may I be allowed to question the verity of Mr. Weigel's statements and corroborate those of "Engineer" in the last issue of the *M.C.J.*? The chief and only objections to six cylinders are, I understand, first, complication, and second, expense of running; and the main question is, are they worth the extra outlay? I take the liberty of denying these charges, and would impress upon you that I am in no way connected with the trade, I am not the possessor of a six-cylinder car, and therefore am in no way prejudiced. While deploring the fact that cars, as a whole, are too complicated, I cannot but clearly see—and it is necessary for me to resuscitate arguments long since buried in oblivion—the advantages of four, three, and two, over one cylinder. And to attain a higher standard of perfection in the existing type of petrol engine than that hitherto reached by four cylinders—that standard being a series of perfectly evenly distributed impulses, or, an impulse at every stroke—it is necessary to augment the number of cylinders. The number has been increased from one to two and four; not attaining the above standard, it has necessarily advanced to six. The six-cylinder engine has undoubtedly attained the standard.

In answer to the next question, "Cost of running," I argue that the amount of petrol to feed six cylinders of 301 inches capacity is less than the amount to feed four of 456 inches, and for flexibility the six-cylinder engine ranks first, despite various advertisements to the contrary. Thus undue wear on the gears is avoided, and depreciation lessened. Further, the more even the impulse, the less wear on the tyres.

The last question, "Do six-cylinders warrant the extra outlay?" is easier answered by the query, "Is there any extra outlay?" A six-cylinder 40-h.p. chassis is now on the market, price £375, built in London by expert mechanics and of the finest material. Another English firm

produces for £600 a six-cylinder car complete. While comparing higher priced cars, the prices of the Napier vehicles are far surpassed (per h.p.) by both Panhard and Mercedes. Need I say more? Mr. Weigel's statements are very naturally based upon trade prejudice, and very rightly he defends his own cause, and remains loyal to the car that bears his name.—Yours truly,

H. SCOTT.

WIRE OR WOODEN WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to "K. J. G.'s" letter re "Wire or Wooden Wheels," in the *M.C.J.* of the 2nd inst., it would be interesting to know whether your correspondent has actually tested the relative strength of these wheels. He is rather illogical when arguing in favour of the latter. He states that when a wire wheel skids or hits a kerb it is liable to buckle, due to the fact that a compressing stress (strain?) occurs. Now the only compression strain set up under these circumstances is in the lower half of the inside spokes and the upper half of the outside spokes. But now comes the chief point. For every portion of an inch that these spokes compress the corresponding spokes on the other side of the wheel stretch to the same amount. Suppose that the wheel contains forty spokes, twenty of which are in compression and twenty in tension, then, presuming that each spoke has an elastic limit of one ton, we can clearly see that the spokes in tension are capable of standing a tensile strain of twenty tons. Now suppose that the spokes are fixed to the hubs at an angle of 20 deg. with the vertical, we see that any side strain has a mechanical advantage of cot 20 deg. over the spokes. We can thus roughly put down the strength (in a horizontal direction) of wire wheels as $\frac{2}{\cot 20}$ tons pressure = about 6½ tons.

Let us now consider the wood wheels. Since the spokes in the majority of cases are vertical, the mechanical advantage of any side strain is cot 0 deg. or infinity. We thus clearly see that the tensile and compression strengths of the wooden spokes are of no use whatsoever. The value of the wheels evidently depends upon the shearing or breaking strength of the spokes. Now the number of these is about twelve, and their area of cross section about one square inch at their weakest part. The strength of these wheels works out to be about 1½ tons in a horizontal direction. In practice I have broken an axle clean off by striking the kerb with a wire wheel; for obvious reasons I afterwards wished that the spokes had been wood. I quite agree that the wooden wheels are smarter, but all is not gold that glitters. I might add that light racing cars almost invariably have wire wheels, as, weight for weight, the wire wheel is about five times as strong as the wooden one.—Yours truly,

H. B. D.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are much interested to see that Mr. S. F. Edge has fully realised the inadequacy of the wooden artillery wheels when fitted to motor-cars, but he suggests a retrograde movement when he proposes to utilise wire wheels in place of these. We are pleased to say that there is no need for this, as our Messrs. Easton and Jones have recently patented a method of construction which will enable built-up steel wheels to be constructed at approximately the same price as wooden artillery wheels, and, while the appearance is practically the same as wire wheels, yet the strength is at least four times as great. We are sure that this fact will be welcomed, as the majority of car owners prefer to risk the insecurity of the wooden wheel rather than adopt the ugly wire wheel.—Yours truly,

THE MOTOR HOUSE.

THE FLEXIBILITY TRIAL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My attention has been called to some circulars and entry forms which I have received in connection with the Motor Flexibility Open Competition, organised by the Crystal Palace Automobile Club, to be held on Saturday, the 23rd inst., and I now wish to draw your attention, and that of the readers of the *M.C.J.*, to a few details of this wonderful competition. The first thing that surprised me very much was that the Club had consented to the competition being held, but probably they had not carefully studied the rules. I think that the trade and every owner of a four-cylinder car should entirely boycott the whole thing, for it is grossly unfair, and, in my opinion, misleading. What owner of a four-cylinder car, with any respect for his engine, would enter a competition in which a premium was placed upon cars that would start on top speed, and travel to Hexhill on top speed? Of course it can be done—that we all know—on either a two, four or six-cylinder car, but I do not think any man in his right senses would consider there was anything to be proud of in doing it. It is my belief that the competition has simply been got up in the interests of a certain make of six-cylinder cars, and I do not think it would take me long to find a number of people who would agree with me.

From Clause 10 of these rules—which, by the way, are very ingeniously drawn up—I find that "a slow speed driving test on top

gear, without use of clutch or brake," will be held. Is this for a six-cylinder, or a four? I should like to know. And, if a man enters with a four-cylinder car, he has, if he has an up-to-date car, four speeds, therefore which will be his top speed? I suppose his fourth, and as a six-cylinder as a rule has only three, the top speed of that must be the third. The four-cylinder is at a disadvantage; in fact, this is such a stupidly got-up scheme in favour of six-cylinder cars that I am surprised it should not have been labelled a competition for six-cylinder cars (and shut out all others), because that is what it really is. When I first received the papers I threw them in the waste paper basket, but, thinking there might be some who would take the matter seriously, I decided to go into them further. Look at the opening statement, as follows:—"It having been suggested to the Crystal Palace Automobile Club that an open competition to decide the respective merits of flexibility between two, four, six and eight cylinder motor-cars should be held in order to have the claims settled by public tests, the competition has been organised with that object in view." I would ask the Crystal Palace Automobile Club, Who, except a certain little crowd interested in a certain six-cylinder car, ever suggested this?

To sum up briefly, it seems to me that a certain section who are great on pushing a six-cylinder car are anxious to get up a competition on their own account, and are trying to make the public believe that it is a competition open to all cars. What surprises me more than anything is the fact that the Club should have lent its name to it, for I consider it very misleading to the public, because it is not fair to test the respective merits of flexibility alone between two, four, six and eight cylinders. After all is said and done, what is the flexibility compared with the reliability of a car? If there is to be any competition between four and six cylinders, let it be organised by the manufacturers of four and six cylinder cars; let them meet and arrange with the Automobile Club to get up a proper test that the public can follow, and do not let the question of flexibility alone enter into the competition, but let every thing that goes to make a good and reliable car be taken into consideration, such as hill climbing, petrol consumption, &c. Let the Automobile Club take it up, and see it through, and be fair to both sides, in the interests of automobilists at large.—Yours truly,

W. M. LETTS.

SOME REMARKS ON RADIATOR FANS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was much interested in the article on this subject by Mr. Craig in the last issue of the *M.C.J.* To my mind the fan behind the radiator is a thing which the sooner discarded the better, and I certainly favour the flywheel fan even at a slight loss of efficiency. It tends toward simplicity of construction. All unnecessary paraphernalia should be eliminated from motor-cars; the discarding of the fan would slightly shorten the length of the bonnet, allow the motorist to work about the front of the engine in safety, remove a fruitful cause of petty derangements, and slightly reduce manufacturing costs.—Yours truly,

J. WORTHINGTON.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the article by Mr. Craig in the *M.C.J.* of the 9th inst., I should like to point out that if the fan is placed quite inside the hood, with a clear space of at least two inches around the tips, the hood being drawn in to the diameter of the fan behind the blades, the efficiency of the fan will be 25 to 30 per cent. greater than if the fan tips are enclosed in a tubular prolongation of the hood, as is often seen. In a 15 in. fan, as mentioned by Mr. Craig, it is well to close up the central portion of the fan, and only use the outer 4 in. of the blades.—Yours truly,

A. GRAY.

ELECTRIC HORNS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There has been some argument lately in your *Journal* respecting electric horns, and I venture to suggest that my experiences with these same may interest your readers. Last October my employer bought an electric horn. I have just put on the third battery, the two previous ones running exactly two months each. The car is used almost every day, and we do a lot of touring with it. Consequently the horn is used a great deal, the fact of it being so easy to work causing one to use it more; the platinum adjusting screw is outside and easy to clean or adjust, which I have had no occasion to do yet. I may say the sound, although flat, is penetrating.—Yours truly,

L. F.

ACCESSIBILITY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read the abstract you gave in a recent issue of the *M.C.J.* of Mr. F. L. Martineau's recent paper on "Accessibility and Cleanliness," and consider that motorists generally should be grateful to him for having at last drawn attention to these matters. The subject of accessibility is one that has, in the past, been greatly neglected, and although considerable improvement has lately been effected, yet there are many cars which fall far short of what may be termed the

acme of accessibility. One possible explanation of the many "unget-atable" parts on cars is to be found in the fact that the designer has kept the chassis in his mind's eye at all times in working out the various locations of the different portions of the mechanism. The body is something with which he has nothing whatever to do; the frame dimensions are given to the carriage builder and he does the rest, this being the case particularly where the chassis is supplied by one firm and the body by another. Given the chassis alone nothing could be simpler than to reach any part of the mechanism with the proper tool to adjust it. In this connection it will be recalled with what persistent frequency show salesmen demonstrate this point on the polished chassis usually found at exhibitions. The interested listener is delighted, and if he happens to have had previous experience in the opposite direction this may be the deciding argument that brings his order. But leaning over a chassis that is mounted at exactly the right height to make it more convenient and is moreover absolutely devoid of every impediment, such as steps, mudguards and the like, not to speak of the body, and doing the same thing on the road, or even in one's motor house, when all these are in place, is a far different matter. Accessibility is naturally a variably quantity and may mean totally different things to different designers, but when it is necessary to take off the body in order to reach a part that is at all prone to go wrong on the road, the motorist may well be permitted to think things of the man who was responsible for the design. To my mind anything less than a serious mishap should be capable of repair either on the road or in the stable without the necessity of reducing the car to its chassis in order to reach the affected part, and until this has been attained the designer can scarcely be said to have achieved more than a fraction of what is represented by the word accessibility.—Yours truly,

A TEN YEARS' MOTORIST.



Paris "Cabmen" Up-to-Date!

A NOVEL TRANSMISSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a regular reader of your valuable paper, and also as a motorist, I have followed with great interest the discussion re simplicity, accessibility, &c., on motor-cars. I am a practical engineer of some seventeen years' experience and have designed a combined axle and gear-box, which also dispenses with a clutch, the cardan shaft extending direct from the crank shaft to the live axle. It is not a clumsy affair at all, and the difference in size of the differential box is scarcely noticeable. It is absolutely fool proof and can be operated by a small quadrant on the steering pillar. As I have not yet obtained protection for it I cannot, of course, furnish you with drawings. But, if any of your manufacturing readers are interested in the matter, I shall be pleased to demonstrate the working and advantages of the arrangement as soon as I have done so.—Yours truly,

H. MILNES.

A CHANGE-SPEED GEAR TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Perfect Pinion's" letter in the *M.C.J.* of the 2nd inst., re excessive wear on small gear wheel of a 12-16-h.p. Peugeot, this is undoubtedly owing to its having insufficient mesh, which is relatively due to the wheel being too small in diameter. Possibly, too, the lay shaft has been turned down at some time to accommodate a new wheel, and consequently the shaft is not stiff enough and requires more support. The shaft bearing this wheel should be taken out and put between the centres of a lathe and tested for truth. A little bit of wobble on the shaft will throw the wheel out a lot and cause the crunching sound complained of. The keying of the wheel also must be inspected so as to ascertain the true running of the pinion on its shaft. Assuming that "Perfect Pinion" is satisfied on the points mentioned, attention must next be turned to the bushes. Do they fit? Are they bored in the centre, and could the wheels be brought closer together? If it is possible, link the two shafts together with a piece of 3-8 in. steel plate inside the gear-box. Longer bushes might be fitted the next time

they are necessary, and another tooth in the wheel if the gear-box bearing distance will allow it; and especially be sure that the wheel is square with the lay shaft. Oh for a centre bearing in gear boxes!—Yours truly,
HERBERT J. CHAPMAN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—“Perfect Pinion’s” trouble, as mentioned by him in the *M.C.J.* of the 2nd inst., is probably due to the bearing at the end of the shaft when the slow-speed pinion is being badly worn, and allowing the slow speed to be partially out of mesh. The fact that the box is inclined to spring is not conducive to long life for the bearings.—Yours truly,
R. C.

THE CONSTRUCTION OF AN INSPECTION PIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to “Rotherham’s” query in a recent issue of the *M.C.J.*, an inspection pit is such a great convenience that the owner of a car who keeps it on his own premises will never regret the cost of its construction, which need not be heavy. There are many times when it is desirable to get under the car to do some odd jobs or to clean the lower part of the gear-box or crank case. It is better, in my opinion, not to have the pit in the stable itself, but outside, unless the stable be very large and well lighted. The car should be washed and cleaned outside on a little cement or asphalt floor, so that its resting-place may always be neat and clean, and not sloppy, greasy and generally dirty, as is too often the case.

In order to be able to accommodate all sizes of cars, a pit should be of the following dimensions:—9 ft. 9 in. long, 2 ft. 9 in. or 3 ft. wide and about 3 ft. 6 in. deep. To the above mentioned length of the pit, properly so called, should be added that of four steps, each step being 8 in. deep and about 5 in. high. The bottom of the pit should have a gentle slope towards a drain pipe, and the latter, which is absolutely necessary, should have a trap. The pipe should have stout wire gauze over it to prevent foreign substances from choking it up. When a car is not over the pit it should be covered with removable floor boards so as to prevent anyone from falling in. The above described construction may, of course, be modified or simplified according to individual ideas or requirements.—Yours truly,

T. DICKINSON.

AUTOMATICALLY ADVANCED AND RETARDED IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an enthusiast, though not technical expert in motor matters, I have noted with interest the appearance of a number of cars in which the ignition control is combined with the lever actuating the throttle, and, later still, several in which the advance and retard of the ignition is automatically controlled in accordance with the speed of the engine. The first vehicle in which this method was adopted was, I believe, the Brotherhood; since then the little Sizaire-Naudin car has come along, and now the Germain concern are, I understand, applying it to their motor-buses. It would, I am sure, be of interest to many of your readers, as it certainly will be to myself, if any motorist who has had some experience with a car in which the ignition is automatically regulated to suit the speed of the motor would recount the same in the pages of the *M.C.J.* So far as I can see, the arrangement entails a little more mechanism under the bonnet, but if it works well in practice, this addition should be more than counterbalanced by the abolition of the usual ignition lever on the steering wheel or column and the simplification of the work of successful car-driving which such reduction in the number of levers carries with it.—Yours truly,

W. PICKERING.

LUBRICATION TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. Young’s letter in the last issue of the *M.C.J.*, the cause of his trouble is no doubt due to the pressure in the crank case. To overcome this, a large valve should be fitted, a small ball-valve not being sufficient to release the pressure. In some cases a pipe is brought from the crank case straight up sufficiently high to prevent the oil blowing out. The cylinders will get well lubricated from the splash in the crank case if plenty of oil is kept in.—Yours truly,

T. H. A.

LETTERS for the Society of Automobile Mechanic Drivers should be sent to the secretary, Mr. G. T. Clarke, Rawling’s Garage, Halkin Street, Belgrave Square, W.

MESSRS. E. H. BENTALL and Co., of Heybridge, Maldon, have laid down special plant to deal with the increasing demand from the trade for their motor valves.

WORKS ORGANISATION.*

By PERCY MARTIN.

A WORKS must produce that which can be sold at a profit, and the sales organisation must aim to sell that which a given works, with given facilities, can best produce, and also the company policy must be formed with due consideration for the limitations of both. It is fatal to ask impossibilities of either.

I shall lay stress on the necessity of specialising your products, and duties of men, but, as an exception to this rule of specialisation, let me cite the case of the department head, who must know enough of what other departments are doing to find his bearing with reference to the whole. He must understand the company policy in order to be able to manage his own department for the benefit of the whole. Some may contend that their results are not a commercial or financial success, in spite of being guided in their efforts by exactly the same principles which I am about to define, and I say that the reason is, although the principles of organisation of individual departments may be entirely correct, yet failure is not eliminated because of the loss of energy through lack of co-operation of the departments.

Many failures are due more to the loss of energy in the shape of internal friction in the organisation than to any other cause. In laying down the general principles of works organisation, I am not giving a description of the Daimler works and its methods.

Not having my subject qualified as to any specific production of a works organisation, it would be futile to deal with any special phases or problems which depend chiefly on local conditions and nature of products for their solution. My aim will be to give a few hints on how to spend money wisely on what are generally known as “non-productive departments.” The departments I have in mind are:—

THE WORKS STAFF.—Incorporating chiefly departments for cost-keeping and stock-keeping.

ENGINEERING STAFF.—Incorporating departments for original designing, production of working drawings, design of special tools and jigs, and a special department for the production of the latter.

SYSTEM OF INSPECTION.—Incorporating detail inspection and testing of the completed article.

Taking first the works staff departments, it is usually the function of the cost-keeping section to record expenditure of wages and material on each piece of work put through the shops; but who will deny that it is well worth the increased establishment expenditure to have a department which can not only produce sum-totals after the work has been finished, but which can produce before the work is started an accurate estimate of what the work should cost when completed?

KNOW YOUR COSTS IN ADVANCE.—I hold it as one of the fundamental principles of business that one should know the maximum, if not the exact cost of the article one is to produce before any serious production takes place at all. I have not said anything as to the necessity of costing, because this is admitted on all hands; but I would like to lay stress on the principles that your costs must be exact, or they may fail to be of use to you. Unless you know the exact margin you have to manipulate, you, or your salesmen, can never be quite sure whether quotations involve them in a slight profit or a slight loss, and it is easy to conceive of circumstances where, in order to gain a name or to meet competition, it is both necessary to get business and yet not to lose money.

The most effective manner in which to equalise costs, as regards material, is to hand over to the workman only the amount of material he actually requires, no more and no less. Should a mistake have been made in judging of the material necessary, the first man to produce an article will find out and demand more material, which ensures the matter being corrected through the medium of the storekeeper, who, by virtue of having received a copy of the well-distributed orders and specifications, will know exactly what material he is authorised to hand over to the workman on any particular order. One may ask what happens if a piece is inadvertently scrapped. This is one of the most important functions of the storekeeper, as the conscientious bringing-up of the scrapped pieces before the management is one of the most difficult orders to get properly obeyed. Yet the scrapped work is exceedingly instructive from a considerable number of stand-points. It enables one to judge of the efficiency of the workman, the quality of the material supplied by the purveyors, and the possibilities as regards improvements in design. When the workman is forced to apply to the storekeeper for fresh material to replace that which he has scrapped, it enables the latter to replenish the stock, both raw and finished, without waiting, as is often the case otherwise, until the end of the order, and incurring the consequent delay and unpleasantness through a batch of articles lying nearly complete, waiting for some trifle scrapped, not recorded and ordered months before.

The obtaining of accurate costs is facilitated to a considerable extent by the method of payment of wages used. Generally speaking there are three methods, namely, day work, or hourly rate system, the piece work system, and the premium bonus system. The first two most certainly do not enable one to arrive at accurate costs. The premium bonus plan gives, in any case, a “limit cost,” the bonus paid away representing further profit to the company and the men over and above expectations, and if time allowances are properly fixed these

*From a paper read at the meeting of the Institution of Automobile Engineers, on March 13th.

busses can be taken into consideration and allowed for. Having settled the costs beforehand, all that is necessary is the preparation of statistics with a view of assisting the management in the control of certain classes of expenditure. Statistics worked out in the form of curves are probably the most useful, as figures do not convey such a clear idea of the position of the expenditure as a curve of comparisons. One of the other departments of importance, the management of which usually comes under the works staff, is stock-keeping. Properly kept stock records are, therefore, essential to an organisation, and the concentration of data on to a stock record, planned on the loose leaf system, is what is required. Each stock sheet represents one particular material. These sheets are classified and indexed, so as to be easily referred to. They should consist of a double-sided ledger, giving as debits to the stores the materials ordered, balanced by material delivered, and on the credit side the requirements of various shop orders, balanced by issues from stores. The stock sheets may be made far-reaching enough to indicate, in addition to the above facts, also the weight of castings, the varying price of materials, &c. This information would enable invoices to be verified and the weight of various rough stampings, castings, &c., to be checked.

The next section of the so-called "non-productive" departments is that of the engineering staff, comprising, first, the department for original design and the production of working drawings; secondly, the design of special tools and jigs, and an independent department for their production and upkeep; and thirdly, a system of inspection between operations. The first department, which may be designated constructional engineering, should follow the policy of the company as to the articles designed. One is inclined to develop an organisation which can, in a more or less routine way, successfully standardise, improve, and, in fact, develop the design from day to day, or from year to year, of any article under consideration. In the first place there is the principle of standardisation applied to the design of the article—that is, the simplification of the design as far as possible, and the utilisation of parts which are already known to you as having withstood the test of experience in your earlier designs. Designs should rather be evolved from previous practice than completely revolutionised, because this reduces the possibilities of failure from an engineering standpoint, and the cost is also lowered to a tremendous extent right from the start. In the second place, the constructional draughtsmen should produce drawings on each of which is incorporated all the information necessary and useful for staff and shops, such as quantities, limits, style of finish, kind of material, &c. Further, this principle is also to be kept in view, viz., that in addition to cleverness, ingenuity, and originality of design, the fact must not be lost sight of that the design has to be produced in your shop, with its limited facilities, and that as cheaply as possible. It is necessary for drawings to be complete ones; nothing should be left to the judgment of the workman, however simple and obvious the job looks.

The working drawings are then considered from the point of view of manufacture, which is to be effected both quickly and cheaply—that is to say economically—and this brings us to the second portion of the engineering staff, viz., the design of special tools and jigs. These tools and jigs are made in accordance with the requirements of manufacture. That is, in the case of engineering works being engaged on repetition work, a considerably greater expenditure on special tools and jigs is permissible than if the design is to be carried out only once or a limited number of times. Great attention should be paid to the department which designs special tools and jigs, and the work of sketching these special tools, jigs, and fixtures should, like the working drawing itself, be done with extreme care and accuracy, and with proper exercise of brains and judgment, as the subsequent manufacturing costs depend to the greatest possible extent on this class of designing. The third consideration in regard to the engineering section is that relating to inspection. This has the double advantage of locating any fault or scrap on to a single individual, thereby doing only justice to the other operators, and it, furthermore, enables a check to be put on the bonus to be paid to each individual operator. When the working drawing is produced, and the jigs and special tools have been designed, the progress through the shops arranged for and the points of inspection settled, the question of material is brought to the fore. Specifications of material are prepared from the information given on the drawings, and the specifications having been distributed thoroughly, enable orders to be placed in the economical manner previously described, and the material to be received into stores and put out to the particular workmen in need of it.

(To be concluded.)

MESSRS. GOLDSMITH AND WILLS, of the Waterloo Motor Garage, have been appointed agents for the county of Hertfordshire for the "Weigel" cars.

MEXICO is the latest country in which arrangements have been made to push the Napier six-cylinder cars; three 40-h.p. six-cylinder vehicles have been purchased for that market within the last few days, one of which was despatched within a week from the receipt of the order.

FROM the Scottish Motor Engineering Company, Ltd., Granton Harbour, N.B., comes a copy of the 1907 catalogue of the Granton motor-buses and commercial vehicles, which are made in three sizes—12-h.p., 24-h.p., and 45-h.p.

CLUBS AND ASSOCIATIONS.

A.C.G.B.I.

ARRANGEMENTS are now in operation by which members of the A.C.G.B.I. going to France by the Folkestone-Boulogne, Southampton-Havre, or Newhaven-Dieppe routes can obtain tickets at the clubhouse, where also particulars with regard to the transport of cars across the Channel can be obtained.

The vehicles entered in the Vapour Emission competition to take place on Tuesday next are as follows:—16-20-h.p. Chenard-Walcker; 40-h.p. Napier; 30-35-h.p. Lotus; 24-h.p. De Dion-Bouton; 32-h.p. Pilgrim; a 10-12-h.p. car entered by Mr. J. T. Newell; 35-45-h.p. Ariel; 16-h.p. Albion; 24-h.p. Albion; 18-24-h.p. Austin; 25-h.p. Straker Squire; 26-h.p. Belsize; 20-h.p. Lanchester.

Sir Laurence Jenkins and the Hon. R. T. G. Murray have been elected to membership of the Club.

The committee for the ensuing year has been constituted as follows: The twenty-five members who did not retire this year are:—Capt. F. E. Dyke Acland, Messrs. A. Armitage, T. H. D. Berridge, M.P., Alfred F. Bird, T. G. Chambers, E. H. Cozens-Hardy, Lt.-Col. R. E. B. Crompton, C.B., Charles Hardy, Dr. H. S. Hele-Shaw, F.R.S., E. M. C. Instone, G. C. Ashton Jonson, Major F. L. Lloyd, R.E., E. Manville, J. R. Nisbet, Wilson Noble, J. F. Ochs, Mervyn O'Gorman, Dr. H. E. Bruce Porter



An old Toll Gate near Philadelphia.

Lionel de Rothschild, J. D. Siddeley, Stanley Spooner, Hon. Arthur Stanley, M.P., Henry Sturme, Dr. J. Hopkins Walters and Claude Watney. The twenty-five members elected by ballot are:—Col. H. C. L. Holden, R.A., F.R.S., Messrs. C. D. Rose, M.P., Professor C. V. Boys, Sir Boverton Redwood, Col. David A. Kinloch, F. H. Butler, Sir Henry Norman, M.P., Major T. H. Cochrane, F. P. Armstrong, Commander Mansfield Cumming, R.N., Capt. G. H. J. Skeffington-Smyth, D.S.O., W. Worby Beaumont, Henry Edmunds, J. Lyons Sampson, Capt. R. K. Bagnall-Wild, R.E., Robert Todd, Vere Ker-Seymer, W. J. Leonard, the Hon. C. S. Rolle, Capt. H. H. P. Deasy, J. M. Gorham, Earl Russell, Major W. E. Donohue, E. Russell Clarke and T. C. Aveling.

During the past few weeks several members holding the Club's driving certificate have obtained the French certificat de capacite, or driving licence, prior to their departure from England. Members who wish to avoid the formality of the driving examination in France, which is a necessary preliminary to the issue of a French permit under ordinary circumstances, are advised to write to the secretary.

The annual meeting of the Club held on the 8th inst. was largely formal. A proposal by Mr. Frederic Coleman limiting the voting powers of committeemen engaged in motor-car business not being put to the meeting—a majority of those present voting in favour of such a course. Only two changes took place on the committee, Messrs. E. Russell Clarke and T. C. Aveling taking the place of two retiring members.

AUTOMOBILE ASSOCIATION.

VISCOUNT COMBERMERE, Lord Bernard Gordon-Lennox, Lady Gertrude Crawford, the Master of Sinclair, Colonel H. R. Armitage, Major J. W. Sears, Major J. Cotesworth, Major R. S. Ruston, Major Edward St. Aubyn, Capt. E. G. Hardy, Capt. H. C. Bickford, Capt. G. M. H. Stirling, D.S.O., Capt. Washington Hibbert, Capt. N. M. Gray, Rev. H. G. Sprigg, and Dr. A. E. Kinsey-Taylor have joined the A.A.

ROYAL AUTOMOBILE CLUB DINNER.

UPWARDS of 400 motorists assembled at the Hotel Cecil, London, on Friday, the 8th inst., on the occasion of the annual dinner of the Royal Automobile Club of Great Britain and Ireland, when the Hon. Arthur Stanley, M.P., chairman of the Club, presided. Among those present were the Turkish Ambassador, the Spanish Ambassador, the Portuguese Minister, Sir H. H. Cozens-Hardy, Master of the Rolls, Lord Eversley, Lord Montagu of Beaulieu, Lord Borthwick, Sir W. Davis-Goff, Sir Boverton Redwood, Sir Henry Norman, M.P., Major-General F. W. Benson, Colonel W. J. Bosworth, and Mr. Julian W. Orde.

After the loyal toasts had been honoured, Sir H. H. Cozens-Hardy, the Master of the Rolls, proposed "The Club." He said that that body had already done a great deal of good work, and he would make bold to prophesy that it would do more. It did not seem long since he was in the House of Commons, yet at that time such a thing as the motor was practically unknown in a contest for a seat in St. Stephen's, whereas nowadays it would seem that there could not be either a Parliamentary or a municipal contest without an array of horseless carriages being requisitioned by the supporters of either side. Some members of that staid and respectable body, his Majesty's judges, had been seen riding from their houses to the Courts in motor-cars. To-day the community might be divided into those who liked and those who did not like motor-cars. Those who owned them liked them, those who could not own them did not like them. He believed John Bull did not like the foreign words that were associated with motoring, particularly the word "garage," and he was pleased to note that in a case heard before him in the latter part of last year the English language was not so poor that words could not be found for the car and the house in which it was kept. Referring to the work of the Club, he said that it had actively engaged in endeavouring to rid the road of a class of men who were a discredit to the movement. Then there was the dust nuisance that turned hedges white that should be green. Again, a special committee of the Club was actively engaged in trying to find a means to minimise, if not to do away with the nuisance. Further, he trusted the efforts of the Club would meet with success in abating that which in London had become a scandal and a disgrace—the noise of the motor-omnibuses, which he described as "the demons of the road." The club had done a great deal in the way of experiments aiming at the improvement of those vehicles.

The Hon. Arthur Stanley, in replying to the toast, apologised for the absence of the Duke of Sutherland, President of the Club, who had sent his heartiest greetings. He had listened with great interest to the speech of the Master of the Rolls, and congratulated him on behalf of the club and himself on his recent well-deserved promotion. He had been particularly interested to hear him say that motoring had spread so far as to reach uncivilised parts of the world to such an extent as even to affect his Majesty's judges. At all events, the Master of the Rolls would not have to ask in court, "What is a motor-car?" He then referred to the guests of the club that evening, among whom was the Turkish Ambassador—"who, of course, is becoming one of us, for he had ordered a car some time ago, and would have had it by now if it had been delivered when the salesman promised"—the Spanish Ambassador, the Portuguese Minister, and the Press. No medium had rendered greater service in spreading the movement than the Press. He wished to offer a few parting words of thanks for the kindness of all and sundry to him during the two years of his chairmanship of the Club. It was a happy parallel of the Master of the Rolls to have styled the Club the Motorists' Parliament. They might congratulate themselves on the manner in which they had done their work—better than they did it at Westminster. There were no suffragettes outside the Club House at Piccadilly, and the policemen on the beat had not a scratch on their faces. As to their future, he hoped to see them soon in occupation of the best club house in London, and possibly with a reduced subscription. He had authority to make an announcement of the utmost interest and importance to motorists, for his Majesty the King had been graciously pleased to order that henceforth that Club should be known as the Royal Automobile Club. They were all proud to receive such a mark of the Royal favour, and would continue to make yet greater efforts to ensure the success of the sport of motoring, of the industry, and of the social interests of the community whose welfare would be increased by the spread of motoring, and so they would endeavour to deserve the great honour that had been bestowed on them.

NOTTS.

A SPECIAL general meeting of the members of the Nottinghamshire Automobile Club was held in the Black Boy Hotel, Nottingham, last week to consider four resolutions down on the agenda in the name of Mr. A. R. Atkey. Over one hundred members were present. Mr. Charles Hardy was in the chair, and amongst those also present were Lieutenant-Colonel Birkin, Captain F. Hardy, Messrs. J. H. Kirk, A. Barlow, Dr. S. Tresidder, Dr. P. Tresidder, A. R. Atkey, Dr. Neilson, J. C. Wilson, W. D. Wells, G. Cohen, B. W. Winter, A. Lee, J. J. Spencer, S. Harvey, and Booth Granger (honorary secretary). The cause of the meeting being summoned was the manner in which the committee was selected at the annual meeting, at which certain members of the automobile trade took umbrage.

The resolutions submitted by Mr. Atkey were as follows:—(a) That in the opinion of this meeting the methods adopted at the annual

general meeting held on January 25th, to secure the elections of certain officers and committee, were not conducive to the well-being of the club; (b) That Rule 6 be amended by substituting 7 for 6 in line 2 and 15 for 10 in line 3, and to proceed forthwith to fill the vacancies thereby created; (c) That this rule obtain until December 31st, 1907, when it shall lapse, and the present rule be reverted to; (c) That vice-presidents who have been elected as such after virtue of signal service and long connection with the club shall not be subject to re-election so long as they continue in active co-operation, and desire to maintain their connection with the club. In moving the adoption of the first resolution, Mr. Atkey said he felt the club had radically departed from the principles which had hitherto guided them in the development of the club by their action at their annual meeting. If, however the members decided that what had been done was in the best interests of the club, he would support them; but he desired to come to a fair understanding. Mr. J. J. Spencer seconded.

Dr. Tresidder opposed the resolution. He maintained that it was not conducive to the welfare of the club that members gaining their livelihood by trading in motors and their accessories should hold office in it. The method of appointing officials adopted at the annual meeting was perfectly legitimate, and until recently it was the method adopted at all committee meetings when a vacancy arose. After other speakers had been heard the resolution was negatived by fifty-two votes to twenty-nine. Mr. Atkey said that as the feeling of the club was so obvious he would withdraw the other resolutions.

BLACKHEATH A.C.

THE annual general meeting and dinner of this club was held at the Art Club, Blackheath, on the first Friday in the month, Colonel Holden, R.A., in the chair. Fifty-six members and guests were present. The following officers were elected:—President, Colonel H. C. L. Holden; vice-presidents, Professor Carlton J. Lambert, M.A., Hon. Arthur Stanley, M.P., Mr. A. Roberts; committee, Messrs. J. H. Bowden, H. A. Cunis, J. S. Goodall, M.B., Colin Gordon, Ralph Lucas, T. Marshall, Dr. Gordon Parker, J. T. Prestige, jun., E. W. Stabb-Johnson, Fred Thorne; hon. treasurer, Mr. Hugh Beadle; captain, Mr. Arthur Jackson; auditors, Messrs. Ernest G. Annis and F. G. Nichols; delegates to Motor Union, Mr. H. A. Cunis and hon. secretary; hon. secretary, Mr. Leonard Beadle, 57, Foyle Road, Blackheath, S.E. A vote of thanks was passed to the retiring officers, Lord Hugh Cecil, Messrs. A. Roberts, and H. J. Fisher, which was acknowledged by Mr. A. Roberts.

When the business part of the evening was concluded, a musical programme was much enjoyed. Mr. Tom Browne, R.I., did two lightning sketches—A Knight of the Road, 1807, and a Knight of the Road, 1907; the former depicting a highwayman in full dress on Blackheath, the latter a chauffeur driving his car on the same common. Songs were also contributed by Mr. Tom Browne, and by Mrs. J. Harvard and Mr. Percy Beadle. Mr. Septimus Nickells was the accompanist.

EAST SURREY A.C.

THE annual general meeting of the above club was held on Saturday last, at the headquarters, White Hart Hotel, Reigate. The following members were present:—Messrs. H. Rosling in the chair; G. H. Bowden, H. Hughes, A. Gunning Keen, C. H. and J. Whittington, and D. J. Barry (hon. sec.) The annual report and summary of accounts was taken as read and adopted. The following officers were elected for the ensuing year (subject to acceptance of absentees):—President: Capt. R. H. Rawson, D.L., J.P.; Vice-Presidents: Sir A. Rendel, Sir G. Livezey, C.E., Major Kingsley, O. Foster, J.P., Messrs. H. Bell, J.P., H. N. Corbellis, and J. B. Purchase; Committee: Messrs. G. H. Bowden, N. Colman, E. H. Goad, H. Hughes, T. Owden Hart, A. Gunning Keen, H. R. Kempe, H. Rosling, C. H. Whittington, and J. Whittington; hon. secretary and treasurer: Mr. D. J. Barry, 50, High Street, Reigate; representatives on General Council of A.C.G.B.I.: Major K. O. Foster, J.P., and Mr. J. B. Purchase; representatives on General Committee of Motor Union: Messrs. D. J. Barry and G. H. Bowden; hon. auditor: Mr. A. Macaire; official repairers: Capt. D. J. Sweetzer, London Road, Reigate; Messrs. Stannard, Bros, 16, West Street, Reigate; Messrs. Chalmers and Co., High Street, Redhill; and Mr. C. Pippard, Motor Works, Oakwood Road, Horley.

THE MOTOR UNION.

ADDITIONAL interest will be given to the annual general meeting of the Motor Union, which is to be held at the St Ermin's Hotel, Westminster, on Wednesday next, by the fact that the Chairman, the Hon. Arthur Stanley, M.P., will present the Motor Union medal to those who were fortunate in winning it during the past year. Among these are included Captain Hughes Morgan, of the Herefordshire A.C.; Major H. Romkins, Stockton and District A.C.; Mr. F. Lindus Forge, Essex County A.C.; Mr. A. Cayley, North-East Lancashire A.C.; Mr. G. Bruce Gardner, Kent A.C.; Mr. E. H. Lancaster, Midland A.C.; and Mr. H. Musker, Sussex A.C. In addition, medals have been won by members of the following clubs:—Wolverhampton and District A.C., Southern M.C., Hertfordshire County A.C., West Surrey A.C., Derby and District A.C., Lincolnshire A.C., and the A.C. of North Wales.

INDUSTRIAL VEHICLES AT OLYMPIA.

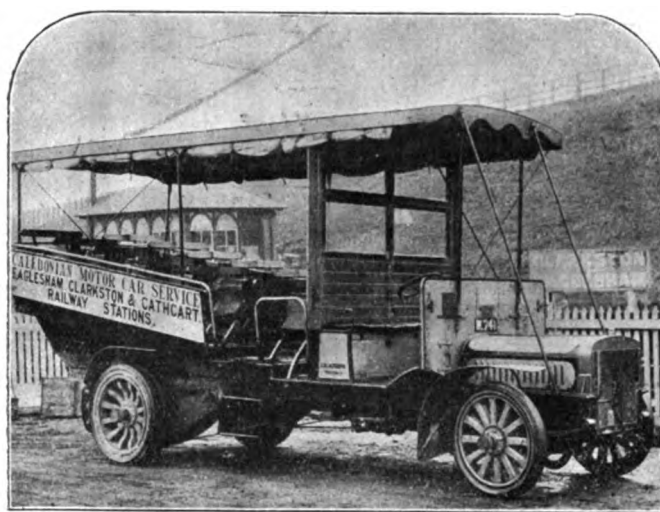
THE first International Commercial Motor Vehicle and Motor Boat Exhibition at Olympia, W., was opened on Thursday, last week, by Sir Wm. Treloar, Lord Mayor of London. Although the building is by no means crowded with exhibits, an interesting collection of motor-buses and industrial vehicles has been got together. Dealing first with steam wagons, it may be mentioned that Messrs. D. Stewart and Co., Ltd., Glasgow, show a 5-ton machine on the Stewart-Thornycroft system, Mann's Patent Steam Cart and Wagon Company, Ltd., Leeds, a 2-ton wagon with locomotive boiler, for Messrs. Tangyes, of Birmingham, Messrs. Robey and Co., Ltd., Lincoln, a 5-ton gear driven lorry, Messrs. Jesse Ellis and Co., Ltd., a 2-ton and a 6-ton steam wagon, and Messrs. Straker and Squire, Ltd., a 5-ton lorry with locomotive boiler. The St. Pancras Ironwork Company, Ltd., are present with one of their 5-ton steam wagons with special fire tube boiler and patent rocking fore-carriage. Included in the exhibit of the Lancashire Steam Motor Company, Ltd., Leyland, is a Leyland five-ton steam lorry, of which a large number are in use in different parts of the country, especially in Lancashire. A couple of the well-known Foden 5-ton wagons are displayed by Messrs. Fodens, Sandbach, one being intended for Messrs. J. and H. Robinson, Ltd., Greenwich. Considerable improvements have been effected in the Yorkshire steam wagon, that now exhibited by the Yorkshire Steam Wagon Company, Ltd., having enclosed vertical compound engines and chain transmission. Messrs. Alley and MacLellan, Ltd., Glasgow, through their London agents, Messrs. E. W. Rudd and Co., exhibit two of the Sentinel steam wagons, and also a number of the component parts of the same. In addition to one of their tractors, Messrs. Wallis and Stevens, Ltd., Basingstoke, show a Wallis steam wagon. Steam tractors are shown by Messrs. Tasker and Sons, Andover, Messrs. Wm. Foster and Co., Lincoln, and Messrs. Robey and Co., Ltd., Lincoln.

One of the largest exhibits of petrol motor-buses is that of the Milnes-Daimler Company; three of the latest 28-h.p. German-Daimler chassis fitted with different types of bodies are on view, including a thirty-seated gallery char-a-banc for the Great Western Railway Company. Captain Theo. Masul presents the latest type of 24-h.p. Germain 'bus chassis, in which the engine is arranged under a bonnet instead of under the driver's seat as was the case in the earlier models. A number of improvements are to be found in the latest 35-40-h.p. Critchley-Norris 'bus chassis shown by the Critchley-Norris Motor Company; the clutch, which is of the leather-faced cone type, is fitted with an eccentric motion which enables it to be withdrawn with a minimum of exertion; special attention has also been paid to the lubrication and to the brakes. The Neue Automobil Gesellschaft, Berlin, exhibit a 24-26 h.p. double-deck 'bus and a 16-18-h.p. street-watering wagon, the latter having been built for service in Berlin. The exhibit of the Wolseley Tool and Motor Car Company, Ltd., comprises a 30-h.p. 'bus chassis, a 30-h.p. thirty-three-seated char-a-banc with canopy, an 18-h.p. ambulance with Elastex tyres, and a new 10-h.p. taximeter cab. Messrs. Durham, Churchill and Co., Sheffield, who are meeting with considerable success with their heavy petrol vehicles, show a 24-30-h.p. Churchill 26-seated char-a-banc, fitted with Aster four-cylinder engine and the Champion change-speed gear, the pinions of which are always in mesh. They also exhibit an 18-22-h.p. chassis, suitable for use as a 2-ton lorry or van, or as a single-deck 'bus. Fiat Motors, Ltd., show one of the latest Fiat 40-h.p. 'bus chassis with the engine under a bonnet, and a 40-h.p. 5-ton lorry built for the Soudan Government. Commercial Cars, Ltd., Luton, make their debut with a 30-seated char-a-banc or "country coach," the feature of the chassis being the change-speed gear. The pairs of pinions of the latter are always in mesh, the desired pair being made to transmit the power by means of dog clutches. The Lancashire Steam Motor Co., Ltd., exhibit a 35-40-h.p. double-deck petrol 'bus for the London Central Motor 'Bus Company, and a 31-seated char-a-banc fitted with a 50-h.p. four-cylinder engine. Another excellent example of a British-built motor-bus is to be seen in that exhibited by the Maudslay Motor Co., Ltd. It is fitted with a 35-45-h.p. engine and the White and Poppe automatic carburettor, and throughout bears evidence of careful design and construction. Messrs. Dennis Bros., Ltd., have a very interesting exhibit. Of the 'buses, reference may be made to a 40-h.p. vehicle with Aster engine and the Dennis worm drive, built for the London Road Car Company. The firm are also paying special attention to heavy petrol lorries and vans, and show a 40-h.p. brewers' lorry for Messrs. Wm. Hancock and Co., Cardiff, and a 20-h.p. two to two and a half ton van for Messrs. Carter Paterson and Co. The Ryknield Motor Company, Ltd., of Burton-on-Trent, who are now devoting special attention to motor-bus work, show a 40-h.p. chassis in which a number of special points are comprised, notably the single lever control of the throttle and the ignition, and the patent triangular under-frame, which prevents the pinions on the ends of the differential shaft, which drive gear rings bolted to the rear road wheels, getting out of alignment. Other points worthy of notice are the large radiator and the adjustable steering gear. A new range of Swiss-built machines is to be seen at the stand of Berna Motors, Ltd.; three models are staged, 16-18-h.p., 20-24-h.p., and 30-35-h.p.; the chassis of the latter is suitable for use as a lorry or as a motor-bus. The four-cylinder engines have low-tension ignition while the transmission is by a cardan shaft and bevel gear to a live axle. The Turgan commercial vehicles are displayed by the Cannstatt Automobile Supply Association; they comprise a 12-h.p. chain-driven

chassis suitable for a 15 cwt. van, a 24-h.p. 3-ton tip wagon, and a 30-40-h.p. 'bus chassis. Other exhibitors of motor-buses include the Beaufort Motor Company, Ltd., Messrs. J. E. Hutton, Ltd. (Berliet), the New Arrol-Johnston Co., Ltd., Messrs. J. and E. Hall (the Saurer system), Mors, England, Ltd., the Thames Engineering Company, Ltd., the British Automobile Development Company (Brush), the Motor Car Emporium, Ltd. (Dürkopp and De Dion), Messrs. Scott, Stirling and Co., Ltd., Messrs. Straker and Squire, Ltd. Bodies for motor-buses and delivery vans are shown by Christopher Dodson, Ltd., Westminster, and Messrs. J. Liversidge and Son, Ltd.

The Darracq-Serpellet Omnibus Company, Ltd., show several models of the Darracq-Serpellet steam chassis of 20-25-h.p. and 30-40-h.p. suitable for delivery vans and motor-buses. An interesting exhibit is the 30-40-h.p. demonstration vehicle built for the Emigration Dept. of the Canadian Government, of which an illustration is given elsewhere in the present issue. Much interest is centred on the stand of the Daimler Motor Company, Ltd., where is shown a complete Renard road train consisting of a locomotor, two passenger coaches and a luggage van, reference to which was made in a recent issue.

New combination petrol-electric motor chassis, suitable for motor-buses and delivery vans, are displayed by Messrs. Greenwood and Batley Ltd., Leeds, Messrs. Straker and Squire, Ltd., and Messrs. W. A. Stevens, Ltd., Maidstone. In the Greenwood and Batley vehicle a 35-h.p. four-cylinder engine drives a continuous current dynamo. In the rear of the latter are two series wound motors, each driving through distinct enclosed cardan shafts and worm gearing one half of the rear live axle. In the Straker-Squire 'bus the engine, which is of 30-h.p., is coupled direct to a dynamo which generates energy at varying amperage and voltage, this being utilised to operate two electric motors geared to a counter-shaft, whence the power is transmitted to the rear road wheels by silent



The 24-30-h.p. Churchill Char-a-banc recently supplied by Messrs Durham Churchill and Co. to the Caledonian Railway, for service between Eaglesham and Cathcart.

The journey is only about four miles, but it is an exceedingly difficult one. Notwithstanding this the car successfully went through a month's trial without an involuntary stop, and without missing a scheduled trip.

chains. In the Stevens system the engine is directly coupled up to a special dynamo which has two windings so arranged that they can be coupled up either in series or in parallel. In line with the dynamo is the electric motor which drives the rear axle through a cardan shaft and bevel gear. The principal feature is found in the controller, which is so coupled up with a pedal that its position cannot be changed unless the pedal is depressed, which breaks the circuit as well as slowing down the speed of the engine by acting on the throttle, which latter is also controlled by a lever on the steering wheel. We hope to refer to the Stevens system more fully in a later issue.

Passing now to heavy petrol commercial vehicles, the well-known Orion lorries are being kept well to the front by Messrs. Moss and Woodd, who are showing a standard 3-ton wagon fitted with 20-h.p. horizontal double-cylinder engine. In addition to a Decauville van and lorry, Messrs. H. M. Hobson, Ltd., show a 30-h.p. Hobson heavy lorry fitted with the Jenatzy patent suspension. The invention consists mainly in mounting the mechanical part of the vehicle as a whole upon a second frame, entirely independent of the vehicle frame, and suspended from the latter by special springs, so that the absorption of vibrations and shocks no longer depends upon the load which the vehicle is carrying. Messrs. Argylls, Ltd., and Argylls London, Ltd., exhibit a new 16-20-h.p. 30-cwt. lorry chassis with the engine located under the driver's seat and a worm drive in place of the usual bevel gear, several light vans, a newspaper delivery van as built for the "Glasgow Evening News," a 10-12-h.p. sample carrier, and an Argyll 14-16-h.p. standard cab. A novelty is seen at the stand of the Enfield Autocar Company, Ltd., in a

20-h.p. vehicle specially designed for the conveyance of horses. The Simms Manufacturing Company, Ltd., exhibit a number of commercial vehicles ranging from a neat 20 cwt. van to a 28-35-h.p. 5-ton lorry built for the Great Central Railway. Heavy petrol vans and lorries are also displayed by Messrs. James and Browne, Ltd., the new Arrol-Johnston Car Company, Ltd., Commercial Cars, Ltd., Luton, Messrs. Scott, Stirling, and Co., Ltd., Halley's Industrial Motors, Ltd., Glasgow, and Messrs. Straker and Squire, Ltd.

Light petrol motor delivery vans for loads of from 7 to 30 cwt. are exhibited by the Lindsay Motor Manufacturing Company, Ltd.; the Horley Motor Company, Horley; Sturmeys Motors, Ltd., Coventry; Belsize Motors, Ltd., Manchester; Messrs. Glover Bros., Ltd.; Messrs. Moss England, Ltd.; Messrs. West, Ltd.; Messrs. De Dion-Bouton, Ltd.; Messrs. Alldays and Onions; the Adams Manufacturing Company, Ltd.; the Lancaster Motor Garage; Messrs. W. T. Clifford Earp, Ltd.; and Messrs. J. A. Lawton and Co. The Star Engineering Company, Ltd., Wolverhampton, have on view a neat 14-h.p. van for loads up to 15 cwt.; a Star 10-h.p. four-cylinder landaulet and a 25 cwt. van were also expected. A novelty is seen in the new vehicles—a 15 cwt. delivery van, a handsome cab, and a six-seated cab—shown by the Pullcar Motor Company, Ltd., Preston. The engine and driving gear are so connected with the front pair of road wheels as to form a two-wheel tractor or *avant train* which can be applied to ordinary carriage bodies. An illustrated notice of the system was given in the *M.C.J.* of July 28th last. Two useful petrol motor delivery vans are shown by the Industrial Motor Company, Windsor. The 9-h.p. vehicle has a capacity of 10 cwt., while the 12-h.p. machine is intended to convey loads up to 20 cwt. at a speed of twelve miles per hour. A novelty to this country is the 14-16-h.p. petrol delivery van exhibited by Messrs. Jesse Ellis and Co., it being fitted with the Fonillaron variable speed gear obtained by expanding and contracting pulleys; the system was described in connection with our report of the



The Argyll 16-20-h.p. 30 cwt. Lorry with detachable canvas canopy. —

recent Paris *Salon*. The Motor Engine and Manufacturing Company, Ltd., show a couple of chassis suitable for delivery vans, the feature lying in the engine, which is of the Duplex two stroke type, of which an illustration was given in these pages two or three months ago. The Laere Motor Car Company, Ltd., make a feature of the Laere 16-h.p. vans, the chassis of which are built by the Albion Motor Car Company, Ltd. Interest in the display is increased by the presence of the first chassis of the kind in England, which has covered a distance of close on 30,000 miles and is still in excellent running order. A novel and useful tradesmen's carrier is exhibited by the Autocar and Accessories Company, Ltd., of South Norwood; it is a three-wheeled machine fitted with a 5-h.p. air-cooled engine, and is capable of carrying loads up to about 4 cwt.

Messrs. Mann and Overtons, Ltd., exhibit a 10-12-h.p. Unic motor-cab, similar to those which are now largely being used in London. Messrs. West, Ltd., show a 10-12-h.p. West-Aster with single-landaulet body, specially designed for public service. Other exhibitors of motor-cabs include the Adams Manufacturing Co., Ltd. New Leader Motors, Ltd., Nottingham, are present with a new 10-12-h.p. four-cylinder cab, the engine of which is placed near the driver's seat somewhat as in the Lanchester, the usual bonnet being thus dispensed with. A useful 10-12-h.p. 10-cwt. van is also on view.

Messrs. Barford and Perkins, Peterborough, show two sizes of their petrol motor rollers, while Messrs. Ransomes, Simms and Jeffries, Ltd., Ipswich, in addition to a range of their well-known motor lawn mowers, exhibit a series of the Orwell petrol engines from 2½-h.p. to 12-h.p. they are now turning out.

As regards electrical vehicles, the Electromobile Company, Ltd., exhibit a motor ambulance built for the City of London Corporation and a 15-cwt. delivery van. The Electric Van, Wagon and Omnibus Co., Ltd., in addition to the Electrobus, show a 5-cwt. delivery van and a 20-cwt. covered wagon.

Messrs. Drummond Bros., Ltd., have an interesting display of their special lathes for the repair of motors, as well as a small bench shaping machine, and an assortment of lathe chucks and accessories. Other exhibitors of machine tools include Messrs. Ludwig Loewe and Co., Messrs. Selig, Sonnenthal and Co., Messrs. Richard Melhuish, Ltd., Messrs. Burton, Griffiths and Co., and Messrs. Alfred Herbert, Ltd.,

Coventry. The Kirkstall Forge Company exhibit steel frames for motor-buses and delivery vans, and also draw attention to their special axles and hubs, made in accordance with the Butler patents.

A new paraffin carburettor known as the Cottrell is shown by Paraffin Carburettors, Ltd., Birmingham. The device, which is provided with a two-way cock, so that the engine, when first put into operation, may be started on petrol; comprises a special form of expanding and contracting choke tube around the spraying nozzle. The fuel is first partly vaporised and mixed with air, the mixture being afterwards heated ere passing into the explosion chambers by means of the exhaust gases, which, before passing away, are circulated round the inlet pipe.

Good types of motorists' raiment are exhibited by Messrs. H. J. Nicoll and Co., Ltd., whose rainproof frieze motor coats are well known, and by Messrs. Samuel Bros.; Messrs. A. W. Gamage, Ltd., have their usual comprehensive selection of clothing and accessories, the latter including horns, accumulators, speed indicators, &c., as well as tools, lamps and syrens.

Artillery wheels and bent timber for motor bodies constitute the display of Messrs. Smith, Parfrey and Co., who also show the Clincher "Grid" rubber tyre. Tangent Wheels, Ltd., have also a large assortment of their specialities.

The Stern-Sonneborn Oil Company have a complete selection of their oils; the Fieldline lubricating oils and varnishes are on the stand of Messrs. J. C. and J. Field, Ltd.; varnishes and paints constitute the display of Messrs. Docker Bros., Ltd., and Price's Patent Candle Company, Ltd., are represented by their lubricants for cars, gear-boxes and chains as well as preservatives for leather-faced clutches and the like. The "Shell" motor spirit is kept before the notice of motorists by the General Petroleum Company, Ltd.; and the Anglo-American Oil Company, Ltd., have samples of motor spirits and oils for heavy vehicles; the Vacuum Oil Company have their familiar assortment of lubricating oils and greases.

Messrs. Brampton Bros., Ltd., have a selection of driving chains and sprockets for commercial vehicles. The most attractive exhibition of the chain makers at this show, however, is that made by Messrs. Hans Renold, Ltd., who show their roller and silent chains in motion. This latter type is now being largely employed in London bus work to the satisfaction of police authorities and engineers alike. The Coventry Chain Company, Ltd., keeps its productions to the fore, showing a selection of chains and chain wheels for commercial vehicles.

Miscellaneous tools and accessories are on view on the stand of the American Importing Company, who show the "Auto Cle"—a handy combination for cars or garages. Messrs. Ross, Courtney and Co., Ltd., have a varied exhibit of their lubricators, oil pumps, motor tyre pumps, the "Ross Courtney" valve and other specialities. The "Fastnut" washer, recently illustrated in our columns, is exhibited by Messrs. Fastnut, Ltd.

The "New Era" petrol fire extinguisher is shown by the Valor Company, Ltd. Messrs. Brown and Barlow, Ltd., exhibit their carburettors, and Messrs. Salisbury and Son, Ltd., have a representative collection of the "Salisbury Dietz" lamps and other high grade productions for lighting the way of heavy automobiles. Messrs. W. H. Willcox and Co., Ltd., have a collection of their pumps, lubricators, jacks, gauges, &c., as well as head lamps and lubricants for motor lorries.

Tyres are a fairly comprehensive section of the show, their leading specialities being shown by the Swinehart Tyre and Rubber Company; Messrs. J. Liversidge and Son, Ltd. (the "De Nevers" tyre for commercial vehicles); the Shrewsbury and Challiner Tyre Company, Ltd.; the Peter Union Tyre Company (who show a number of tyres that have done long service); the Gaulois Tyres, Ltd.; the Dunlop Rubber Company, Ltd.; and the Sirdar Rubber Company, Ltd. Non-skids naturally constitute the feature of the display made by the Parsons Non-skid Company, Ltd., whose Grippa non-skids and Sparklet inflators are well known. The adjoining stand is occupied by Messrs. Harvey Frost and Co., Ltd., who are constantly introducing new features in their appliances. The New Motor and General Rubber Company, Ltd., make a bold display of their "Rub-metal" non-skids and draw attention to their facilities for tyre repair work generally. In addition to their usual show of speedometers, mileage recorders, watches, &c., Messrs. S. Smith and Son, Ltd., have a new taximeter. The Cowey patent extension speed indicator fitted with a dial for the dashboard and another for the convenience of the passengers is exhibited by the Cowey Engineering Company. Electrical specialities of wide range are on the stands of Messrs. Peto and Radford, Ltd., and also of Marconi's Wireless Telegraph Company, Ltd. The Doherty Motor Components, Ltd., have their usual display of components and fittings, including radiators, lubricators, bonnets, &c., for heavy vehicles, motor-buses, &c. Machine cut gears are shown by Messrs. David Brown and Sons, Ltd. Messrs. John Marston, Ltd., make a special display of radiators for motor-buses. The "Bentall" motor is on the stand of Messrs. E. H. Bentall and Co.

The Car and General Insurance Corporation, Ltd., take advantage of the occasion to make known their facilities for insurances to meet the requirements of recent legislation.

RECENT deliveries of special vehicles have included a 30-h.p. Siddeley chassis to the Birmingham Fire Brigade.

MESSRS. JACQUES AND COMPANY, of Duke Street, Dublin, are the local agents for the Chambers car.

CASES UNDER THE MOTOR-CAR ACT.

At Barnley, recently, Seth Stephenson, Crigglestone, has been fined 20s. and costs for leaving his motor-wagon ten minutes unattended on the high road, at Worsbro' Dale.

A motorist has been fined 10s. and costs for driving a motor-car to the common danger in Battersea Park.

At the Arundel County Bench, on Monday, five motorists were summoned for exceeding the legal limit, a conviction being recorded in each case. In the afternoon three other cases with similar results were heard by the borough magistrate.

NO REAR LIGHT.

A point of importance to motorists was raised at the Manchester County Police Court on Monday. The defendant was a man named Olson, in the employ of a motor-car manufacturing firm in Manchester. He was summoned for driving a motor-car along the Chorley Road, at Swinton, on the evening of the 22nd ult., without having a rear light. From the evidence given by two police-constables it appeared that the defendant was stopped at Swinton at 11.15 p.m. He was being towed by another car, because the car he was in had broken down at Lowton St. Mary's, and was being taken to Manchester for repairs. There was no rear light on either of the cars, the officers said. Mr. McKeever, barrister, contended that there was no case, and quoted a part of Section 11 of the Motor Car Act. The car was not a motor-car, because the engine was not working, therefore the defendant was not liable, as he was in the rear car and was being towed in the direction of Manchester by another car for repairs. It was fastened by means of a rope. There was a rear light when the car started, but it was very difficult to keep it in owing to the jerks from the other car and the fact that it was on a very rough road. The Chairman: The case is dismissed.

ROAD REPORTS.

BURNLEY.—The Surveyor to the Burnley Rural District Council calls the attention of that authority to "the menace to expenditure" caused by the increasing number of motor-wagons and trailers. The mischief they do in ordinary travelling is, he says, in crushing the under metal, and thus destroying the life of what would, under ordinary traffic, prove excellent material. In his opinion the width of all wheels ought to be wider than at present prescribed, whether for vehicles drawn by horses, or locomotives, or motor wagons.

EAST SUSSEX.—Several roads are under repair in the Chorley district. The steam roller belonging to the Uckfield District Council is working in the parish of Waldron. Ambrose Hill, Bolney, is to be rolled at the end of this week.

PERTSHIRE.—At the quarterly meeting of the Highland District Committee of Perthshire County Council the District Road Surveyor submitted his annual report, in which he regretted to state that the roads within the district were only in fair order during last season. The main lines of road are becoming worn with the increasing traffic by motor-cars and motor-wagons, and as that traffic would go on increasing the metal allocated is insufficient for their proper maintenance. The Surveyor suggested the application of 4,100 yards of extra metal as being necessary, the estimated cost of which was £1,600. The Estimates Committee reported that they did not recommend that the additional metal suggested by the Surveyor should be applied at present. The majority of the motor-cars making use of the district roads were not local cars, but belonged to non-residents who contributed nothing towards the road rates of the district. The Estimate Committee's recommendations were adopted unanimously.

SUSSEX.—The roads under repair in Sussex include Stane Street, between Pulborough and Watersfield; the parish of Waldron; on the Arundel to Brighton road, between the Coach and Horses, Clapham, and the north-west corner of Broadwater Green; and that part of the Worthing-Littlehampton road west of Goring Crossways.

YORKSHIRE.—The committee of the North Yorkshire A.C. have from time to time taken steps to improve roads for motor traffic, and have now in hand the question of improving several sharp and dangerous corners. They have also been instrumental in getting various warning posts erected where required.

OXFORD.—The authorities will not during the next few weeks be doing anything beyond the ordinary road repairs in Oxford, consequently the main roads will not be much disturbed.

YARMOUTH.—No road repairs are in progress at Yarmouth which cannot be rolled in and got into shape so as to be safe and easy travelling at five hours' notice. The authorities, however, are unfortunately laying two miles of tramway track on the main road out of this resort, on the north; it will not be completed for six weeks, and during that time the traffic over it must be regulated at a slow pace, owing to only one track being able to be left open for vehicular traffic. Mr. J. W. Cockwill, the Borough Surveyor, is always anxious to facilitate the movement of any extra traffic likely to be brought into the town.

MID SUSSEX.—In the Mid Sussex district there has been a watch kept on the road experiments—tar binding, tar painting, and the calcium chloride process—recently made. The winter has been a very severe test, and the verdict is apparently in favour of the first. It is dustless and mudless. The process undoubtedly prolongs the life of the road material and reduces scavenging to a minimum. Tar painting comes next in good results, and has proved a better dust than mud preventive.

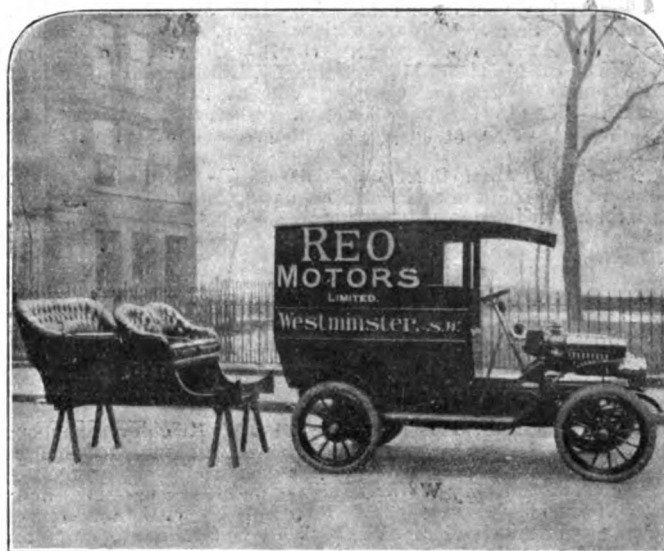
LANCASHIRE.—The treacherous Heaming's Brow, between Dunsop Bridge and Newton, is to be altered. The hill comes on an acute bend of the road, and its steepness is certainly not made less dangerous by the loose slag of the road and by the brook at the foot of the hill. Motorists will be glad to hear that some improvement is likely to be effected.

ISLE OF MAN.—The Peel Road in Douglas is in a very bad way, and the country roads on the Isle of Man generally are said to be in a deplorable condition. Unrolled stones seem the great feature of the highways, with the result that local motorists can scarcely understand the refusal of the offer of a steam roller to the authorities some time ago.

WINCHESTER.—The city council discussed the result of dust-laying experiments carried out by their direction. The city surveyor found calcium chloride effective, but he was anxious to try tar-painting, by means of the latest appliances. His own belief was that the ultimate solution of the dust problem would be an entirely altered method of constructing roads generally.

PUBLIC MOTOR SERVICES.

THE directors of the Star Omnibus Company, Ltd., regret that extensions of the London County Council tramways, tube railways and the competition of the new motor-omnibus companies have seriously reduced the receipts of the company's omnibuses, and the result of the year's trading therefore does not permit of the payment of the preference dividend. Twenty-six motor-chassis have been delivered,



The 16-h.p. Reo Light Delivery Van can be easily transformed into a comfortable touring car, seating five passengers. Not only that, but the tonneau is detachable from the rest of the body, so that the vehicle can be used as a two-seater only, if required.

but great difficulty has been experienced in maintaining these, and so far it has been impossible to work them at a profit.

EPITOMISING the legal aspect of the public motor services, Mr. J. H. Moore said at the meeting of the London Road Car Company, that under the provisions of the Metropolitan Police Carriage Act, 1869, one of the principal Secretaries of State might from time to time licence to ply for hire within the limits of the Act hackney and stage carriages on such conditions as the Secretary of State might from time to time prescribe. In 1871, 1893, and again 1897, orders were made in pursuance of the Act by the Home Secretaries of the day which were perfectly reasonable, but a further series of conditions had just come into force, several of the provisions of which were somewhat onerous to the proprietors.

A MOTOR-BUS service is contemplated between Lee Green and Oxford Circus, London.

A MOTOR service is about to be established between Easdale and Oban by the Kintyre Motor Company, Ltd.

THE directors of the Great North of Scotland Railway have arranged to put on a daily service of motor-omnibuses between Newburgh and Aberdeen, commencing on April 1st.

A SUB-COMMITTEE of the Kensington Borough Council has been appointed to obtain the opinion of counsel and to take such steps as may appear necessary to bring about a mitigation of the "motor-bus nuisance" in the borough.

IN the King's Bench, on Monday, Agnes Smith, Maidstone, was awarded £170 damages against the London and District Motor Omnibus Company, Ltd., proprietors of the Arrow Line of motor-omnibuses. Plaintiff was ascending to the roof of an omnibus when her hand was crushed by another car, alleged to belong to the defendants, who, however, denied all knowledge of such an accident.

AUTO-CYCLE CLUB'S SILENCER TRIALS.

THE final tests of the various silencers entered for this trial have now been held. The judges, Colonel H. C. L. Holden, Messrs. J. Lyon Sampson, M.I.M.E., and B. Chatterton, A.M.I.C.E., after carefully examining all the competing silencers, and taking into consideration such important points as back pressure, noise, facility of attachment, weight and strength, capacity, means of cleaning and maintenance, and cost, have recommended that certificates be awarded as follows—First, Sharpe's "Universal" silencer; second, Sharpe's "Universal Victoria" silencer; third, Sharpe's "Universal Paragon" silencer; fourth, Collier's "Matchless" silencer; fifth, Montgomery's "Montgomery" silencer; sixth, Aldington's "Silent" silencer; seventh, McAuslane's "Wat-not" silencer; eighth, Aldington's "Combined Footrest, Footwarmer and Silencer"; ninth, Wood's "Radio" silencer.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

VEHICLE WHEELS.—£1,000. First directors: Messrs. G. A. Howlett, D. A. Prust, and F. J. Briebach. 16, Holloway Road, N.

CHARLESWORTH BODIES.—Registered with a capital of £2,000. To carry on the business of makers and sellers of bodies for motor-cars, carriages, wagons, and vehicles of all kinds, &c. The subscribers are C. Steane, Mrs. F. J. Steane, J. W. Cotton, C. K. Steane, Mrs. L. M. G. Hill, E. G. Davis, and F. Steane.

W. ACTON AND CO.—£2,000. To hire, manufacture, equip, and maintain motors, vehicles and boats, &c. First directors: Messrs. T. W. Acton and L. Porro. 15, Market Place, Acton, W.

MAUDSLAY MOTOR COMPANY (1907).—£100,000. To acquire the business of the Maudslay Motor Company, Ltd. (incorporated in 1903), carried on at Parkside, Coventry, and at 213-223, Knightsbridge, London. First directors: Sir Charles S. Forbes, Bart., Messrs. A. Craig, F. E. Foster, C. C. Maudslay, S. Sanders, and J. W. C. Seymour. Parkside, Coventry.

BERESFORD RIM COMPANY.—£5,000.—To acquire from Mr. R. Beresford the benefit of an invention relating to improvements in wheel rims for inflated tyres. First directors: Messrs. S. W. Carryer, H. E. Emery, R. Beresford, A. A. Pattison, S. Colclough, R. Edwards, and A. Bayley.

RECKLESS DRIVING.

AT York, four drivers of motor-cars have been summoned for driving at a dangerous speed in Clifton, Bootham, or Museum Street, on various dates in the past month. In the cases of Arthur Ellis, chauffeur to Sir J. Grant Lawson, Bart., York; Harold Horseley, mechanical engineer, York; and Frederick W. Keighley, chauffeur in the service of Messrs. George and Jopling, Darlington, the magistrates did not consider the speed excessive, and dismissed the summonses. The other defendant, Henry W. Kirkaldy, engineer, was fined 20s. and the costs. In Keighley's case it was stated that when he was stopped by the police whilst driving Mr. W. F. West, Sutton Bank, Scarborough, down Slifton on a trial run, he said he was not going at a greater speed than fifteen miles an hour. Mr. West, called for the defence, said he did not think the speed was greater than twelve to fourteen miles an hour, and it was submitted that there was no danger as there was no one about to be endangered. Alderman Wragge said the Bench did not consider the speed excessive, and he suggested it would be advisable that constables should not assume a disguise, as the witnesses in that case did.

POLICE TRAPS.

THE police have again been active in Loampit Vale, Lewisham.

A POLICE trap has been established in the Shooter's Hill road, the victims of which have to attend the police court at Woolwich.

MOTORISTS going Brighton way should beware of the police trap at Southwick.

THE business of "police traps" for motorists has again revived in the Crawley district over the old measured distances, viz., from the county boundary of Surrey and Sussex on the London side, two miles from the level crossing at Crawley, and from half a mile on the Brighton side. Over this distance the police had a trap working on Sunday last. It is worked by two plain clothes men who wave their handkerchiefs to the man in uniform to stop them.

MOTORISTS visiting Brighton and the district should remember that police traps abound in every direction, especially on the Shoreham roads and towards Chichester.

MOTOR-CAR ACCIDENT.

As the result of an accident, through being knocked down by a motor-bicycle in the Eastbourne Old Town, an old lady has died at the local Hospital. An inquest was held on Thursday week at the Hospital by the East Sussex coroner, when the jury returned a verdict of "Accidental death," and exonerated the motor-cyclist from all blame. A juryman remarked upon the dangerous state of Church Street when vans were standing outside shops.

BUSINESS NEWS.

FROM Messrs. Jarrott and Letts comes a very artistically-produced catalogue of the 1907 models of De Dietrich cars. It also contains a number of illustrations showing various types of carriage bodies which can be mounted on De Dietrich chassis. In addition there is a list of De Dietrich successes since 1900, and an interesting description of the Lorraine De Dietrich Company since its foundation two centuries ago.

IN view of the sporting instincts displayed by motorists generally, and the interest taken in any racing event, the invitation which Mr. Weigel is extending to all motorists at the present time will doubtless appeal to many, especially those who are anxious to see England holding its own against the other motor-producing countries on the Continent. As is by now well known, Weigel Motors, Ltd., are the only English firm which has entered for the A.C.F. Grand Prix race. Contrary to the usual custom of secrecy which is so prevalent in such matters, Mr. Weigel is inviting all those who take an interest in racing events to visit the works at 90, Goswell Road, London, E.C., to see the construction of the two eight-cylinder racing cars they are building for the event.

THE H.F. Garage Vulcanizing Equipment, a new apparatus brought out by Messrs. Harvey Frost and Company, combines the H.F. "Car" vulcanizer with a vulcanizer of similar pattern, so that by means of the joint and simultaneous use of both appliances defects in the interior and exterior can be treated at the same time. The heat in each steam generator can be regulated independently, so that a lower degree of heat can be applied to one side of the tyre than the other side, or vice versa. Each section of the apparatus is distinct and self-contained, and either one section or both may be carried on the car if necessary. The apparatus has a special stand provided, with adjustable cramps, which admit of the two vulcanizers being moved to any angle.

THOSE who have reason to fear that their cars are used at times without their sanction or by unauthorized persons should bear in mind that the use of a mile recorder may help them to test the truth of their suspicions if a reading be taken regularly and entered in a book kept for the purpose. Besides this, a mileage recorder affords a valuable means of judging the wearing qualities of the car or any part thereof. Among the latest introductions in this line is the Bowden Mileage Recorder, just brought out and enabling the dial to be placed anywhere in or upon the car without the use of a flexible shaft.

AT an extraordinary general meeting of the Rexer Arms Company, Ltd., on Tuesday, Sir T. H. Holdich said they proposed to acquire the Metallurgique car works, at Charleroi, and extend them with a view to raising the output to 500 chassis per annum. They were also acquiring a steam-car, made in Paris under patents obtained by Messrs. Friedmann and Knoller, of Vienna, and with these extensions in view the capital of the Rexer Company, Ltd.—as the company will in future be known—is to be increased to £205,000.

THE motor flexibility competition, organised by the Crystal Palace A.C. for the 23rd inst., is intended to "decide the respective merits of flexibility between two, four, six, and eight cylinder motor-cars." Every car which starts from the Crystal Palace, including the initial start on its speed, and which remains on the top speed throughout the test, will be awarded 1,000 marks. For every gear change ten marks will be deducted, and a further deduction of one mark will be made for every five seconds that any gear other than the top is used. The cars will journey to Bexhill, where trials will be held on the track, commencing at 1:30 p.m.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

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COMMENTS.

The Chairman of the Royal Automobile Club.

MR. C. D. ROSE, M.P., is the fourth chairman of the Royal Automobile Club. First was Mr. Roger Wallace, M.P., whose untiring efforts gave strength to the movement when it was centred in Whitehall Court; then came Col. H. C. L. Holden, the head of the Royal Gun Factory at Woolwich, whose term of office was marked by further developments in the direction of encouraging the makers to perfect their vehicles; and the third chairman was Mr. Arthur Stanley, M.P., whose tactful speeches at many gatherings of motorists, no less than his wise handling of Club affairs, did much to prepare the way for the Royal recognition he recently announced at the annual dinner. He is succeeded by Mr. C. D. Rose, whose motoring enthusiasm has been seen at various meets and competitions, and whose interest in automobilism is of long standing. Mr. Rose is a keen supporter of sport generally. He has been a member of the Jockey Club for more than a decade, and is famous as a tennis player and as a yachtsman. Since 1903 he has represented the Newmarket Division of Cambridgeshire, and, sitting on the Government side of the House, should be able to influence any legislation which may be suggested with regard to Motorism. The new chairman of the Royal Automobile Club, to whom we wish a pleasant and useful term of office, is a son of Sir John Rose, a whilom Prime Minister of Canada, and an "old boy" of Rugby.

Eyesight.

SEVERAL sections of the community have lately been discussing the question of eyesight as it affects the drivers of automobiles, and, as our columns have recently testified, the matter has been receiving the consideration of medical men. From thence to the Press was the first stage; after which its grave discussion by local authorities seems the natural course of things. This is the way of this particular problem, and the fact that the Norfolk County Council has been suggesting that no motor-driver should be licensed whose eyesight is defective should be regarded by those concerned as but indicating a general feeling that is growing in many circles. As the number of motor-cars in our streets increases there is every reason to believe this desire for alert drivers able to easily discern objects in dull lights will strengthen until the exercise of more stringent regulations will make the licensing of drivers a standard of physical fitness as well as mechanical efficiency.

"Load" or "Car."

MANY enquiries are made as to what should, or should not, be included in the weight of a motor-car for the purpose of registration or taxation. The detachable Cape cart hood presents the most frequent difficulty, as this fitting, being somewhat heavy, may easily, if included, bring the weight of a car to over a ton, and thus render it liable to two guineas more taxation than would otherwise be required. The Secretary of the Local Government Board, to whom the Automobile Association have referred the point, states that the Board has no authority to

determine the meaning of the expression "weight," but he draws attention to a passage in the regulations which appears decisive. This reads:—"The expression 'weight' when applied to a motor-car or trailer does not in itself determine what can be regarded as part of the vehicle, and what can be regarded as part of the load; and it appears to the Board that whilst any essential part of the vehicle or its mechanism is clearly included in calculating the unladen weight, the circumstances of construction may, in certain cases, permit of a *detachable framework* or body being treated as part of the load, rather than of the car itself." The term "detachable framework" should certainly cover a Cape cart hood.

Road Tracks.

At the inaugural dinner of the recently-formed Stratford-on-Avon and District Motor-Cycle Club, held on Friday of last week, the President (Mr. A. W. Jackson) in the chair, Mr. T. Birch, in responding to the toast of the evening, referred to the question of road improvements as affecting motorists throughout the country. He said they would have noticed on their runs that there were large pieces of waste land on the roadside of many of the highways, once used for tracks for horsemen at exercise. These, however, were seldom used now, and he thought that if that dirt were cleared away and the track made as wide as the boundary line would permit, road-users would have more space. The expense would not be great, as the land could be ploughed up on a level with the highway, and the farmer whose land adjoined would only be too pleased, he thought, to cart the soil on to his farm, and thus save the ratepayers the expense.

Agricultural Hall Extension.

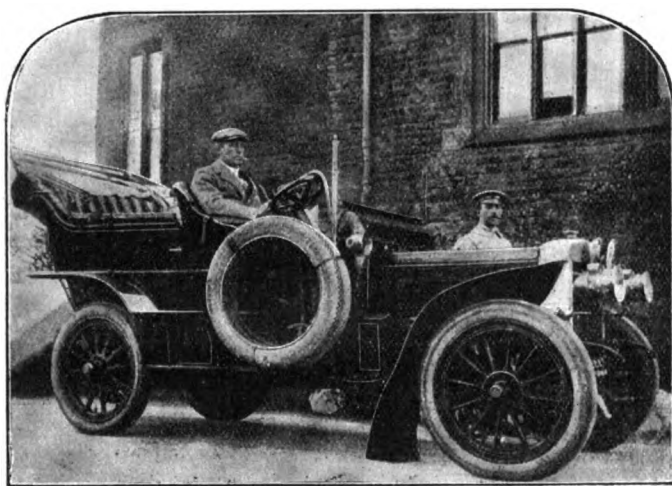
WHEN the proposed additions are made to the Agricultural Hall this building will, says the "Daily Chronicle," rank with the largest exhibition buildings in the world. The improvement involves the sweeping away of Swanley Street, Islington, and an extension of Barford Street. Swanley Street contains more than a score of houses, including a block in the centre. No doubt the disappearance of the street will constitute an improvement in itself. In an interview with an official of the company a representative of our contemporary learned that the proposal is to extend the present minor hall to a size equal to half that of the great hall. The extension will add 150 feet to the length. The building will be of stone and brick, while the roof will have three iron and glass spans, supported on six iron columns. A main entrance to the minor hall will be in Barford Street, while there will be several emergency exits in St. John's Place and Barford Street. The probable cost of the improvement will be about £30,000.

The Manners of Chauffeurs.

ALTHOUGH it is not the first time we have sought to impress upon our readers the necessity of keeping a strict watch over their cars, we would emphasise the need for motorists to take care that their chauffeurs do not regard the automobile as a plaything for spare hours. Many of the accidents that have occurred to the detriment of the motor movement have taken

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place when drivers have made unwarrantable use of their employers' vehicles. At the North London Police Court a chauffeur has been summoned for negligently driving a motor-car. The evidence was that the prisoner took his mistress to Euston, and then picked up some friends and drove towards Crouch Hill. At the junction of two roads a bus and a tramcar were in his way. He drove across on to his wrong side and collided with a horse and four-wheeled cab, knocking everything over and injuring the driver. The police alleged that the motor driver was drunk, and the divisional surgeon certified to that effect, but the prisoner denied it. The magistrate commented on the fact that the defendant did not know either the names or addresses of his passengers, and Mr. Fordham hoped it was not usual for chauffeurs thus to use their master's property. He also said that chauffeurs appeared to think they could drive which side of the road they liked, instead of waiting to take their turn in the ordinary line of traffic. Motor-cars were most comfortable and convenient if properly used; but, if improperly used, they were most dangerous. Such incidents as these, trivial in themselves, often repeated, do much to discredit a movement that must always keep on good terms with the public generally.



Mr. Lewis Waller, the well-known actor, on his 30-h.p. Daimler Car.

Work for Provincial Clubs.

IN many parts of the country a fair proportion of the roadway has been lost owing to the neglect of the authorities, and the point raised on the previous page is of concern in certain districts. The question is brought forward at an opportune time, when the occurrence of a few fine days has led people to think of open air delights, in which, of course, Motorism has a first place. The widening of road tracks, and the frequent trimming of hedges, so that the view of the road is not unduly obstructed, are problems of real importance, and provincial clubs should each take stock of the conditions of their districts in this direction, with a view to rendering all the area possibly available free for the use of those who travel on the King's highway.

Road Improvements.

THE annual report of the Roads Improvement Association, which has just been issued, indicates a revival of interest in the proceedings of this useful and, in fact, necessary organisation. Its operations have not yet been limited to any one district, but all the way from Battersea to Carmarthenshire it has endeavoured to secure the interest of responsible officials in improving the condition of the surfaces of the highway. Special attention has been given to thoroughfares in London, and arrangements are being made for a deputation to

the Highways Committee of the L.C.C. protesting against the erection of central standards in important streets. The aggregate membership of the association (which includes all members of organisations subscribing to its fund), now amounts to 120,000; and the National Dustless Roads Committee, which has just been formed under its auspices, promises an experiment of considerable national value. The first work of this new committee, we understand, will be to lay various dustless road materials in half-mile sections along a continuous length of main road. The life of the various materials will subsequently be ascertained and compared with a standard macadam road. In this way it is hoped to prove conclusively that the adoption of satisfactory dustless road materials will not only be feasible, but will reduce the cost of road maintenance, and consequently the highway rate.

The Size of Catalogues.

TAKEN in conjunction with the paper on Works' Organisation, read by Mr. Percy Martin in London last week, a suggestion from Mr. Mervyn O'Gorman with reference to the size of catalogues comes at an opportune time. This proposes a reform in the office, and is termed by its author—whose characteristic vein finds full vent in his excellent Motor Pocket Book, the new edition of which has just been published by Messrs. A. Constable and Co., Ltd.—an attempt "to defraud the waste paper basket." Recognising the want of uniformity in the size of the catalogues issued in connection with the motor trade, Mr. O'Gorman proposes that these should be standardised, the size known as quarto, about 10 in. by 8 in., being regarded as the most convenient form. On behalf of the idea it is said that there need be little difficulty in convincing everybody of the value of the notion; the catalogues could be easily kept in their place, the cost of printing—it is suggested by the author—would be diminished, and the adaptation of some system of indexing would be easy. Much is to be said on behalf of the plan; but, as a general rule, business firms require their lists to be "out of the ordinary," and the institution of unusual sizes, as well as getting away from the commonplace, is regarded as one of the essentials of modern advertising. That is an aspect of the matter that may produce some difficulties to serve as a barrier to the realisation of Mr. O'Gorman's suggestive proposition.

The Professional Driver.

ORGANISATIONS of motorists have hitherto been chiefly confined to the owners, designers, and manufacturers of cars, fees and subscriptions being generally prohibitive to the professional driver. True, one or two attempts to enrol this large class into some kind of society have been made, but they have been unattended with great success, and it has remained for the Motor Union to take his unorganised state into consideration. This will shortly be dealt with by that organisation, which should aim at developing an *esprit de corps* among the drivers of cars and provide opportunities for improvement in the technics of their business. Something may then be done to weed out those who have no pride or interest in driving, for without the exercise of intelligence no really satisfactory results can be secured.

Our Readers.

THERE are "circulations" and "circulations." The strength of the *M.C.J.* in the matter of small advertisements is proof of the character of its readers. People do not advertise cars to sell unless they know such announcements are read by likely buyers; they do not advertise for situations without knowing that the journal is studied by those who employ men, and there is no doubt that the motorist is a reader of advertisements. That is always the case with comparatively new industries, and we would take this opportunity of emphasising the fact that sellers as well as buyers of cars and

employers of men recognize the value of the *M.C.J.* in filling their requirements.

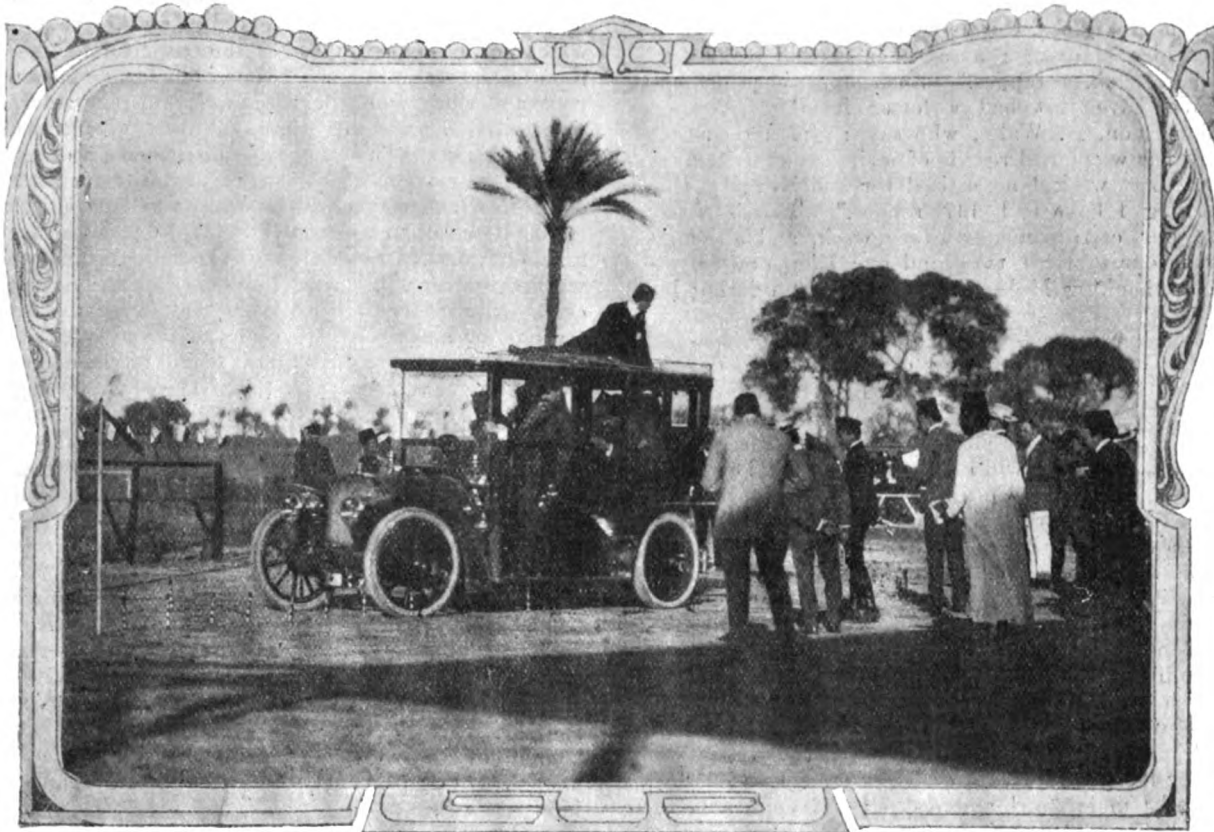
Water Rates.

THE Motor Union is contributing towards the legal expenses of a case which raises a question of interest to medical men using motor-cars throughout the country, viz., whether they are to be charged a water rate, as in the case of business vehicles, when they use their cars partly for professional purposes. The case was taken up at the instance of the Harrogate Automobile Club on behalf of one of their members who is also a member of the Motor Union. The member was sued at the Knaresborough Petty Sessions by the Harrogate Corporation for the recovery of 10s., being a half-year's rate levied in respect of water for his car, which he refused to pay. Mr. J. E. A. Titley, the local solicitor for the Union, submitted that the Corporation could not possibly, under the Act, ask defendant to pay for [water for washing his car for "trade" purposes, that

carriage mechanically propelled which shall be presented for licensing on and after August 1st, 1907, shall be fitted either with an approved taximeter to indicate to the hirer the fare chargeable, or with an approved distance recorder to indicate to the hirer the distance travelled; and any hackney carriage may, from the date of this Order (March 15th), if the proprietor so wishes, be fitted with an approved taximeter or distance recorder." Fares payable for the hiring of a motor hackney carriage fitted with a taximeter will be according to the following scale:—

	s.	d.
Not exceeding one mile, or for a period of time, or a journey not exceeding ten minutes	...	0 8
Exceeding one mile or ten minutes:		
(1) For each quarter of a mile, or for a period of time, or a journey not exceeding two and a half minutes	0	2
(2) For any less period or distance	...	0 2

In addition to the above, the motor driver is entitled to extra charges for luggage and extra persons as in the case of the horse cabdriver.



AN AUTOMOBILE GMYKHANA IN EGYPT.

Under the patronage of the Khedive, the Automobile Club of Egypt held a Gmykhana on the Egyptian Trotting Ground at Choubra, near Cairo, on the 8th inst. The programme comprised a glass of water race, driving between swinging balloons and also between skittles. Our illustration shows a car competing in the last-named event.

being the provision of the Act under which he was charged. The Bench adopted this view, and also decided against the contention of the Town Clerk that there was an implied contract because the defendant had paid on two previous occasions. The Bench agreed, at the request of the Town Clerk, to state a case for the opinion of the High Court, and the Motor Union is assisting its member in order that the decision of the Justices may be sustained.

Motor-Cab Regulations.

THE revised text of the draft order issued by the Home Secretary on January 22nd, relating to the licensing of hackney carriages and motor-cabs, and the use of taximeters in both kinds of vehicles, has now been issued, and contains several alterations on the original draft. The principal passage of the revised order is as follows:—"Every hackney

Motor Lifeboats.

WRITING from a neighbourly position facing the offices of the Royal National Lifeboat Institution, we are naturally interested in the fortunes of that association, whose good work has seen fresh evidence during recent storms. Even more than that, too, is the fact that latterly some important experiments have been undertaken with regard to motor lifeboats, and it is hoped that at no distant date it may be possible to place several efficient motor lifeboats on the coast. At the end of last year the institution's fleet comprised 273 sailing and pulling lifeboats, four steam lifeboats, three motor lifeboats, and one steam tug, and on those propelled by mechanical power great hopes are centred. Reference was made to these by Lord Londonderry at the annual meeting on Monday. In moving the adoption of the report he spoke in terms of commendation of the care taken in the building of new

lifeboats to ensure that they should be of a type suitable for the districts in which they had to work. As regarded the experiments which had been made with motor lifeboats, it would naturally occur to the uninitiated that a motor engine, being dependent on petrol, might very well find itself deprived of its power of motion by heavy seas swamping the engine, but he was assured that in the course of the experiments the lifeboats had been turned over without such a mishap occurring.

One Advertisement —147 Replies.

MAJOR MATSON has been relating some personal experiences for the encouragement of individuals who are starting with a motor-car, and who may be afraid of some difficulty in obtaining a driver. He writes in the "Daily Mail" as follows:—"I always employ a youth to attend to my small wants, which are mainly in the direction of repairing tyres, cleaning the car, and driving as occasion offers. My present boy, however, desiring to leave to better himself, having now come to nearly man's estate, I advertised in the *M.C.J.* for a smart youth capable of driving a car of a certain make; to this I received over sixty replies." Such experience is not exceptional. We have just had a letter from Mr. Arthur Martell, of Llanarmon, N. Wales, who says:—"I am writing to let you know the wonderful results of a single advertisement in your paper. Last week I advertised for a driver; by this (Tuesday) morning I have had 147 replies." This is a fair specimen from our correspondence every week, and although it is contrary to our practice to sound our own praises, we have pleasure in thanking Major Matson for thus relating his experience.

The Season.

THE coming of a few fine days—alternated in truly British fashion with tearful clouds and muddy roads—has given a slight impetus to the season, which will really open with the beginning of the Cordingley Show in a fortnight's time. Evidence of this movement in the automobile business is also supplied in a report from the Royal Automobile Club to the effect that "there is now a very brisk demand for first-class drivers, and applications are being received from members daily." This confirms our own impressions—gleaned from the show-rooms of London firms as well as correspondence from many readers who are interested in the scheme of the Club's Driving Certificate, which has become a kind of passport to employment with motorists who are loyal to the central organisation. "First class" men are wanted on the car; the duffer had better keep away from the steering wheel—a truism which does not seem generally understood amongst all the applicants for situations as chauffeurs, but a fact which they should realise before disappointment dispels their illusions.

The Flying Machine.

JUST now the question of flying is very much in the air—in something more than a visionary sense. Its embodiment in realisable form will be a feature of Cordingley's Motor Exhibition next month, and hardly a journal declines its pages to the problem. In the current "Monthly Review" Mr. Bernard S. Gilbert deals with the coming of the flying machine in an article which adds to the interest of a magazine of already varied contents. Taking his ideas from the bird which "is born with an instinct for balancing" unknown to man, Mr. Gilbert suggests that the successful airship must approximate to its ability to preserve equilibrium in the air, which is "amazingly gusty." But just as he seems to be getting into the practical aspect of the matter the author tantalisingly veers into speculative regions where, guided by meteorology, he pictures airships "starting from and alighting on to specially-prepared platforms, running regularly between fixed stations and long certain tracks, weather permitting." An attempt is made to seriously consider the new highway, and several pages are devoted to an attempt to show the value of

aerial navigation—all of which is an interesting glimpse into a future for which the Aero Club is preparing its members.

The Risks of Motorists.

COMPARED with the people of a century ago, modern folks run many risks that never menaced the lives or pockets of our ancestors. Hence the necessity of insuring against all kinds of contingencies, such as burglary, fire, accident, to say nothing of the dangers incidental to the public highway. To these must be added the claims which the Legislature has imposed upon owners of vehicles and employers of workers, throwing into a state of uncertainty many departments in the insurance business of the country. In such a new industry as that associated with the motor-car all premiums and other arrangements must necessarily be matters of assumption, more or less. Consequently interest attaches to any statistics which serve to indicate the chances of claims being made in connection with the operation of automobiles. Such comes from some returns issued by the Travellers' Insurance Company of the United States, which has a reputation across the Atlantic for its dependable reports and statistics. Of 167 accidents made known to the company and which were other than of a fatal character, sixty-one—practically 37 per cent.—were due to misadventures when starting the engine. This suggests the necessity of inventors continuing their experiments with regard to the self-starting devices of which so much was heard a year or so ago, but which seem to have entered upon a period of quiet. Collisions are responsible for no more accidents than result from the ordinary occupation of working on cars, the proportion being about 17 per cent. in each case. Injuries received while entering or leaving cars accounted for another 7 per cent., while burst tyres added 3 per cent. to the total. Too much emphasis need not be placed upon such returns, but they have their warning to drivers when starting vehicles and their hint to inventors to lessen the risks incidental to Motorism.

UP to Saturday night the 40-h.p. Siddeley car, now on its long distance trial, had completed a run of 4,222 miles.

MESSRS. SHIPPEY BROTHERS inform us that they have been appointed agents for the sale of Morgan and Wright's side-wire motor-bus tyres.

THE trial of Mr. B. Atkinson, of Leeds, for manslaughter has been concluded at Leeds Assizes. This arose out of a motor-car accident in August last. After a three days' hearing the jury were unable to agree and were discharged.

THE demand for the modern type of motor-cars for sale at the Motor House, 366-368, Euston Road, N.W., is the feature of the auctions of that establishment, which holds a chartered accountant's certificate proving that they have sold as many as 78 vehicles in eight days.

ON Tuesday twelve of the cars entered for the Vapour Emission Competition of the R.A.C. underwent the first portion of the test. This took place in the Club garage in Down Street, Piccadilly, W., the vehicles having to stand on an incline of about one in seven for ten minutes in each direction with the engine running at normal speed. A road test of 150 miles took place on Wednesday.

ONE of our representatives who has had occasion to use several kinds of lubricating oil on his 3-h.p. Triumph motor-cycle, has found that of Messrs. A. H. Dawson and Company, Cathedral Street, Manchester, eminently satisfactory. He finds he uses considerably less than with many other brands, which seems to point to the fact that the high quality of this oil has considerably more lubricating properties than others on the market.

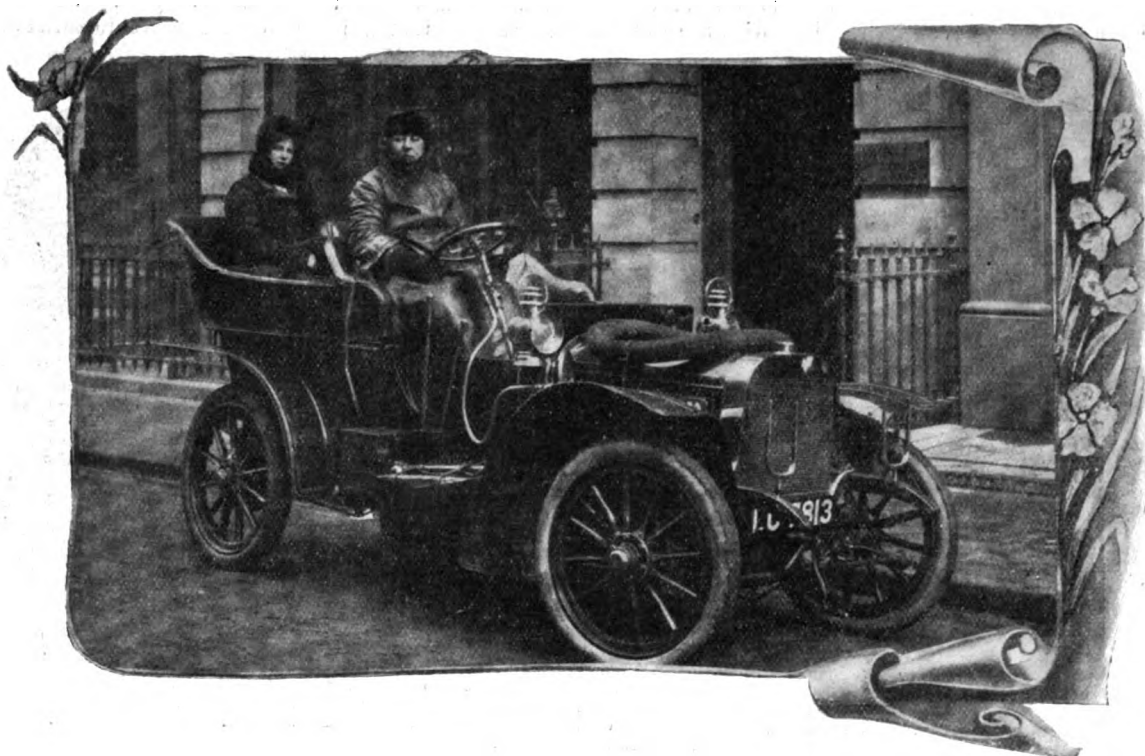
ON Tuesday next Mr. Archibald Ford, of Liverpool, will commence business on his own account in Liverpool and Manchester, premises having been acquired at 293, Deansgate, in the latter city, where a branch of the British School of Motoring, which Mr. Ford is founding, will be established. His company will be known as Archibald Ford, Ltd., and will absorb the business of Motor Tyres, lately carried on in Bold Street, Liverpool. A garage will also be established in South Castle Street, Liverpool.

LADIES AND MOTORING.

HERE is no way that the motor-car exemplifies in a more marked degree the popularity and perfection to which it has arrived than in the fact that ladies, who seldom have any idea of mechanics or are fitted temperamentally to find the study an easy one, can, in a comparatively short time, become skilful and successful drivers. This has been proved most conclusively during the past year or so, for the cars now owned and operated by ladies are many. A short time ago a woman driving a motor-car was regarded as a curiosity, but it is no extraordinary sight at the present time and creates scarcely passing attention, as the number of lady drivers has so largely increased. Motor-ing has, from its earliest advent, proved a most fascinating pastime for the fair sex, and they are coming to understand more fully the mechanical features of the car, and are learning more of its capabilities and necessities.

The coming of the car has opened up new possibilities; the flexibility of speed, the exhilaration without physical exertion, and the distance that can be travelled, all conduce to the greatest

indicative of trouble, before it seriously affects the working of the vehicle. She must learn to regulate the speed and power of the engine according to the roads being travelled, and at all times have complete control of her car. A break down on the road will prove a most effective lesson, although a disagreeable one, but the really successful lady motorist is the one who makes a complete study of her car, and guards as far as possible against troubles arising when driving. On a country road, inconveniently far from expert aid, she is wholly dependent on her mechanical knowledge to avoid delays, which are now fortunately very rare, and which, when they do occur, are in the majority of cases caused by quite simple troubles which could be easily overcome. When the motor stops on the road one of two things is most likely to be the cause, either the proper supply of fuel is lacking, or the means for igniting the mixture have gone wrong. In the first instance the trouble is probably in the carburettor or with the fuel supply, in the second case it is the ignition system that requires attention. If, previous to the stop, there were weak explosions or a great deal of smoke in the exhaust, the indications are carburettor troubles. If



The Baroness de Reuter at the wheel of her 12-14-h.p. Argyll Car.

fascination, and, whether one has been a lover of the horse or an enthusiastic cyclist, there is nothing to equal the motor-car if speed combined with a maximum of comfort is a desideratum. The lady who desires to develop into a successful driver must be possessed of cool and steady nerves; she must have a level head, courage and determination, must be ever ready and calculative and quick of application should an emergency arise where instant action would be necessary. She who considers herself an expert motorist, because she can handle the steering wheel and understands the operation of the different levers, has only accomplished the rudimentary part and has much to learn. She can never be too well informed regarding the car she drives, and should become thoroughly conversant with the intricacies of the motor and familiarise herself with its working features. The preliminary instructions would be learning to steer the car, the use of the throttle and ignition levers, the change-speed lever and the clutch pedal, and the immediate action of these parts upon the engine.

The lady motorist should educate her ear to the normal sound of the engine, and thus become able to discover, amid the humming of gears and throbbing of the motor, any wrong note

missing of the explosions takes place, the cause is probably to be found in the ignition system, although both missing, and explosions in the silencer are also sometimes due to a poor mixture. One case of ignition trouble is a short-circuited plug. If a certain cylinder is missing fire and the plug has been examined and cleaned and seems to spark well when the car is running on the level or down-hill, but refuses to do duty when a hill is reached, it is an almost certain sign that the plug in that particular cylinder is short-circuiting, either from dirt or oil on the inside, or perhaps because it is cracked; the remedy is to change the plug for a new one. Soot on the surface of plugs often short-circuits them, permitting the current to pass through without forcing it to leap the spark-gap. Another thing that causes chagrin to the lady driver is, remarks Mrs. A. Sherman Hitchcock, in an American contemporary, to have the motor stop, because the ignition is advanced too far while the motor is carrying a heavy load. Experiments with both the throttle and the ignition levers in different positions should be made until the best results under all conditions are obtained. The beginner is also very much humiliated to find the reason the car refuses to go is because the brakes are on! It

is something very apt to occur with the novice, so that one should be careful to see that the brakes are off before attempting to start the car. Another important thing to observe is that the ignition lever is always set back before starting the engine. The beginner is very apt to suffer a sprained wrist, if not worse, from back-fire, unless this lesson is well learned. One of the most important elements in proper care is attention to lubrication. A sufficient amount of oil must be fed uninterruptedly to all parts of the engine. If the oil supply gives out the piston will seize and a wait for the engine to cool is inevitable, while oil must be procured. If the petrol supply gives out the car is at a complete standstill until more can be obtained. Without water the engine will become overheated, resulting in the cylinders being scored, which means great damage to the engine. The careful driver will try to avoid this happening and will take prompt measures to overcome any symptoms of overheating. It is always advisable for the beginner to practice with the brakes and learn to estimate distances and speed as accurately as possible. Before driving a car through a busy thoroughfare it should always be under complete control. To thoroughly understand road rules is also something which is highly important. If a lady has been accustomed to driving any vehicle she will be familiar with the rules

LIGHTS ON VEHICLES.

MORE than a score of years ago enthusiastic cyclists urged that all vehicles using the roadways after dark should be provided with lights warning other users of the roads of their coming. Such a proposal seemed reasonable enough, but the difficulty of securing Parliamentary attention to such an apparently minor matter prevented the proposal being adopted. The advent of the motor-car, however, revived the agitation, and all who travel in country places are aware of the dangers associated with stationary carts or slowly moving vehicles on the road. Recent legislation required that automobiles should be lighted not only in front, but also at the rear. Apparently the idea of the Legislature was that danger lurked only in the rapidly moving vehicles; whereas the presence of slower ones constitutes as great a menace to other users of the roadway.

At length, however, there is a prospect of uniformity being obtained—in England and Wales at first, in other parts of the United Kingdom ultimately. On Friday of last week Major Renton, M.P. for the Gainsborough Division of Lincolnshire, persuaded the House of Commons to unanimously approve of



COMMERCIAL MOTOR VEHICLES AT RIPLEY.

A run of commercial vehicles from London to Ripley and back, organised by Mr. Leo Harris, of John Marston, Limited, took place on the 10th inst. Our illustration is reproduced from a photograph taken at Ripley; among the vehicles which took part in the excursion were three Argylls—a 16-20-h.p. two-ton van, a 10-12-h.p. light delivery van, and a 14-16-h.p. cab—a Fiat 'bus, a Maudslay 'bus, a Ryknield 'bus, and a Dennis 2½ ton van.

of the road and if not she must familiarize herself with them. The fact that she is a woman is no reasonable excuse for ignorance of road regulations, which sometimes results most disastrously; and, as a driver of a motor-car, she should expect no preferences or privileges other than those enjoyed by all.

Ladies have no other outdoor pursuit that can compare with motoring; it is the means of keeping them in the open air, taking them out into the country, and the results manifest themselves in a healthful mental and physical equipoise and pleasure. Good health, youthfulness and an unequalled exhilaration can be found with the aid of the motor-car. The number of ladies driving their own car will greatly increase each year as they realise more and more the fascination of actually driving. While the study of mechanics is a new one to almost every lady, still a proper understanding of any unfamiliar subject can be gained by systematic work in accordance with a desire to become proficient, and the lady who has aspirations to become a successful motorist must apply herself diligently to the study of the petrol motor.

the second reading of his Lights on Vehicles Bill, which seeks to compel all vehicles to carry a light. In view of threatened opposition to the idea of a second light, he only advocated that one should be carried, the main intention being to secure uniformity throughout the country. A conspicuous feature of the debate was the favour given to the measure from all sides of the House—Liberals, Conservatives and Labour members giving it their approval. Mr. Adkins, who is, in a way, the spokesman of the County Councils Association, favoured the measure, though hinting at probable amendments in committee, and Sir Frederick Banbury did not see why it should not be extended to Scotland—an extension that seems reasonable and even necessary. In fact, as Mr. A. Stanley pointed out, it is a ridiculous anomaly that while motor-cars have to carry lights, no such requirement was made in the case of slow moving vehicles.

On behalf of the Government, Mr. Herbert Samuel, the Under Secretary to the Home Office, recognised the great need for one universal regulation in this matter. There was no reason for the local differences which at present existed between one county and another, and if Major Renton's Bill can quickly become law it will do something to lessen the hazards of the highway, and bring order out of chaos in one department of local government.

THE GRAND DUKE OF OLDENBURG has lately acquired a 35-40-h.p. Horch car with limousine body.

THE CADILLAC 26-30-h.p. CAR.

As mentioned in a recent issue, the Anglo-American Motor Car Company have lately introduced into this country a new type of vertical four-cylinder car which the Cadillac Co. are now turning out from their works at Detroit, U.S.A. We had an opportunity of going over the chassis of the new vehicle (Fig. 1) a few days ago, and as in many respects it varies from what may be termed the standard practice, the following particulars may be of interest. In the first place, it may be mentioned that the main frame, which is of channel steel construction, is supported on long and flexible springs, the

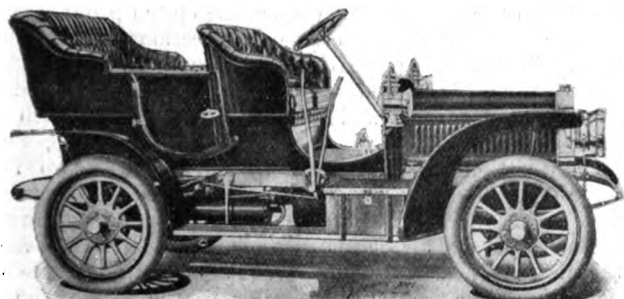


Fig. 1.—General View of Cadillac 26-30-h.p. Car.

usual dumb irons at the rear being replaced by halves of semi-elliptic inverted springs. The engine (Fig. 2), which is supported on a subsidiary frame of steel tubing, comprises four separate cylinders, $4\frac{3}{4}$ in. bore by 5 in. stroke. The cylinder heads containing the valve chambers and combustion chambers are cast separately, and attached by a right-and-left threaded nipple. The water jackets are of copper, and of a construction that is original with the Cadillac Co. These fit tightly over a slightly roughened and tapered flange, cast integrally with the cylinder. Round the outside of this is pressed downward a steel ring about two-thousandth inch small, which makes a tight fit and allows the jacket to be quickly removed. The crank shaft bearings are made in halves, so that they can be removed

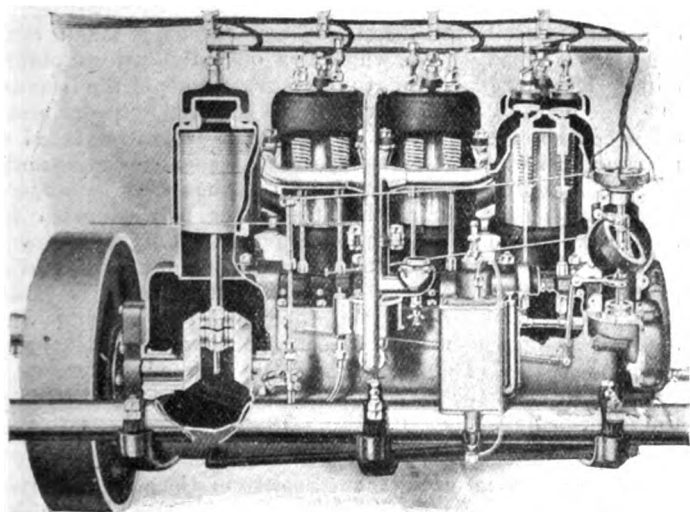


Fig. 2.—Part Sectional View of Cadillac Four-cylinder Motor.

without the necessity of disturbing the shaft. A large inspection door is provided on one side of the base chamber, to give access to the big ends of the connecting rods.

As the valves are mechanically operated and interchangeable; they are located on one side, a single cam shaft being used. Provision is made for adjusting the lift of the valves by means of split nuts on the lower ends of the valve stems. The tappets consist of square blocks carrying hardened steel wheels, and

moving in cast iron guides held to the crank case by six studs. The mixture is furnished by a special form of carburettor, provided with an automatic air inlet, the float chamber being ingeniously arranged so that it surrounds the spraying jet. The ignition is by coil and accumulators, the contact maker being set horizontally on a vertical spindle driven by bevel

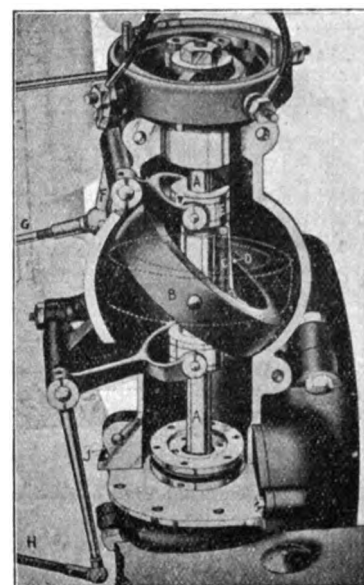


Fig. 3.—Details of Cadillac Automatic Governor.

gear off the cam shaft. The water circulation is maintained by a gear-driven pump and a framed tubular radiator with air-inducing fan. The gear wheels operating the cam shaft and the water-circulating pump are entirely enclosed. A duplex arrangement of silencer is provided, there being two chambers, 30 in. long by 6 in. diameter, set parallel with the side members of the frame. The exhaust, which has a free passage, there being no baffle plates, has to pass through both of these ere emerging into the atmosphere.

A feature of the car which is new is the application of the

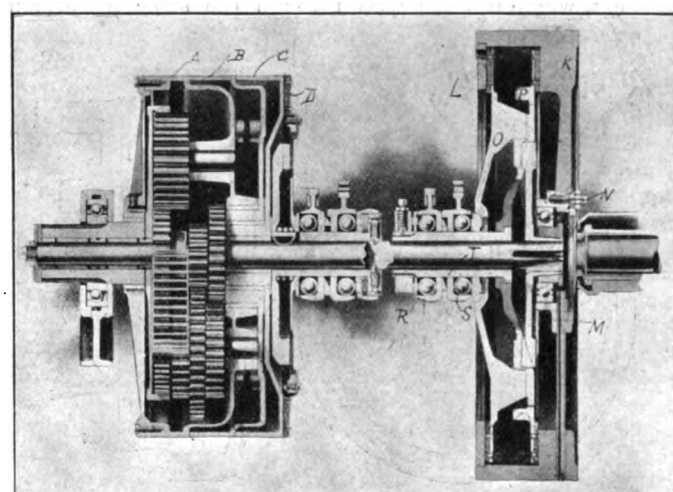


Fig. 4.—Section of Clutch and Change-speed Gear on Cadillac Car.

ring type of marine governor to automobiles. Fig. 3 gives a view of the governor, with part of the aluminium casing removed. The vertical shaft A, which runs on ball bearings, is driven by bevel gearing off the cam shaft. The ring B is supported on one side and normally rests in an oblique plane, but when the speed of the engine increases it tends to assume a position in a horizontal plane. This action is opposed by the spring C fastened to the collar E, which the ring moves upward

by the connecting link D. As the collar E moves upward it carries with it the bell crank lever F, which in turn pulls the rod G and closes the throttle lever on the wheel. When the latter is set for open throttle it pulls the rod H, which in turn operates the bell crank lever J to lower the collar under the ring B and increase the tension on the spring C, which means that a greater engine speed is necessary to make the ring overcome this increased tension. By this arrangement it is possible to set the throttle lever so that the engine will maintain, within the limits of its power, practically the same speed up hill or down. If it is desired to suddenly increase the speed, a foot accelerator

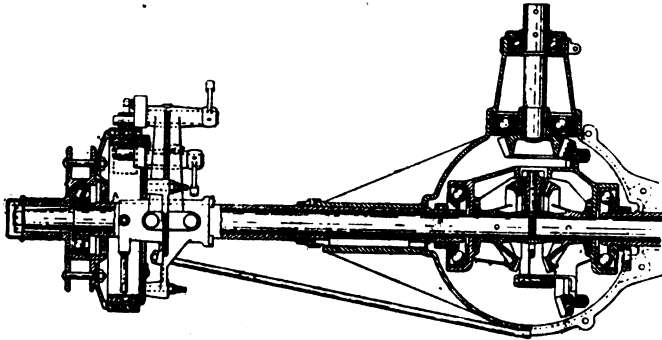


Fig. 5.—Part Sectional View of Rear Axle.

just to the left of the clutch pedal can be depressed; this opens the throttle wide and to a certain extent pulls the rod G to depress the governor ring; when the accelerator is released the engine immediately resumes the speed permitted by the throttle lever above the steering wheel.

The base chamber, which is of aluminium, is divided into four compartments, the dividing walls of which also act as supports for the crank shaft bearings. The lubrication of the motor is accomplished on the splash system, the oil being fed to one end of the base chamber by a mechanical lubricator operated by an arm, motion to which is imparted by one of the valve push rods. From the lubricator the oil flows upwards through a sight feed on the curved steel dashboard to the rear compartment of the crank case. By splash it is thrown into a sloping trough on the side wall, and drains into the next forward compartment, where it again goes through the same performance,

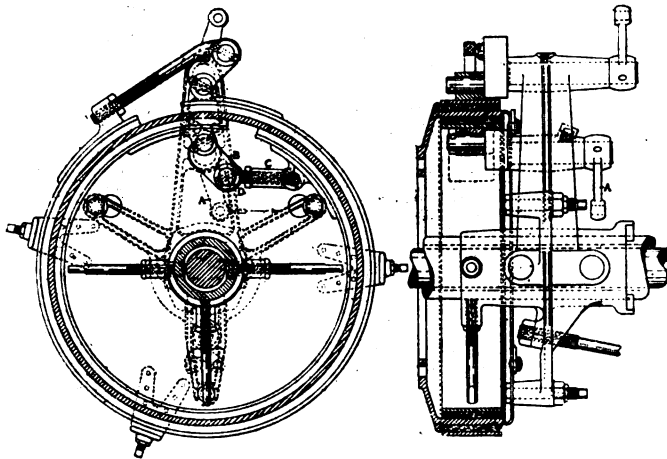


Fig. 6.—Details of Brakes on Cadillac Car.

and so on until it drains into the oil compartment at the front, whence the surplus flows back to the rear and is again used.

Although the car is driven through a planetary type of change-speed gear, and could be operated without a main clutch, one has been provided, for the reason that it is often desirable to run the engine with the transmission entirely idle. In Fig. 4 K is the flywheel bolted to the flange M on the crank shaft, and supporting the ball bearing N. L is a large split washer or ring set into a groove in a similar manner to the retaining ring of a

ball bearing. It is forced outward into its groove by having a taper screw plug inserted at the place where it is split. In the hollow thus formed is the clutch, composed of two circular leather-faced discs O and P, which are forced away from each other and against the inner surface of the flywheel on one side and the ring L on the other, by eight short coiled springs between the discs. The clutch is released by bringing the plates O and P together by means of two ball bearing collars R and S. At the back of these collars, where they bear against each other, are wedge-shaped surfaces, so that by rotating them in opposite directions they are forced apart, and as R is fast to the sleeve T, which in turn is fast to plate P, such separation of the collars brings P and O together. Vertical rods connected to a short cross-arm on the cross-shaft on which the clutch pedal is mounted rotate the collars R and S in opposite directions. Three forward speeds and a reverse are provided by a change-speed gear of the planetary type. It is mounted on ball bearings and runs in oil. All the gear wheels are made of steel and are fitted with bronze bushes. It is divided into three drums A B and C, with the usual contracting leather-faced steel bands for the two forward and the reverse speeds, and with a high speed disc faced with leather and rotated by the engine shaft, by means of a cross-arm with lugs at its ends which fit into notches or slots in the back of the disc. When this disc is forced against the outside of the transmission by a mechanism similar to the clutch, the entire gear is fixed to the clutch shaft, and all parts turn together with the shaft, the gear wheels inside being stationary on their studs but rotating with the studs around the shaft. This gives a direct drive on the high speed through a cardan shaft and bevel gear to the rear live axle, which has only the driving

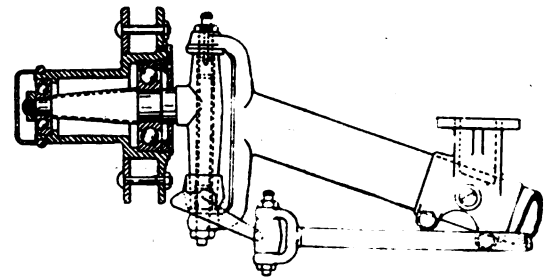


Fig. 7.—Part Sectional View of Front Axle.

effort to transmit, the weight of the car being taken by the sleeve. The road wheels, which run on ball bearings mounted on the sleeve, are keyed on to the tapered ends of the live axle.

There are two sets of brakes, one actuated by pedal and the other by a hand lever (Fig. 6); both act on drums connected with the rear road wheels, one set expanding inside the drums and the other contracting on the outside of the same, both being so connected up to the clutch that the latter is withdrawn when the brakes are applied. The steering gear is of the screw and nut type; it is provided with ball thrust bearings, and provision is made for taking up any wear. The front axle is built of steel tubing, while it may be added that the steering wheels each revolve upon two ball bearings, the large set being in line with the spokes. The chassis, which is adapted to receive any type of side-entrance body, has a wheel base of 8 ft. 6 in., the track being 4 ft. 8½ in.

At a recent meeting of the Society of Chemical Industry a paper was read by Mr. Philip Schideowitz, Ph.D., and Mr. Frederick Kaye, A.R.C.Sc., on "The Chemical Composition of some Motor Tyre Rubbers." In concluding their remarks the authors stated that "whatever views may be entertained regarding the quality of the rubber, vulcanisation and mineral matter, in regard to the composition of pneumatic tyre covers, it is plain from the results obtained by us that manufacturers are by no means agreed on these points and that nothing approaching to finality in this very difficult question has yet been reached. Finally we think we are justified in saying, as an inference from our results, that where failures occur a chemical examination of the rubber employed may be distinctly useful."

SOME USEFUL NOTES.

A GOOD way to clean a badly-sooted plug on the road is to wipe it first to get the worst off, then attach it to a piece of wire and lower it into the petrol tank and bathe it.

IN case of petrol becoming accidentally ignited, it is useless to try to extinguish the flame by means of water, as the spirit will float on it and continue to burn. Dry sand is very effective as an extinguisher, and a supply should be kept constantly on hand where petrol is stored or used.

THE water in acetylene lamps is best preserved from freezing by dissolving calcium chloride in it. But if this precaution is not taken and the water is frozen, a little saliva on the carbide will produce enough gas to light it and thaw the water, and so allow a permanent light to be obtained.

A LARGE number of modern carburettors have hot-air jackets round the mixing chamber. This is a part which is frequently overlooked. It is a very easy matter for both it and the pipe from the exhaust to get choked, this being particularly liable to happen when the engine is over-lubricated. Needless to say, the carburettor will then give very poor results.

A CAUSE of lack of power which is frequently overlooked is a stopped or partially-stopped exhaust box. When the exhaust box can easily be taken to pieces the remedy is obvious, but when it cannot be dismantled without unriveting, the best plan is to keep a gas blow-pipe playing fairly hard into the box. This will burn and loosen any deposit, which can easily be washed out.

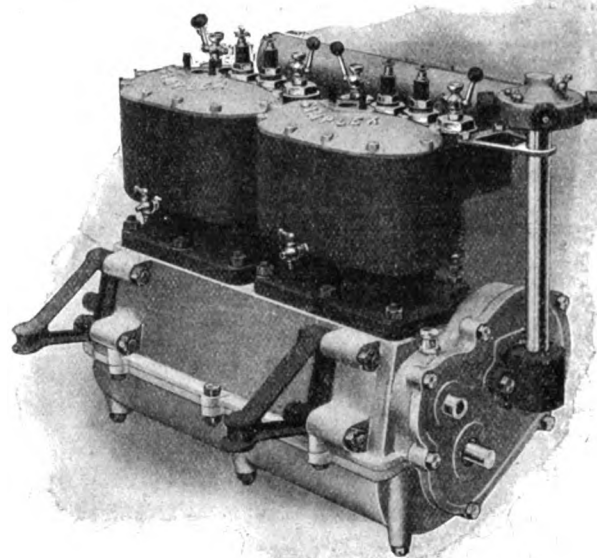
THE secret of a smooth-running motor is "synchronism." All the inlet valves should open and close at the same point in the stroke of their respective cylinders, as should the exhaust valves. This applies with equal force to the ignition. Since most camshafts are now made solid and pinned to their respective gear wheels, all that is necessary to secure synchronism is to see that the clearance between the valve stems and their push rods is the same in all cases.

A MOTOR which is suffering from poor compression may serve fairly well at high speeds, as the duration of the compression period is so brief that not a very large part of the charge is able to escape, but when the engine is slowed down almost to the labouring point, as when climbing a steep hill on the high gear, the effects of imperfectly maintained compression quickly make themselves manifest. Under such conditions a longer time elapses between the commencement of the compression stroke and the ignition of the charge, and also between ignition and exhaust, with the result that when the maximum power of the engine is desired it is falling off rapidly.

It may happen that a motor which has given long and faithful service is for one reason or another taken apart for overhauling and again put together. If it lacks power when taken into use under such circumstances, it is probable that some mistake has been made in the mounting, and especially that the valve gear has not been put together exactly as it was before. Unless the pinion on the motor shaft is marked at the tooth which engages the spur wheel on the cam shaft, and two teeth on the latter, one on each side of the pinion tooth, are similarly marked, a small mistake is liable to be made, and would result in too early or too late opening and closing of the exhaust valve. In whichever direction the error is made, the loss of power will be considerable, even if it does not prevent starting of the motor. Few engines offer any easy means for remedying such an error without taking the engine apart again, and the precaution of marking the two spur wheels should, therefore, always be observed when a motor is taken down.

THE COVENTRY SIMPLEX MOTORS.

WE illustrate herewith a new 16-h.p. petrol four-cylinder engine which has been put on the market by the Coventry Simplex Engines, Ltd., of East Street, Coventry. It has been designed by Mr. R. N. Stroyer, one of the members of the firm, and, as will be seen, the cylinders, which are $3\frac{1}{2}$ in. bore by $3\frac{1}{2}$ in. stroke, are cast in pairs with ample water space round the valves and combustion heads, while, in order to secure good castings, the water jackets are provided with large covers. The pistons are light castings, with three rings of the hammered type, ensuring uniform springing at all points of the circumference. The gudgeon pins, which are hardened and ground to fit the phosphor bronze bushes of the connecting rods, are secured to the pistons by a novel and positive method. The steel connecting rods are of H section, and are lined with anti-friction metal at the big ends. The crank shaft is a solid forging of special 45-ton tensile steel, and is supported by three substantial ball bearings, a separate compound thrust bearing being provided to take the clutch thrust, whichever way it may act; it terminates in a cone for coupling to the flywheel. The aluminium crank chamber, which is so arranged that the bottom half can be dropped without disturbing the crank shaft, is



provided with overflow taps to regulate the height of the lubricating oil. The lubrication of the different parts is well provided for, the connecting rod caps having scoops for catching the oil, and the small ends of the connecting rod having a well on the top into which the oil is splashed. Besides this provision for oiling, the gudgeon pins are hollow and receive oil from the cylinders, which have separate lubricating pipes attached. The valves are all actuated off a single cam shaft, the latter being so arranged that it can easily be drawn out from one end, the bearings being of such diameter as to allow the cams to pass through. Special attention has been paid by the designer to the sweet engagement of the cams with the rollers, both being of unusually large diameter. The cam shaft gear wheels are enclosed in a separate chamber; this also contains a wheel, which, running at engine speed, can be used for driving the water circulating pump or magneto. The four exhaust branches are connected up to a neat steel exhaust box. The efficiency of the engines is very high, the 16-h.p. four-cylinder developing 19-h.p. at 1,500 r.p.m., while the silent running and extreme flexibility of the motor go to make it a most suitable one for light cars, especially having regard to the fact that it weighs, with pipes, only about 165 lbs. All the parts are interchangeable, jigs and gauges being employed throughout. We may add that a 25-h.p. six-cylinder engine on similar lines is also being made, and that both types will be on view at the forthcoming Cordingley Show.

CONTINENTAL NOTES.

Motoring in Sweden.

Motorists who intend taking their cars to Sweden should procure a certificate from a Swedish Consul in their own country, stating that the car is being taken for touring purposes and that it is constructed according to the regulations. If this certificate be presented to the police authorities in the town in Sweden by which the motorist enters the country, they will issue a driving permit and supply a registered number for the car. The certificate can also be obtained from a British Consul in Sweden, but if no certificate be produced the car has to undergo examination by the authorities, who investigate whether the car is in accordance with the stipulations of the Swedish law. The Customs duty on motor-cars entering Sweden is on the basis of 15 per cent. *ad valorem*. The amount deposited is returned in full on application to the Customs officials at the town or port of entry when the car is leaving the country.

The Race for the Kaiser's Prize.

The accompanying map shows the course which has been definitely decided upon for the forthcoming race in Germany for the Kaiser's prize, and for which ninety-two entries have been received. It is 125 kilometres long, and will have to be covered



four times. The starting point is at Kloster Thron, near Homburg, the principal places passed through being Reichenbach, Emmershausen, Ernsthause, Weilburg, Usingen and Wehrheim.

An Austrian Reliability Trial for Light Cars.

The Austrian Automobile Club is organising a reliability trial for light cars to be held on May 24th, 25th and 26th next. The event will be open for (1) vehicles with single-cylinder motors of a capacity up to $1\frac{1}{2}$ litres, and carrying two persons; (2) ditto, with engines comprising two cylinders, up to $2\frac{1}{2}$ litres capacity, and carrying three persons; and (3) ditto, with four cylinders, total capacity up to 2.6 litres, with accommodation for four persons. The cars must be in proper touring trim, and must be provided with at least two brakes. The total distance to be covered is 715 kilometres, the first day's run being from Vienna to Klagenfurt; the second from Klagenfurt to Gratz; and the third from Gratz back to Vienna. In Class 1 an average speed of 25 kilometres per hour will be required; in Class 2, 28 kilometres; and in Class 3, 30 kilometres.

An "Elastic" Wheel Trial.

As a result of the success of spring and other elastic wheels trial held last year from Paris to Nice and back, the "Auto,"

of Paris, has decided to repeat the event in April next. Some important modifications have, however, been made in the rules, notably the introduction of a clause which provides that all stoppages due to mechanical troubles are to be included in the running time. Apart from the difficulty of correctly ascertaining the time lost through these troubles without having official time-keepers on board the vehicles, it has been urged that the mechanism of the cars themselves may be more liable to cause trouble with spring and resilient wheels than with pneumatic tyres, and it is in order to meet this objection that it has been deemed advisable to include all stoppages due to mechanical troubles in the running time, so that the general performances of the vehicles may be compared with other vehicles fitted with pneumatics. A new method of classifying the cars has also been adopted, the four different categories providing for cars having motors of a maximum of piston area as follows:—(1) 127 square centimetres; (2) 347 square centimetres; (3) 432 square centimetres; and (4) 531 square centimetres. The minimum total weight of the vehicles is fixed according to piston area. As was the case last year, the competing cars will run from Paris to Marseilles and Nice and back in eight stages, the start being fixed for April 15th. At Nice the cars will be on exhibition for a day, while on the following day they will be submitted to a speed trial over the flying kilometre. Entries for the trials are sent to the "Auto," from whom full particulars can be obtained, before April 10th, the entry fee being £8 per car.

Public Services in Bulgaria.

It is announced that a company has just been formed in Varna, with the object of starting public services of motor-cars between that town and Dobritsch, and also between Varna and Baltschik.

The German Motor Volunteer Corps.

The Kaiser has offered a prize to the German Motor Volunteer Corps for a long-distance motor race on the lines of the horse ride held each year in connection with the Army Corps.

Public Services in Germany.

A public motor-car service is about to be established between Gressen, Krofdorf and Gleiberg. It is also proposed to inaugurate a service between Gardelegen and Calvorde.

Miscellaneous Items.

An Automobile Technical Society has just been formed in Vienna.—A public motor-car service for the transport of both passengers and goods is about to be established between Rheims, Queux and Rosnay, France.—The automobile meeting at Nice commenced on Wednesday with the speed trial known as the "Kilometre Bull's Eye."—It is announced that the "Décennale" Automobile Salon in Paris is to be open for twenty days during part of November and December next at the Grand Palais. The exact dates have not yet been announced.—It is reported that Hemery is to drive one of the De Luca-Daimler cars in the Targa Florio race.—It is also stated that Callois, who has hitherto been associated with the Brasier vehicles, will drive a Darracq racer in the Commission Sportive Cup race.—Bad weather has again been experienced by M. Van Marcke, who, on the six-cylinder Hotchkiss on which he is making a tour of France, has during the past week visited Montlucon, Limoges, Cognac, Fontenay-le-Comte, Chateauroux, Vierzon, Tours, and Angers. Altogether he has so far covered about 3,300 miles.

MR. L. M. IDDINGS, the United States Consul-General at Cairo, has informed the Washington Bureau of Manufactures that the number of automobiles in Egypt this winter has greatly increased over those of last year. Machines registered in Cairo now number 234, while last season there were seventy-five, and in Alexandria there are 127, as compared with 120 last season. In Cairo one or two new garages have been built.

A SERIES of trips by pupils is now a feature of the programme of the Motor Academy, of Boundary Road, Holland Park Avenue, W.

ANOTHER chapel, this time of historic interest, is to be converted into a motor garage, such being the latest use for the old Surrey Chapel, in Blackfriars Road, London, S.E., where Rowland Hill and Newman Hall were successive ministers.

THE entries for the Cordingley Motor Show, says the "Motor Trader," are rolling up in fine style, and everything promises well for the success of the exhibition.

MR. JOSEPH BRADFORD, of Glasgow, has been appointed managing director of Argylls (Edinburgh), Ltd., whose depot will shortly be opened in a central position in the city.

It may be stated, and with no exaggeration, remarks the "Indian Motor News," that His Highness the Nizam of Hyderabad has one of the largest—if not the largest—and finest stud of cars of any private owner in the world. His garage at Parah Havali, India, is unequalled for the neatness combined with simplicity and ingeniousness of its arrangements; sixteen large motor houses with double doors, ventilated roofs and convenient inspection pits form one side of a huge quadrangular square, the opposite side of which opens upon the entrance to the palace. To the left are the quarters for the drivers, and

HERE AND THERE.

THE old electricity works at Exeter are being adapted to the purposes of a motor garage by Messrs. Reid and Evans, of 177, St. Sidwells, in that city.

THE fact that the Highways Protection League has declined

to join the National Dustless Roads Committee seems to suggest that they have a stronger antipathy to the motor-car than to the dust which it is alleged to raise.

EXPERIMENTS are being made on the Leeds and Liverpool Canal with regard to the adoption of motor-boats for the conveyance of goods.

MESSRS. RICE AND WISE have a well-equipped motor works and garage in Milton Street, Blackburn. It is fully provided with all descriptions of machinery for repair work.

MESSRS. LAPAUZE AND Co., 8, Cheapside, London, E.C., are placing upon the British market the "Arion" sparking plug—a reliable device of which much is likely to be heard among practical motorists.

THE second of the cycle and motor-car shows in Edinburgh this season was opened in the Waverley Market on Friday, last week. Altogether there are about 100 stands, and although the majority are devoted to cycle exhibits, there is a fair number of motor-cars and cycles on view. The show closes to-day (Saturday).



His Highness the Nizam of Hyderabad's Stud of Motor-Cars.

to the right, several more houses for cars are in course of erection. The centre is occupied by an artificial lake with fountains playing, surrounded by flower beds and shady trees—the whole forming a scene of rare and peaceful picturesqueness. His Highness' stud now numbers some twenty-three cars, his latest acquisitions being six Napier cars, a Fiat, a Brazier, and a 30-55-h.p. Daimler. All the cars are christened with Moguli names, which are painted in English and Arabian characters on a board above the motor-house door. His Highness is fortunate in the possession of a European engineer who has had a wide experience.

THE severity of the weather in Scotland may be appreciated from the fact that on Tuesday, while carrying out its daily schedule, the 40-h.p. Siddeley car under trial by the Royal Automobile Club encountered a snowdrift twenty-five feet deep at the Spital of Glenshee. A gang of 100 men were set to work to clear a road for the car, which eventually got through the pass and reached Braemar.

THE Grove Eastbourne Motor Works and Garage, Ltd., have commenced business as dealers in, and repairers of, motor-cars, and suppliers of all kinds of accessories, at The Arcade, Grove Road, Eastbourne. The premises, which were formerly used as the Central Fire Station, afford ample accommodation to garage at least thirty motor-cars, also sufficient space is provided for the works incident to repairs. The general management of the company is in the hands of Mr. Alfred J. Bessant, with Mr. R. R. James as managing engineer.

At the last meeting of the East Lancashire Motor Cycle Club, Mr. T. Burton read a paper on "Anticipating Trouble," in the course of which he exhibited an instrument, of his own construction and design, for testing sparking plugs under compression; this being, as he pointed out, the only way in which a plug could be thoroughly tested for a "short."

A CAPITAL catalogue has been issued by the Earl's Court Motor Garage Company, Ltd., whose headquarters adjoin Earl's Court Station, W. The firm hold agencies for the 6-cylinder Standard, the Peugeot, and the Clement-Talbot cars—all recognised types of modern vehicles. The company have a special department for the hire of motor-cars for short or lengthened periods, and the tariff which accompanies the list will be of service to private people who intend to try motoring at Easter.

THE Calthorpe Motor Company, Ltd., successors to the Mobile Motor and Engineering Company, Ltd., is the title of the two concerns which will in future be carried on as a joint business, the assets of the latter having been acquired by the former as a going concern. The Calthorpe Company has retained the whole of the staff under the management of Mr. L. Antweiler, and owners of Mobiles will be supplied with spare parts, &c. A speciality will be made of the 16-20-h.p. four-cylinder Calthorpe car, fitted with an Alpha engine. The radiator is the firm's patent type, with revolving fan, the latter being encased inside the radiator, which has annular chambers, doing away completely with the tubes; the pump is gear driven off the two to one shaft.

MR. C. A. ROBERTS is opening a motor garage in the Southampton Road, Chandler's Ford, Hampshire.

THE Royal Insurance Company has issued a Record of Sports—an interesting souvenir of remarkable performances in all branches of pastimes and sports.

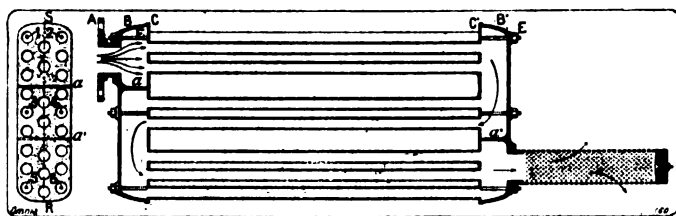
THE I.O.M. Motor Co., of Douglas, are building a motor-cycle to compete in the Tourist Trophy Motor Cycle race to be held in the Isle of Man during the summer.

Two of the leading garages in Bristol, viz., that of Messrs. Willway and Son, on the Quay, and that of the Bristol Motor Co., Ltd., 18, Victoria Street, are now open continuously day and night, and also on Sundays.

In order to meet the wishes of their clients, Messrs. F. W. Besant and Co., of Wimborne, Dorset, are now supplying with their Luna inspection pits, when required, an ingenious sliding seat or bench, which, locking itself between any two corrugations in the sides of the pit, can be immediately fixed in any position or at any height.

THE sixteenth edition of the Railway and Commercial Gazetteer of England, Scotland, and Wales comes to hand from Messrs. McCorquodale and Co., Ltd. This is compiled from official sources, and contains a list of every railway station, town, village, hamlet, parish, and place in Great Britain. To all interested in the despatch of goods the volume is of special importance.

A SOMEWHAT novel form of exhaust silencer is being made by M. Bizeul, of Bazas, Gironde. As will be seen from the sketch, it is composed of two metal cases joined by a series of steel tubes through which the exhaust gases are made to circulate, thereby lowering their temperature and permitting them to escape into the atmosphere without noise. The cooling of the gases is



assisted by the large surface of tubing on which air is free to impinge. The apparatus has been tested on a 60-h.p. motor in the laboratory of the A.C.F., and the loss of power at 650 revolutions was only $1\frac{1}{2}$ per cent., and at 800 revolutions 3 per cent., a result which, it is claimed, has never before been obtained.

WE are glad to see that British-built motor-cars are beginning to attract attention in Holland. Looking through the pages of our Dutch contemporary we notice that the Argyll, Humber, Rover, and Starling vehicles are all now represented in the Netherlands.

AT the meeting of the executive committee of the Motor Van, Wagon and Omnibus Users' Association, last week, Mr. Howard Humphreys reported that he had had an interview with Mr. Joynson Hicks with regard to the Cambridgeshire bridges, and that although the Great Eastern Railway had done some repairs to the bridges, the workmen had been withdrawn, and there were still eight or nine bridges closed. The County Council had decided to issue a summons shortly, under Section 65.

THE "New Era" fire extinguishing specialties introduced by the Valor Company, Ltd., of the Valor Works, Rocky Lane, Ashton Cross, Birmingham, are becoming well known to motorists, and their motor-boat petrol fire-extinguisher, specially designed for motor-boats, has been approved by the leading insurance companies. This is made in four sizes and is constructed on the same excellent principle as that intended for cars. The "Tonneau" pattern extinguisher has a capacity of one gallon in a case $10\frac{1}{2}$ in. by $10\frac{1}{2}$ in. by $14\frac{1}{2}$ in. This is capable of throwing a stream of fire-extinguishing chemical for forty to fifty feet, promptly extinguishing burning petrol, thus securing the motorist against risk by fire.

THE Hon. Evelyn Pierrepont, of Nuneaton, has recently acquired a Cadillac car from the Anglo-American Motor Car Company.

THE value of the exports of motor-cars and automobile parts from the United States during January last amounted to £75,299 as against only £59,538 in the first month of 1906.

THE British and Foreign Guide to the Engineering, Steel, and Hardware Trades, published by Messrs. Adolphe Francia, Ltd., is a useful compilation divided into four parts, relating to machinery and materials, electricity, ordnance, ships, &c. The various trades for each section are arranged in the alphabetical order of business—an arrangement facilitating easy reference.

MESSRS. W. AND F. THORN, of Gt. Portland Street, London, W., the well-known motor body builders, have just issued a very useful price list of the 1907 models of the various British and foreign chassis at present on the market. The vehicles are arranged in alphabetical order in accordance with their names, and, in addition to the prices, the wheelbase and other dimensions of the cars are set out in tabular form.

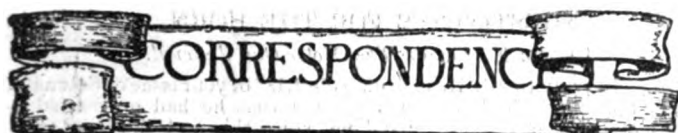
MR. CHAS. JARROTT, who is going to Monaco for the Easter holidays, proposes to make another run through on his 40-h.p. Crossley, and hopes by reducing his stoppages to a minimum to considerably improve upon the time he occupied last year, namely, $37\frac{1}{2}$ hours, without actually increasing the running speed. He is leaving the Automobile Club at 8.30 a.m. to-day (Saturday) crossing over via Folkestone to Boulogne, and anticipates arriving in Monte Carlo the following evening about 7 o'clock.

BEYOND the ordinary standard of commercial lists is the illustrated record of the motor sport events of 1906 issued by the Continental Tyre and Rubber Company. The year was crowded with classic events of a sporting character, and the 120 pages of which this excellent volume consists are filled with really artistic reproductions of photographs depicting the leading scenes and principal participants in the Herkomer Trophy competition and other races where the reliability of the Continental tyre proved a factor of confidence to the driver and of importance in the result.

THE great increase in the motor business of Messrs. A. Deacon and Son, of Llandudno, has led them to secure larger premises in Vaughan Street, which were originally built for a furniture warehouse. They are the largest business premises in the town, the building consisting of three storeys, the upper floors of which will be rendered accessible by the use of an electric lift capable of dealing with the largest touring car. The ground floor will be used partly as a showroom, and also for a garage, while the top floor will be devoted to repairs. Messrs. Deacon and Son will have the place in working order for Easter.

WHO did that? The answer will generally be found in a pocket volume published under the title by Messrs. G. Routledge and Sons, Ltd., and issued in their Miniature Reference Library. The book is egg-full of information, accurate and erudite enough to enable the ordinary man to follow the general press. Under the heading of motors we find motor-cycles, motor fishing boats, motor launches, motor propelled carriage and motor train—the latter referring to the Renard system that is being developed here by the Daimler Company. Why motor-cars and automobiles have not been enumerated we know not.

FROM Messrs. J. Wilson Browne and Son, 34 and 35, Ludgate Hill, Birmingham, comes a price list of their "Orto" motor lamps. These include petroleum side lamps, such as the No. 2 pattern, which is fitted with the firm's specially fluted lens throwing the light for fifty yards, the "carotte" size for tri-cars, a reflecting tail lamp, electric carriage and motor-car lamps and acetylene head lamps. In connection with the latter mention may be made of Messrs. J. Wilson Browne and Son's acetylene generators, in which the generation of the gas is regulated by the pressure contained in the inside cylinder, which in turn forces the water out of the carbide chamber, and immediately the pressure goes down, allowing the water to come in and more gas to be given off. The gas can be turned off instantly, further generation being stopped by the pressure of gas in the inside cylinder.



[Letters to the Editor should be addressed to the office, 27-33, Charing Cross Road, W.C.]

THE FLEXIBILITY COMPETITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In a competition of this nature, about which so much controversy has been elicited, it is, perhaps, only natural to get some objections, but surely the better way would be to enter for the competition, which is quite simple in its character, i.e., journey to Bexhill and back on top gear, slow running test, and speed test on Bexhill track, and the car that reaches nearest to the high ideal which we have set out as necessary to win the competition will, we venture to think, justify its existence.

So far as Mr. Letts' argument in regard to the advantage that a car with three speeds would have over one with four, this advantage exists entirely in the imagination, as my committee have already had before them this very point, and ruled that the entrant can nominate any particular speed on his car as the top, and, providing he never runs on a higher gear, then it is for the purpose of this competition his top speed. The other speeds would, of course, have to be properly locked to the satisfaction of my committee, so that they could not be used and unfair advantage taken.

I agree with Mr. Letts that there are many other points not provided for in my club's flexibility competition, that could well be thrown open for competition, but for one day my committee felt that the competition in question would give an interesting day's sport and lead to some valuable knowledge.

I thank Mr. Letts for his suggestion about a petrol consumption test, and I think this is excellent, and I shall recommend my committee to hold one at the earliest possible date.

In regard to Mr. Govan's letter, first, the method that will insure standard gears being used is the fact that if too low a gear is used the car will lose marks on the speed test, and if too high a gear is used it will lose marks on the slow test.

2. His statement that speed is the predominating factor for securing marks is incorrect, because 1,000 marks are given for a non-stop run to Bexhill and back on top gear; no question of speed enters into this, 250 only for speed, the maximum to be earned, and 250 for slowest possible running.

The other portion of Mr. Govan's letter refers to some challenge of which I have no knowledge, and has nothing to do with my club's competition.—Yours truly,

HENRY HOLLANDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having noticed a letter by an eminent six-cylinder exponent commenting upon the Crystal Palace Motor Flexibility Competition, to be held on March 23rd, I should like to call attention to some obvious omissions in the rules.

1. Some method should be found to make it certain that only standard gears shall be used.

2. As speed is the predominating factor for securing marks, it is more than obvious that the horse-power of the vehicle should be taken into account.

With these two palpable defects in the rules, the competition cannot in any way throw any light on the vexed question of four v. six cylinders. In the challenge that I threw out to all six-cylinder manufacturers, quick acceleration up to twenty miles per hour was the only element introduced which had relation to horse-power, and I suggest that this should be introduced instead of maximum speed.—Yours truly,

ALEC. GOVAN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I quite agree with the criticism by Mr. Letts, in the last issue of the *M.C.J.*, with regard to the projected flexibility trial. I, for one, certainly do not see any reason for it, except it be to act as a further boom to popularise six-cylinder vehicles, whose main advantage, as Mr. Hutton recently pointed out, is that they are fine things to go slow on. There may be a few motorists and motor drivers to whom the occasional necessity of having to change gear is irksome, but I do not believe the majority look upon it in this light. The result is that manufacturers, in catering for the few, are producing cars with engines of greater and greater power, and far beyond what is really necessary, in order that all the running shall be done on the top gear. The advantages of the direct drive are unquestionably so marked that this method of transmitting power will be retained, but this does not indicate that all other speed ratios are superfluous. It is possible with a much smaller engine than ordinarily used to travel at a fair rate of speed and negotiate all the hills usually met with in the course of a day's travel, and that without an undue use of the change gear lever. In fact, I

have known of cases of cars, while climbing a hill laboriously on the top speed, being easily passed by other machines on "third," with the engine running somewhat faster, but, nevertheless, working under much more economical and satisfactory conditions.—Yours truly,
T. FRASER.

DRIVERS' LIABILITY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If a professional driver takes a motor-car from the premises of his employer, acting under instructions, and one of the family subsequently drives, what is the position of the regular chauffeur? The employer's relative may hold a licence and still be an incompetent driver, and the professional driver unable to advise, owing to the difference in social stations. Supposing, when on this journey, a summons resulted; could the professional driver be proceeded against for allowing an incompetent person to take the wheel of the car?—Yours truly,

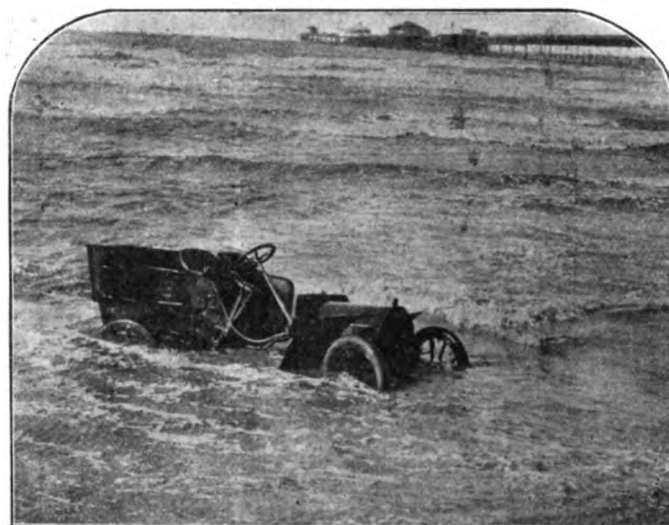
R. W.

[The summons would, of course, fall upon the person actually driving.]

A WASH ON THE CHEAP.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am enclosing herewith a photograph taken under somewhat exceptional circumstances, at Southport, on Sunday last. The car was being driven round the Marine Drive in a perfect gale of wind, in consequence of which the tide was unusually high. On turning the bend at the corner of the drive, to pass under the pier bridge, the car suddenly swerved to the right, the combined results of a nasty side-slip



and the tremendous force of wind it was just turning to encounter, and, instead of following the asphalted track, it ran straight down the abrupt slope into the sea. The photograph was taken while the car was undergoing what may be termed as a "wash on the cheap"—until the bill for repairs is presented. It was some considerable time afterwards that the car was dragged ashore, and finally taken into tow by another car. The Marine Drive was practically impassable for motorists the whole of the day, and several cars which essayed the passage were compelled to turn back, or suffer a similar catastrophe.—Yours truly,

R. WOODHEAD.

WIRE OR WOODEN WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice a point that seems to escape discussion on the question of wire or wooden wheels; that is, that, in the case of the latter, while under side stress, one or perhaps two spokes have to bear the weight, and also retard the side stress, which means that once the weight is over the centre of the spoke and the side stress continues, down goes the wheel. In the wire wheel, instead of one or two spokes being in compression, several spokes, perhaps a dozen, are under tension horizontally, maintaining the circle of the rim and supporting the weight, while the vertical spokes rebut the side stress. Moreover, you can true up a wire wheel easily, but some wooden wheels, especially those bearing the chain sprocket, have a knack of getting out of true, and I, for one, cannot true them again.

I much appreciated "Ten Years a Motorist's" letter on the subject of accessibility. Why cannot cars be made on the principle of the contractor's tip wagon? With all the asserted accessibility there still appears that horrible bolt in the flywheel which has to be removed before the bottom half of the crank chamber can be taken away. Makers

tell you they can dismantle cylinders in miraculous time. It sometimes takes me half an hour to get one nut off, and some valves require herculean efforts and very ingenious devices to induce them to come out, on account of their "disputed inaccessibility." The grade of a vehicle is, in my opinion, verified by the amount of attention paid to detail, and the ability of those details to be removed singly, and replaced easily, without pulling the car to pieces.—Yours truly,

HERBERT J. CHAPMAN.

MOTOR CAR LEGISLATION.

TO THE EDITOR OF *The Motor-Car Journal*.

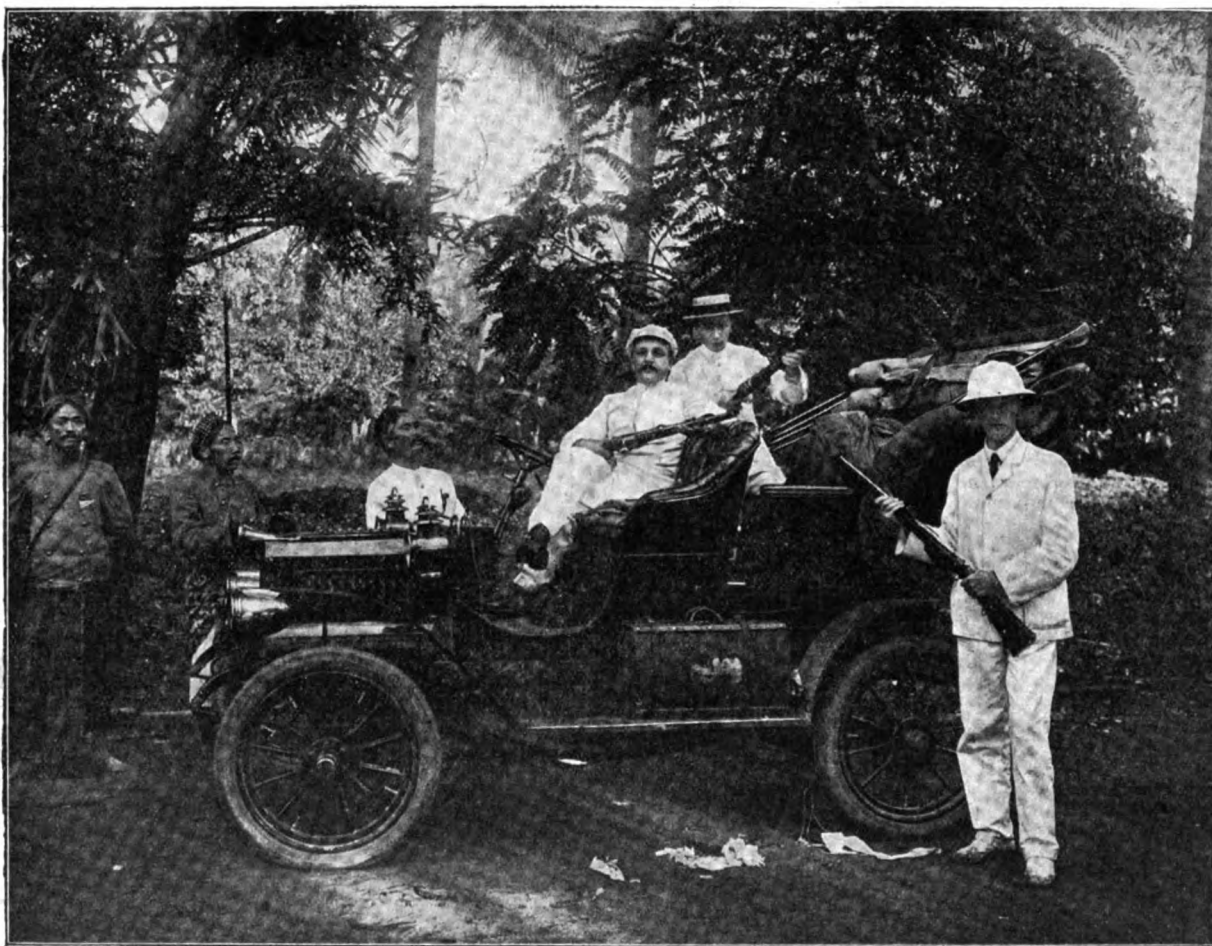
SIR,—Now that it seems generally recognised that we shall be spared further motor-car legislation for another year, there seems a tendency for the central motor organisations to rest content with the good work they have already done and leave the initiation of other efforts to the local clubs directly in touch with their own M.P.'s and other persons of influence. This is, to my mind, a great mistake; and it is about time that a definite plan of campaign was propounded declaring

SUBSTITUTES FOR THE HORN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "J. H. H." on page 1,137 of your issue of February 23rd, he appears to think that I suggested that he had only tried a cheap class of electric horn. I did not state this and did not even suggest it. What I did say, however, was that "he condemns the whole principle of electric horns to this particular sample which he has used, and that he does not recommend it on this basis," and that is precisely what "J. H. H." is doing. He tries this particular type of horn for one week and then for a further few days, when he states that he gave it up. I cannot say that I can commend "J. H. H." on his persistency. Still that is beside the point. Without dealing with my own particular experience of the "Wagner" electric horn, I have numerous friends and acquaintances who are also using the "Wagner" horn, and in no instance have they had a similar experience or anything near the experience of "J. H. H."

The whole thing evidently hinges round the old question of care and attention. It is a similar tale which you hear on many sides, I cannot



A Shooting Party in Java.—Herr Faubel, of Soerabaija, on his 20-h.p. Reo Car.

[De Auto.]

(1) against the speed limit, whether by order of Mr. Burns or the Rural Council of Liliput; (2) insisting that local authorities should fulfil all their duties with regard to road maintenance; (3) declining to pay any higher taxation than now, on the ground that we are fostering an idea which means a considerable accession of national prosperity, as the export figures published by you last week amply prove. These are a trio of points upon which we should insist, and insist upon with a vigour that shall demand attention.—Yours truly,

A NORTHERN MOTORIST.

[There is a proverb, "Let sleeping dogs lie," and it seems a sufficient answer to our somewhat impatient correspondent. Time is on the side of the motorists, and if legislation can be postponed until they are even more numerous than now, it is likely to be more favourable to their cause than if hurried along at the demands of opponents. There is a fairly general feeling of contentment among motorists with regard to the future, and to give undue prominence to the three points raised by "A Northern Motorist" would not be found very helpful to the Motor Union in its endeavours to conciliate, if it cannot convert, the non-motoring public.]

get this to go right, and that is always going wrong, and in ninety-nine cases out of a hundred you can invariably trace it to lack of a little care.—Yours truly,

S. J. WATSON.

ARE LEATHER-FACED CONE CLUTCHES DOOMED?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see in your issue of March 9th a letter from Mr. C. H. Mower, on the question of leather v. metal clutches, in which he advocates an epicyclic gear instead of sliding spurs, and thus appears to abolish both types of clutch. Of course, no such thing is the case, as in the Adams gear there are three clutches, which take the form of fibre-faced brake bands. These are no more satisfactory—and I daresay no less, save that there are three clutches instead of one—than the ordinary leather-faced clutch. At I take exception to in his letter, however, is his manifest ignorance of gear changing with properly designed sliding gears and a plate clutch. I am quite sure he can never have ridden in a car so equipped, or he would not, in common honesty, condemn the type

wholesale as "nerve racking," "clash" type gears. I should like to show him that such a thing is commercially produced as a sliding gear which is quite silent in changing. If he will give me an opportunity, I will with pleasure give him a run on my 36-h.p. Iris, and change gear as often as he likes without his nerves, however delicate, being one whit racked, nor his ears, however sensitive, detecting a symptom of clash!—Yours truly,

G. L. L. HINDS-HOWELL.
Captain, late R.A.

TRACK RACING AND WEIGHT LIMITS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In correspondence with the secretary of the Brooklands Automobile Racing Club, this gentleman has been good enough to inform me that the weight limit which has been applied to various races to be held upon the club's track at Weybridge is not governed by any other rule, i.e., that so long as the chassis scales the weight that the rule demands, either a touring body or a racing body may be fitted to the chassis. Might I suggest that this is a very sound and practical method of applying the weight limit, and it is one that is well worth consideration by club committees promoting hill-climbing or other speed tests, as, in the first place, it not only permits a manufacturer to use one chassis for various races which may be governed by rule applying to a variety of weights, but it obviates the necessity of having the body painted—this is a great cost to a manufacturer, and when it gets damaged and spoiled there is a further cost to the manufacturer. Apart from this, racing with a top-heavy body, with four people seated in it, all tends to make the sport more dangerous. So long as there is a weight limit to be complied with, surely it is far better to apply it in the least costly and dangerous manner?

If it is not too late, would not the Automobile Club of Great Britain and Ireland be well advised to change the present rules applying to the Tourist Trophy Race, and make it a race for chassis only, fitted with racing bodies, and would they not be still further well advised if they were to eliminate the dangerous practice of necessitating the fitting of a glass screen upon a car which admittedly is to race? Personally, I can see no sense in having a touring body with no people seated in it, and I consider it highly dangerous to race with a glass screen to add to one's danger. I should be happy to enter a vehicle for the Tourist Trophy Heavy Vehicles contest if the body and glass screen were eliminated, but I would object to be responsible or even to ask any of my friends or employees to drive a car with the dangerous impediment of a top-heavy body, with the risk of having their throats cut by broken glass.

I congratulate the Brooklands Automobile Racing Club upon the very wise course that they have adopted, and trust that the higher authorities will see their way clear to follow suit.—Yours truly,

D. M. WEIGEL.

AN EXHIBITION IN ST. PETERSBURG.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I give you below copy of a letter I have received, and should be glad if you could make use of same for the columns of your paper. Yours truly,

W. WINDHAM.
St. Petersburg,
March 11th, 1907.

COPY.
Captain Windham,
Foreign Office, London.

Dear Sir,—I beg to inform you that the St. Petersburg Automobile Club will hold an exhibition on and after 15th to 28th May. Having been asked to be a member of the jury, I am anxious to see also British cars exhibited, and, being aware that you take a keen interest in motors-cars, I should be glad if you would use your influence to get some of the firms in your country to exhibit British-made machines. I should advise them to exhibit cars of strong and heavy type, as light cars are not adaptable for Russian roads. I hope you will interest yourself in the matter.—Yours truly,

LUDVIG NOBEL.

ARE CARS TOO COMPLICATED?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been interested in the correspondence on the above subject. In my opinion they are. I had three stops in two years, all through unnecessary complications. My first stop was due to a broken fan belt. I repaired this; it broke again, but, as I did not miss it, in fact thought the engine pulled better, I decided to drop this, in my case, useless complication. I shall not have another fan. I consider a fan is an acknowledgment by the makers that they had not supplied an efficient radiator. My next stop was the advance spark connection—the ball came out of the socket. As there is little need of advancing spark on a magneto, I decided to drop this complication. I had low-tension magneto only, but foolishly allowed myself to be persuaded that it would be safer to have a second ignition, so put in an accumulator with distributor on the dash, driven by a chain. This chain broke and dropped in the magneto gear wheels, so that I had neither—two hours' stop seven miles outside York. When I arrived back I got the maker to allow me £4 10s. for what I gave £11 for, and shall only have

magneto in future. My experience is also that if you have two ignitions you are careless about both, so that neither of them are in good order. I could not break my jump spindle during the frosty weather, as I have not got one, but I know one firm that replaced a dozen pump spindles in a few weeks, so there were twelve stops through another useless complication. My next break was a connecting rod. I drove four miles with the broken rod knocking about, and did not think the rattle was inside. There was not the least damage done. I cannot do without connecting rods or the cylinders. If I could I certainly would.—Yours truly,

ERNEST ESTCOURT.

A PROGRESSIVE CHANGE-SPEED GEAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Mower's letter in the *M.C.J.* of the 9th inst. is interesting. I once used an epicyclic gear, and was very pleased with it on a small car, but I was assured that it would not be reliable on even moderately powerful cars. If your readers saw the "patent progressive speed gear," i.e., two cones, expanding and contracting, joined by a novel leather belt, exhibited by Jesse Ellis and Co., Kent, I should be glad to learn from them what is the objection to so simple a device. Designers appear to have made but few successful attempts to give us a more rational change-speed gear.—Yours truly,

R. HANNEN.



Touring in Italy.—The Church of St. Paul d'Arno Pisa.

FOUR OR SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As far as the controversial aspect of the six v. four cylinder engine goes, I consider Mr. Alex. Govan, manager of the Argyll Motors, Ltd., has earned, and is justly entitled to gather up, the championship honours for his company's 14-16-h.p. four-cylinder Argyll, because he issued a public challenge to makers to run against and beat any make of six-cylinder car on each of the three heads set forward as the outstanding features of the six-cylinder engine. I note the challenge was issued on January 26th. Surely Mr. S. F. Edge is not afraid to meet an Argyll? He has hitherto been looked on as principal authority on six-cylinder engines. In any case it is a pity that there is so little confidence shown by makers of six-cylinder cars, when they in craven fear allow a 14-16-h.p. four-cylinder car to beat them on the three heads which are the outstanding features of the six-cylinder engine.—Yours truly,

JOS. MCCONECHY.

A CORRESPONDENT asks for the address of Messrs. Smith and Co., who retread tyres with a patent compressed band.

A CLINCHER TYRE REPAIR OUTFIT was found by A.A. Patrol No. 57 between Hindhead and Petersfield, on the Portsmouth road, on Sunday last. The owner can have the outfit on application to the Hotel Moorlands, Hindhead.

DR. P. LAMBERT, 81, Queen's Road, Finsbury Park, N., will be pleased if the gentleman driving a motor-bicycle over the hill from the Manor House to Harringay on the 3rd inst., and who witnessed an accident to a motor-car coming up, will communicate with him.

WIRE OR WOOD WHEELS.—In connection with the correspondence on this subject Mr. W. Starley, of 81, Paul's Road, Coventry, sends us particulars of a new all-steel wheel he has devised and which has successfully passed through a lengthy test on a Daimler car.

STIFF TYRE COVERS.—"R. W." writes:—"It may be useful to other motorists to know the operation of fitting stiff tyre covers to rims in cold weather may be facilitated by first warming the covers. By doing this the covers are rendered somewhat more pliable and less liable to crack when the levers are used."

MOTOR LUBRICATION

I HAVE read with great interest, and sometimes also with amusement, the letters that have appeared from time to time in your valuable paper. With the exception of Mr. Veitch Wilson's interesting communication, however, which is based on sense and science, the various writers have shown a greater acquaintance with the art of obtaining free advertisement than of intimate knowledge of their subject. Taking these letters in the order of their appearance, we find Mr. Duncan retailing a lot of statements about a particular oil which his firm is pushing. Mr. Veitch Wilson has aptly described that oil as "unique." Now, of course, we could scarcely expect Mr. Duncan, who is a motor agent, to know much about oils at first hand. I shall attach only my initials to this letter, as my only object in writing it is to warn motorists not to play with their machines and risk their destruction by following some of the crude ideas that have been put before them, but to use only the very best oils and greases they can get; for let me, as an oil chemist and expert whose life work has been the study of the laws of friction and the best means of its elimination, assure them that the very best they can obtain is necessary if they wish to keep their machines from paying too frequent visits to the repair shop.

Mr. Veitch Wilson's practice of compounding the oils his firm sends out is perfectly reasonable, especially in regard to the lighter oils. It is well known to the more experienced and enlightened oil manufacturers that fatty oils have greater staying power than ordinary mineral oils, and it is mainly on account of this quality of greater endurance that they are used to enrich mineral oils. When we come to consider the use of heavier bodied oils, we find that for certain purposes, among which is motor lubrication, we can obtain the staying power we require without the use of fatty oils, by the careful selection and treatment of suitable grades of pure hydrocarbon oils. Even so, the judicious compounding with fatty oils can do no harm. Undoubtedly, when a thin oil is to be used for motor lubrication, it should be a compound oil; and this, I believe, is the practice of all oil manufacturers who make efficient lubrication their chief consideration.

When a really good heavy oil is used, it is extraordinary how long a motor will run without requiring repair. A few days ago I saw a large motor taken down for examination that had been in regular use for two years and had run 9,000 miles. Practically, there were no signs of wear anywhere. Also I know of a single-cylinder car that ran, under observation of the Club, non-stop from Glasgow to London and barely used a quart of oil, while less than a quart of water was evaporated on the entire journey. Similar instances could be multiplied *ad infinitum*; but I need scarcely say that such results cannot be got if no regard is paid to the actual lubricative value of the oil, but only to the price per gallon. This false economy is at the bottom of nearly all the worry and expense motorists are put to in regard to the mechanism of their machines; and it is often a source of vexation to manufacturers who take a pride in the efficiency of the lubricants they produce.

Not many months ago a sample of oil was sent me to report on that was being supplied to a large 'bus company by a firm of London merchants. It was one of the poorest grades of mineral oil, and there was little wonder that their 'buses were difficult to maintain in running order. The stuff was trash, but, as I learned afterwards, the price they were giving was in accordance, so they were just getting what they paid for. Later on, I got a sample of grease to report on from a 'bus company. They were buying it at a price that good grease could not be sold for. As a natural result, they were being supplied with a grease made of very light mineral oil and loaded heavily with French chalk. Now is there any wonder that these 'buses required to be continually tinkered at to keep them running at all? I have seen it stated by some writers in your journal that French chalk is a lubricative improvement when added to grease. Believe nothing of the kind. It is simply added to the grease to cheapen the cost of it. Also it makes the grease look whiter and nicer to the eye, and helps to hide the excess of miserably poor quality oil that is too often used in making motor greases. Black lead (graphite) is used by some. It does not cheapen the grease; but often such greases are made from the lightest and trashiest mineral oil, and in such cases probably the graphite is the only thing that makes the grease useable at all.

But why should French chalk or graphite, or any other solid material, be used in making motor greases? I consider their addition under the circumstances I have stated little short of swindling. There is no occasion from a lubricating point of view to use black lead or French chalk or anything else of a similar nature, for I have no hesitation in saying that if greases are made as they should be made, viz., of good oils and fats properly saponified and then brought to the required consistency with a good quality of oil, then such greases will fulfil every possible requirement. It is, of course, quite true that both French chalk and graphite are lubricants which for some purposes have their advantages; but they are certainly not required to lubricate any portion of a motor, unless perhaps the chains of a chain-driven car, in which case a little fine black lead added to liquefied tallow or good grease in which the chain should be steeped, not merely painted with the grease, may be of some little advantage. Even in this case it is difficult to see how the black lead can be of much service, for it is not easy to perceive how even very fine black lead will gain access to lubricate the links and pins unless a good deal of wear has taken place. In particular, I would utter a word of warning to motorists not to use either of these substances in

any position where there is a possibility of the solid material settling out, otherwise it may block up oil ways and oilholes and cause damage to bearings by preventing the lubricant from reaching them.

Mr. Critchley's letter only goes to show that a good quality of thin oil will give better results than will thick oils of inferior quality. We must remember, however, that there is something more than mere thickness required in an oil to ensure satisfactory lubrication. An oil may be thick, and yet contain a large proportion of low boiling hydrocarbons. It may also carry a considerable quantity of tarry substances; and these, when the lighter fractions vaporise, will form a sticky residuum that will clog the motor. But these defects may be present in either thick or thin oils. It must have been sticky oils of this kind that Mr. Edge was using when he wrote advising that motors should be washed out with paraffin after every run. When good oils are used the motor should not require to be washed out with paraffin or anything else. The principal reason why the use of a good quality of thicker oil is preferable to a thin one is that its higher boiling point enables it to stay on the walls of the cylinder as oil, with little or no vaporisation under working conditions. An oil of this kind does not become sticky. Then, though all oils thin down more or less rapidly under heat, yet the thicker oil retains its lubricating body better than a thin oil at similar high temperatures. True, the difference is little as found by a viscometer; but it is sufficient to ensure a better oil film on the walls of the cylinder, and that is all the user need trouble himself about.

Now let us examine the advantages and disadvantages of the use of thicker or thinner oils of good quality. The more fluid oil may, owing to the greater freedom of its particles, show during a short test a slightly increased efficiency. To obtain that result, a greater supply of oil will be required. Its disadvantages are that, if through any derangement of the cooling arrangements there should be an increase of heat in the motor, then the oil film may become so attenuated as to permit the rubbing surfaces to come into actual contact, in which event "solid friction" will at once take place and a seized piston is highly probable. When an oil is thicker than the working conditions require, it will, owing to the greater adhesion of its particles to each other and to the working surfaces, cause an increase of "liquid friction" until increase of temperature reduces its viscosity to the necessary degree of fluidity. Then there will be no further rise of temperature, and the oil will work continuously with the highest efficiency. There will be little risk of the oil film becoming displaced during a temporary stoppage of the cooling arrangements, and consequently little or no risk of "solid friction" and its attendant danger of damage and seizure.

In these remarks I have dealt with the action of the oil in the cylinder, but they apply equally to all the other moving parts of the engine, modified only by the lower temperature within the crank case. Shortly, then, a trifling decrease of "liquid friction" may be obtained with a thin oil; likewise, as I have shown, some risk of damage to motor. On the other hand, a small increase of "liquid friction" may result from a thicker oil, but there is greatly increased immunity from damage to the motor.

D. D. B.

(To be concluded.)

COMPANY NEWS.

NEW COMPANIES REGISTERED.

COVENTRY SIMPLEX ENGINES.—£3,000. To take over the business carried on at East Street Works, Coventry, as the Simplex Engine Company, and to adopt an agreement with H. P. Lee. No initial public issue. Registered without articles.

CENTURY MOTOR COMPANY.—£15,000. To acquire the business carried on by Mr. J. Yarwood and Mr. W. C. A. Jollands at Cumberland Park, Willesden, and Queen's Gate, Kensington, as the Century Motor Company. No initial public issue. First directors (not less than two nor more than five): W. C. A. Jollands and J. Yarwood. Qualification, £1,000.

THOMAS WOLFE AND SON (1907), LTD.—This company has been inviting subscriptions for 80,000 £1 shares of a capital of £150,000. In addition to having horsed vehicles, automobiles will be added to its operations. The motor department will be under the direction of Mr. Basil Crump. Offices, 1A, Woburn Street, W.C.

TURCAT AND MERY.—£100. Manufacturers and proprietors of, agents for, and dealers in automobiles, &c. No initial public issue. Registered without articles.

HORCH MOTORS.—£15,000. To acquire the undertaking or agency for the sale of motor-cars, accessories, and goods manufactured by A. Horch and Co., of Zwickau, Saxony, carried on by G. S. S. Monck at 34, Shaftesbury Avenue, W. No initial public issue. First directors (to number four): Messrs. G. S. S. Monck, S. F. Tyler, W. L. Stewart, and E. C. R. Parry. 100 shares. Remuneration (except managing director), £300 each per annum.

J. D. FERGUSON, LTD.—£6,000. To acquire the business of motor engineers carried on by Mr. J. B. Ferguson. Directors: not less than three nor more than five, the first being Messrs. Alexander Govan, John C. Nixon (chairman), J. B. Ferguson, and George Henry Ferguson. Registered office, 18, Chichester Street, Belfast.

CLUBS AND ASSOCIATIONS.

THE AERO CLUB.

THE ARRANGEMENTS have been completed by which the Aero Club has been granted by King's College, London, the free use of the engineering laboratory and the services of certain professors for carrying out experiments in the construction of aeroplanes. By these arrangements, which come into operation immediately, the only expense to which the club will be put will be the cost of materials and the services of one or two mechanics. They will, it is believed, greatly stimulate the movement. Special attention will be directed, in the first place, it is understood, to the construction of propellers; next will come the aeroplane itself, and, lastly, the motor.

ST. ALBANS AND DISTRICT M.C.C.

A MEETING was held on Thursday of last week at the Crystal Palace Hotel, London Road, St. Albans, to inaugurate a new motor-cycle club. Mr. Marriott was in the chair, and it was decided that the new club should be called the St. Albans and District Motor-Cycle

July 21st, inter-club team run; September 7th, 200 miles reliability trial, and passenger trials; September 21st, penalty run.

The opening run of the members to Brighton on Saturday was a great success. A start was made from Ditton at 3 p.m., and Brighton was reached via Leatherhead, Dorking, and Horsham at about half-past six. Dinner was served at the Old Ship Hotel, fifty-two members and friends of the club being present. The return journey to London was made the following day via Lewes and East Grinstead.

THE JUNIOR AUTOMOBILE CLUB.

AT the last meeting of the executive of the Junior Automobile Club twenty-eight new members were elected. Mr. E. March, who for many years acted as hon. treasurer to the Motor Cycling Club, has consented to fill a similar position in this club. All inquiries and applications for membership should be addressed to Mr. S. C. Darrington "Oakthorpe," Brownlow Road, New Southgate, N.

It is the intention of the officers of the club to be present at various points, north, south and west of London, each week-end during the approaching season, in order to meet prospective members, as well as those who have already joined. For this purpose members of the executive will be at the Red Lion, Hatfield, at noon on Good Friday, and at the Bear, Esher, at three o'clock on the following day.

BRIGHTON MOTOR CYCLE CLUB.

A GENERAL meeting of the Brighton and District Motor Cycling Club was held at the headquarters in Ship Street, on Thursday week, when there was a good attendance. Dr. Badcock presided. The hon.



Photo by]

The Opening Run of the Motor Cycling Club.—The meet at Ditton.

[E. W. Ashworth.

Club. The subscription will be 5s. per year. Mr. Bush, of the Clarendon Hotel, Market Place, St. Albans, was appointed secretary and treasurer, *pro tem.*, and anyone wishing to join the club is requested to write to him.

A meeting has been arranged for March 21st, at the Peaben Hotel, London Road, St. Albans, when arrangements will be made for hill-climbs and club runs, &c.

MOTOR CYCLING CLUB.

THE following new members were elected at the last meeting of the executive:—Messrs. C. C. Cooke, H. C. Horswill, G. Kelton, B. J. Pritchitt, C. G. Watson, and C. E. Woodward. Messrs. M. V. Abraham, L. A. Baddeley, R. G. Booth, R. C. Davis, R. H. Head, F. J. Jenkins, H. G. R. Slingo, and W. H. Wells were elected to represent the club at the annual general meeting of the Auto Cycle Club Council.

THE first competition of the season will be an open hill climb at Sharpenhoe Hill, near Luton, on April 20th.

On Saturday the Motor Cycling Club held the opening run of the season to Brighton—as we illustrate above.—The fixtures already arranged are as follows:—March 29th, Easter tour; April 20th, open hill climb; May 4th, Albert Brown Trophy for cars; May 17th, London-Edinburgh run for cars and cycles; June 1st, members' hill climb; June 15th, Harry Smith cup for cars; June 29th, 100 miles private owners' reliability trial; July 13th, open hill climb and competition for valuable prizes; July 20th, inter-club team competition at Warwick;

secretary (Mr. H. Clifton) having referred to the satisfactory progress the club was making, the meeting proceeded to discuss the programme for the forthcoming season, and a number of schemes were proposed. Eventually it was decided that the first hill-climbing competition should be held on the 23rd inst. (to-day) on the steep hill running up from Saddlescombe to the Dyke road. A petrol consumption trial has been fixed for May 4th, and a speed-judging test and a reliability trial will shortly take place.

THE MOTOR VAN, WAGON AND OMNIBUS USERS' ASSOCIATION.

AT the annual meeting of this association a proposition will be made to alter the title to the Commercial Motor Users' Association. In the report reference is made to the work of the year in connection with the Select Committee on Cabs and Omnibuses, the registration of motor vehicles by the War Office, the commercial vehicle trials to be held not later than September next, extraordinary traffic, the inspection of members' vehicles, and the annual meeting held at the Cordingley Motor Show in March last.

AUTO CYCLE CLUB.

THE annual meeting of the Auto Cycle Club will be held on Tuesday next, when a membership of 1,620 will be reported. 345 licences were issued to riders and permits granted to 30 clubs enabling them to promote open motor-cycle events during the course of last year. A

new club badge has been designed for fixing either on the handle bar of machines, to the front extension mudguard, or to the front of a tri-car. These badges will render it easy to distinguish members of the club whilst riding along the road, and by this means it is hoped that members will be able to assist each other if in difficulties.

SOUTHERN M.C.

THE fourth annual meeting of the Southern Motor Club was held on Thursday evening at the club's headquarters in Bronfelde Road, Clapham. Mr. Allen Vickers presided over a large attendance of members, which included Messrs. W. Howlett (president), Arthur Lorkin, F. C. Pattison, W. H. Nixon, W. Pratt, S. W. Phillpott, C. H. Pugh, T. E. Goodley, C. E. Bygrave, G. Connor, B. Grottick, A. W. Holt, J. H. R. Lloyd, H. F. Harding, E. A. Belcher, J. C. C. Brodie, H. Gutteridge, W. A. Catherwood, H. Billing, G. Fisher, A. G. East, J. W. W. Cufley, and P. T. Worger. Mr. Walter L. Lorkin (hon. secretary), presented the annual report, which showed that the club was in a sound financial position. The club had continued to watch the interests of automobilists and had done much valuable work in many ways. The Chairman, in moving the adoption of the report, said he hoped that in all matters pertaining to the welfare of the club that they would have the support of its members.

After the transaction of some routine business the election of officers was proceeded with. Mr. W. Howlett was re-elected president, and Messrs. G. Howlett, I. H. Mitchell, Lieut.-Col. Mark Mayhew, F. C. Pattison, H. L. Doulton, and Staplee Firth vice-presidents. Mr. Allen Vickers was re-elected chairman, Mr. George Fisher vice-chairman, Mr. J. W. Cufley auditor, Mr. Walter L. Lorkin hon. secretary, and the following were appointed as the committee:—Messrs. Chapman, Pugh, Connor, Brodie, and Colen Pattison. Messrs. Pratt, Phillpott, and Vickers were elected representatives to the Motor Union, Mr. B. Pattison sports secretary, Mr. Belcher, social secretary, Mr. Goodley treasurer, and Mr. Holt, riding officer.

Receipts of £122 were reported, including £63 as subscription and entry fees. Reference was made to the various successful events that had been held during the past year, and thanks accorded to various gentlemen who had rendered conspicuous service to the club.

SCOTTISH A.C.

THE following further list of official repairers has been supplied us from Glasgow:—Ayr County Motor Company, Ayr; A. Simpson and Son, Brechin; John Rutherford, Jedburgh; Dick Bros., Kilmarnock; James H. Scott, Melrose; New Arrol-Johnston Car Company, Ltd., Paisley; Henderson Bros., Perth; William Wilson, St. Andrews; William H. Cox, Lanark; Andrew Dobie, Castle Douglas; Caledonian Motor Car Company, Ltd., Aberdeen.

The Auto-Cycle Club will hold a penalty run on the 17th prox.

THE Essex Motor Club will have an Easter tour to the South Coast.

MR. F. B. MILD MAY, M.P., has been re-elected president of the South Devon A.C.

ON Sunday the Southend Motor Club had the opening run of the season to Braintree.

THE Cheltenham and District Motor Cycling Club will hold their opening run to Malvern on Good Friday.

THE annual meeting of the Northamptonshire A.C. will be held at the George Hotel, Northampton, on Wednesday next.

DR. BEALES has been elected president of the Yarmouth and District Motor Cycling Club, of which Mr. F. Worts is the hon. sec.

THE Middlesbrough, Leeds, Bradford, Newcastle, Sunderland and Hartlepool motor-cycle clubs will hold an inter-club meet at Richmond (Yorkshire) on Good Friday.

THE first event of the Lincolnshire Motor Cycle Club is arranged for Easter Monday, this being a hill climbing contest at North Carlton, on the road from Lincoln—from whence it is distant four miles—to Kirton Lindsey.

THE MOTOR-CAR AND A COMMON LAW NUISANCE.

AN important decision to motorists has been given in Bath County Court, when a cab proprietor named Woods sued Mr. H. R. Coventry, Monckton Park, Chippenham, for £50 damages to his horse. He alleged that the defendant used a motor-car which in itself was calculated to frighten horses, or was so carelessly and improperly managed by the defendant that it frightened the plaintiff's horse. The car in question was a 60-h.p. Mercedes. Mr. Coventry was restarting it in a Bath Street, when, according to the plaintiff's witnesses, there was a tremendous rattling. By general agreement, however, it was the sudden discharge of smoke and vapour that caused the plaintiff's horse to swerve and rear and put its feet through the window of another cab, injuring itself considerably. The jury found that the accident was caused by the smoke and not by the noise, but that was not due to any negligence on the part of the defendant. The judge pointed out that no case had been determined whether under certain conditions a motor-car created a common law nuisance for which the owner might be liable. Judgment was entered for the defendant with costs.

WORKS ORGANISATION.*

BY PERCY MARTIN.

(Concluded from page 53.)

MATERIAL DEPARTMENT.—I have made this department one of the chief subjects of my paper, because experience has taught me the enormous importance that the supply of suitable materials bears to the successful issue of a manufacturing concern. The first function of this department which we will consider is that of specification of materials.

In order that specifications can be sent out which will give a clear and concise idea as to the character of material required, it is necessary, as in other departments, that proper facilities should be provided. The material department, after having been provided with mechanical specifications by the engineering and other departments, should incorporate in its organisation men of the proper scientific training, and translate such mechanical specifications into the language of the supplier. The material department must incorporate a metallurgist and chemist, as well as a physicist, whose duties are to arrive at the necessary specifications of material to be used for fulfilling the mechanical requirements. This important department should be equipped as with chemical and physical laboratories, also with a complete outfit of furnaces and other appliances for treating the materials after they arrive from the rolling mills, stampers, or forges. It is not too much to say in the light of to-day's knowledge of these subjects that no stamping or forging should be used in machine construction in the condition in which it comes from the stamp or forge. In order that such important functions should be properly dealt with, the material department should above all be thorough and efficient. They should be able first of all to give intelligent specifications; secondly, they should have proper means of ensuring that material is up to specification when delivered, viz., by a proper testing laboratory; thirdly, they should be able to apply whatever treatment is necessary to the material received, thus ensuring that it is handed over to the manufacturing department in the most suitable and unvarying form. In carrying out this last condition it might also be mentioned that it is almost as necessary to leave the material in such condition that it can be economically machined as it is to see that the material will perform its duty when finished. Another portion of the routine work to be kept in mind in connection with this department is that which refers to the price paid for material. The head of such a department should keep in touch not only with his own country, but with all those countries which are noted for progress in the art of producing raw material. The one great factor which influences price of material is admittedly quantity and regularity of requirements. Therefore, this department must be well informed as to the general policy of the company, and should know at the very earliest moment what the probable future programme of the company is to be. Another great question which this department has to deal with is delivery of material. As a rule it is very advantageous for the administrator of this department to keep in very close touch with the people from whom he is buying in order to satisfy himself that their facilities for producing are ample. The ideal condition would be to have your material delivered at regular intervals and in quantities as required, thus enabling you to keep down your stock and make a consequent saving in capital outlay.

Generally speaking, I may perhaps be allowed to repeat in brief the functions of the Material Department such as I would advocate.

Such department would be able through its officials, equipment, and organisation, first, to decide what material should be used to carry out the engineers' intentions; secondly, it should be able to purchase such material to the best advantage; thirdly, it should make arrangements for delivery best to suit the desired programme of production; fourthly, it should carry out a systematic check of all materials delivered with reference to specifications sent out; fifthly, to issue all instructions for the treatment and handling of materials in case the material has not been treated in the manner before referred to previous to delivery; and lastly, this department should carry on systematic experiments and research work, with a view to introducing new and better material from time to time which is consistent with the progress which we are all aiming at.

The last general subject which I would treat with is that of labour, and naturally I have not taken into consideration any of the numerous questions which are only to be decided in view of local conditions, but have simply tried to bring out a few principles which have struck me in dealing with this important factor. I believe it to be true that the highest possible or maximum rate should be paid for skilled labour, instead of, as many managers seek to do, paying the minimum rate. In the first place, the payment of maximum rates gives a larger choice of labour, and maximum rates being paid the best men can be chosen and retained. Being certain of retaining your labour and having confidence in the thoroughness and reliability of your operators, it is then a matter of obtaining the maximum results from your men, not by driving them, but by a system of induction which enables the operator to participate in the results achieved by any extra efforts he may have to put forth. To condense the foregoing remarks into one principle, this means that one should pay the highest possible rate that a man can earn—but see that he earns it according to the individual earnings per man. The only standard from which it is possible to judge your wages spent is the relation it bears to the

*From a paper read at the meeting of the Institution of Automobile Engineers, on March 13th.

output of the factory worked out in units. It is not so much what each man earns individually, as what is produced in your works by the payment of so much in wages; and methods must be sought, not to reduce the rate of pay of your men, but actually to increase same, taking care that such increase is more than recompensed by the extra output achieved. This leads on to the consideration of the bonus system of paying wages as a means of increasing earnings of men, and ensuring at the same time more than a corresponding increase in the output. The principles of the bonus system are chiefly as follows:—Divide up work in the factory into jobs, considering these jobs as units of work. Each of these jobs is provided with a time allowance by the rate-setting department. These allowances should not be fixed by the old method of observation, but from charts and curve tables of data established by your actual previous results in different metals, operations, &c., or from other accepted sources of information.

In conclusion, I would say that having stated as briefly as possible a few of the principles of works organisation, and having called attention to a few of those functions or departments which I consider are of maximum importance, I would like to impress upon you some of the things that a works manager should avoid in running his works. If a manufacturing institution is organised with due consideration to order and cleanliness, and the responsible officials are inspired with a desire to get the best possible results, I think it is fair to say that the natural tendency is for things to organise themselves. The details of each department seem to be worked out automatically, without the chief officials concerning themselves to any great extent. Therefore, feeling that this is true, I have seen fit to add a few "Don'ts" as concluding remarks:—"Don't allow a programme of output, once settled, to be changed. Don't be tempted to accept special orders at a high price, because it can never pay to introduce a multitude of types or to upset routine work. Don't encourage secrecy between your officials, but, on the contrary, let every department head and trusted official in your organisation understand to the fullest extent your own views, intentions, and aims. Don't neglect to maintain your reputation at any cost. Institute a thorough system of inspection after each operation and make exhaustive tests before delivery; in other words, spend money freely to ensure that that which you deliver is certain to uphold and create a good reputation.

PUBLIC MOTOR SERVICES.

THE cost of working a petrol motor-omnibus of the better makes, under proper conditions, and running an average of 100 miles a day for 280 days per year, or 28,000 miles per annum, said Mr. Beaumont, in the course of a paper read on the 15th inst. before the Institution of Mechanical Engineers, may now be put as follows:

	Pence per Mile.
Depreciation at 20 per cent.	1-30
Driver and conductor	2-20
Tyres, per contract	1-75
Petrol, or fuel of other name, at 9d. per gal.	1-63
Oil and grease	0-15
Renewals and repairs	1-30
Washing, stabling, lighting, and sundries	0-45
Insurance	0-40
Supervision, assistants, ticket service, and inspectors, sundries	0-38

Total working costs 9-56

The average receipts per motor-bus mile in London exceed 13d. per mile.

THE adjourned annual general and extraordinary general meeting of the Isle of Wight Express Motor Syndicate, Ltd., was held at Ryde on the 14th inst., for the purpose of taking the poll. Messrs. Angove and Macklin, who had retired from the Board prior to the meeting, as a protest against the policy of Sir Alexander Onslow, Colonel Hamilton and Mr. Milward were re-elected.

THE Watch Committee of the Brighton Town Council have approved of an application from Mr. W. H. Holden for the licensing of ten motor char-a-bancs and twenty motor-cabs, provided they are approved by the Chief Constable.

THE somewhat novel defence raised to an action brought by the Hampstead Borough Council against the London Power Omnibus Company, at Marylebone County Court, was that the plaintiffs were themselves responsible for the skidding of the defendants' motor-bus in that they had not kept the thoroughfare where the accident occurred in fit and proper condition. Mr. Cecil Fitch, plaintiffs' counsel, said one of defendants' vehicles was descending a slight gradient in the High Road, Kilburn, when it skidded and knocked down an electric standard. The accident had cost the plaintiffs £29 odd, and it was to recover that amount that proceedings were instituted. Mr. Benson, for the defence, contended that the accident would not have occurred if gravel had been thrown down on the wood pavement, which was in a slippery and greasy condition. His Honour, in finding for the plaintiffs, said he did not know what the motor-bus companies would want next. They expected the highway authorities to provide specially prepared roadways to prevent their vehicles skidding, and did not pay a penny extra towards the rates unless their buildings happened to be in the district. He could not see that the local authority was in any way responsible.

CASES UNDER THE MOTOR CAR ACT.

RECKLESS DRIVING.

AT Barnsley West Riding Police Court, William Wentworth Clarke, mining engineer, Tankersley, has been charged with recklessly driving a motor-car at that place on August 27th last. The case had been delayed pending the result of a county-court action arising out of the same incident, when judgment was given against the defendant. Mr. Hewitt, who defended, said the defendant had already had to pay damages. In a moment of grave peril he committed an error of judgment. The Bench imposed a fine of £5 and costs, and endorsed defendant's licence.

At Shoreham Petty Sessions, on Monday, Mrs. Ada Adlard, of South Kensington, was fined £20 for driving a motor-car at a speed dangerous to the public at Southwick on February 18th. A summons against Mr. A. K. Adlard, her husband, for aiding and abetting the offence was dismissed. In evidence it was stated that on the day in question Mr. Adlard had been fined at Shoreham for furious driving, and it was while his wife was driving to Brighton from the Court the present offence was committed.

A QUESTION OF LICENSING.

At Stratford, on Saturday, William Beard, London Road, Romford, was summoned by the police for driving a motor-car without a licence; Ernest Boumann, of Grafton Road, W., was summoned for driving without a licence and allowing his identification plate to become indistinguishable; and Ernest Marti, of Church Street, Shaftesbury Avenue, W., was summoned for employing an unlicensed person to drive, and also for fraudulently lending his licence. All the defendants pleaded guilty. Mr. Barker, who prosecuted for the police, said at 2.55 p.m. on February 15th Sergeant Davis saw a motor being driven by Boumann at Park Side, Chingford. The letter "L" and part of "C" on the front were broken, and the mark at the rear was obscured by mud. Two hours afterwards the car was seen in High Road, Woodford. Beard was then



A Roadside Lunch.—A Reminiscence of Summer.

Photo by [Mr. A. M. Wastnag.

driving, and when stopped said he was only a learner, and had not got a licence. Boumann said he was the driver, and had a licence, but had left it at home. He gave the name and address of Marti, and later in the day drove to Woodford Police Station and produced a licence issued to Marti. In the meantime Marti had been seen by the police, and admitted that he had employed Boumann, and also that he had lent his licence. Beard was fined 10s. and 5s. costs; Boumann 40s. and 5s. costs, and 5s. and costs; and Marti 10s. and 5s. costs on each of the two summonses.

EXCEEDING THE LIMIT IN PARKS.

At Feltham, on Friday, a chauffeur, named Symes, was summoned for driving a motor-car in Bushey Park beyond the ten-mile speed limit. A park-keeper, who timed the car with a stop-watch, said it was going at a speed equal to twenty-two miles an hour. Two other park-keepers gave corroborative evidence. Defendant declared that the car was going quite slowly—not more than eight miles an hour, and he called another chauffeur who was riding with him, and who put the speed of the car at between eight and ten miles an hour. The chairman said the Bench did not believe a word the last two witnesses had said, and a fine of £5 and costs was imposed. The owner of the car said he would appeal against the decision.

The Earl of Portarlington was summoned at Kingston, on the 14th inst., for driving a motor-car at a greater speed than ten miles an hour in Richmond Park. A park-keeper said the defendant was timed and found to be travelling at the rate of twenty-five miles an hour. The earl did not appear, but was represented by counsel, who said he admitted the offence, and regretted his inability to attend the court. Counsel was also sorry that he had not got his lordship's licence, as they had telegraphed for it, and it had not arrived. The Bench imposed a fine of £3 and 8s. 6d. costs.

ROAD REPORTS.

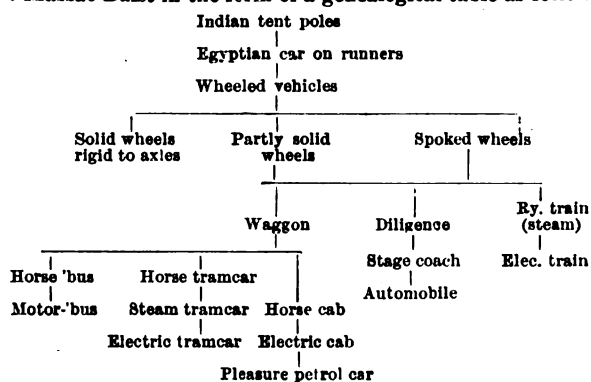
HULL.—The Town Council of Hull has been for some time carrying on a policy of widening on the main roads. It is at present dealing with a section of the Anlaby Road and is also negotiating for land for widening the Cottingham Road. Last year Mr. A. E. White, M.Inst.C.E., treated some roads with oil gas tar with some degree of success and purposes repeating its use on a larger scale this year. The ordinary road material (Durham whinstone bound with local gravel), however, is practically dustless with any traffic except that of fast motor-cars.

SUSSEX.—The roads in the neighbourhood of Petworth, Stopham, and Fittleworth have been under repair, while in the Cuckfield district the High Cross Road, Albourne, and the Handcross to Balcombe roads have been metalled and rolled.

KINGSTON.—Motorists familiar with Kingston will know the cross-roads which connect Thames Street with Wood Street and Clarence Street, the latter being the thoroughfare along which the electric tramways run, while the other two are at the opposite side of the crossing. The tramways have, it is alleged, a compulsory "halt" at the corner of Clarence Street and Wood Street on their way from Kingston Bridge, with the result that the already narrow roadway is further constricted at an important point. When a tramcar is stationary at this point the occupants of vehicles behind cannot see the traffic ahead or that coming in the opposite direction, while traffic turning out of Thames Street to go towards Kingston Bridge, or *vice versa*, runs great danger, especially as there is another "halt" at the corner of Thames Street and at the opposite corner of Clarence Street. It is suggested by the Motor Union that the danger would be mitigated if the halt for down trams were moved further down Clarence Street after Wood Street has been passed.

THE EVOLUTION OF THE MOTOR VEHICLE.

METHODS of locomotion have been quickened in civilised countries within the last hundred years, and only comparatively recently have they gone beyond the means of conveyance still laboriously followed in lands not yet emerged into the wider world. And yet there have been few stages from the earliest ways of progression to the easily-regulated and rapidly-moving motor-vehicle of to-day, as was recently shown by Mr. H. Massac Buist in the form of a genealogical table as follows:—



MOTOR-'BUS DRIVERS AND EMPLOYERS' LIABILITY.

ON the 15th inst., in the King's Bench Division of the High Courts of Justice, Mr. Justices Darling and A. T. Lawrence heard an appeal by a plaintiff named Smith, the driver of a motor-omnibus, from the decision of Judge Bacon at the Bloomsbury County Court, who had entered judgment for defendants, the Associated Omnibus Company, in an action brought by the plaintiff to recover damages for personal injuries. The learned judge came to the conclusion that a motor-'bus driver was not a workman within the meaning of the Employers' Liability Act, 1880.

Mr. Justice Darling, at the conclusion of the arguments, said that in his opinion the driver of a motor-omnibus was a workman within the meaning of the Employers' Liability Act, as he was "engaged in manual labour." The case would go back to the county court to be re-tried.

MOTOR-CAR ACCIDENTS.

STEPPING off the pavement in Seven Sisters Road, Islington, to hail an approaching tramway-car on Friday of last week, a man named Richard Herbert Margerum was knocked down and killed by a motor-car driven by Ralph Taylor, chauffeur to Colonel Lockwood, M.P. The motor-car collided with a tramway standard and was considerably damaged, and broken glass struck Mr. Whetnall, who was in the car, inflicting severe cuts on the face. The chauffeur on Saturday appeared at Tottenham Police Court charged with the manslaughter of Margerum. The accused was remanded, bail being allowed. On Tuesday the coroner's jury said there was no blame to be attached to Taylor.

A MOTOR-CAR accident has happened on the Tideswell and Miller's Dale road. Mr. James Furniss, of Litton, was returning from Miller's Dale Station, and when near Breezedale a Sheffield motor-car collided

with his trap, knocking the body off the axle. Mr. Furniss was thrown violently on the bank side, and was severely shaken. The back axle and radius rod of the motor were badly bent.

BUSINESS NEWS.

MR. ERNEST H. ARNOTT has joined the staff of the New Arrol-Johnston Car Company, Ltd., of Underwood, Paisley, and will drive the new Arrol-Johnston cars in all the principal competitions this year.

MESSRS. MORGAN AND CO., Long Acre, London, W.C., have secured the British Agency for the Adler cars, made by the Adler Werke of Frankfurt-am-Main, Germany.

FROM Messrs. McNeil, Hutchison, and Company, Ltd., Manchester, comes a copy of their new catalogue of Cotteneau cars, in which particulars and illustrations are given of the latest models.

MESSRS. DENNIS BROTHERS, LTD., have just secured an order for three motor char-a-bancs for service at Colwyn Bay.

THE London County Council has just placed an order for five steam wagons with Messrs. Fodens, Ltd., Sandbach.

MESSRS. S. F. EDGE, LTD., have issued an illustrated circular, entitled "Useful Tips for Motor Car Users," which deals with the adjustment of coils in order to obtain perfect sparking.

FOR the convenience and advantage of their agents, as well as owners of garages generally, the Ariel Motors (1906) Ltd. have brought out an excellent clock, which is substantially made, with an appropriate figure of a car on the dial. Recognising the mutual advertisement it provides, the company are supplying it at a very reasonable figure to those willing to inform their clients of the time of day.

WE have received from Messrs. Laurin and Klement, of Jungbunzlau, Austria, several catalogues relating to their cars and motor-cycles. This firm has established an excellent reputation on the continent, and has numerous successes to its credit.

DURING last week Messrs. Friwell, Ltd., held a special sale of heavy commercial vehicles, as well as ordinary pleasure motor-cars. The auction rooms were well patronised, and during the particular afternoon over £2,000 were realised on certain vehicles within fifteen minutes.

A NEW list of the Validus non-skids, both vulcanized and detachable, has been issued by the Validus Non-skid Motor Tyre Company, 109, Victoria Street, S.W. The special feature of this list is the new retread with rubber insertions. The company also does round and square retreads, and can quote for this work at low prices consistent with good workmanship and material.

FIAT MOTORS, LTD., have sent us a circular giving particulars of the "Fiat" commercial vehicles. The Fiat Company was one of the first to realise the enormous possibilities of the petrol motor for commercial purposes, and as far back as 1903 this company supplied motor-luries to the Italian and Portuguese Governments for military purposes. In consequence of the increased demand for this type of machine a special factory has been built and equipped for the manufacture of Fiat commercial vehicles. The Fiat Company's engineers recently visited this country with a view to constructing a vehicle specially adapted for the English market, as a result of which the design of the vehicles has undergone a complete change, the company being now in a position to supply a chassis which meets all requirements. The North Eastern Railway Company, which recently sent their engineers to the Fiat factory, has placed an order with the company for ten motor-omnibus chassis.

MESSRS. HANS RENOLD, LTD., Manchester, have just issued a new catalogue of the Renold roller chains for motor-cars, 'buses, and wagons. They are made in a variety of pitches ranging from $\frac{1}{2}$ in. to $2\frac{1}{2}$ in., the dimensions being given in both English and French measurements.

THE third extension of the motor body building department during the past two years of the Star Engineering Company, at Wolverhampton, has just been finished and opened. This section of the factory now practically covers 22,600 feet; the machinery, which is of the most up-to-date description, is all driven by electric motors and the works are lighted by electricity generated on the premises.

DURING last week several agents and friends accepted the invitation of the Wolseley Company for a run down to inspect their Crayford works. The journey was made on a new petrol-electric 'bus, in which change-speed mechanism and clutch are entirely dispensed with, the drive being conveyed by means of a generator and separate electric motors to the road wheels on the British Thomson-Houston system. The vehicle is in every other respect the standard Wolseley-Siddeley 'bus as in use by the London General Omnibus Company at the present time. Good running was made over what is admitted to be an exceptionally heavy trial road, both as regards traffic and the severe gradients. At Crayford the visitors were much impressed by the organisation of the shops and the various processes of manufacture. The large testing track attached to the works was also made use of to try the paces of one of the new 18-h.p. Siddeley live axle cars. This track is just under a mile in extent, and at one side a specially made test hill has been arranged in order that vehicles may be tried and passed as absolutely ready for the road before leaving the works.

THE Electric Ignition Company, Ltd., inform us that the fire at their stores at Birmingham will not interfere with their deliveries.

WE learn that the Logan Motor Car Company have taken offices at Fenchurch House, 5, Fenchurch Street, London, E.C., where this system will be handled as regards Great Britain. The Logan Company will exhibit several of their cars, including a butcher's van, a ten-passenger char-a-banc, and a 20 cwt. lorry, at the Cordingley Show.

THE Motor-Car Journal.

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COMMENTS.



THE Policeman's Hand has hitherto been the regulating force of the traffic of the streets; whether it is to be superseded by a kind of intuitive sense on the part of drivers we know not. Earl Russell is evidently of the opinion that something of that kind may take place in the future. Meanwhile he has been giving his views on the Scientific Regulation of Traffic to the members of the Royal A.C., suggesting half a dozen points which, if enforced, would add to the safety and promote the rapidity of travelling on the highways. They are as follows:—Dangerous corners should always be indicated by signs; no vehicle should enter a main road from a side road without coming to rest; drivers should always be accompanied by a second person to signal approaching vehicles and assist in controlling the animal; a raised footpath should be provided for pedestrians; licences should be issued to all drivers on main roads and all vehicles travelling at night should be lighted both back and front. This probably is the basis of a kind of Utopia, but the way in which the House of Commons approved of the Lights on Vehicles Bill indicates that a sane view of road problems is now being taken by public men. Herein is a hope that the necessity of constructing highways on a scientific plan, having regard to the exigencies of traffic, will be recognised before long by the responsible authorities.

Badges.

FOLLOWING the initiative of the Automobile Association, which provided its members with badges so that they might distinguish each other when upon the road, all the great national motor-car organisations seem to be decorating the vehicles of their members in the same way. The Motor Union has now its distinctive embellishment for cars and the Auto Cycle Club has its badge for motor-cycles. Now the Scottish Automobile Club has devised a plan by which a badge will be issued on loan to members for attachment to their vehicles. Possibly the idea is that it will be returnable should the member be guilty of inconsiderate driving or some similar offence. But the favour with which the idea of the badge has been taken up suggests that the day is coming when artistic embellishments of many kinds will be available for the decoration of cars and the mystification of the police and others who will try and find cryptic meanings in the various monograms and signs found on automobiles. Mr. Tom Browne's view of the matter appears on page 90.

The Motor Union.

ARTHUR Stanley, M.P., was able to tell of a membership of 14,792 and a record of good work not only in preserving the interests of motorists throughout the country but also in carrying the attack

into the camp of persons who assume the offensive against individual motorists. That is a point of considerable importance and should do much to assist Mr. Rees Jeffreys and his excellent staff in raising the total number of adherents to 20,000 ere the occasion of the next annual meeting. Everyone is now anxiously awaiting the report of the Fuels Committee of the Union, which is hoped to have something definite to say with regard to a matter of practical concern to all who motor, and we trust Dr. Hele-Shaw's anticipations as to its interest will be fully realised.

Applications for Motor-Car Restrictions.

THE Motor Union is making enquiries into two applications made by public authorities to the Local Government Board for restrictions to be imposed under the Motor Car Act. The East Sussex County Council are seeking to impose a five mile speed limit upon a portion of the highway leading from the Lewes to Eastbourne main road at Berwick to Seaford. The First Commissioner of Works has also applied for an Order to prohibit the driving of motor-cars on the highway known as Barge Walk, between the river Thames and Hampton Court Park, extending from Kingston Bridge to Hampton Court Bridge. Unless it appears that these restrictions are necessary to ensure the safety of the public they will be opposed by the Union. Any motorist who is in a position to supply information respecting the character of the roads in question and the nature of the traffic upon them is invited to communicate with Mr. Rees Jeffreys, at 1, Albemarle Street, W. Notices of objection must be deposited with the Local Government Board by the 3rd in the case of the East Sussex application, and by the 8th prox. in the Hampton Court case.

Road Improvement Competitions.

IT has been decided that the Tar-Spreading Competition of the Roads Improvement Association shall be carried out about the middle of May—this having just been settled at a meeting of the Council of the Roads Improvement Association and the Judges' Committee of the Competitions. The latest entries received for the Tar Preparation Competition are from Messrs. Hahnite and Messrs. Kay Brothers, Ltd. All intending competitors should send in their forms to the Hon. Secretary of the Roads Improvement Association, 1, Albemarle Street, Piccadilly, W., as soon as possible, as the entry lists close for both competitions on the 31st inst.

Changing Seats on the Car.

SOME time ago a well-known London M.P. had a serious accident in Wales, through being thrown out of a motor-car while in the act of standing to put on his overcoat—a mishap that nearly proved fatal. Too much care cannot be exercised by motorists when on the car, and it is always well to slow down when changing seats. On Monday evening an alarming accident due to the neglect of this precaution occurred at Llangollen. A large car was being driven along the Abbey Road in that pleasant town when the owner of the vehicle essayed to change seats with the chauffeur. In doing this the steering wheel was neglected,

and the accelerator accidentally pressed. The car swerved to the side of the road, dashed over a parapet, through the boundary fence into the grounds of a large house on the road. The occupants of the car were all hurled out, one lady being caught in the branches of a tree. The thick glass of the wind screen of the car was shattered, severely cutting the chauffeur, who was treated at the local hospital.

By Coach to Brighton.

MOTOR coaching should become as popular as that of the older form: and the enterprise of Fiat Motors (Ltd.) in establishing such a service between London and Brighton should prove popular with the public. The 40-h.p. vehicle which is employed in this way is luxuriously appointed, and making the journey in about two and half hours, will prove a new delight to the habitue of the road. In olden times as many as thirty coaches reached Brighton from town in the day, and, given a good summer, something like a return to the ancient glories of the road should be possible ere long.



Mr. C. Jarrott leaving the Royal Automobile Club on his record run to Monte Carlo on a 30-40-h.p. Crossley Car.

London to Monte Carlo.

BUT this trip to the seaside has been overshadowed by the notable efforts made during the last few days to attack the London to Monte Carlo record—an event that aroused considerable interest at various points of the journey. On Saturday morning Mr. Charles Jarrott left the Royal Automobile Club in Piccadilly at 8.30 a.m., and at 7.35 p.m. on Sunday he stopped his car—a 30-40-h.p. Crossley, at the Hotel Hermitage, Monte Carlo, having taken but 35 hours, 20 minutes on the journey, two hours and ten minutes less than the time occupied on his memorable trip of last season. Even better running would have been credited to Mr. Jarrott but for punctures before he left England, and a stop of an hour and a quarter at Beauvais in getting a broken lubricating pipe repaired. Some of the lost time was, however, made up on the way to Versailles, from whence to Aix five passengers were carried. Between Auxerre and Chagny nearly two hours were lost owing to a French mechanic having piloted them on to the wrong road. These mishaps, however, add to the excellence of the performance of the car, which behaved in true British fashion throughout the long jaunt.

A Night Out.

ON Thursday evening of last week Mr. Arthur Earp, accompanied by Major C. G. Matson, attempted to lower the London to Monte Carlo record on a 40-h.p. six-cylinder Iris car. Unfortunately, however, despite the excellent running of the car, the motorists had an unpleasant experience, which prevented the realisation of their ambition. All went well from London to Dieppe and from Dieppe to St. Etienne, some 350 miles to the south-east. Trouble came when darkness fell, for something went amiss with the generator supplying acetylene gas to the headlights, which were continually blown out. On the St. Etienne Pass snow three feet deep was encountered. It was impossible to proceed without a powerful light, and there was nothing to be done but to await the dawn. The four members of the party slept in the car until daylight came. The long stop of course precluded any further attempt at record-making. Ultimately Nice was reached on Saturday afternoon, and a stop was made there. Major Matson telegraphs:—"The time the car was actually running, deducting all stops along the road between Dieppe and Nice during the day and night, was about twenty-five hours, and the distance covered was 739 miles. The reliability and comfort of the six-cylinder British car are amply proved, and it will certainly become a popular type. The Palmer tyres did splendidly."

Easter Tours.

FOLLOWING a time-honoured custom of the M.C.J., we take advantage of the near approach of Easter to invite readers who discover new routes, or find fresh beauties in the old ways, to send us brief descriptions of their experiences. Such accounts, especially when particulars of the mileage and the hospitable places encountered on the road are given, are of real value to other touring motorists. No modern movement has so quickly established a spirit of comradeship amongst its devotees as motoring—a fact to which our columns continually bear witness. Doubtless we shall often hear from old friends during the coming season; letters from new readers will also be welcome, and where these chronicles of journeys by motor-cars can be illustrated with photographs our pages will be correspondingly brightened. The fine week-end that most parts of the country enjoyed last Saturday and Sunday tempted many motorists on the roads, and those to Portsmouth and Brighton in the south and the popular highways of the north seemed to regain something of their summer appearance.

Photography.

PHOTOGRAPHY has indeed received quite an impetus from the general advance of motoring; for the car enables travellers to find new delights in their own country, as well as abroad. And thus it is that the enthusiastic motorist, finding fresh pleasures, betakes himself to the camera to obtain permanent impressions of the beauty spots of England. This is but one sidelong illustration of the varied influence of the automobile in developing other aspects of industry. For many of the more energetic dealers in photographic materials are specially catering for motorists on tour; and throughout the country many illustrations of the associations between the motorist and the photographer can be discovered.

Commercial Vehicles in Scotland.

NOT content with having taken a useful part in encouraging the development of the motor-car for touring and pleasure purposes, the Scottish Automobile Club has now established a Commercial Vehicles Department that promises to do much to promote that side of the motor movement. Already it has rendered assistance to the Mechanical Transport Committee of the War Office in securing the registration of commercial vehicles north of the Tweed, and although the committee responsible for the new branch will be subject to the

jurisdiction of the general committee of the Scottish A.C., its freedom of initiative will in no way be cramped, so that Scotland now possesses a new motor organisation with all the strength that the parentage of the older Club can give it. The objects of the new department will be to protect the rights of users of heavy vehicles, obtain the removal of harassing local regulations, &c., organise tests, promote the improvement of roads, and generally encourage and popularise the commercial side of the movement, as yet untouched by the ordinary work of the Club. Mr. R. J. Smith is secretary of the Commercial Vehicles Department, so that its organisation should be well begun.

A Famous and Ancient Hall.

CHESHIRE is noted for its half-timbered buildings, the most famous of which is Moreton Old Hall, shown in our illustration. This is one of the best known specimens in the country, rivalling even the halls of Bramhall and Adlington. It is situated just off the main road from Congleton to the Potteries, and is a favourite resort for motorists and photo-

graphers as well as for antiquarians. The hall possesses a noble courtyard, and is surrounded by a moat. Our picture was taken when Mr. Sawley Brown, a leading member of the Manchester Motor Club, was visiting the place with a party of motorists. He is seen standing by his trusty 16-20-h.p. Argyll car, on which he has toured throughout the county of Cheshire.

MUCH comment has been made, in previous years, with regard to the bodies fitted to cars in the Tourist Trophy race, and at the last meeting of the Club Committee a letter from a member of the trade was read, suggesting that they should insist on all cars in competitions being fitted with ordinary touring bodies, and not with bodies specially made for the occasion. It was pointed out, however, that under the Club's

Touring Bodies in Competition.

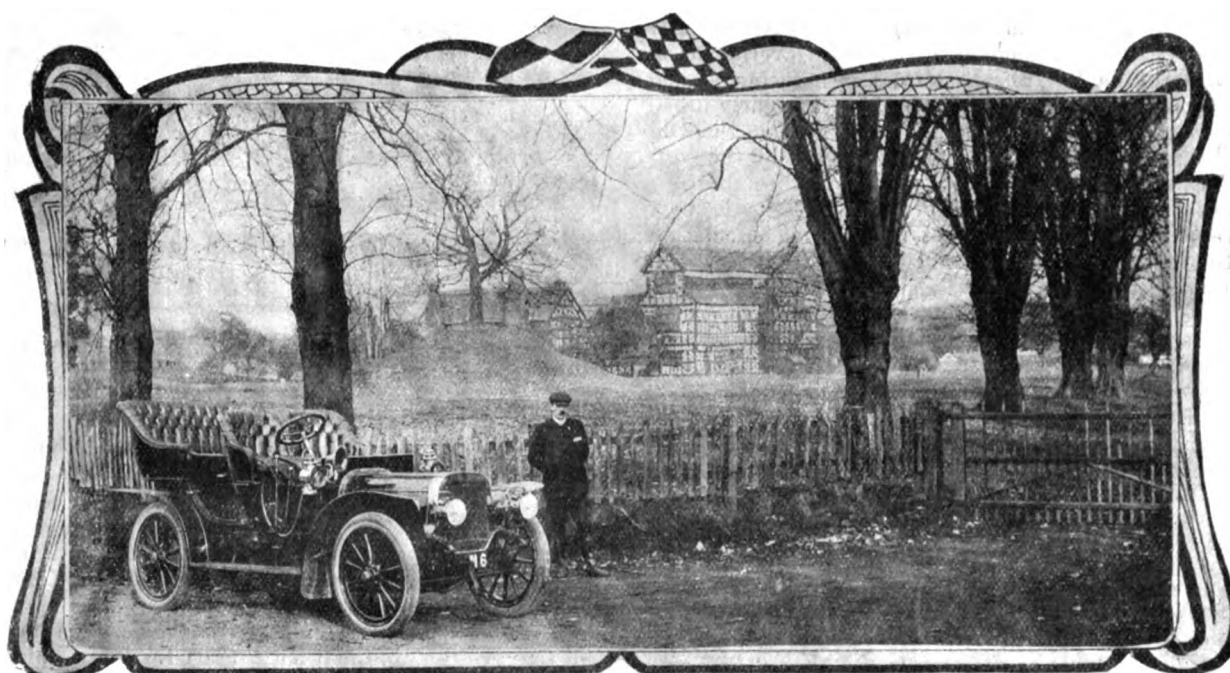


Photo by]

A Famous Half-Timbered Building in Cheshire—Moreton Old Hall, near Congleton.

[Harry Wade.

formula wind resistance and weight were taken into consideration, and there was therefore no inducement for a competitor to fit his car with a body not of the usual touring pattern. Instructions were given for this to be pointed out to the member, and to competitors generally. Whether this formula has secured all that was intended is a matter of considerable doubt.

THE news that the governors of Elstree School had become alarmed at the number of automobiles using the highway in the vicinity of their establishment and had determined to construct a subway in order to protect the lives of

A School Subway.

their proteges has been heralded in the general Press as another instance of the risks that the motor-car has brought upon the people. In fact, the statement has been published in such a prejudiced fashion that we have been at some pains to ascertain the exact position of things with regard to this well-known school in the county which Charles Lamb was fond of designating as homely Hertfordshire. The Rev. F. W. Lushington is the headmaster of Elstree School, which is a private school for boys under fourteen years of age. He assures us that the danger

Dunstable and the Dust.

THE position of Dunstable on Watling Street and Ickneild Street, the former being on the main road from London to Holyhead, has rendered it familiar to motorists, and it is computed that during the summer months as many as 300 to 400 motor-cars pass through the little town every day. In recent years the residents and shopkeepers occupying premises on the high road were compelled to keep their doors and windows closed—a precaution which did not keep them wholly free from the dust of the street. The regular employment of the water cart proved unavailing in allaying the grievance. A year ago a new Borough surveyor, Mr. John Stewart, was appointed, who quickly concerned himself with the problem that he knew would

arise in the summer, reporting to his Survey Committee in favour of tar-painting the roads. In April a length of about a quarter of a mile was dealt with in such a way that the Committee, recognising the efficacy of the work, approved of its extension to the whole of Watling Street and Ickneild Street that were within the area of the borough jurisdiction. Throughout the whole of last summer the roadway proved a great success, and the dust of previous years was unknown. Its behaviour during the winter has been such as to warrant the claims of permanence for this method of dust laying, the surface having withstood the sharp nipping frosts with the hardihood it defied the heat of the sun. It is gratifying to know that other local authorities in the district are considering the adoption of this plan, and so there is a possibility of the increased popularity of that section of the road and a lessening annoyance to residents from the passage through Dunstable of hundreds of motor-cars every week.

An Australian Reliability Run.

THE number of motor-cars privately owned in Australasia is steadily increasing, and we learn that the Premier of Victoria frequently uses one in his visitation of Government departments in the colony. So far the Government of that part of Australia has refrained from introducing special legislation with regard to motor-cars, although persistently urged to do so by some of the influential journals. As in the Old Country, motorists there have everything to gain by the postponement of efforts in this direction. In another column our Correspondent suggests the institution of a Reliability Run on somewhat severe lines, and, in view of the growing circulation and influence of the *M.C.J.* throughout the Australasian colonies, we would remind our readers that Trials and Reliability Runs have done much to further the movement here, and should be utilised to advance the rate of progress in countries where the advent of the automobile is a matter of commercial value as well as of pleasurable interest. In this connection it is of interest to learn that during their sojourn in this country each of the Colonial Premiers attending the forthcoming conference will have a motor-car placed at his disposal.

Cordingley's Motor Show.

FOLLOWING the Olympia heavy vehicle and boat exhibition is the Cordingley Show, which will be held from April 6th to 13th at the Agricultural Hall, and which continues to flourish annually despite the heavy frowns of the powers that be. "In a conversation with Mr. Cordingley I was somewhat surprised," says the writer of "Motoring Notes" in the "Onlooker," "to hear that next year will see the Hall almost twice its present size, by reason of the proprietors having bought up thirty-seven houses adjoining, which will be demolished to bring about the enlargement." "It cannot be denied," continues this well-informed writer, "that the Cordingley Show, from a purchaser's point of view, is fixed at a very happy date, and it will not be a matter of surprise if brisk business results. It is useless to discuss or deny the fact that business at the last November Olympia Show was not all that was anticipated or desired, and, with the exception of one or two firms, the volume of business was principally confined to agents. It seems a thousand pities that amicable relations cannot be brought about between the Society and Mr. Cordingley, as the majority of the bondholders would like to have at least one or two of their latest models on view at a period of the year when the purchaser is walking about with his cheque book in his hand. Granting that it is impossible to hold the Olympia Show much later than November from the manufacturers' point of view, I contend that it is the wrong time of year for sales, and, after all, that is one of the prime reasons for exhibiting. I would therefore suggest that the Society allowed agents of the 'barred' cars to exhibit at the Cordingley Show if they wished; for, just as the Olympia Exhibition in November is the best time for the manufacturer, so the Cordingley Show is the psychological moment for the agent."

The Flexibility Trial.

AFTER having been the subject of much critical correspondence, the flexibility trial organised by the Crystal Palace A.C. took place on Saturday, attracting fourteen entries, of which ten actually started. Shortly after 8 a.m. the first car went forth from the Crystal Palace for Bexhill, where all arrived soon after eleven o'clock. The motorists proceeded to the Earl de la Warr track, where they engaged in speed trials. Firstly high speed trials were made, the distance being a quarter of a mile. Subsequently "crawling" tests engaged attention, the distance being 110 yards. The trials lasted until 1.30, when the motorists adjourned for lunch at the Sackville Hotel, and later—about three o'clock—the return journey was embarked upon, times being taken up River Hill, which was negotiated by Mr. Cecil Edge on the 60-h.p. Napier on his top speed gear all the way—as shown in our photograph on page 96. The actual results on formulæ have yet to be ascertained, but the general results were as follows:—

Car.	No. of cylinders.	Fast speed. M.P.H.	Slow speed. M.P.H.	Engine stops.	Gear changes.
60-h.p. Napier	6	57.69	3.48	nil	nil
40-h.p. Ford	6	48.38	6.36	nil	1
24-h.p. Courier	4	46.39	5.28	3	4
35-h.p. Maudslay	4	40.54	5.16	1	1
28-h.p. Mass	4	40.18	6.36	1	1
14-h.p. Vulcan	4	39.13	4.75	nil	2
30-h.p. New Engine	4	35.29	7.70	nil	9
30-h.p. Brooke	6	34.51	6.36	1	13
16-h.p. Reo	2	34.28	7.03	nil	3
24-h.p. Porthos	4	34.28	7.70	—	—

The Porthos was withdrawn before leaving Bexhill, the mechanic having slipped off the step when he was riding.

ALL the Dunlop Tyre Company's depots will remain open during the Easter holidays in order to execute urgent orders from users of those tyres.

THE MOTOR CAR DEPOT established in Police Street, Brighouse, by Mr. John Hoyle is being again extended to meet the growing business in all types of cars. A special feature is made of the sale and exchange of second-hand vehicles, and the ten years' experience of the proprietor in the automobile business stands him in good stead in this department. The premises include a garage and repair shop, and among Yorkshire motor depots this one occupies a good position.

A COMPANY has been registered in London under the title of the "Argyll Motors (Continental), Limited," which has for its purpose the exploitation of the well-known Argyll on the Continent. Mr. Leicester, one of the directors of the company, is at present in Paris arranging for the establishment of a depot in the neighbourhood of the Rue de la Paix for the sale of Argyll cars, and a large garage and repair workshops is also being acquired near Paris. It is the intention of the company to open branch establishments in all the principal cities and towns throughout the Continent and to also let out cars on hire for long or short periods.

THE Technical Year Book, 1907, represents the exercise of the quality of "intelligent selection" on the part of Mr. A. C. Kelly and Mr. C. Weeks, and gives within the space of 400 pages a resume of the data and memoranda of importance that have appeared in the technical press during the past year. Covering a wide field, ranging from canal haulage in France to the regulations with regard to motor-buses in England, and from the effect of smoke on trolley wires to a comparison of the cost of electricity supplied by borough councils and companies, it presents an interesting record of engineering progress. The section devoted to automobilism is somewhat variegated, the score of pages of which it consists giving information with regard to licences, Scotland Yard regulations for motor-buses, the formulæ for finding the speed of vehicles, the tractive effort in automobiles, a diagram showing the export of French cars, a lamp lighting table, and a list of steep hills in England. Messrs. Percival, Marshall and Co. have issued the book in a neat and handy form.

THE PLEASURES OF MOTORING.

BY CHAS. E. DURYEA.

THE owner of an up-to-date motor-vehicle is a fortunate being at this time of year. Nature seems more attractive now than at any other period, and invites all her lovers to an outing. With a light vehicle, strongly constructed and of ample power, one is prepared to go anywhere at will. Folding hoods with curtains and storm apron will protect against possible showers, but, since many roads are dusty, clothing must be suitable and linen dusters or light cloaks are practical if not picturesque. The ladies in particular should provide their hats with silk capes at the back to protect their hair from the clouds of dust behind. The average fuel tank is ample to meet all needs in most portions of the country, for petrol can be now readily obtained. Lubricating oil should be carried to avoid the bother of securing oil of suitable quality when wanted. Tools, extra small parts, and tyre repairing accessories are necessary. For long trips the necessary clothing should be carried in suit cases, strapped firmly in some convenient place. Thus equipped one has but to turn the starting handle and awaken a genie powerful, willing and tireless, beneath whose muscles of steel and tyres of rubber the landscape flits at the will of the driver.

What is more pleasant to contemplate than coasting through the world as free as a bird. A slight movement of the steering wheel determines the direction, a touch of a lever determines the speed, while a brake pedal under one's foot insures ample ability to stop the vehicle in case of emergency. No hills are too steep for the sturdy motor, and the easy sweep down an incline and across the valley, followed by the powerful, rapid and majestic climbing of the opposite hill, combine both the grace and swiftness of the swallow with the irresistibility of an avalanche. The rapid motion furnishes always a cooling breeze, regardless of the direction, and neither hills nor bad roads tire the willing vehicle. To drive rapidly when opportunity offers, to linger along in beautiful spots, to stop for fruit and flowers, to choose a quiet inn for the night, to visit mountain and seashore in rapid succession—in short, to thoroughly enjoy life—is the lot of those who are fortunate enough to spend their summer vacation in a motor vehicle.

To him who, in the love of Nature, holds
Communion with her visible forms
She speaks a various language.

Nature is never more beautiful than when seen from the seat of a motor-car. The fortunate possessor of an automobile, by his veritable independence of limitations, is more ready to perceive and able to enjoy the beauties of nature than less fortunate mortals. If he prefers the water, mile after mile of brook or river or lake floats before him like a panorama. Long springs, large tyres, and luxurious upholstering smooth the way, and the face of nature appears like a map—free from obstructions. There is no tiring of the scene, no waiting for new ones, no laborious exertion to secure the result. As if by magic, and without feelings of sympathy for the hard working horse, one glides along enjoying the beauties of nature—not on heated, noisy iron rails, not through dark smoky

tunnels, not through the roughest portions of the town, but ever on the best roads, past the finest houses, through the most beautiful parks and alongside well-kept farms. This difference in seeing a country must be tried to be appreciated. The cyclist knows something of the beauties of nature, but no one enjoys this picturesqueness so fully as the motorist. To paraphrase Milton, one may truly say—

"With thee a-riding, I forgot all time,
All seasons, and their change—all please alike."

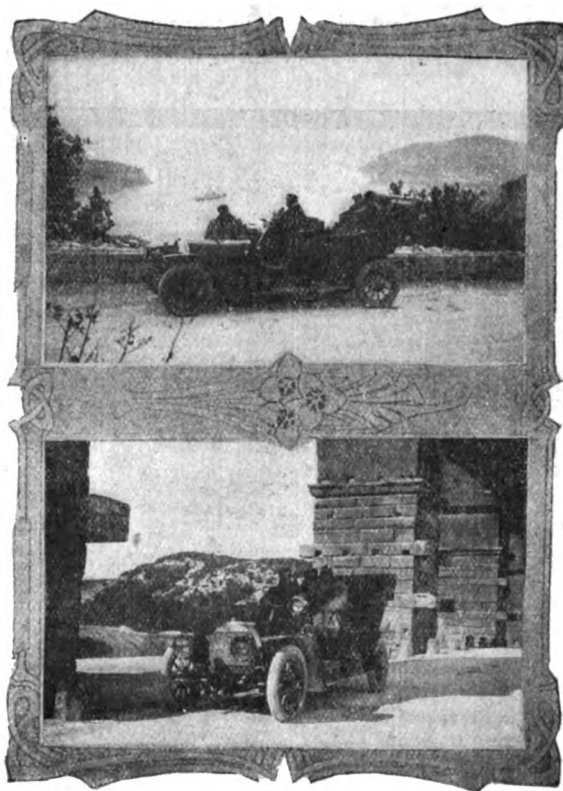
The springtime, with its opening flowers, its green fields and newly-awakened woods with their many changes from the pink of the buds just bursting to the dark green of the evergreen; its fresh warm winds and mellow sunlight, are inviting, exhilarating, and youth-renewing. The summer, with its greater heat, makes seaside and mountain more pleasant. Its fields of waving grain, its bushes and trees loaded with luscious berries, invite one countryward on every occasion, and the motor vehicle more than any other means of transport lends itself

to the occasion. The autumn, too, has its attractions. The many-coloured leaves render each wooded hill a blaze of beauty. The good roads invite distant roving, and many a scene, inaccessible in the spring time, offers itself to view. Even winter has its attractions. With ample rugs to keep out the wind, one can defy the cold and travel far or near with pleasure. Whether over frozen roads or through the freshly fallen snow makes little difference to the motor. In many localities the snow and frost smoothen rather than roughen the surface, and sleigh riding on wheels, motor driven, surpasses the conventional kind. Here again the motor is superior to distance and horseflesh, and opens landscapes not usually enjoyed. It is ideal transportation. To think is to direct and go. The cycle is a solitary carriage. The railway and steamship carry crowds, but the motor-car, with its chosen party, brings advantages possessed by neither. One is dependent on the quality of the roadway and the exertion of its rider, the other must follow its established track, but the automobile is limited scarcely at all.

The pleasure of the pioneer and the explorer comes to the motorist who traverses a new district or visits unfrequented localities with shooting,

fishing, and picnicing grounds drifting around him. Beautiful scenes, more enjoyable because of their inaccessibility, are reached by him. His range is wonderfully increased and his pleasures enlarged accordingly. Only those who have experienced these delights can appreciate them, for to many driving behind a spirited horse is the acme of pleasure, and they cannot conceive that an inanimate mechanism may be possessed of an ability and responsiveness which yields to its driver more pleasure than that of controlling a beautiful team. As the trotter is superior to the ox, or the locomotive to the traction engine, so is the motor vehicle to its predecessors.

COL. W. B. CAPPER, the newly-appointed commandant of the Royal Military College, Sandhurst, has decided to close the roads running through the college grounds to motor traffic, except in instances where occupants of cars have business with residences situated in the grounds.



The Tour of France by a Hotchkiss Six-cylinder Car.
1.—At the Bay of Villefranche. 2.—At Pont du Gard.

A MOTORIST'S RANDOM NOTES.

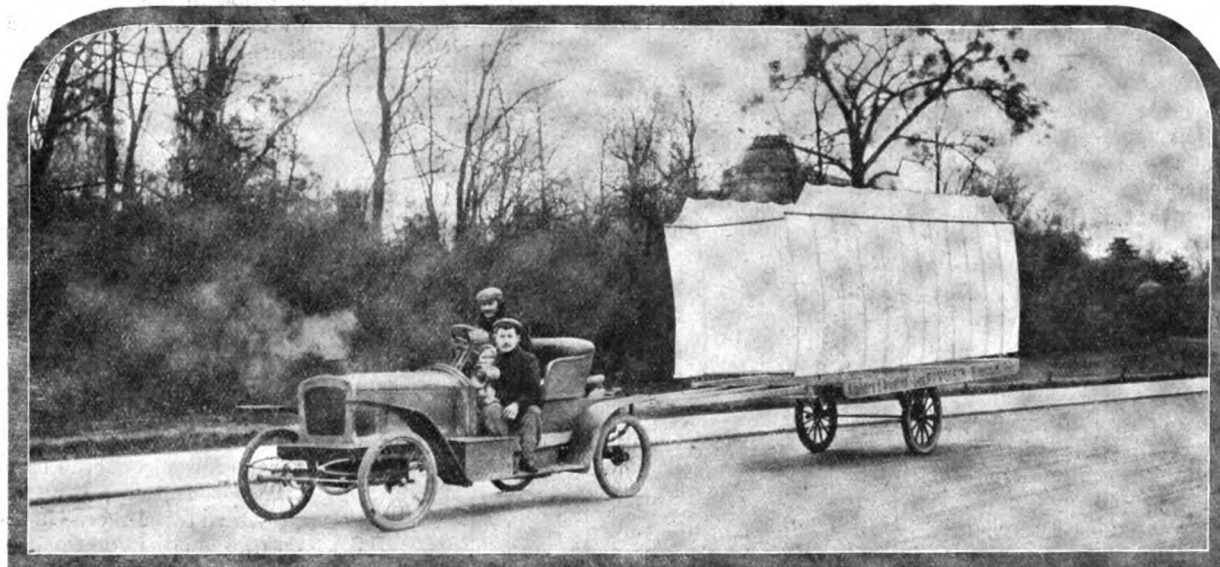
ARE tarred roads slippery when wet? The writer has not heard this question raised before. Those who have had experience of driving over many of the tarred roads in Kent know that under certain conditions they are dangerously greasy, and it is next to impossible to keep a straight course unless one drives slowly and with the utmost care. The writer knows of one or two stretches that after rain provide the most treacherous going that it would be possible to find and necessitate sanding so that the horses can keep their feet.

"HILLCLIMB-ITIS," to coin a new word, is the latest ailment, owners of high-powered modern cars being chiefly susceptible. First symptoms usually manifest themselves in an unconquerable craving for tackling steep gradients. Should the victim strike a very severe rise of one in three or so, and the ascent be unsuccessful, he develops a peculiar form of nervous excitement for which restoratives may be necessary. Thereafter he is content to coax and wheedle his engine into better running in order to overcome an apparently insurmountable difficulty. With untiring patience he will weigh an apparently

asked the defendant's counsel. "No," was the reply, "policemen have no time for that."

THE police are timing motorists who travel over the old Dover road across Blackheath in excess of ye legal limit of a score of miles. A century ago this was the happy hunting ground of knights of the road, and many a tale is told of their holding up the mails at this spot. The modern highwayman is likewise disguised, and awaits in concealment the approach of his victim, whom he catches by surprise, brandishing his stop-watch in lieu of a blunderbuss. He asks not for money or valuables, or a kiss from ye fayre passengers, but demands the production of ye lycence. As a result, motorists have to pay much coin of ye realm at ye local court.

"SLEEPING out on the car." Not many motorists elect to do this except through sheer necessity; yet, provided it has a fairly roomy tonneau and, preferably, a Cape hood, it is not bad fun. The writer, in company with two male companions, left Hastings one Sunday night at about eight for the sixty mile run to London. At Robertsbridge, twelve miles, the back cover burst.



Conveying an Aeroplane to the Bagatelle Testing Grounds, near Paris.

faulty carburettor float or piston ring in the balance, and, finding it wanting, will right it with his own loving hands, scorning to abandon to the care of the lucre-hunting repairer and maker that which may be accomplished out of the strength of his own true and untiring skill.

HAVING been successful in improving the running, he will again go down and confidently essay the climb. The engine will stop at the exact place as before, whereupon he will say "Bother it," or words to that effect. The operation of adjusting and tuning up will then be repeated at the foot of the hill. Another start is made, and this time the engine stops thirty-five yards lower down than before. Which reduces the question to the following problem. A motor-car + loss of power - a quarter mile of steep hill. Why didn't the motor climb the hill? Subtract the swear words from the answer, which must be reduced to printers' English, *Quod erat absurdum*.

IN a motor prosecution case at the Greenwich court a police timekeeper at a local trap, in giving evidence against a motorist, said "the road was crowded with people going to the 'Pedestrian' church (roars of laughter). 'Do you ever go to church?'"

It was not before ten that we had another cover fitted. Then commenced a series of troubles; first misfiring, due to a terminal shaking loose, and then on one of the stiff hills on this road the chain broke. To repair, minus spare links or bolts, is a heart-breaking job, especially after dark. However, a repair was made. This promptly gave out on the next hill. Another extempore bolt was made and fitted and we drove through Tunbridge as it was striking twelve, the town deserted and as silent as the grave.

THREE miles further the chain again broke, and, knowing a terrific hill was ahead, we decided not to continue. There was no inn near, so the three of us decided to make ourselves as comfortable as we could on the car, and, well wrapped up in our waterproofs, and tired out after our exertions, we slept the sleep of the just. Waking up, we found ourselves outside a cottage and the occupants already up and dressed eyeing us in open-mouthed astonishment. They kindly supplied us with some tea and something to eat, refusing payment, and a little way up the road we learnt was a blacksmith's, and here a sound repair was made to the chain, enabling us to reach our destination without further trouble after a never-to-be-forgotten night out on the car.

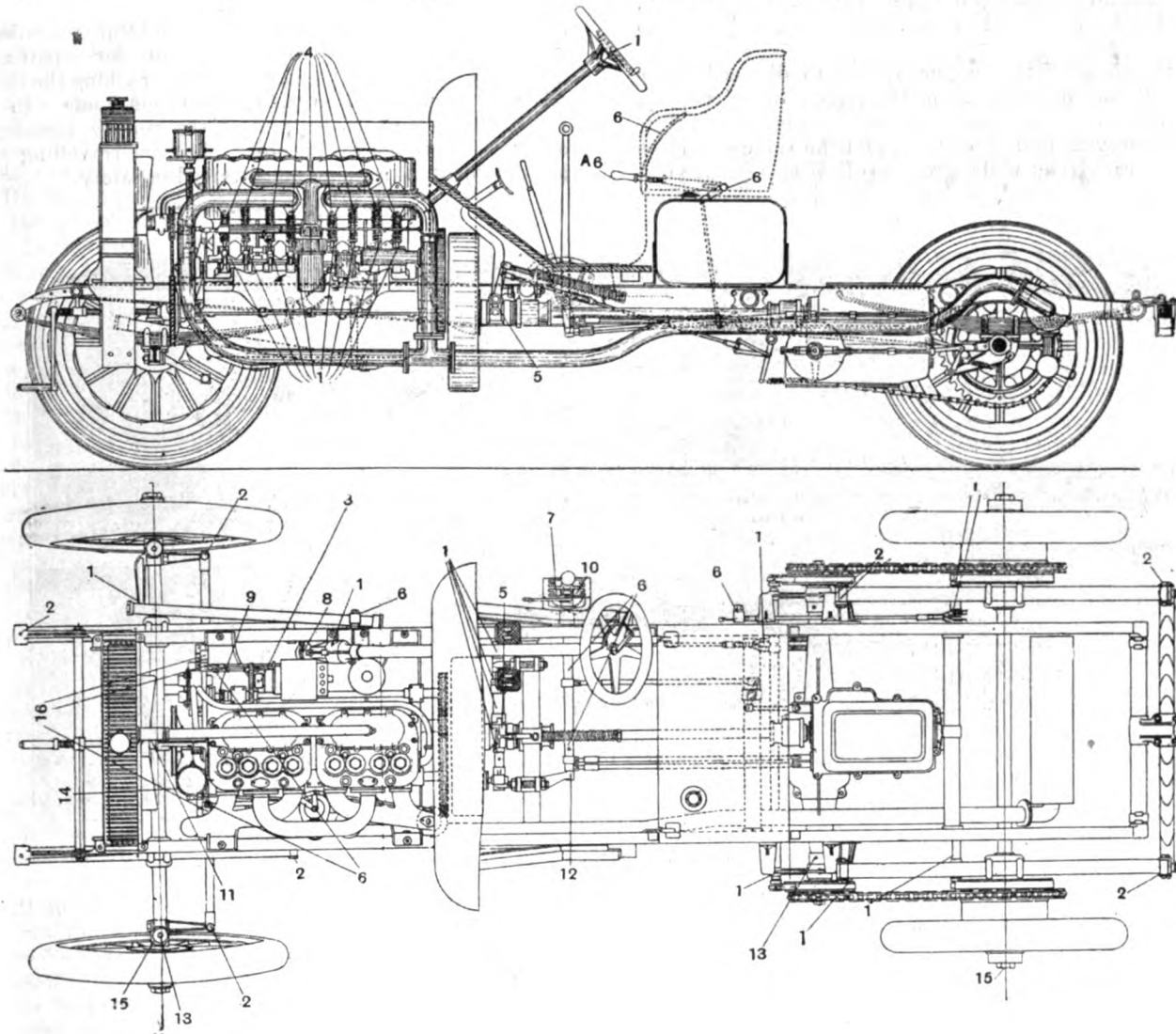
HINTS ON THE DRIVING AND MAINTENANCE OF DAIMLER CARS.

THE Daimler Motor Company, Ltd., have recently issued an instruction book with regard to the driving and maintenance of Daimler cars which should be found indispensable to all users of these vehicles. As there are now a considerable number of these vehicles in use, many of the owners of which may not be in possession of the pamphlet referred to, the following extracts therefrom may prove of interest.

Should there be any difficulty in starting the engine after a long run, open the two air cups on the inlet pipe, and after

The plugs should be cleaned with petrol, and the platinum points—if plugs with points be used—adjusted to give a gap of about half a millimetre. Always carry a supply of spare plugs to replace faulty ones.

If the engine stops suddenly, examine the wires to ascertain whether the terminals are all properly connected, or if there be a breakage anywhere. Also see that the trembler on the coil is working properly. To adjust the latter, gradually tighten the screw on the top until the engine gives signs of slowing down; as soon as it does so, turn the screw back again until the engine picks up speed. This will be about three or four notches, and should be the correct position of the trembler blade. The platinum contacts should be perfectly clean, and, in the event of stopping the engine, it may be found that the spring which holds



Elevation and Plan of Chassis of Daimler Car specially numbered to show the parts which require lubrication in accordance with the instructions given below.

- | | | |
|--|---|---|
| 1. Oil twice a week. | 6A. Take screw out of end. Oil once a week. | 11. Fan, lubricate every morning. |
| 2. Oil every three days | 7. Face of control brackets need a slight rubbing of grease. | 12. Turn cap of lubricator twice a week. |
| 3. Oil every morning. | 8. Grease once a week. | 13. One turn of caps every morning. |
| 4. Inject a little paraffin at least twice a week. | 9. A little oil every morning is necessary here when lubricating. | 14. Attend to grease lubrication twice a week. |
| 5. Grease every morning. | 10. Turn cap of grease lubricator twice every week. | 15. Grease every 800 miles. |
| 6. Oil once a week. | | 16. Engine control joints and brackets oil every day. |

giving four or more turns of the starting handle switch on the current, when the motor will start. Do not omit to turn off the air cups as soon as the engine is running. In the event of the motor stopping, the first thing to do is to examine the ignition. Lift the lid of the commutator box, and see that the spark given off is of a deep blue colour; if it is of a pale violet there is something wrong with the sparking plugs. To test these, disconnect the wires from the plugs and hold them at a very short distance from the terminals to see if a good spark is passing. If one of the plugs is showing a feeble spark, change it for a new one.

the contacts up to their work has weakened and needs replacing with a slightly stronger one. If the engine stops gradually, try the accumulators with a voltmeter, to ascertain that they are not run down.

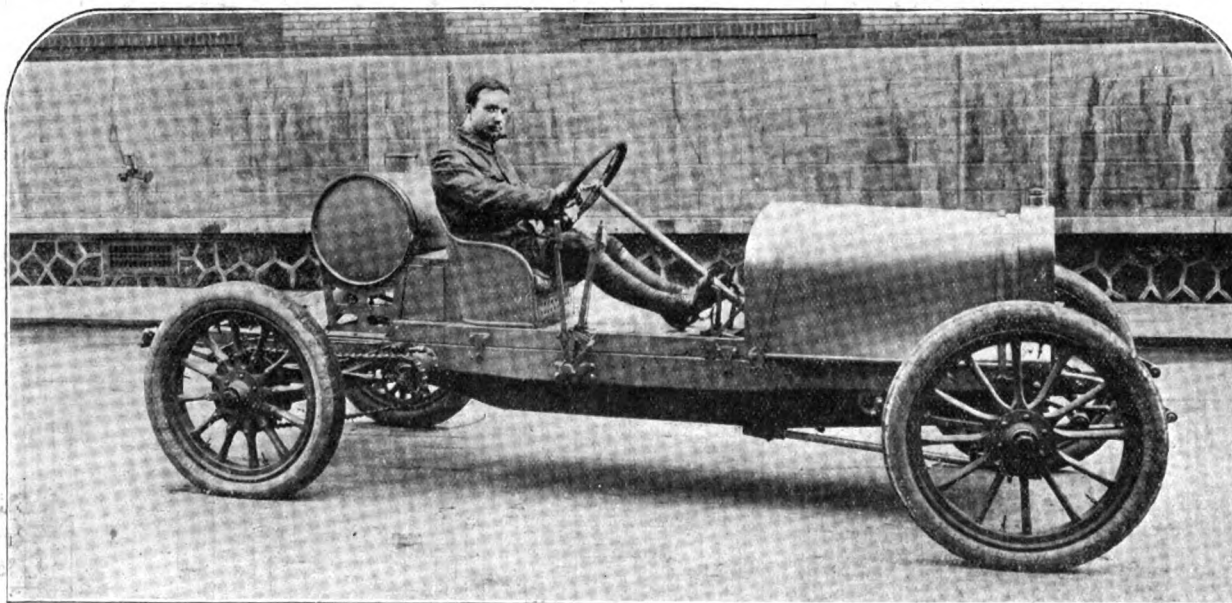
If these are not in order, examine the petrol reservoir to see that the supply is not low. Observe that the mercury in the pressure gauge is at the right height, that is to say, not below the lowest mark on the gauge. Also take off the top of the float chamber of the carburettor with the tool supplied for the purpose, and see that a good supply of petrol squirts

through the hole, 12 to 18 inches, at least, high. If not, examine the petrol filter, which is found on the left-hand side of the car behind the front wheel, and close to the frame. Furthermore, examine the pressure filter over the engine, close to the pressure valve. These filters should be cleaned weekly. In case of flooding, known by leakage of petrol at the carburettor, examine the float. The minutest perforation in this will cause the float to fill with petrol and sink, and fail to cut off the supply of petrol. To ascertain whether the float itself is defective, it should be displaced in hot water, when bubbles will immediately show if a leak exists. Once a week it is necessary, without fail, to take out the plug at the bottom of the petrol tank, out of which about one pint of liquid should be allowed to run out to run off accumulation of grit, &c. Each half of the base chamber should be cleaned out after every thousand miles, disposing of the dirty oil, and refilled with about $3\frac{1}{2}$ pints to each half.

Should the power of the engine appear to diminish, after having tried all other means, examine the valves, and if they are badly marked it will be necessary to grind them in. To do this, a little flour, emery and oil is required, and the valve should be turned with a screw-driver under pressure of the arm, frequently lifting the valve from its seat to alter the position of the emery

pillar. Cups are provided on the spray pipes for the insertion of paraffin to wash out the engine. This should be done overnight whilst the motor is running. This will keep the engine clean, and it will be found to start easily next morning. When adjusting the brakes, the wheels should be "jacked" off the ground, as otherwise the braking effect cannot be rightly observed, and the engine may be called upon to propel the car with the brakes more or less on.

Wash the wheels of the car with a small quantity of paraffin in the water; the body of the car should be washed with ordinary soap and water; and, if necessary, a good body varnish can be applied. The car should always be cleaned overnight before the mud has dried on, after which it is difficult to remove it without scratching the paint. In winter, draw off all water from the radiator and engine overnight, to prevent cracking from frost. Anti-freezing solutions are doubtful remedies. The tyre companies give full instructions for repairing tyres, but, in the event of an irreparable burst, packing the outer cover well with straw will often enable one to get home. In the case of a destroyed outer cover, protect the rim by binding it with rope passed through the spokes. Then, by travelling slowly, a considerable distance may be traversed in safety.



M. Albert Clement at the wheel of the Clement-Bayard Racer for the Targa Florio Contest in Sicily.

particles, and thus ensure even grinding. The oil and the emery must be carefully removed—to its last particle—with petrol.

Keep the leather of the clutch in good condition by the application of castor oil and paraffin, applied in the following manner: once a week, at night, with a knife, apply a little castor oil to the front part of the clutch, in three or four places, and slip the clutch on the fourth speed, to ensure even distribution of the castor oil. Next morning squirt in about one tablespoonful of paraffin through the arms on the front or nose of the clutch. It will be noticed that these applications are made on the front portion of the clutch, so that the leather there remains flexible where the first contact takes place, the leather on the back part remaining comparatively hard to effect the actual driving of the car. By applying castor oil and paraffin in this manner the car will start off easily, and when the clutch is "home" it will not slip. The clutch, which should be kept free from resin and fuller's earth, is easily adjusted by tightening the long spring under the footboard; it is, however, not desirable to put on unnecessary pressure, as undue friction of the bearings results. The gearbox, axles and wheels should have attention at least every 1,000 miles. The lubricator on the dash, fully charged, should suffice for $1\frac{1}{2}$ hours. To refill, pull the chain attached to the steering

ACCORDING to reports from members of the R.A.C. who are at Biarritz, or who have just returned from that resort, the roads are in a most deplorable state after the bad weather experienced there this winter. The rain has been incessant, and, although it has recently stopped, it has left the road surface in a terrible condition. The repairing is entailing endless stretches of loose metal, and the roads are not likely to be good again until well into the summer, if then.

A DEMONSTRATION was recently given in New York with an engine running on alcohol to which a small portion of acetylene is added. It is claimed that the effect of the latter is its ignition effect on the alcohol charge, in instantly extending the flame from the point of original ignition at the sparking plug to all parts and recesses of the inside of the cylinder where the alcohol charge is under compression. The process, which is known as the Barker-White, consists of an arrangement of a carburettor, which carries atomized alcohol on its way to the motor, through a chamber having a bed of calcium carbide. The resulting product, which is a combination of air, alcohol vapour, and acetylene, is known as "alkoethine." The power developed by it is stated to be about equal to that of ordinary petrol, but at a much smaller cost.

THE Motor House, of Easton Road, N.W., are placing upon the market a new tyre, the "Garantire," the durability of which is guaranteed by the firm.

THE efforts of the Borough Development Committee have attracted a Manchester firm of motor-car constructors to Derby, to the disappointment of Leicester, which was first mentioned in this connection.

A NEW motor garage is being built in Becket Street, Wardwick, Derby, for Messrs. A. R. Atkey and Co., Ltd., of Nottingham. The new establishment will be near the St. James and Royal Hotels.

THE wedding took place in Manchester last week of Mr. F. C. Noar, of Ashton-on-Mersey, who was a prominent competitor at the last Blackpool Motor Meet. He is now on a fifteen hundred mile honeymoon tour.

THE Paddington Motor Company, Ltd., of Banister Road, Kensal Rise, W., inform us that they have acquired the agency for a German motor-cab chassis which has an improved friction drive in place of the ordinary gear-box.

MR. HENRY KINSEY, of Swansea, called upon us a few days ago with the model of a new skid-preventing device he has invented for motor-buses. The arrangement is an ingenious one and is worthy the attention of motor-bus engineers.

LAST week we reported an accident by which a man named Margerum was killed by a motor-car. The coroner's jury said no blame was attached to the driver of the vehicle, but the magistrate has since committed him for trial on a charge of manslaughter.

MOTOR visitors to Dublin will be interested in the extended provision for their convenience which Mr. J. J. Keating is providing at 3, Lower Abbey Street. The new premises will enable him to add to his facilities for the repair of vehicles as well as their storage and equipment with accessories.

MESSRS. J. GIBBON AND SON, of West Nile Street, Glasgow, have opened a new motor garage and workshop at 170, Buchanan Street, which will be known as the Central Motor Garage. Every provision will be made to enable the firm to undertake all classes of motor repairs.

COL. F. N. MAUDE, in a lecture on "Mobility," at the Royal United Service Institution, has just said that in European warfare the future belonged to that Army which could lighten the loads carried by men and horses, loading up everything on motor-transports of various kinds, fast, medium and slow.

THE North-Eastern Garages, Ltd., who have depots at Harrogate, York, Darlington, and Newcastle-on-Tyne, have taken over the premises of the Yorkshire Mutual Garages, Ltd., in Woodhouse Lane, Leeds. The garage has an excellent repair shop, and the North-Eastern Garages will keep there a first-class staff of mechanics.

FROM Messrs. Freysinger Gebruder, of the Russia Gummiwaarenfabrik, Riga, Russia, we have received a copy of a little pocket-book they have issued in celebration of the tenth anniversary of the firm. Started in 1897, the firm now employ 250 men, and produce in addition to cycle and motor tyres all classes of rubber goods.

MESSRS. WILLIAM COLE AND SONS, LTD., of High Street, Kensington, W., have sent us a couple of photographs which afford an interesting contrast. One is that of the first carriage—a light two-wheel vehicle, built in 1828—for her late Majesty Queen Victoria, and which is still to be seen at Messrs. Coles' depot. The other depicts one of their latest motor landaulet bodies, of which they are now making a speciality.

MR. CHAS. E. DURYEA, one of the pioneers of the motor movement in the United States, has within the past few years written extensively on automobile technical matters. The article which we print on another page, and which is taken from our American contemporary, "The Motor-Car," shows that he is equally at home when writing in a lighter strain, giving as he does a delightful pen picture of the pleasures of motoring.

HERE AND THERE.

ABERDARE is being provided with a new motor garage by Messrs. Parker Bros.

IN the West Street, Ewell, Surrey, Mr. Shapland has a well-equipped workshop for repair work. He has just introduced

the "Contraction" side car, which should become popular on the road during the next few months.

THE students attending the motor-car classes in connection with the Department of Applied Science of the Sheffield University have paid a visit to the works of the Humber Company, at Beeston.

MESSRS. F. E. MARRIOTT AND CO., of the Cathedral Motor and Cycle Works, Eign St., Hereford, are opening a new dépôt and garage in the Commercial Road, Hereford, where a stock of accessories and all motorists' requirements will be stored.

THE Century Motor Co. have taken fresh premises at Holland Gate, Kensington High Street, W., as garage and repair works, and when they are completed they will be carrying a stock of Clyde and Astahl cars. The premises are on an extensive scale and can comfortably accommodate 150 cars.

THE rapid progress made by the motor industry is greatly due to the courageous struggles and untiring efforts in the early days of a handful of sturdy pioneers. Associated in this group

may be found the name of Mr. J. J. Mann, who was in 1882 at the head of the technical service of the National Telephone Company at Dundee, where he invented the "circuit line" system. After doing much good work in the electrical business, he in 1894 founded the firm of Messrs. Marshall and Co., Belfast Works, Manchester, one of whose cars he drove throughout the famous 1,000 miles trial of 1900. At this stage the Continent seemed to open out more scope for the rapid extension of the



motor business, and those who know the activity of Mr. Mann cannot be surprised at his being attracted to Paris, the hub of the motor world, there to take up the position of consulting engineer to the Hotchkiss Company, where he created their well-known car. After serving three years in this capacity he was appointed general manager of their automobile department, and is to-day one of the leading men in Continental motor circles, as may be gathered from his recent election to the Racing Board of the American Automobile Club.

SPEAKING at a meeting in support of the Sunday Observance movement at Dorking, Sir Dyce Duckworth said the advent of motors was responsible for a great deal of the Sabbath breaking. Those hideous and unlovely monsters, those ugly demons, flew through space, carrying their load of people who thought they were happily spending their Sabbath, but who were nothing less than monsters of selfishness and inanity.

MISS LILIAN JOY's advice to ladies going a-motoring at Easter gives special interest to the current issue of "The Queen." "It would," she says, "be most unwise to go away without one's very thickest fur-lined coat. Even should there be a welcome change to a warmer temperature, it is just as well to wear an extra wrap under one's new and lighter weight coat at first. This can take the form of a long-leaved spencer in wash leather, or one of those excellent arrangements made of knitted wool and lined with silk, now to be found in the establishments of all who cater for the lady motorist."

SIR CHARLES SAWLE has recently placed an order with the Daimler Company for a 30-h.p. Milverton model car.

FIAT MOTORS, LIMITED, have just delivered from their works in Turin a 30-40-h.p. Fiat car with limousine body by Messrs. Rothschild et Fils, to the Right Hon. the Earl of Rosebery, P.C.

THE Duke of Portland, Sir George Meyrick, Bart., Mr. J. M. Fuller, M.P., and Professor W. Watson have been elected to membership of the Royal A.C.

M. DESPONT, of Levallois-Perret, has a novelty in an auto-signal, which consists of a glass sign set in the back of the car, which when lit up by a small electric lamp controlled by a switch on the steering wheel shows the word "Stop," thus announcing to the driver of any following vehicle that the car is about to be pulled up.

LICENCES and badges will be issued from Monday next onwards by the Commissioners of Works for the admission of electric carriages to Hyde Park between the hours of 4 p.m. and 7 p.m. in the months of May, June, and July. Forms of application may be obtained, by letter only, from the Secretary, His Majesty's Office of Works, &c., Storey's Gate, Westminster, S.W.

AMONGST the numerous puncturing objects we have come across that a Palmer Cord Tyre has resisted is a nail from the wheel of a farmer's cart, as shown in the accompanying illustration. This nail was picked up by a Palmer Cord Tyre and carried for many miles, but the cord foundation effectually resisted the formidable object, which was worn down almost as sharp as a chisel at one end. The nail was turned aside without damaging the cords.

MR. HENRY MOORE, of Brighton, has had an experience with a hen and a motor-car. While he was on a tour through Sussex lanes last week a fowl ran in front of his car, and as the bird did not reappear he stopped the car after going fifty yards, and found her securely hung up with one wing over the steering rod. She was unhurt, and ran home at top speed as soon as released.

MR. F. W. H. HUTCHINSON, of "Ilmington," Manor Road, St. Albans, will be glad to hear from anyone of means interested in aeronautics, with a view to continue experiments with the Frost and Hutchinson flying machine,

which has wings constructed of artificial feathers arranged anatomically and mechanically on the principle of the natural bird's wing. The machine has already been worked under power.

WE have received a copy of a work entitled "The Making of an Automobilist," by H. A. Grant, and published by the Auto Instruct Publishing Company, New York. As may be inferred from the title, it is intended for novices in motor matters, and to furnish that information on the care and handling of automobiles which every driver should possess. The subject is generally well handled, and the book contains a good deal of useful information in condensed form, the various types of motors, petrol, steam, and electric, being dealt with, as well as carburettors, transmission, lubrication, &c. The book also contains a list of automobile terms and their equivalents in French, German and Spanish. This, however, is not its best feature, as many of the foreign equivalents given are incorrect. For instance, "cheville à étincelle" is mentioned as the French equivalent of the term sparking plug, instead of a "bougie," and the Germans, following the French, say Zündkerze, instead of Funken-Stoppsel. The book also contains chapters on Automobile Material and Construction, by Mr. J. D. Maxwell; the Cooling of Explosive Motors, by Mr. F. Briscoe; Tyres and Tyre Construction, by Mr. H. de Lisser, and the Importance of Oiling an Automobile, by Mr. C. W. Kelsey.



THE new motor house premises of the Royal A.C. are in Blackman's Yard, Brick Street, London, W.

MESSRS. GLASEBROOK, EBBLEWHITE, GRIFFIN, STRAIGHT-DUTTON, URRY, and WHEELWRIGHT have been appointed time-keepers of the Royal A.C. for 1907, subject to their compliance with the terms of the competition rules of the Club.

ONE of the four-cylinder engines of the Packard Motor-Car Company, Detroit, U.S.A., was recently submitted to a non-stop test. It was direct connected to a 10-kilowatt dynamo, giving 40 amperes and 225 volts, the normal speed being 735 revolutions per minute. The motor had previously made several runs of 300 hours without a stop, when making tests of lubricating oil, but on the record occasion it ran for no less than 792 hours, and then only stopped because of a broken ignition wire.

A MAGNIFICENT motor trophy has been subscribed for by the city of Hereford for the hill climbing competitions, to be held at Frome's Hill in May next. The trophy stands three feet high, on an ebony plinth, with highly-finished chased work in silver. In the foreground of the plinth is a relief of a motor-car, with figures, and underneath are silver block letters: "Motor Trophy, City of Hereford." On the obverse side of the plinth is a fine piece of chasing, showing two of the principal products of Herefordshire—hops and apples. The weight of the trophy is over three hundred ounces.

CRAVENS, LIMITED, railway carriage and wagon builders, of Darnall, Sheffield, have lately opened a large and well-equipped motor-car garage and repair shop at Darnall, Sheffield. The floor area of the premises is 11,850 square feet, and there are two entrances direct from Staniforth Road. Inspection pits are provided, as well as overhead hoisting appliances; plant has been put down to enable repairs of all kinds to be undertaken, and compressed air laid on in pipes through the building, so that tyres can be inflated instantly with a minimum of trouble. A private track of over one-third mile per circuit is also in course of construction, which is to be used for teaching beginners to drive, and for testing the running of cars when required, with absolute freedom from traffic risks.

CEYLON is daily becoming better known as a tourist resort and every year the number of English people who spend the winter in the island instead of in Egypt is rapidly increasing. Last year the number of tourists—chiefly English and American—who visited the island was unprecedented, and the hotel accommodation was found inadequate. Nearly all the motorists in the island are members of the Ceylon Automobile Club—a body which keeps the authorities alive to their responsibility as to the condition of the roads. It took a prominent part in the agitation against the tolls. At present it is endeavouring to obtain legislation for dealing with pariah dogs and stray cattle, which are the motorists' greatest annoyances. There are practically no restrictions as to speed or mode of travelling except within the municipal limits, where speed maximums have been fixed, and the prosecution of motorists is almost unknown.

MESSRS. JOHN WILEY AND SONS, New York, and Messrs. Chapman and Hall, Ltd., London, have just published a little book which will be found extremely useful by all engaged in giving instruction to would-be motorists and motor-car drivers. It is entitled "The Complete Automobile Instructor," and comprises over six hundred questions, with answers and illustrations, covering the principle, operation, and the care of petrol cars. The work is from the pen of Mr. Benjamin R. Tillson, who is head of an automobile school in the United States. About forty pages are devoted to the questions, which are arranged under twenty-two different headings, while the answers occupy no less than 150 pages, a handy index forming the concluding portion. The author, being an American, employs many terms which are used in his country, but which are expressed by others in England. For instance—to take the two examples we notice as we write—"missing" is referred to as "skipping" and the "earth connection" as the "ground" connection; gasoline, too, is of course employed throughout with the English meaning of petrol. Having these differences in mind, however, motor-car instructors in this country should find Mr. Tillson's book a useful production.

CONTINENTAL NOTES.

Speed Trials in Italy.

A series of flying kilometre and five kilometre speed trials for racing and touring cars was run off near Verona on the 19th inst. In the racing category victory in both trials fell to Count Soldatercow, an attaché of the Russian Embassy, who on his 100-h.p. Brasier covered the kilometre in 26 2-5 sec. and the five kilometres in 2 min. 10 2-5 sec., Trucio on an 120-h.p. Isotta-Fraschini being the second in the last-named event in 2 min. 18 4-5 sec. In the touring car class, a Junior car driven by Tocanier won in the under £400 class in both trials, his times being respectively 45 2-5 sec. and 3 min. 39 3-5 sec. In the £500 category, the best times, 50 sec. and 4 min. 1 1-5 sec., were made by Pellandini on a Rapid. A Junior car won in the under £800 division (35 1-5 sec. and 2 min. 40 4-5 sec.) and in the over £800 class, a Züst was first in the flying kilometre (34 3-5 sec.) and an Itala in the five kilometres (2 min. 47 3-5 sec.)

Non-Skid Tyre and Band Patents.

A considerable stir has been made in French motor trade circles owing to the action of the Samson Company, which is enforcing its patent rights in steel-studded leather tyre covers and bands. Stocks of these both in the hands of makers and agents have been seized, and even motorists have been warned of using such non-skids, the Samson Company claiming that they are an infringement of their patent.

An Exhibition in St. Petersburg.

The development of automobilism in Russia is likely to be greatly encouraged by the action of the Automobile Club of Russia in organising its first International Motor Exhibition in St. Petersburg. The President of that club has written to the Royal Automobile Club, stating that a "Committee of Honour" is being formed, and asking the Club to nominate three members to it. M. G. Lefevre, of "L'Auto," 10, Faubourg Montmartre, Paris, is the Russian Club's sole representative for non-Russian exhibits, and is in a position to give all details to those who desire them. The exhibition will run from June 1st to June 17th, and all applications for space should be sent to M. Lefevre before the 31st inst.

The Nice Automobile Meeting.

The annual automobile meeting at Nice, which has been held during the past week, opened on the 20th inst. with the speed trials known as the "Kilometre Bull's Eye." The cars were divided into a number of classes, for which a certain time was given for the flying kilometre, the winner being the driver who succeeded in most closely approaching the allotted allowance. In the first class (allowance for kilometre, 45 secs., equal to a speed of 50 miles per hour), there were thirteen starters, victory falling to Mr. Vuillaume, who on a C.G.V. car occupied the exact time, the others varying from 37 1-5 secs. to 47 1-5 secs. In the second class 55 secs. were allowed for the kilometre (equal to 40 miles per hour), the nearest to this (54 1-5 secs.) being made by M. Carmieu on a Peugeot. The time allowance for the third class was 65 secs. (34½ kilometres per hour), the event resulting in a dead heat between M. Goudoin on a Panhard, and the Marquis d'Albufera on a Renault, 65 1-5 secs. On Friday, the 22nd inst., about a score of cars took part in a run from Nice to Draguignan and back, while on Saturday last a motor paper-chase was indulged in.

The Dieppe Meeting.

It was at first proposed to hold the A.C.F. Grand Prix and Commission Sportive Cup races on separate days, but, owing to the paucity of entries for the latter, it was decided that both events should take place on one day. The authorities at Dieppe were somewhat disappointed at this, as they had looked for a two days' meeting; it has consequently been resolved to hold a series of motor-boat races as well as a demonstration of flying machines on the day following the automobile race.

The Circuit des Ardennes.

At a meeting of the Sports Committee of the Belgian Automobile Club last week it was decided that the Circuit des Ardennes race shall this year be held on July 29th, over what is known as the Small Ardennes Circuit, seven laps having to be made to give a total of 600 kilometres. The contest will be open for vehicles having a total cylinder capacity of not more than eight litres, and weighing, with racing body and tyres, at least 1,175 kil. Builders of motor-cars may enter three vehicles each, the entry fee being £100 per car up to May 15th, and £160 from that date to July 1. The Sports Committee of the A.C.B. will supply the necessary petrol (690 deg.), and the use of wheels with detachable rims will be permitted.

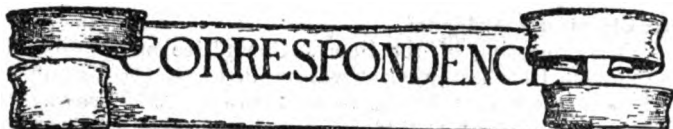
Miscellaneous Items.

An automobile club is being formed at St. Malo, France.—A company has just been formed at Vittoria, Spain, to manufacture cars on the Darracq system in that country.—The King of Sweden has just acquired a 40-h.p. Benz car.—



The photograph from which the above striking illustration is reproduced was taken at the Spital of Glenshee on Tuesday last week, when the 40-h.p. Siddley Car at present undergoing a long distance Reliability Trial by the Royal Automobile Club was fighting its way through a snowdrift 25 ft. deep. The official observer finally decided that further progress could not be made, and took the car back to Dundee. At one time there were nearly 100 men working with shovels clearing the cutting, as shown in the picture. The car has now done over 5,000 miles with only one involuntary stop.

M. Dewandre, chief director of the Germain Works, and Capt. Masui, Agent-General for Germain Cars in Great Britain, accompanied by Perpere (who will drive one of the Germain cars in the Grand Prix race) have just started for Dieppe on a Germain chainless touring car for a run round the course in order to make garage arrangements, &c., for the race in question.—Motor-cabs fitted with taximeters are now being introduced into Prague and Vienna.—The Automobile Clubs of Milan and Genoa propose to hold a competition for touring cars on the 9th and 10th May inst., the distance to be covered being about 1,000 kilometres.—A public motor-car service has just been established between Meru and Val-Dampierre (Oise), France. The distance is 13 kilometres and the vehicles are of the Darracq-Serpollet type.—The Renault racers for the Grand Prix event are now being tested on the road.—M. Van Marcke, who is making a 10,000 kilometres tour of France on a Hotchkiss six-cylinder car, reached Bayeux on Sunday last. During the past week he has visited Nantes, Brest, Laval, Coutances, and Cherbourg. Altogether he has now covered about 6,300 kilometres.

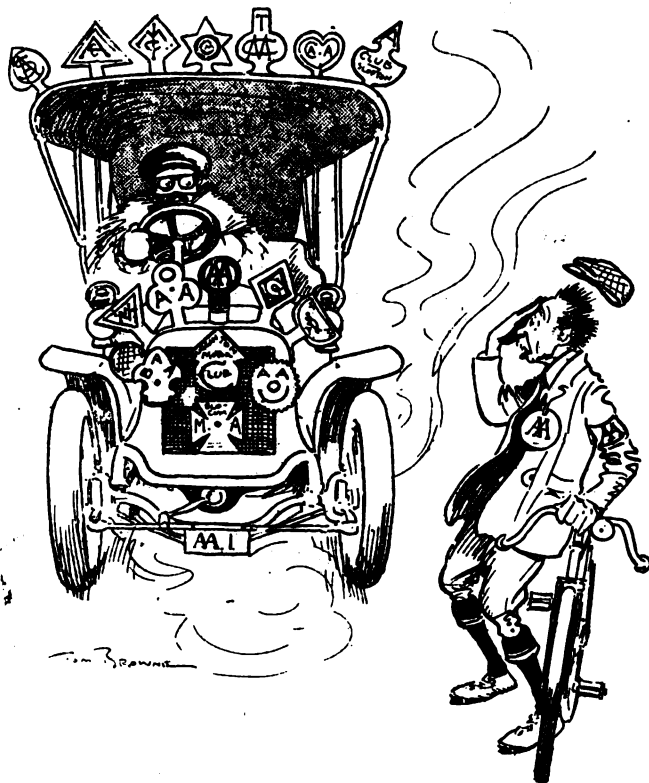


[Letters to the Editor should be addressed to the offices,
27-28, Charing Cross Road, W.C.]

WIRE OR WOODEN WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—This controversy seems to be something of a hardy-annual, or is it a biennial? Anyway, I seem to have a recollection of previous discussions on the subject, and equally without arriving at any definite conclusion. Probably, as usual, there is something to be said on both sides, and appearance and personal predilection must not be entirely ignored. If the wire wheel be stronger laterally, as no doubt it is when new, it has disadvantages in continued use. In the first place, there is the effect of constantly repeated changes of temperature to be considered. The wood wheel may shrink and swell with damp and heat, but this has only the effect of slightly bruising the wood rim, and of causing the spokes to "work." In an average light-car wheel properly looked after this is scarcely apparent, and anyway it does not distort the



The Badgered Scout.

Mr. Tom Browne's humorous sketch of the A.A. patrol's difficulties if motor clubs and societies continue to copy the Automobile Association's original idea of displaying a badge on members' cars.

wheel. In the case of a wire wheel, however, where the spokes are all tightly stretched (not half of them in compression as H.B.D. seems to argue!) to practically the same degree of tension, who can say what the result will be after a few months of repeated expansion and contraction due to changes of temperature? The fact of the spokes being "out of tune," as they nearly always are after a few months' use, means that the tension of the several spokes is unequal, and this in turn argues unequal stresses in the wheel, which may lead to the rim and tyre being out of truth, with results which it is unnecessary to remark upon.

So far as the side strains are concerned, the usual wood wheel of artillery type is not so strong for the same size of spoke and rim as the tangent wheel which has lately been introduced, where the spokes, although tangential to the hub, are in compression combined with a slight amount of bending strain. The weakness of the usual type lies in the tang of the spoke where it is reduced to enter the rim, but in the tangent wheel the spoke is full width from end to end, and therefore stronger. Where solid rubber tyres are used this wheel would appear to possess a further advantage over either of the ordinary types in respect of resiliency. Where very light cars are concerned there is really very little to choose between wire wheels and radial or tangent spoke wood wheels, but where the wheels have to carry considerable weight, or to transmit high powers, I, personally, should prefer the wood wheels, and

of the two the tangent type, since it is mechanically better adapted to convey the power from axle or chain ring to the rim and tyre where it is ultimately used. These tangent wheels, by the way (unlike the wire crossed tangent), present a curious problem in respect of the direction in which they should be driven, though I am inclined to agree with the makers that it makes no difference.—Yours truly,

G. LAW.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A letter under the above heading appeared in a recent issue of the *M.C.J.* from the proprietors of The Motor House. We are at a disadvantage in not having Mr. S. F. Edge's letter before us; nor have we seen the newly-designed wheel of Messrs. Easton and Jones, but as the oldest and most experienced wood wheel builders in the trade, and having had some scores of patent motor wheels through our hands for manufacture or inspection during the last few years, we feel it only just to ourselves to ventilate our opinion through your valuable medium. The reason why a wood wheel has proved unsatisfactory in many cases for motor-cars is due to the faulty material and inexperienced workmanship that are put into them. Providing the wheel is scientifically constructed and of the best, most suitable, thoroughly seasoned, and selected material, we give it as our deliberate opinion that it will withstand better than any other type the side strains which are the greatest weakness the wheel builder has to contend against.—Yours truly,

SMITH, PARFREY AND CO., LTD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—You will remember that recently I put forward the advantages of wire v. wood wheels. I wrote to a great many users of Napier cars amongst others, and after carefully reading all the letters received in reply, I find that 40.9 per cent. have replied in favour of wire wheels, 43.8 per cent. in favour of wood, and 10.3 per cent. are doubtful and have no serious opinion on the matter. It is, however, quite clear to me that a very large section of the motoring public, and I think probably the largest section, are still greatly in favour of wood wheels, chiefly on account of appearance. It is rather interesting to record the public opinion on this point at the moment to see whether custom will ever enable one to face the more mechanical modern wire wheel, in place of the wood one, for the use of all motor-cars.—Yours truly,

S. F. EDGE.

ARE CARS TOO COMPLICATED?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The point that seems most debated is the number of pedals, levers, &c., on a car. Personally I consider the use of these devices becomes a second nature, and one does not often hear of a driver using his brake to change gear or putting in his reverse to stop the car. What I mean is, that all these levers and pedals have not to be operated at once, and a driver, when taking one of these too-complicated cars in traffic, should previously thoroughly acquaint himself with the "stopping apparatus" and practise at imaginary obstacles under different conditions, as it is assuredly better to take it out of the car than out of the community at large.

Automatically advanced and retarded ignition is, of course, a step in the right direction, but I believe a reliable and sufficiently sensitive governor which acts on the gas supply, and can be cut out, appeals more to the average motorist on the score of petrol consumption.—Yours truly,

H. J. C.

PROVINCIAL SHOWS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that the winter is nearly over and all the provincial shows have closed their doors, I may usefully, and without suggestion of prejudice, draw attention to a grievance from which the trade has begun to suffer. Because a town has two or three motor agents why should it have a motor exhibition? And yet many of the minor displays seem to have been based solely on an affirmative answer to that question. There is no need for such exhibitions from the educational or commercial point of view, and makers would be well advised to leave alone the provincial exhibitions that occur, without rhyme or reason, to add to their expenses without contributing to their profits. Manchester and Glasgow are, of course, exceptional places in this respect, but why attempts should have been made to organise exhibitions for Plymouth, Burslem, Norwich, York, Lincoln and Bristol passes the comprehension of yours truly,

AN AGENT.

THE FLEXIBILITY TRIAL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Hollands, in his letter in your last issue, practically announces to a mystified world that there is, for the purposes of a flexibility competition, no difference between three speeds and four. Mr. Hollands pokes fun at Mr. Letts' imagination: but behind Mr. Letts' imagination there are the following facts:—A car with four

speeds will, *ceteris paribus*, be higher geared on its top than a car with three; further, its third is likely to be considerably lower than the top of the three-speed car. The three-speed car will thus lose a possible increase of speed which it might attain by the use of an extra gear. What, then, is the advantage to counterbalance this loss? It is the greater flexibility; and this is gained by the use of a top speed which is a compromise between the third and the fourth speeds of the other car. The "three-speeder" thus sacrifices something in possible speed and gains the very quality required in Mr. Hollands' competition.

No doubt Mr. Hollands' energy and good intentions are even greater than Mr. Letts' imagination; but that latter quality is also useful and prevents Mr. Letts from entering four-speed cars, in spite even of the delightful invitation drive "on your third," against cars fitted with a "compromise top."—Yours truly,

ALEXANDER SHAW.

PROGRESSIVE CHANGE-SPEED GEAR.

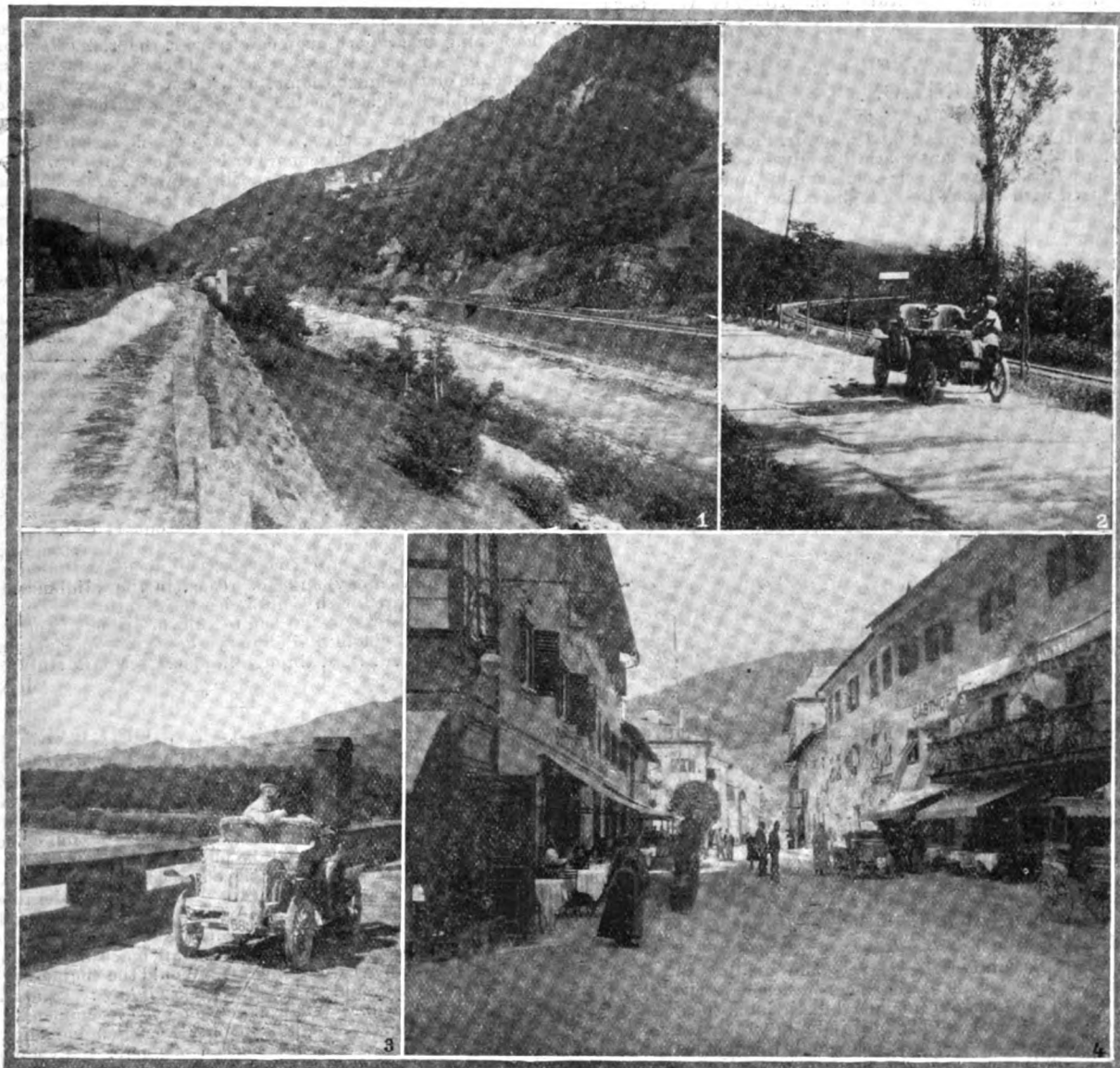
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. R. Hannen's letter in the *M.C.J.* of the 23rd inst., we have no doubt that many of your readers have seen the patent progressive speed gear in question, for it has been exhibited at the Paris Automobile Salon every year for the last four years.

If it is such a perfect device as Mr. Hannen seemed to think, is it not rather extraordinary that in the four years it has been on the French and other markets it should not have been more generally adopted?

What the device in question reduces itself to is merely a belt drive with variable pulley diameters. A great many of the motor-cars designed seven and eight years ago were belt driven, but there are not many so propelled to-day.

Without knowing the name of the prophet who assured Mr. Hannen that the epicyclic gear could not be "reliable on even moderately power-



1.—In the Eisack Valley. 2.—Near Portschach. 3.—Crossing the River Drau at Spital. 4.—The Main Street of Innichen.

[Allgemeine Automobil Zeitung.]

TOURING IN THE AUSTRIAN TYROL.

GATE CONTROL OF CHANGE-SPEED GEARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—One of the most noticeable features of change-speed gears at the present time is the lack of uniformity in the design of the "gate." In some cars the reverse notch is on the outside, and in others on the inside. Again, the top speed is sometimes arranged to be in mesh when the lever is in the rear position, and in others when towards the front. A few manufacturers are taking the wise precaution of lettering or numbering the notches in the gate, so that there may be no mistake in changing gear. I venture to suggest, however, that it would be a good thing if a standard pattern of gate, in which the notches were all uniformly arranged, could be adopted.—Yours truly,

C. HAWES.

ful cars," I cannot, of course, question his authority, but I am prepared to take him out on my 40-h.p. Adams-Eight, and to give him an ocular proof that the contrary to his prophet's assurance is the truth.—Yours truly,

H. L. SMITH.

OFFICIAL INSPECTION OF NEW MODELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In view of the terrible accidents that we read of from time to time caused by faulty steering gear or insufficient brake power, might I suggest that either the Automobile Club or the Press, or both, take up the matter with the powers that be and see if they would not con-

sent to institute a system of inspection of each new model of car as is done by L'Ingenieur des Mines in France. Although a French idea, it appears to be a very good one, and might be adopted, perhaps, with certain modifications naturally, to meet the conditions in force in this country. I am sending you a photo of a certificate issued by L'Ingenieur en Chef des Mines, which will show you what I mean. The articles two to six referred to deal with the efficiency of brakes, &c. I shall be glad to hear that my suggestion is favorably received.—Yours truly,

THOMAS CHAS. PULLINGER.

[As Mr. Pullinger points out, in France all new models have to be submitted to the inspection of the authorities, who before issuing the *procès verbal de reception* make careful enquiry into the design and construction of the various parts, such as the steering gear, brakes, &c. It is the practice afterwards for the makers to deliver to clients with any cars made on that model a *certificat de conformité*. Our correspondent's suggestion is one that is well worthy of the consideration of the Technical Committee of the Royal Automobile Club.]

AUTOMATICALLY ADVANCED AND RETARDED IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It was with great interest that I read Mr. Pickering's letter in the *M.C.J.* of the 16th inst. re automatically advanced and retarded ignition. I may say that I have for some considerable time been driving a 16-20-h.p. car fitted with Simms-Bosch high tension magneto, not con-



Mr. John Polkey, of Birmingham, at the wheel of his 10-12-h.p. Coventry Humber Car, fitted with his convertible—electric, paraffin and acetylene—headlights.

trolled with advance levers, but screwed up in its most advanced position. This arrangement on the Chenard cars is perfectly satisfactory, the engine giving a very great range of flexibility, and even when running at slow speeds there is not the slightest trace of knocking. The explanation I believe is that the faster the engine runs the hotter the spark the magneto gives, consequently more rapid combustion of the gases.—Yours truly,

C. H. PICKFORD.

SUBSTITUTE FOR PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am very much interested in fuels and shall be pleased if you will give me some information on the under-mentioned matters:—(1) Can alcohol be used in the form of commercial methylated spirits? If so, is it possible to catch fire in the tank, and if it did fire would it explode? (2) Can commercial naphtha act as a fuel? If so, would this product explode if tank caught fire? (3) Would an equal quantity of methylated spirit and naphtha act as a fuel? Could this explode if tank on fire? (4) Is Borneo spirit as explosive as petrol if the tank is on fire? (5) Will common kerosene or paraffin act as a fuel? And if so, does the soot choke up the valves of the engine and injure it? Of course, start on petrol to get warm—that is by injecting petrol by a common oilcan, not a special arrangement of two tanks to get well started with petrol, shut off and run on paraffin. I mean, fill tank with paraffin, squirt in petrol to start engine, and—what is result? (6) Would a mixture of one part petrol to nine parts paraffin work better? If tank fired, could this explode? I should think that so small a quantity of petrol to paraffin would hardly flame if a match was put to it. (7) If any of the above fuels are possible to use, would the same carburettor do for all?

I have a De Dion petrol engine, but should like to use some less dangerous fuel. Smoke, fumes and smell I don't mind in the least. I simply use the car as a runabout on flat country, and speed is not sought after in any way. Putting aside all danger of explosion from petrol fumes or vapour arising and mixing with air in a building—one can be careful of this in storage, &c.—it is the thought that one is sitting over a tank which, it

seems to me, is possible to explode at any moment. Its all very well makers saying they use all precautions, but if petrol in a tank will violently explode if on fire, then they have lessened the chances and that is all there is in it, but the possibility of an explosion is still there.

As you may have noted before this, I am no friend to petrol or its kindred spirits. If a tank can only catch fire and burn out without exploding violently, then I don't care; one can then get off the car of one's own accord and not be blown off.

This is a lengthy letter, which please excuse. I am like a great many more novices, seeking a safe fuel that can be used on a petrol engine without altering the construction, and I shall be thankful for any information you or any of your readers may kindly give me.—Yours truly,

CAVE PETROLEUM.

[It is evident that "Cave Petroleum" has a somewhat exaggerated notion of the chance of being one day blown up when seated over a tank containing petrol, and whilst, to a great extent, his fears of the danger of this spirit are well founded, as regards a possible blaze happening one day through carelessness, the risk of such an explosion as he fears is exceedingly remote. There is a safety device on the principle of the miner's lamp, which can be easily fitted to any tank, that enables a lighted match to be applied to the open hole of the filler without danger. There are objections to the use of the substitutes and mixtures he mentions, and in any case his carburettor, now adjusted for petrol, would require more or less alteration to work satisfactorily with any fuel of a different specific gravity. Alcohol could be used, although not in the form of methylated spirit, but with probably less power and more trouble in starting, besides the risk of corrosion of his engine. It is, however, much safer than petrol. Commercial naphtha would foul up the engine in no time. Any of the fuels he mentions will of course explode if their vapour is mixed with air in explosive proportions, but the risk of these proportions obtaining in a tank or elsewhere diminish as the flash point is raised. "Cave Petroleum" might experiment with more or less satisfactory results with kerosene to which a little petrol is freshly added, but he will have to start on petrol and arrange to hot jacket the mixing chamber and perhaps the induction pipe.]

THE LIFE OF TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be very glad of the opinion of my brother motorists as to how long a pair of 750 by 85 mm. tyres, extra thick, should last on the front wheels of a car weighing about 14 cwt. The makers of the car put these larger and thicker tyres on at my request.

The car ran from January 1st till about the middle of February (about ten miles a day) on good roads, in the Midlands. The roads were being repaired with 1½ in. Leicester granite.

After two weeks' wear I had to vulcanise about twenty cuts in each tyre. By the middle of February the tyres were absolutely useless and the canvas cut right through in places.—Yours truly,

IGNORAMUS.

REMODELLING AN OLD CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have an 8-h.p. 3-cylinder Duryea car, with low tension magneto ignition and radiators situated on the side of the body. The crank cases are made of copper, and there is only one brake, which actuates on the rear sprocket. I am contemplating having the following alterations done, but before doing so shall be pleased to know if you approve. Displacing old radiators, and fitting a combined tank with radiators (thermo syphon cooling) on the front of car. There is a considerable quantity of lubricating oil leaks out of the crank cases, which fit rather loosely. What could I have done to stop leakage? Having two more brakes fitted on rear wheels. Would this entail much alteration? The consumption of petrol is rather heavy. Would the engine work as well on paraffin? What would be the drawbacks, if any? I should have to get a special carburettor. What make would you recommend, to start cold. Should I experience any difficulty in starting engine on paraffin alone? With the ignition being low-tension magneto, the combustion, when using paraffin, would, I think, be more perfect. If any readers who have had similar alterations made would kindly give their opinions I should be obliged.—Yours truly,

H. W. SMITH.

[From a commercial point of view, the less money our correspondent expends on remodelling his 8-h.p. car, the better; but if it is partly with a view of gaining experience, it is a different matter. He does not say why he wishes to alter the radiators, but unless those now fitted are distinctly inefficient, we cannot advise him to go to the expense of new ones. The leaking oil from the crank cases should certainly receive attention, and, as they are only of sheet metal he might rivet some strips of close felt along the joints. The cheapest and simplest form of auxiliary brakes to the rear wheels would be the old-fashioned spoon type, to grip the tyres, and, assuming that the present brake is sufficient for general use, a well-fitted tyre brake on a little light car like the one in question should be sufficient as auxiliary. To fit brake drums and bands, either internal or external type, would be a costly job. We would not recommend our correspondent to try paraffin on this motor, as the top of the combustion head is left

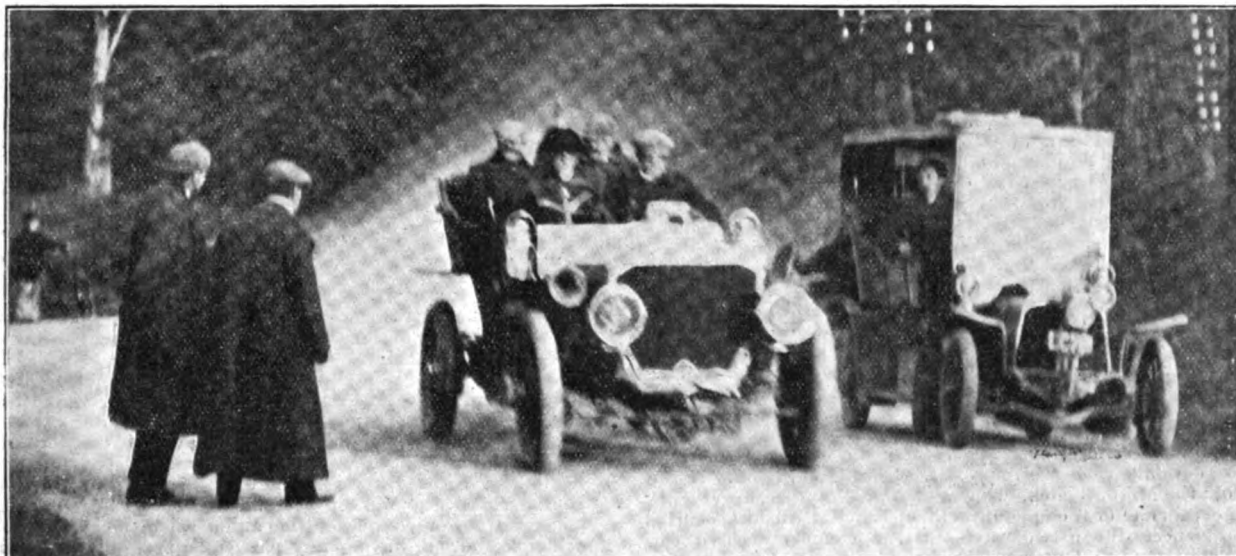
unjacketed, and the total amount of jacketing is too small to be satisfactory for using heavy fuel. It is well known to those who have had experience with paraffin, that extra attention must be paid to the perfect jacketing of the combustion head and valve pockets; and even then, with all precautions taken, the compression has to be kept lower than is necessary with petrol, or otherwise premature ignition and knocking will result. We should advise Mr. Smith to try and reduce his fuel bill by experimenting with the carburettor in conjunction with 760 deg. spirit. He might also see that the timing of the valves is set to the best advantage.]

NON-FREEZING ENGINE COOLING SOLUTIONS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In connection with the correspondence on the above subject, I have made some experiments along this line, and as the results in the form of data will, in all probability, be of value to owners of cars, I give them below. The fluids recommended are solutions of calcium chloride, glycerine and wood alcohol. I made a 10, 15, 20, and 25 per cent. solution of each of these and determined their freezing point, with the following result:

Calcium chloride—Ten per cent. solution freezes at 15 deg. above zero F.
Calcium chloride—Fifteen per cent. solution freezes at 5 deg. above zero F.
Calcium chloride—Twenty per cent. solution freezes at zero F.
Wood alcohol—Ten per cent. solution freezes at 15 deg. above zero F.
Wood alcohol—Fifteen per cent. solution freezes at 5 deg. above zero F.
Wood alcohol—Twenty-five per cent. solution freezes at zero F.
Glycerine—Ten per cent. solution freezes at 20 deg. above zero F.



The Flexibility Trial.—The Napier Car going up River Hill on top gear.

Glycerine—Fifteen per cent. solution freezes at 15 deg. above zero F.

Glycerine—Twenty per cent. solution freezes at 8 deg. above zero F.

Glycerine—Twenty-five per cent. solution freezes at 5 deg. above zero F.

Zero Fahrenheit was the lowest point I could reach with my freezing mixture. This is, I believe, low enough for practical purposes, as these higher percentage solutions freeze mushy, and not solid. They would not, therefore, in my judgment, expand enough to burst the parts if they did freeze in the machine. I use in my car a mixture of one part each of wood alcohol and glycerine and two parts water. I do not believe that this will freeze above 10 degrees below zero. A 25 per cent. solution of calcium chloride stands the lowest temperature, but is objectionable, as it is likely to corrode the parts with which it comes in contact. Wood alcohol will evaporate by the heat of the engine and more must be added at intervals. Both glycerine and wood alcohol are likely to soften rubber connections after a time, but this would be a small matter.—Yours truly,

C. F. NIXON.

WATERPROOF APRON.—A motorist passing through Sale (Cheshire) recently lost a waterproof apron, informing a local policeman of his loss, and handing him, evidently in mistake, the card of Mr. G. W. Hodgkinson, motor engineer, of Buxton, instead of his own. If the owner of the apron will communicate with Inspector G. E. Farnworth, Police Station, Sale, Cheshire, he will secure the recovery of his property.

CLUBS AND ASSOCIATIONS.

AUTOMOBILE ASSOCIATION.

THE fortnightly committee meeting of the Automobile Association was held last week. New members to the number of eighty-two were elected, among them being the Marquis of Downshire, the Earl of Radnor, Sir William Abdy, Bt., Sir Home Gordon, Bt., the Hon. Mrs. Hylton Philipson, the Hon. Lionel Holland, Colonel Dick, Col. R. Williams and Mr. C. B. Balfour, M.P. The secretary reported that the income is being increased at the average rate of one hundred pounds a week, a striking evidence of progress. A contract for a large supply of village signs was formally confirmed by the meeting.

It was decided that patrols shall be on duty all through the Easter holidays, and that the roads from London to Liverpool, Leeds to Liverpool, and Sheffield to Liverpool shall be specially organised for service both before and after the Tourist Trophy Races.

ROYAL AUTOMOBILE CLUB.

THE formula under which cars will be admitted in the "Graphic" Challenge Trophy Race is as follows:—Cylinder diameter in inches squared, multiplied by the number of cylinders, must not exceed 125. The contest will take place in the Isle of Man and probably on

Slien Lewaigne Hill, near Ramsey. The length as from Balline Bridge (electric railway crossing) to the public-house "Rest and be Thankful" is about 2,550 yards, and the gradient between these places is 424 feet. The steepest part is about half a mile before the "Rest and be Thankful" is reached and is one in twelve. The formula given above does not apply to steam cars.

The road test in the Vapour Emission Competition consisted of a run of about 150 miles along the Coventry road, as far as Daventry, lunch being taken on the return journey at Towcester, 61½ miles from London. Each of the twelve cars carried a judge as observer, and each car travelled with the gas analysis apparatus attached.

At a recent examination at Plymouth, twenty soldiers were examined for the driving certificate. An examination will be held at the Great Northern Hotel, Lincoln, on Saturday, April 13th, by arrangement with Mr. Godfrey Lowe, hon. secretary of the Lincolnshire Automobile Club.

THE MOTOR UNION.

THE March meeting of the General Committee of the Motor Union was held at St. Ermin's Hotel, Westminster, S.W. Mr. C. D. Rose, M.P., was unanimously elected chairman of the Union, in succession to the Hon. Arthur Stanley, M.P., who was elected a Vice-President.

The following gentlemen were elected vice-chairmen of the Union.—Col. R. E. Crompton, C.B., R.E., Captain D. Hughes Morgan (South Wales), Captain H. S. Streatfeild (Sunderland), Mr. G. T. Langridge (London), and Mr. C. H. Dodd (Reading).

A cordial invitation was read from the Liverpool A.C. for the Union to visit Southport on July 20th and accepted. Twenty-five applications for legal advice and information were dealt with, and a financial grant was made towards the costs of a medical member in resisting a special rate for water used for washing a car charged by the Harrogate Corporation.

The badge for attaching to cars—the mark of the considerate driver—was approved and its issue to the members sanctioned.

The Highways Protection Committee of the Union reported the result of their inquiries as to the covered van, and it was resolved that further action should be taken with a view to securing the general adoption of a bye-law to lessen the public danger that exists through the use of the hooded van so constructed that the driver cannot see the overtaking traffic.

Two prizes of eight guineas and four guineas respectively are offered by the Union for the best design of an almanac. The almanac is not to exceed 24 in. by 17½ in. in size, and must be designed for printing in not more than three colours. May 2nd is the latest date for the submission of designs.

THE annual general meeting of the Motor Union was held on the 20th inst., at the St. Ermin's Hotel, Westminster, S.W. The Hon. Arthur Stanley, M.P., presided. Members of the Union were present from London, Liverpool, Birmingham, Manchester, Nottingham, Leicester, Derby, Sheffield, Cardiff, Ipswich, Cheltenham, Epsom, Horsham, Coventry, Reading, Bromley, Tunbridge Wells, Watford, Chichester, Darlington, Oxford, Burton-on-Trent, Reckenhall, Accrington, Hitchin, Berkhamsted, Farnham, Richmond, Brighton, Lincoln, Godalming, Conington, Uxbridge, Maidenhead, Bushey, Barnsley, St. Neots, Pembroke, Reigate, Butler's Cross, Royston, Chatham, Portsmouth, Stevenage, Paisley, and other places.

After the formal business had been disposed of the chairman made an interesting speech, from which the following excerpts are taken:—During the year twenty-four new clubs joined the Union, and the membership increased by 3,527. The membership of provincial clubs advanced from 5,199 to 6,907, an increase of 1,708. The individual members of the Union have increased by 1,000. At the present time the Union includes eighty-eight clubs, and it has an aggregate membership of 14,792. During the year the agreement with the Royal Automobile Club has been in force, and it has worked even more smoothly than the most sanguine expectations led us to hope. We set up a Standing Joint Committee, having before our minds the possibility that there might be differences over the agreement. This year the provincial meetings take place in May at Lincoln, in July at Southport, and in September at Leicester. With regard to the Southport meeting, I have to remark that whenever I have come among you the members of the Union have always been good enough to make me feel at home. I hope I shall be able to repay some little part of that debt with my father's leave when you visit us at Knowsley on the occasion of the Southport meeting. As regards the legislative outlook, I think the least said about it the better. My friend Mr. Rose will agree with me that neither we nor anybody else are thirsting for legislation. I don't think we should press for it for this reason. The next Bill dealing with the matter will not be a temporary Bill, as the present Act is, but will be a permanent Act. There is no doubt that every year the movement grows with enormous strides, every year our chances of getting a good Bill such as we would wish are improved. Passing on, I come to the legal work of the Motor Union, which, of course, has been very important. The scheme for the appointment of solicitors in local centres has been most successful in two ways—first, a member accused can ascertain the address of a solicitor who has knowledge of motor questions. I am not a practising barrister, but I understand that a good deal of effect is produced when a barrister knows the methods of the judges before whom he has to plead, and by the appointment of local solicitors the best way is provided for placing cases before the particular justices hearing the case. The touring department, in which an equal number of members of the Motor Union were elected to constitute the committee with the same number of the Automobile Club, has worked smoothly and well. To the commercial vehicles department the Union has given its cordial support. The Motor Van and Omnibus Users' Association has appointed a committee representative of the Royal Automobile Club and others, which is about to carry out a series of trials for commercial vehicles. These trials will be the logical successors of the commercial vehicle trials carried out by the Liverpool Automobile Club and Self-Propelled Traffic Association in 1902. I think we all recognise the value those trials had, in that they no doubt gave us a hold of the commercial side of the industry. I hope that the trials to be held this year will be even more successful. It is interesting in that connection to notice that the disagreements, lasting over some years, with the Motor Union have been successfully adjusted, and that the Liverpool Club has now come into line with all other clubs. We are able to report that the Motor Union and the Royal Automobile Club have each given £25 towards liquidating the debt of £75 remaining upon the Liverpool Club's commercial vehicle trials, the latter club raising the remaining balance. I feel perfectly certain that during this coming year the Motor Union will not only advance as it has done in the past, but that it will advance even more rapidly, and that you will support Mr. Rose in the same loyal and kind manner in which you have supported me throughout the past two years. The success belongs to the whole of the members of the Motor Union, with whom I have worked with a single object and aim,

and that is the advancement of the good cause of motoring in this country. I beg formally to move the adoption of the report.

Mr. M. J. Tuchmann seconded the motion, which was agreed to unanimously. Motor Union medals were presented, and a hearty vote of thanks to Mr. Rees Jeffreys and his staff concluded the proceedings.

WEST SURREY.

THE annual consumption trials of the West Surrey A.C. were held on Saturday, when members met at Hurtmore Holt, near Godalming, by invitation of Col. Fairtlough, chairman of the club. The course thence was through Milford to Haslemere and back, a distance of nineteen miles over a very hilly course. No account was taken of time except, that a maximum of an hour and three-quarters was not to be exceeded, stoppages being included. The results were adjudged on ratio of petrol consumed to total weight of car and passengers, and were as follows:—

Name.	Car.	Time.		Weight		Petrol	Per
		h. m.	lb.	lb.	oz.		
R. W. Buttemer	14-h.p. Renault	54	3,132	93	93	030	
A. C. Tessier	12-h.p. De Dion	59	2,583	102	102	040	
R. S. Robertson	6-h.p. Siddeley	1 20	1,793	77	77	043	
W. G. Crothers	9-h.p. Darracq	1 15	1,824	93	93	051	
Capt. Leng	10-h.p. De Dion	1 16	2,414	124	124	051	
Dr. Minchin	8-h.p. De Dion	1 28	1,946	114	114	059	
G. H. Gill	10-h.p. Victoria	1 14	1,925	119	119	062	
J. F. Kimber	6½-h.p. Quadrant	1 14	963	62	62	064	
Tricar							
Dr. Hall	9-h.p. Clement	1 29	2,235	147	147	066	
E. E. Pullman	15-h.p. Aries	1 15	3,296	224	224	068	
J. F. Conafor	8-h.p. Clement	1 11	1,951	143	143	074	
J. H. Knight	10-h.p. Gladiator	1 24	2,062	153	153	074	
Dr. Gabb	15-h.p. Darracq	1 11	2,700	309	309	114	

The members were afterwards entertained to tea by Col. and Mrs. Fairtlough, who subsequently presented the prizes. The thanks of the Club are particularly due to Mr. C. W. S. Crawley, who journeyed down in order to act as judge and control the measuring operations.

NOTTINGHAMSHIRE.

MR. ANTHONY G. NEW read a paper on the "The Tourist Trophy Principle" at a meeting held under the auspices of the Nottinghamshire Automobile Club at the club's headquarters, the Black Boy Hotel, Nottingham, last week. Amongst those present were Messrs. C. Hardy (president), Booth-Granger (secretary), C. Perry, R. A. Young, A. T. Cresswell, Dr. P. Tresidder, Dr. S. Tresidder, Dr. Grey, Messrs. S. Harvey, A. King, J. Truman, H. Rimington, M. Ross-Browne, and A. R. Atkey.

Mr. New said it seemed almost hopeless to devise any type of competitive event which would be thoroughly satisfactory as a means of placing a number of cars in their true order of merit. Cars to-day were merely speed machines for getting from place to place as quickly as possible, nor was reliability while on the road of greater importance than cost of upkeep; but even taking these three qualities alone—and obviously many others could be added—every motorist had his own idea as to their relative significance. No useful competition for touring cars need concern itself with other qualities than reliability, durability, and flexibility, with which were more or less directly involved economical running, low cost of upkeep, all-round efficiency, hill-climbing capabilities, and good powers of acceleration and deceleration. The Tourist Trophy principle did not favour any particular type of engine, nor was the Tourist Trophy race an event for merely encouraging economy of fuel.

The club will hold a carnival on the Trent Embankment on July 6th, and the race for the Wilson Challenge Cup will be held over the private drive at Clipstone on May 11th, by permission of the Duke of Portland.

SOUTHERN M.C.

A LANTERN SHOW and musical evening took place at the Club House on Thursday last week, when Mr. Hocart lectured on Egypt and the Nile. Slides were also shown by Mr. Pratt of competitors and incidents of the International Cycle Races held in France. Mr. Pattison had some interesting views of the Eliminating Race for the 1906 Gordon Bennett. The club sporting events were well illustrated by slides lent by Messrs. J. W. Cuffey, H. Billing and others.

The opening run of the season and Easter tour takes place to Brighton and the South Coast.

BROOKLANDS.

THE following dates have been definitely settled for holding race meetings on the motor racing track at Brooklands, Weybridge, during 1907:—July 6th and 20th, August 3rd, 5th, and 17th, September 14th and 21st, October 5th and 19th, and November 2nd.

WE have received from the Clement-Bayard Company, of Levallois Perret, Paris, a copy of the latest catalogue of Clement-Bayard cars. This gives full particulars of all the new models, together with some interesting details of the factory in which they are built.

MOTOR LUBRICATION.

(Concluded from page 74.)

CONTINUING my remarks on the above subject in the last issue, may I now explain, for the advantage of the ordinary reader, what is meant by "solid friction" and "liquid friction." Solid friction implies the coming into direct touch of each other of the rubbing surfaces without any film of oil to keep them from tearing each other. A few moments of solid friction would ruin a motor. Liquid friction merely indicates the retardation of motion due to the particles of the oil themselves, and a slight increase of this kind of friction, so far from being condemned, should be looked upon as a factor of safety in the oil, preventing the likelihood of damage to any part of the motor.

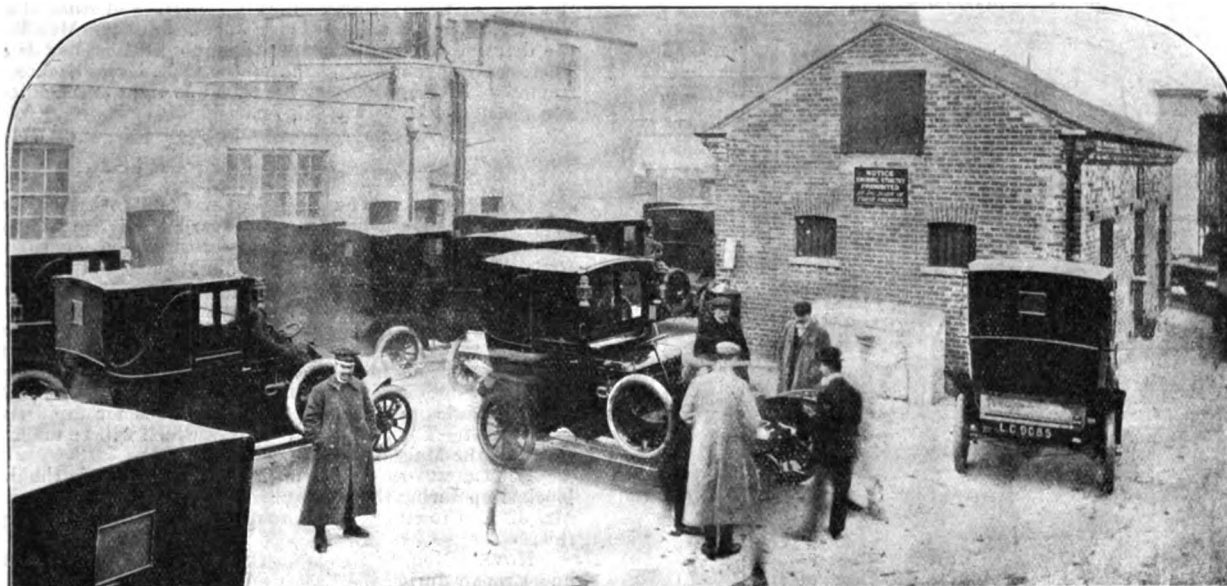
Even with the very best lubricants that can be produced, absolute liquid friction is not obtained; if it were, all wear of machinery would be entirely stopped. Though such perfection is beyond our reach, yet, by the use of a thoroughly good lubricant, we can approach very nearly to it.

I think that both motorists and motor engineers will readily call to mind certain makes of motor-cars that have a reputation for wearing out rapidly. These cars run well and are splendid hill-climbers, and, for these reasons and the lowness of first cost, sell in great numbers. Now, why do they wear out so quickly? You may say that they are not made of good materials, and the gears, &c., not hardened; but I think these arguments cannot apply to the cylinder and piston rings, &c., which are, of course, made of fine cast iron in the same way as other motors which have a very much better record for durability. I think I can state one good reason why they do not last

correct in his idea that the lubricant is always being displaced by fresh oil films, and it is Mr. Duckham who is "out of his reckoning" when he asks where the oil "runs to," in an attempt to be funny at Mr. Critchley's expense; but if he will examine the top of the piston and the top of the inside of the cylinder of any motor that has been in use some time, he will gain some of the information he apparently requires.

The true function of a lubricant is to lubricate, not to "fly off," which term would be all right if applied to petrol or paraffin or other substance that might be used to obtain power in a motor. All scientific men are agreed that that oil is the best lubricant which vaporises least and which has the greatest carrying capacity and endurance in relation to its viscosity, flash point, and specific gravity. As I explained at the beginning of this communication, that is the chief reason for compounding oils in the way that Mr. Veitch Wilson mentioned in his letter.

Certainly very large gas engines can be successfully lubricated with oils that are not heavy. My firm have done so for many years; not, however, with light mineral oils such as Mr. Duckham appears to favour; but we must bear in mind that a stationary engine works under very much more favourable conditions than obtain in a motor-car engine. When motors were first introduced, some makers and users got good results from gas engine oils, and still continue to use them. At that time the oiling fittings were, with few exceptions, not capable of dealing with heavier oils satisfactorily. Each year sees improvements, and when positive oiling apparatus and pipes of larger diameter become standard, in place of the unreliable happy-go-lucky oiling arrangements that are now gradually being discarded, we shall, I believe, find that lubrication will cease from troubling and the motor will be less at rest in the repair shop.



The Garage at Kennington of the General Motor Cab Company.

The buildings occupy two acres, and give accommodation for 960 motor-cabs. The petrol store will contain 3,200 gallons of petrol, and has a roof so constructed that on the outbreak of fire a layer of sand, weighing 62 tons, will descend to extinguish it.

better. Their makers fit them with oiling arrangements for the use of good thin lubricants which they recommend. Sometimes the users get good thin oils, but oftener they do not, with the result that the cars are soon in need of extensive repairs, for the reasons I have already stated. I have had some of these cars under my observation for two years. On my recommendation, good oils of a thicker kind have been used, and as a result these cars have not given trouble, are wearing very satisfactorily, and have not yet required repairs of any kind.

Mr. Duckham's remarks on Mr. Critchley's thin v. thick oil experiments reveal ideas so "unique" as to the function of a lubricant that it is necessary to say a few words to dispel his illusions; lest, if his statements be permitted to pass unchallenged, they may be accepted as scientific and lead others astray. He speaks of the oil on the walls of the cylinder "bolting off" at each explosion, and leaving "little or no residue." Now no lubricating oil worthy of the name will "bolt off." If it did, all the lubrication the walls of the cylinder, &c., would get would be the very small quantity of oil that the piston rings would bring up with them on the two next up-strokes. That certainly would help to solve the smoke problem; but it might also soon settle the life of the motor. What really happens when light oils are used is that some of the lower boiling fractions of the oil are vaporised, not distilled, and a heavier bodied lubricant is left on the cylinder walls, which combines with the oil brought up on the two following up-strokes. It is thus that a lubricant is produced in the motor from a good thin oil that may be capable of giving better lubrication than will a bad quality of thicker oil. Mr. Critchley is quite

I noticed a further letter recently from Mr. Duckham, which shows that he has seen some motors opened up, and discovered where part of the oil "falls to" that was mentioned in Mr. Critchley's letter. If Mr. Duckham had not so carefully stated that his letter was written some months ago (though not published till now), one might have concluded that he had made his discovery in the pages of a contemporary journal in which the matter was dealt with a week or two ago. The engine he refers to had evidently been fed on a mixture of bad oil and road dust. A fine gauze filter on air inlet would greatly remedy the dust entrance, and a better quality of oil would decrease the carbon deposit.

There is a good deal of sound common sense in the views expressed by Mr. Newton, which show that he has given some thought to his subject; and if he had not followed the pernicious example of some other equally unqualified writers of endeavouring to clench his arguments with scientific authority, he would have been entitled only to commendation. Even as it is, he deserves some thanks, for he gives far more practical information to the motorist and motor engineer than such letters as the last two I have reviewed. Where Mr. Newton gives himself away is when he attempts to classify the different kinds of friction, a subject he has yet to study further. Meantime, let me show where he is in error, as the information may be useful to others. He makes the common mistake of confusing rotary motion with rolling friction. Thus he arranges his groups of motion:—(a) cylinder walls, piston, and gudgeon pin; (b) crank shaft bearings, cam shaft, and big ends of connecting rod. In group (a), the friction is "sliding friction," as he states. In group (b) he says, the friction is "rolling friction"; and it is here he errs, for unless these motions are run

on balls or rollers (which is rare), they produce exactly the same kind of friction as does the group (a), viz., they "slide" or "glide" on each other and cause "sliding friction." In some engines the valve lifters have little rollers that rest on the cams, and the Lacoste form of "wipe" has a little roller that makes contact; both of these are examples of "rolling friction." The two-to-one gears and the whole of the other gears are by some individuals looked upon as instances of "rolling friction;" but even in these there is not true "rolling friction," as the teeth of the wheels to some extent slide on each other, which is shown by the form in which they wear. When the gear shafts, pinions, and differential are provided with ball bearings, when the road wheels are mounted on ball or roller bearings, and when the steering apparatus is mounted on balls, in each case there is "rolling friction." In my endeavour to clear up this matter I have gone over the principal moving parts of a car: all the other motions can be classified in the same way. These terms "sliding friction" and "rolling friction" only indicate the kind of motion of the frictional surfaces. The terms "liquid friction," "plastic friction," and "solid friction" relate to the conditions under which the motions take place, viz., "liquid friction" implies the load supported by a fluid lubricant and the only friction being that of a fluid; "plastic friction" has exactly the same meaning when applied to motions that are lubricated with a non-fluid lubricant, such as grease; and "solid friction" simply means that the rubbing surfaces are in direct touch without any kind of lubricant between.

In stating the foregoing facts regarding motor lubrication I have endeavoured as far as possible to avoid technical phrases and figures which only mystify non-technical readers. I hope I have made them sufficiently clear that "he who runs may read."

D. D. B.



The Flexibility Trial.—The Competing Cars at Boxhill.

ALLEGED "FRAUDULENT" MOTOR SCHOOL.

WM. ADDISON, 20, and Rupert Foulkes, 20, were charged at Brighton Borough Bench, on the 21st inst., with conspiring together on or about 29th October last to obtain by false pretences the sum of £2 in money and four postal orders for the payment of £1 2s. 6d., with intent to cheat and defraud Alfred Wm. Young, Wm. Hookway, Leopold Proctor, Herbert George Dunstan, and Ernest Waddington.

Earl Russell (instructed by Mr. C. Buckwell) appeared to prosecute on behalf of the Sussex County Automobile Club, and intimated that there were a number of cases against the prisoners, but that he only proposed to go into one of them that day, that of obtaining £2 from Alfred William Young, and then apply for a further remand. A. W. Young, W. T. Chessell, and other witnesses gave evidence, including Major Thomas Swaffer, who said his brother and he had owned a 15-h.p. Darracq motor-car, which was stored at the prisoners' garage about three weeks, until August 12th. Prisoners were not allowed to use it; but in consequence of suspicions and marks of usage found on the car it was taken away on August 12th. Earl Russell then applied for a remand, explaining that the witnesses in the other cases had to come from a distance. Prisoners were accordingly remanded until the 27th inst. Neither prisoner was able to offer bail. Addison was released on his own recognisances in the sum of £20, and Foulkes was offered bail on his own recognisances in the sum of £20 and two sureties of £10 each.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING THE LIMIT.

At Kingston, on the 21st inst., Thomas Joyce, chauffeur to Mr. Oscar Lewisohn, was summoned for driving a motor-car at a greater speed than twenty miles an hour at Kingston Vale, on February 26th, and he was also summoned for driving a motor-car without a licence. Police-constable W. Jones said he timed the car over a measured furlong, which it traversed in 15.2.5 sec., or at a speed equal to 28 miles 388 yards an hour. When asked to produce his licence the defendant said it was at home in his motor coat. P.S. Holly said the defendant came to Balham Police-station on February 27th, the day after he was stopped, and produced two licences, an old one, which had expired on January 14th, and a new one dated February 27th, the day he came. The Bench imposed a fine of £5, and 10s. costs, for exceeding the speed limit, and of £1, and 10s. 6d. costs, for having no licence.

DANGEROUS DRIVING.

At the Torquay Police Court, Henry Wheeler has been summoned for driving a motor-car in a manner dangerous to the public on March 9th. Leonard Pearce said on the day in question he was delivering milk from a four-wheel wagon in Barramore Road. At the bottom he saw the car driven by the defendant, who came around the corner at a very fast rate and without sounding his hooter. The car came around on its wrong side and dashed into witness's cart. Mr. Easterbrook said the defendant admitted that he was guilty of an error of judgment in taking the corner so closely. Defendant was fined £5 5s., inclusive.

Albert Kite, of 75, Ellis Street, Holloway Head, Birmingham, was summoned at the Acock's Green Police Court for driving a motor-car to the common danger. It was said that the car was being driven at the rate of nearly thirty miles an hour, and that Dr. Dickson, of Yardley, narrowly escaped being knocked down. Mr. T. F. Mason, for the defence, sought to show that no offence had been committed. There was no vehicular traffic on the road, he said, except a stationary tramcar. Kite's estimate of his pace was eight or ten miles an hour. A fine of £10 and costs was imposed.

ROAD REPORTS.

EAST SUSSEX.—The East Sussex County Council have decided to apply to the Local Government Board for a regulation to restrict to five miles an hour the speed of motor-cars on a length of road leading from the Lewes to Eastbourne main road at Berwick to Seaford, commencing from a point near Winton Farm and passing through the village of Alfriston, past Frog Fille and Tile Barn, to a point about 550 yards south of the latter place. The total length of the road proposed to be "restricted" is 3,350 yards, and the foundation of the Council's decision in the matter appears to be its tortuous nature and the steep gradients in its course. In two places the road winds almost at right angles, and is obviously dangerous for rapid traffic.

DOVER.—The only road in Dover which will be under repair during Easter is the Maison Dieu Road.

SOUTHAMPTON.—None of the principal roads in the borough will be blocked up during the holiday; in fact, special efforts will be made by Mr. J. A. Crowther, the Borough Engineer and Surveyor, to avoid this.

HOVE.—None of the main thoroughfares in this borough will be under repair during the Easter holidays.

BOURNEMOUTH.—We are assured by Mr. F. W. Lacey, M.I.C.E., Borough Engineer at Bournemouth, that no roads will be left at Easter time or at any other time unrolled or otherwise in such condition that cars cannot pass over them.

TORQUAY.—There are no roads under repair in this borough at the present time.

RAMSGATE.—The whole of the main roads of Ramsgate will be perfectly clear for Easter.

FOLKESTONE.—All the roads within the borough of Folkestone will be in good condition during the Easter holidays.

PUBLIC MOTOR SERVICES.

THE motor-car service between Hythe and Folkestone will be extended during the coming season.

REPLYING to a suggestion that he should make new rules with regard to motor-buses in London, Mr. Gladstone, Home Secretary, has said that "motor-omnibuses, like all other forms of motor vehicles, occasionally broke down, and no regulation could prevent them doing so."

MESSRS. BRADSHAW BROS., of Melbourne, are negotiating with the Colonial Government for the inauguration of a motor service to bring Port Darwin within six days of Adelaide. This is in compliance with a request from the members of the Northern Territory, who complain of the uncertainty that exists with regard to the construction of a railway between Oodnadatta and Pine Creek.

THE motor-bus service at Shanklin, Isle of Wight, was resumed on Wednesday.

MESSRS. J. KEELE AND COMPANY, of Brooke Street, W., have taken up an agency for the Belsize cars, and have now in stock for trial purposes one car of each model, including the 60-80-h.p. six-cylinder vehicle.

COMPANY NEWS.

MEETINGS.

DAIMLER MOTOR COMPANY (1904).—Mr. E. Manville presided over an extraordinary general meeting of the company held at Coventry on the 21st, to consider a scheme for unifying the existing two classes of shares, so as to enable the company to issue a new class of preference share to provide the necessary capital for development of the works. The chairman said the board, having considered various ways in which capital could be raised, came to the conclusion that the best method was to alter the articles of association so as to enable the present preference shares to rank as ordinary (existing shareholders receiving a bonus of 6 per cent.), and then create 300,000 preference shares, 100,000 of which would be issued at once. Mr. Wood (director) seconded, and after discussion the resolution to modify the articles of association to allow the rearrangement of capital to take place was declared carried. It will be necessary for separate meetings of both preference and ordinary shareholders to be held and pass the scheme.

DUNLOP TYRE COMPANY.—Mr. Harvey Du Cros presided at the annual meeting of the Dunlop Tyre Company, held in Dublin on the 21st inst., and in the course of his statement said that the motor trade was even more important than the cycle trade. The foreigners had the start of them both in motor-cars and motor tyres, but he was happy to say that the English manufacturer was following the lead of the cycle manufacturer and was holding his own in this country. The importation of foreign motor-cars was likely to be resisted successfully by the English maker, and the same was likely to occur in relation to the provision of the tyres which were such an important part of the trade, and he thought they would not be content to fit foreign tyres on an English or Irish car. Reviewing the present position of the company, the Chairman said that since the expiration of the patents it was to all intents and purposes a company trading under entirely new conditions. From their subsidiary companies they had brought to their balance-sheet in 1904 £80,518, in 1905 £127,731, and in 1906 £167,655. The profits of the company for 1905 were £129,497 and the second year £209,969. In 1905 they paid away out of profits £104,315 and in 1906 £138,295.

NEW COMPANIES REGISTERED.

BRITISH DE DIETRICH.—£100. Manufacturers and proprietors of, agents for, and dealers in motor-vehicles, &c. No initial public issue. Registered without articles.

EXPRESS MOTOR CAB COMPANY.—£40,500. Agreement with the Compagnie des Voitures Automobiles de Paris, 14, Devonshire Square, E.C.

TORQUAY ROAD CAR COMPANY.—To adopt an agreement between Sir Henry B. Robinson (for the Vale of Llangollen Engineering, 'Bus and Garage Company, Ltd.), of the one part and the promoters (the directors) of the other part, for the acquisition of three motors and spares for £1,500, and to take over the lease of a garage in Market Street, Torquay, lately occupied by the Torquay and District Motor Omnibus Company, Ltd. First directors: Messrs. W. W. Cox, E. Hutchings, A. Backhouse, L. Powell, J. S. Carter, and W. E. Thomas. 7, Tor Hill Road, Torquay.

FRINTON-ON-SEA MOTOR BOAT COMPANY.—£150. No initial public issue. Registered without articles.

THE GLASGOW AUTOMOBILE COMPANY.—Registered with a capital of £5,000 in £1 shares. No initial public issue.

CLAIMS AGAINST MOTORISTS.

AN accident at the top of Dale Hill, Sussex, in which a motor-car and a cab collided, formed the subject of a remitted action before his Honour Judge Scully, at a special sitting of the Brighton County Court on the 20th, when David Matthews, a cabdriver, 63, Franklin Road, Brighton, sued the Brighton and Sussex Motor and Carriage Works, Ltd., 13A, Cannon Place, for £64 10s., as damages for injury to the plaintiff and his cab by the alleged negligent driving of the defendants or their servants on December 1st last. In delivering judgment, his Honour said that even if he accepted the evidence that the horse did pull out just before the accident he was still of the opinion that there was sufficient evidence to hold that the accident was occasioned by want of due care, that was to say negligence, on the part of the driver of the motor-car. The driver of a motor-car ought not to run things too fine in passing a horsed vehicle. It was a dangerous proceeding, and if an accident happened from the horsed vehicle slightly altering its position the motor-car was not freed from responsibility. Judgment was entered in plaintiff's favour for £10 8s. with costs.

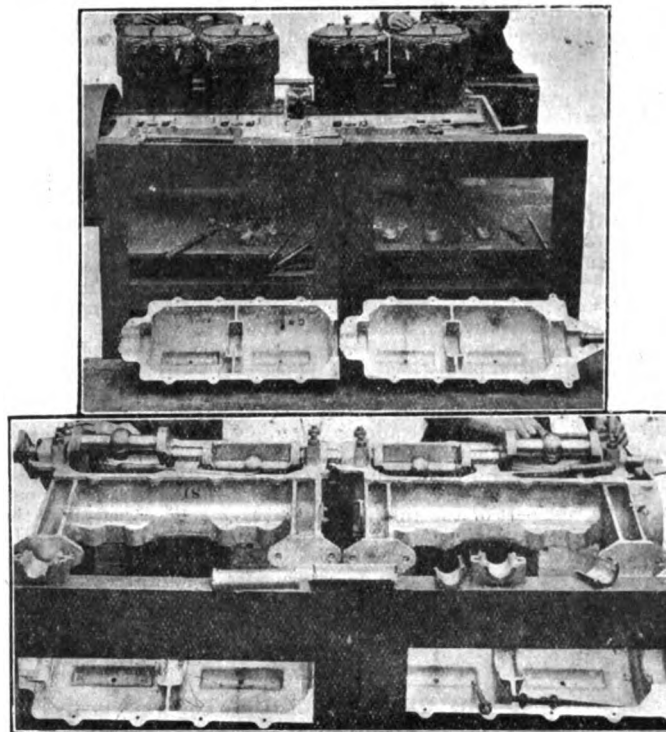
AT the Huddersfield County Court, before Judge Gent, Emma Taylor, weaver, of Armitage Bridge, has sued Charles Hirst Mitchell, motor-car engineer, of Chapel-street, Huddersfield, for £100 for personal injuries sustained by being knocked down by a motor-car owned and driven by defendant. Counsel for the plaintiff said that she had descended some steps leading into the Huddersfield and Honley road when returning from her work at Taylor Hill Mills. She looked to the right, the direction from which traffic might be expected, and was immediately knocked down by the defendant's car, which was being driven on the wrong side of the road. She was rendered unconscious, and was conveyed by the defendant in the car to the surgery of Dr. Edwards, at Huddersfield, a distance of two miles, was incapacitated from work for nine weeks, and now suffered in nerves as a result of the shock. The defence was that there was contributory negligence by the plaintiff. His Honour awarded the plaintiff £71 5s. damages.

ASSAULTING A MOTORIST.

AT Marlborough Street Police Court, before Mr. Denman, John Field has been summoned for an assault upon E. Schwartz, driver of a motor-car belonging to Mr. Max Pemberton. Mr. Moresby White, in appearing for the Motor Union, said they were taking up this case because assaults upon drivers of motor-cars were becoming so frequent that it was the duty of the Union to protect its members. The driver of Mr. Max Pemberton's car was proceeding up Rathbone Place when, passing a horse and cart in which were two men, the driver of the cart lashed out with his whip and struck the motor-car driver a severe blow on the face and neck. The motor-car driver immediately stopped his car and got down and ran after the horse vehicle, caught the horse's head, and stopped the cart. The driver again lashed out several times with his whip, hitting the motorist over the face. A crowd gathered, and the motorist letting go of the horse, the driver lashed the horse and galloped away. He was fortunately stopped by a policeman to whom someone had given the alarm. Mr. Denman fined the defendant 40s. and costs, or in default twenty-one days' imprisonment. Defendant was removed to the cells.

THE SCOTTISH RELIABILITY TRIALS.

THE rules of this trial have been issued to the manufacturers, and the following firms have made entries:—John A. Peacock



The above illustrations depict one of the eight-cylinder engines Messrs. Weigel Motors, Ltd., are building for the racers they have entered for the A.C.F. Grand Prix race. One view shows the base chamber open and the crankshaft being laid in its bed, and the other the cylinders in course of erection.

(Chenard and Walcker), Walter Gutmann (Chenard and Walcker), Reo Motors, Ltd. (Reo), Albion Motor Car Company, Ltd. (Albion), New Arrol-Johnston Car Company, Ltd. (New Arrol-Johnston), John S. Napier (New Arrol-Johnston), T. C. Pullinger (Beeston Humber), Rolls-Royce, Ltd. (Rolls-Royce), Rennie and Prosser, Ltd. (Rennie and Prosser Siddeley), W. Watson (Berliet), St. Vincent Motor and Cycle Company, Ltd. (St. Vincent), Frederic Eastmead (Sunbeam), Argyll Motors, Ltd. (Argyll), Capt. F. Vernon Wentworth (Daimler), Belsize Motors, Ltd. (Belsize), Mrs. Ed. A. Riley (Belsize).

POLICE TRAPS.

THE police are adopting their trapping tactics in Kingston Vale, and motorists passing that way during the holiday season should proceed warily.

IN the recent commercial vehicle run to Ripley, the Adams van arrived second, passing several others on the upgrade.

FOR the convenience of motorists in town during Easter Messrs. Friwell's premises in Albany Street, Regent's Park, N.W., will be open continuously throughout the holidays.

AN AUSTRALIAN RELIABILITY RUN.

[FROM OUR MELBOURNE CORRESPONDENT.]

THE possibility of a big Australian automobile reliability contest down the east coast of Australia is a prospect that has frequently been discussed by several keen and enthusiastic Victorian motorists. A motor contest from Brisbane to Adelaide would not only be possible, but would afford a test of the reliability of the automobile for Australian use that would attract considerable interest throughout Australasia. Whilst the route between Brisbane and Adelaide is not to be thought of from a point of racing speed, it is just the course to provide a severe test of the capabilities of both cars and drivers. As a sporting event it would provide an interesting trial that would attract a tremendous amount of attention throughout Australasia, and such a contest could easily be arranged if the respective automobile clubs of New South Wales, Victoria and South Australia and the automobile trade took the matter in hand. The route, which would be approximately about 1,850 miles long, would embrace some of the finest roads in Australia, and probably some of the worst, but the only real difficulty to be surmounted would be the Coorong, a seventy miles' patch of sandy and tussocky country to be crossed between Kingston and Meningie, on the South Australian side, but as this stretch has already been crossed by several cars, and once by Mrs. Thompson, a well-known Adelaide motorist, the troubles in this direction would not be insurmountable, and would only lend additional interest to the test. The route from Brisbane to Sydney would embrace some particularly fine scenery and plenty of mountain climbing, especially if the railroad route were followed up through Tenterfield and Warwick, but an alternative course would be available up the coast route, the only drawback being the number of rivers to be crossed by means of punts. In point of distance there is only about twenty miles' difference, the coast route being the longer. The three clubs mentioned, if generously assisted by subsidies from the motor houses, tyre firms, and oil companies, should have little difficulty in arranging such a contest for big cash prizes, say £250 first, and £100 divided up into place prizes. The conditions of such a test would have to be on more open lines than the recent big Dunlop 1,000 miles contest, for in a run of the kind suggested the class of roads and difficulties to be overcome along the route would effectually spread the competitors. Probably the best lines on which to organise such a race would be to give a handicap of so many hours or days' start to cars in different classes, and the first motorist to reach Adelaide to be the winner. To prevent competitors attempting night driving, which would be distinctly dangerous over the routes suggested, a driving allowance of say twelve hours a day could be arranged, contestants being required to "sign on" at different towns and villages en route; repairs and adjustments to be allowed, but no substitution of such parts as axles, wheels or frames being permitted, and the same car to be used throughout the long drive. Provision would also have to be made to prevent driving on Sundays, for the route would probably take the winner the best part of a fortnight to negotiate. Such a contest as that roughly outlined would outrival any sporting event, except the Melbourne Cup, held in this part of the world, and would focus so much attention on the automobile and its possibilities on our roads that motor racing generally in the Commonwealth would be the gainer. The suggested run is one worth the attention of the automobile clubs of New South Wales, Victoria and Adelaide.

MOTOR-CAR ACCIDENTS.

At Redhill a little girl was knocked down on Sunday by a motor-car, and received injuries to the head.

At Coulsdon a cyclist was knocked off his machine by a passing motor-car, and had his collar-bone broken, while one of the occupants of the car was thrown out.

A BOY named Robert Crampton was knocked down in the Broadway, Stratford, by a motor-car belonging to Mr. T. H. Mann, of Sawbridgeworth, on Saturday night, and was taken to the West Ham Hospital with a broken leg.

MESSRS. S. F. EDGE, LTD., have sent us a photograph of a 40-h.p. six-cylinder Napier car with landaulet body and front extension they have recently supplied to the Right Hon. Sir John Gorell Barnes, P.C., President of the Probate, Divorce and Admiralty Divisions. The carriage was built under the special supervision of Sir John himself and comprises several innovations suggested by him. The whole of the top portion can be folded entirely out of sight leaving the back quite open, so that when the wind screen is raised there is nothing but the four metal rods supporting the front canopy extension to interfere with the view or free passage of air. Then, if desired, by the slackening of four bolts the whole of this front canopy can be removed, so making the vehicle into an entirely open one. Another point that Sir J. Gorell Barnes insisted on was a petrol consumption test, which was conducted under his driver's supervision from Kensington Park Gardens on the North Road to Hatfield, and the consumption—even with this large body fitted—worked out at the excellent distance of sixteen miles to the gallon, including, of course, all the town work through Westbourne Grove, Finchley Road, Barnet, &c.

BUSINESS NEWS.

MESSRS. WALKER BROS. (WIGAN), LTD., a well-known firm of engineers, have taken up the construction of motor-vans, lorries, and all classes of industrial vehicles, at their works at Wigan.

BEFORE sending out their motor "Chemico" carbides, the County Chemical Company, Ltd., of the Excelsior Works, Birmingham, subject the carbide to a cleansing and preserving process which ensures the utility of their product. This preserving process was invented by the company seven years ago, and consists of coating the carbide with a preparation which preserves carbide from atmospheric action, and at the same time retards and regulates the decomposition when brought into contact with water.

AN interesting statement concerning the economy of motor vehicles for commercial use was recently made at a public meeting by one of the directors of the well-known match firm of Bryant and May. This concern has adopted motor-vans in place of horsed vehicles for delivery of its goods within a twenty mile radius of the factory, a change which effects a considerable saving in cost. With horse vans the average cost for the delivery of matches was 1.17d. per gross, but as soon as the motor-vans got to work the cost was brought down to .44d. A 30 cwt. delivery van—a repeat order—for Messrs. Bryant and May was shown on the Argyle stand at Olympia.

THE rebuilding of the factory of Messrs. W. and F. Thorn, in Little Portland Street, London, W., is now completed, and the firm are able to execute orders for motor bodies without delay.

THE Electric Ignition Company, Ltd., have issued a circular of twelve quarto pages giving numerous testimonials by leading motorists as to the efficiency of their electrical appliances.

MR. WILFRED R. WILLS has written to Messrs. Weigel Motors, Ltd., to the effect that, recorded by an O. S. speedometer, he has succeeded in reaching a speed of over seventy miles per hour upon his 40-h.p. Weigel chassis. This, taken in conjunction with another letter received the same day from Mr. Brossard de Marsillac, stating that he has succeeded, with six people on board, in climbing Turner's Hill, Sheffield, which has a gradient of 1 in 38, and which apparently is considered in Sheffield as practically unclimbable, tends to show the power and flexibility of the Weigel chassis.

THE Valor Company, Ltd., write:—"We have read a notice in the last issue of the *M.C.J.* under the heading "Some Useful Notes," recommending sand to be used in extinguishing petrol flames. From our experience as fire engineers, and especially in dealing with flaming petrol, we consider there is nothing more effective on the market than our New Era Petrol Fire Extinguishers for this purpose. There are several disadvantages in connection with sand, the principal being that sand thrown on a car, boat, or, in fact, any motor vehicles, does as much damage if not more than the actual fire, as the particles of sand, being so very fine, enter into the machinery and cause great damage. Another great disadvantage is the fact that sand cannot be thrown any distance to speak of, and it would necessitate a man standing very close to the fire with a bucket of sand so as to be able to throw the sand right on to the flames, the consequence being that he would become very badly scorched and burnt. As regards motor-omnibuses, vans, lorries, cars, &c., we make types suitable for these purposes, and can refer you to all the leading motor-omnibus companies in London, the police regulation being that an effective and handy fire extinguisher must be carried, and not sand in any way at all."

IN the Australian Reliability Trial of 223 miles over the Parramatta-Bathurst route, on January 25th and 26th, Dunlop tyres enabled several "full points" performances to be completed.

A 16-h.p. Reo car was recently driven from London to Brighton and back, carrying its full load of four passengers, on top gear, by Mr. F. Graham Sharp. In order that there should be no possible doubt as to its being a top gear run, the low gear had been disconnected altogether. Starting from the Automobile Club in Piccadilly, a dense fog prevailed until Streatham Hill was reached, a non-stop run made to Brighton at an average of twenty miles an hour being, however, made. On the return journey Handcross Hill was tackled. Within 200 yards of the summit the engine stopped, owing to the spark being too far advanced. In spite of having only the top speed connected up, however, the car got away again on the steepest part of the hill from a standing start, still carrying its four passengers. On reaching the summit a return was made, and the hill again tackled, this time with the utmost success, without once slipping the clutch. Wimbledon Hill, in spite of heavy traffic and roads, was climbed with ease, and the journey completed in good time.

ON the invitation of Mr. John S. Napier, managing director, Mr. Walter S. Ed. Macharg, secretary, and Mr. Ernest A. Rosenheim, sales manager, a large number of ladies and gentlemen were entertained to dinner in the evening of Friday last week in the Globe Hotel, prior to repairing to the George A. Clark Town Hall, in which was held the second annual dance of the company.

A CONTEMPORARY representing the interests of the meat trade has opened its columns to a discussion on the need for "closed-in" shops in country districts where automobiles raise the dust on the high road, to the disadvantage of the appearance of meat hung in open windows.

THE Motor-Car Journal.

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COMMENTS.

Cordingley's 12th Motor Show.

It is scarcely necessary to remind readers that Cordingley's Twelfth International Motor Show at the Royal Agricultural Hall, London, opens to-day (Saturday, the 6th inst.). This event is recognised as the inauguration of the selling season of the automobile year, and firms ready to deliver will assuredly reap a full reward of their patronage of an institution which has been the pioneer of this means of public education in automobile matters. This is the twelfth motor exhibition which Messrs. Cordingley and Co. have organised at the popular venue in North London, and, like each preceding display, will have its distinctive feature of popular recognition. At the first of the shows an artificial lake in the Gallery enabled a display of the promise of the motor-boat; this year in the Berner's Hall and adjacent gallery is an exhibition that demonstrates the possibility of the aeroplane and the flying machine in the future. On the ground floor is the representative collection of cars and pleasure vehicles, while the Minor Hall and the Gallery have their usual collections of heavy vehicles and accessories respectively. The present display will remain open throughout next week, and the railway companies, recognising the importance of the event, are running excursion trains on several days, which will enable provincial visitors to see the Show.

Official Visits.

SEVERAL organisations and many of the learned and scientific societies are making special visits to the Exhibition, and their inspection of the stands will be greatly appreciated by the exhibitors, for not only are they prospective motorists, but their influence will secure an important personal recommendation for any cars they favour. In this respect Wednesday next, April 10th, will be an important day at the Show, that being the occasion of the visit of the Ladies' Automobile Club, when a reunion in the afternoon, followed by a visitation of the stands, will enable exhibiting firms to bring their specialities to the notice of fair and influential motorists.

Railway Rates on Motor Bodies.

DURING the last few days some important proposals have been presented by a combined deputation of the Institute of British Carriage Manufacturers, the Society of Motor Manufacturers and Traders, and the Manufacturers' Section of the London Chamber of Commerce, to the Railway Companies' Goods Managers, at the Railway Clearing House. They suggested that carriage bodies in their raw and unfinished state should be classed under Class 2, as are "furniture van bodies empties" and when consigned as between trader and trader, and that such bodies when conveyed from one town to another town—being from one branch to another branch of the same firm, should receive in addition the preferential advantage of the "shop to shop rate" rebate rate of 25 per cent. With regard to motor underframes, or chassis, with wheels on, it was proposed that they should receive preferential treatment when con-

signed from one trader to another trader for the purpose of the mounting of the carriage body and completion, and on its return should be conveyed at the reduced rate of half rate back (this is as granted on the conveyance of carriages per passenger freight). Further, that motor carriages, if sent to a trader for repair or renovation, should on their return be conveyed at the reduced rate of half rate back, if returned within three months—this is as granted on the conveyance of carriages per passenger freight. It is to be hoped that these reasonable proposals will appeal to the authorities concerned, and thus effect a reform of real importance to the British motor industry.

1,000 Motor-Buses.

THE fact that there are close upon a thousand motor-buses in public service in and about the Metropolis serves to indicate the progress that has been made since last Easter, when the great unwieldy vehicle *en panne* in a leading thoroughfare of the City was one of the joys of the holiday crowd. To-day they are recognised as a silently growing force—the word silently being used advisedly in view of the improvement in the reduction of noise that has followed the stringent action of the police authorities. Of those in service about one-fourth are owned by the London Motor Omnibus Company, Ltd., the London General Omnibus Company and the London Road Car Company, Ltd., following next in order with just under 200 to the credit of each. Of the remaining 400 to 500 motor-buses, the ownership may be divided among twenty-four companies and private firms. There are no fewer than a score of different types of buses in public service in London, so that splendid opportunity for comparison is offered the proprietors.

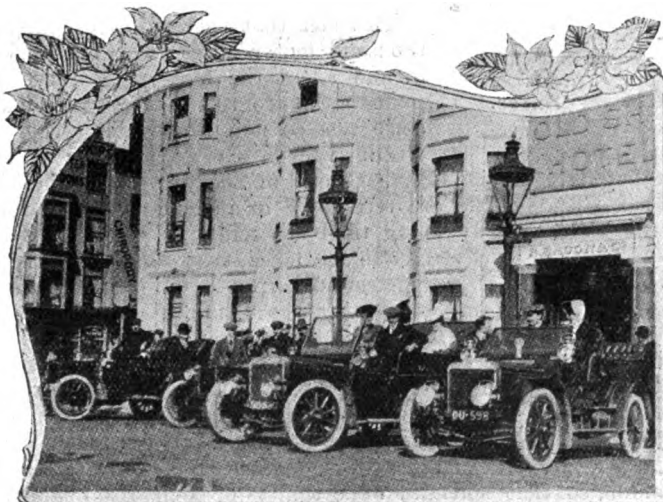
Considerate Motorists.

THE General Committee of the Scottish A.C. have recently had under their consideration various cases of reckless or inconsiderate driving, and have resolved to make a general appeal to the whole membership of the Club on the subject. At the annual meeting of the Kent A.C. Sir David Salomons has made an earnest appeal to the same end. The fact that at an early date legislation relative to the use of motor vehicles on the public highways will be under the consideration of Parliament makes it imperative that the conduct of all automobilists should be such as will not only prevent antagonism and prejudice, but will gain appreciation and support on the part of the public. The Scottish Club urges the utmost attention to the courtesies of the road. In passing or meeting cyclists or horse-drawn vehicles the maximum space should be afforded them, and on narrow parts of roads, turns, or bridges they suggest that it would more generally be advantageous to refrain from passing till a suitable part of the road is reached. The utmost consideration should be shown to restive horses, and in such cases the car, and if necessary the engine, should be stopped, irrespective of whether the party in charge puts up his hand or not. Motor-cars travelling in the same direction should not be passed going downhill, at corners, or in traffic. Cars should be driven round corners and at cross-roads with great caution. In towns and villages the cautious and considerate driving of cars will exert a

powerful educative influence on the public mind with respect to the control and to the adaptability to the necessities of traffic of motor vehicles. Under the majority of the existing methods of road construction and maintenance the dust nuisance will continue to form a strong objection on the part of many to motor-cars, and we would urge the desirability of minimising the raising of dust and the special and urgent duty when passing vehicles, pedestrians, or roadside residences, of taking every means to do so. And by way of practical counsel the committee of the Club have prepared a card on the "Courtesies of the Road" (reproduced on another page) for display in motor houses.

Fraudulent Motor Agencies.

ON December 8th of last year we published a warning to drivers and others looking for situations not to send money to a firm that promised great things for small remittances. Invitation was also extended to our advertisers who received circulars from such an agency to forward them to our office. In response several were sent, upon which we took action with important results, as detailed in the police court at Brighton last week. On December 16th—a week after the publication of our notice—the police visited the address of "Foulkes, Addison and Co.," at Brighton, and told the two persons running the business that complaints had been received. There the matter remained



A Group of Rover Cars outside the Old Ship, Brighton.

awhile until the prosecution mentioned in last week's *M.C.J.*, undertaken by the Sussex County Automobile Club, and which has resulted in the conviction of one of the defendants and the binding over of the other to come up for judgment if called upon. The business is a miserable affair, and we only call attention to it in these columns with the object of warning young men to beware of parting with their money to strangers on mere promises. Owners of cars wanting drivers are in the habit of consulting our columns and writing to men who advertise that they want situations; this obviating the need for spending money with agencies, unless, of course, employment is actually found.

Motor Ambulance Work.

DURING the last few days fifty-two posts have been erected in various parts of the City of London, which have excited the usual speculation as to "nine days' wonders" in the Metropolis. These are in connection with the new motor ambulance service which is to be established, and of which a beginning has already been made by placing an electrical motor ambulance at St. Bartholomew's Hospital. A second machine is to be stationed in Rose Alley, near the Bishopsgate Police station, and two others are to be installed at other points when further experience as to their utility has been gained. The call

posts are fitted with locks, keys to which have been supplied to members of the City police force, who will, on occasions of necessity, unlock the post and pull a lever, which will register the call on a switchboard at the headquarters in Old Jewry. From thence the call will be re-transmitted to the ambulance station, those in charge of which will be acquainted with the position of the call post, to which the motor ambulance will be duly despatched.

Motor Ambulance for Surrey.

LONDON is not the only place likely to be served with a motor ambulance, the subject of the provision of such a modern method of helping to relieve suffering being under the consideration of the Guildford, Godalming, and Woking Joint Hospital Board. In fact, the General Purposes and Finance Committee have gone thoroughly into the matter, and submitted estimates to the Board showing that a 20-h.p. four-cylinder motor-ambulance could be provided for £650, this sum to include an extra compartment for bedding, while arrangements could be made for the provision of a competent driver at a remuneration of half a crown per hour. When, however, the subject was broached at a meeting of the full Board, it was mentioned that only a few members were present at the meeting when the subject was discussed, and the proposal has been remitted back for further consideration.

A Seaside Story.

MR. W. T. LORD, of Argylls London, Ltd., may be regarded as a motorist in search of adventure; whether he really looks for it is a matter about which we have not inquired, but certain it is that the unexpected has happened in his case, or rather, his car, within recent months. Last Christmas his 16-20-h.p. Argyll had an adventure in a snowdrift, and this Eastertide Mr. Lord's spin along the sands of Filey has given him newspaper distinction throughout the land. After enjoying the exhilaration of his seaside trip, the motorist and his companion left the car for the purpose of taking some photographs at the water's edge. On their return to the vehicle they found it had sunk axle-deep, and was still burrowing in the sand. Manumotive force being unavailing, appeals were made to the fishermen unloading the catches of fish from the boats for the aid of their horses. The fisherfolk were willing to lend the animals if the motorists bought the fish, and the problem thus presented was the enforced ownership of more fish than they wanted, or the loss of the car that they wished to retain. Eight minutes remained ere the tide would begin to flow, and so Mr. Lord bought the fish. With the assistance of the horses and carts, two motor-cars and a crowd of helpers the car was finally hauled out of its bed. Mr. Lord was able to drive the car to the hotel after giving it a preliminary wash. The fish were subsequently resold by auction, and the Argyll went on its way, the owner rejoicing at its recovery, though probably dubious as to the profits of the fish vendor.

Holiday Helps.

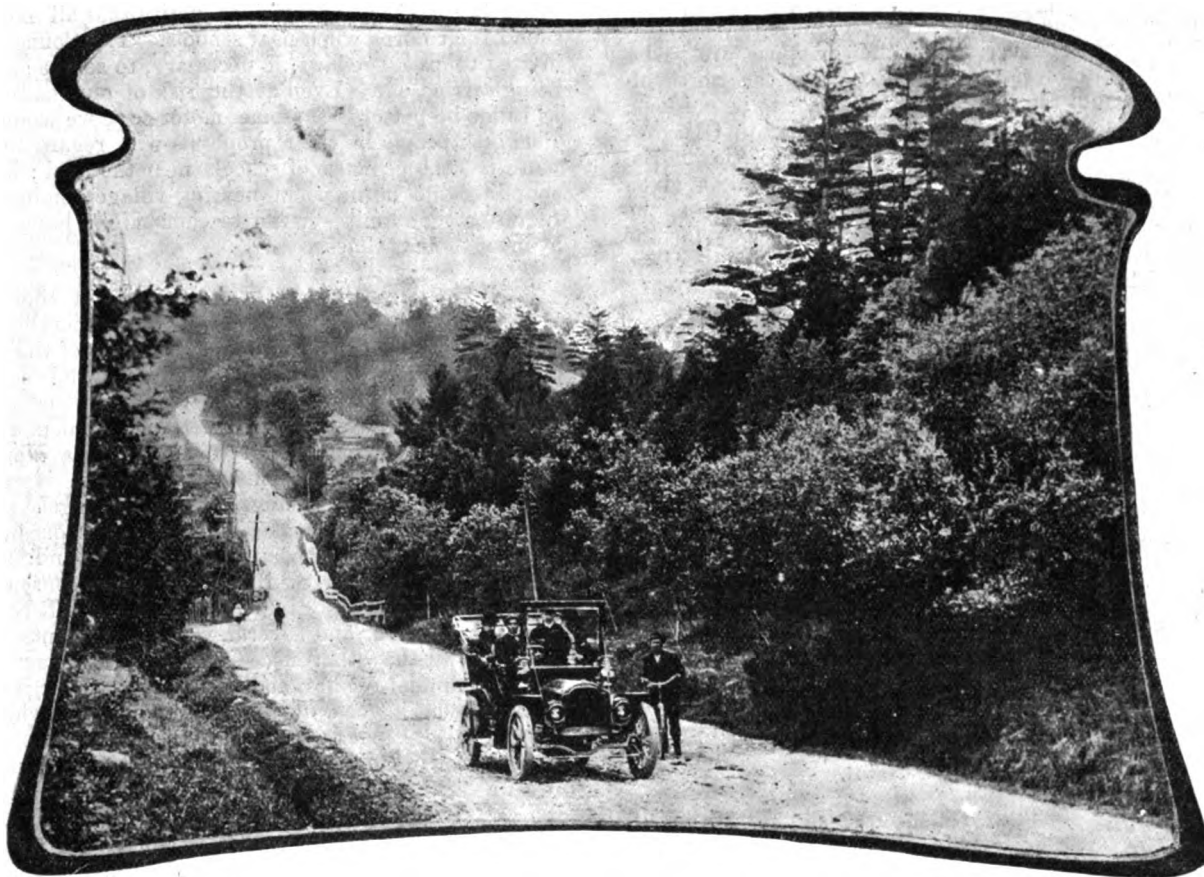
EVERY recurring holiday season brings the motorist into greater consciousness. He has become a person of high regard on the part of all who will do him homage in the way of trade, and who now keep their premises open by night as well as by day, so that he may go on his way with assurance. During the Easter from which we have just emerged, this fact was forcibly established during a long run through half a dozen counties, and on roads not always those designated the main highways. For the holidaying motorist the tyre depot has been kept open; the inspection pit has been uncovered; the garage doors flung wide apart; and stocks of spares, petrol and oil were previously replenished. This is a recognition of the fact that the car is no longer the monopoly of the monied classes, but has become the hobby of the professional man and the carriage of the man whose opportunities for travel are limited to week-ends and the festive days of St. Lubbock and others of older origin.

This provision for motorists has been almost universal and generally remunerative.

Hotels and Motor-Cars.

IN this connection mention may also be made of the growing recognition of the motorist by "mine host of ye inne." As yet we have not been able to surpass the French hotel-keeper in the rapidity with which appetising meals can be procured without notice in remote places, but ampler provision is now being provided for man and car than was the case only a short while since. Throughout the country a garage is now regarded as an essential equipment of a well-organised hotel, and where repair works can be added the favour of the motorist can be permanently secured. Every day brings evidence of the solicitude of the hotel proprietor with regard to the comfort of the motorist, and the illustrated guides they are issuing testify

mammal as was generally imagined. The weights of the heaviest flying birds, the great bustard and the trumpeter swan, did not often exceed about 30 lbs. The fact that a man was about four times the weight of the bustard put him at a great disadvantage in his efforts to fly. The great advantage possessed by the bird lay in its ability to develop proportionately about three times as much energy as a man could put forth working at his best, combined with the possession of very powerful arm and shoulder muscles. Those flying birds which possessed the smallest wings were found to have wings in the proportion of half a square foot to every pound of weight. In many birds the proportion was one square foot to the pound. A man weighing 12st. would therefore require two wings each measuring 14 ft. by 3 ft. To work such wings man's arm and shoulder muscles would be quite incompetent. If men, therefore, were ever to fly with wings they must rely on some extraneous source of energy.



Motoring in Canada.—A Summer Scene near Montreal.

to the new spirit of enterprise that is coming over the hotel world. A specific instance to hand is that of the Brine Baths Hotel at Droitwich, where the manager has just completed a large inspection pit in the hotel garage, and obtained the necessary licence to store petrol—an example that will be widely followed by up-to-date establishments.

Flying Animals.

DR. HOYLE, in a lecture on Monday afternoon at the Manchester Museum on "Flying Animals," had something to say about the ambition of man to raise himself in the air and about the light thrown upon the problem by a study of the structure of birds. He did not, of course, tell us how to fly, nor did he attempt to do much more than point out why a bird can fly and why a man cannot. In the matter of specific gravity, he said, the bird had not so much advantage over the

Easter Accidents.

UNFORTUNATELY the holidays have not passed without a crop of accidents—more numerous than we have previously noticed. Near Birmingham Mr. L. N. Rothschild had a mishap, which was made worse by the superficial wounds caused by the goggles he was wearing being broken. In several other places mishaps have occurred in consequence of the alleged neglect of the local authorities to see that owners of land have rounded the sharp corners of their property abutting on main roads. It is regrettable that it has been left to coroners' juries to call the attention of some of the County Councils to their duties in this respect. The other day a motorist was proceeding to Blackpool from Middleton. After passing through Kirkham he had to turn a sharp corner down an incline into the Blackpool road, where there was another corner almost immediately that had to be negotiated. In doing this a fatal accident happened, and at the inquest, just held, it was stated that four

accidents had occurred at the same corner during the last twelve months. No wonder that the jury recommended that danger signals should be placed on either side of the turn, and that the County Council be asked to widen the road. Surely the authorities will not need a second recommendation of that kind.

An Unfortunate Feud.

It seems a pity that the hatchet between the Automobile Club in Piccadilly and the Argyll Company, of Alexandria, N.B., could not have been buried, and that the Royal institution has not seen its way to let "by-gones be by-gones." The incident in last year's Tourist Trophy race was unfortunate not only in itself, but in the train of blunders that followed. Therein it was made manifest that the rules of the competition had scarcely been studied by the officials, and that a series of minor misadventures culminated in a disqualification that was not really a disqualification at all. Then there were calls for apologies and due humility, which produced little result but newspaper correspondence. Now, however, we are to be debarred the pleasure of seeing this car from the north of Britain in the race; but the Argyll Company, not to be outdone, invite all who wish to test their vehicles to journey to Glasgow, where a car will be in readiness to convey them to Alexandria, and after an inspection of the works the visitors will be given the delight of a ride by Loch Lomond side, a sail on the beautiful loch and a drive back to less lovely Glasgow for the evening train south. And thus Scotland will avenge itself on the little Manx island.

Technical Instruction.

In no part of the United Kingdom has automobile instruction been so carefully provided and planned as in Ireland, where the Technical Instruction Committee of the Urban District Council of Pembroke, near Dublin, has carried out a thorough system of work. Mr. E. M. Le Fluffy has been responsible for the instruction in the constructional details of motor-cars, with Mr. J. R. Evans as driving instructor. The class meetings are about to close, but we may say that the syllabus of work done is of an excellent character and might be copied with advantage by similar institutions elsewhere. Special day instruction in driving is only given to students who are able to pass a satisfactory test as to the knowledge they possess of the mechanism of cars and engines, so that the idea has been to combine practicability and utility, not regarding the matter as a pastime for amateurs, but a serious business for those to whom such instruction is likely to be useful.

A Burner for Crude Oil.

The evidence given by Mr. F. S. Stackard, of the firm of J. A. Curle, Ltd., before the Fuels Committee of the Motor Union prior to its adjournment for Easter, deserves more than mere mention. For he has found a liquid fuel burner that he believes deals with heavy fuel in such a way that would enable it to be serviceable in motor-car work. It is true that Mr. Stackard was unable to speak from experience of the internal combustion engine, but he believes, from the behaviour of his burner in other directions, that its adaptation to the automobile may be successfully undertaken. We hope the Committee will see the importance of putting the burner to a practical test, for there is a large available supply of crude fuel oil which, if utilised, would have a valuable bearing on the price of fuel for modern steam cars.

The Police as Motorists.

REALLY the police must stop their trapping or they will endanger members of the force. For the limbs of the law are becoming enthusiastic motorists. As is well known, many have qualified for the R.A.C. certificates, and the King has shown favour to his ex-policeman chauffeur. Now we learn that on Easter Monday there was to be seen outside the police-station

in Kennington Road a smart little motor-car, built like a covered van, which is one of a number to displace the horsed dogcarts which have for so long a time been driven by a constable in uniform, with messages from Scotland Yard to the various police-stations. The new motor-vehicle is painted chocolate, picked out with red, and the drivers, who are policemen, wear a dress of blue serge. The cars have the Royal monogram painted on both sides.

Schools and Cars.

WITH a pertinacity worthy of the cause the Petworth Rural District Council has been maintaining a strong campaign in favour of securing the provision of "motor signs at the approach to all schools on main or district roads in their district." A resolution to that effect was adopted at the last meeting, and the clerk was also instructed to request the West Sussex County Council to notify that all motorists should sound their horns when near schools. The Council is also being invited to pass bye-laws, if necessary, to secure such regulations being carried out. Even at the risk of our roadways becoming as badge-bespattered as some motor-cars, we would support the Petworth people in their proposals with regard to indicating to motorists the presence of schools near the road; but the idea of sounding the horns when nearing village seminaries seems to require a time limit—or the teacher might have an awakening at inconvenient times.

Motor-Boats at Brighton.

ON the occasion of the speed trials at Brighton it was generally conceded that the tedium of some of the later stages of the event might have been assuaged had motor-boat contests enlivened the proceedings. We remember with what relief the crowd looked out to sea when a Napier boat went careering lustily along, a memory of which is recalled by the energetic efforts now being made to strengthen the Brighton Motor Boat Club and make it an important organisation for all interested in motor boating, motoring, and seaside sports. Admiral the Hon. T. S. Brand, R.N., has consented to be the first Commodore, and Sir Theodore Angier, R.N.V.R., the first Vice-Commodore, and several well-known gentlemen have promised to fill the other necessary offices. It has been decided to hold an annual regatta, and it is hoped to organise a meeting lasting about a week, during the summer, in which the owners of the largest and most celebrated motor-boats in the United Kingdom will compete. It is proposed to conclude the regatta with a carnival.

At the last meeting of the Motor House Committee of the Royal A.C. a letter was received from the Club Engineer in which he reported that the 14-h.p. Star car had been in continuous use for driving lessons and general instruction for over thirteen months. The car had run over 10,000 miles, and the repairs and replacements to the mechanical portion of the car had been nil.

O'GORMAN'S Motor Pocket Book has a handy compartment for the reception of the driver's licence and over 700 pages of information, chiefly of a technical character. The inclusion of definitions of such words as "fatigue" and "lend" may occasion some surprise, although the advice under the latter heading is useful, viz., "Don't lend your car. If you do you will learn why such high prices are charged for hiring out petrol cars." In addition to instructions as to how to avoid trouble, or, when in difficulties, getting out of the same, Mr. Mervyn O'Gorman has a characteristic chapter on the legal position of the motorist, and much information with regard to mechanical matters. But it is impossible to review such a work in the orthodox manner, for the author confesses to "chaffing his readers about 'broken bones' and 'drinks' and 'recalcitrant aunts,'" and apologises for such breaches of dull solemnity. He may, however, be commended for the trustworthy character of his Pocket Book, which is published by Messrs. A. Constable and Co., Ltd.

MOTORING IN ALGERIA.

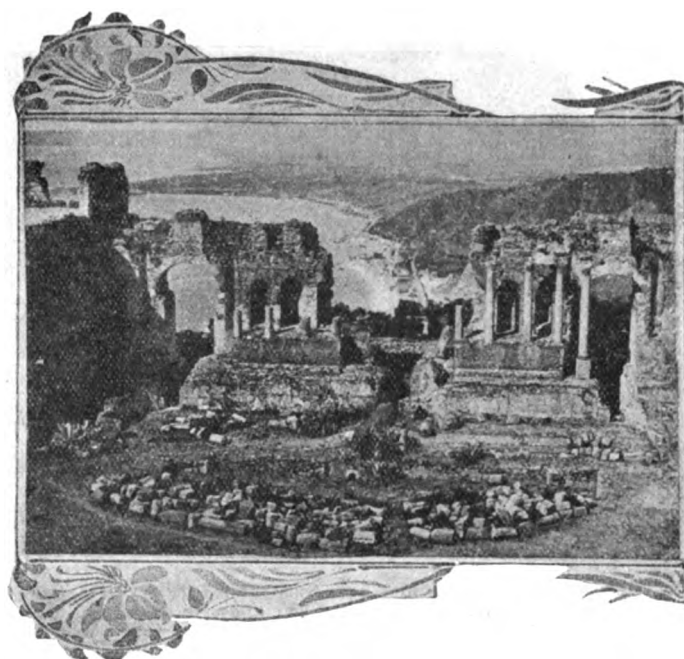
ALGERIA, at the threshold of the African Continent, offers great opportunities for the rapid development of automobilism. In the first place, there is the attraction of touring in a country, so near Europe, which possesses exceedingly picturesque scenery and a native population which has retained its ancient customs to the present day—a country which, by its historical associations and its excellent climate, excites the curiosity of the traveller. Along the coast and in the large cities European customs prevail, but on penetrating into the interior of the country one soon enters an agricultural district, where the French colonist intermingles with the native, a country of cereals, wines and stock raising. Motoring has developed in Algeria coincident with the economical advance of the colony. European modes of life have brought with them their need of activity and have superseded the lazy indolence of the natives, to whom time does not count, and who never hurry in anything. The large towns are at considerable distances from each other, and railways have not yet penetrated everywhere. It thus became necessary to make use of the motor-car for commercial purposes and for pleasure trips, to supplement the other means of communication.

It may be readily understood that a country extending 1,200 kilometres east and west, from Morocco to Tunis, and 800 kilometres north and south, from the Mediterranean to the Desert, cannot well have an uniform climate. Near the coast the winter is charming, the weather being mostly sunshiny and the average temperature somewhat higher than at Nice, and at the famous Cote d'Azur. The variations in the daily temperature are also smaller. In November nature awakens from its slumber of the hot season; the gardens are flowering, the fields become green and the orange trees bear fruit. In the highlands the winter is more rigorous, however, the peaks are snow-clad, and in certain parts of the country about the same low temperature prevails as in central France. In the southern part of Algeria there are very great variations in temperature between noon and night, and it is not at all rare for the mercury to drop in twenty-four hours from 77 deg. Fahr. to freezing point. During the winter there are frequent rains, but never of long duration. From the month of April onwards the rains become rarer, and the dry period sometimes extends to the month of October. It is marked by very intense heat in July, August, and September, reaching frequently 140 deg. in the shade in the lowlands, which high temperature is due to the sirocco, a southern wind heated in its passage through the vast sandy desert. Tourists prefer driving in Algeria during the wintry months. Nevertheless, the summer season has its charms, particularly in the southern region, where the local colouring then attains its maximum interest. Up to recently motor-cars were only used privately. A short time ago, however, a public service was established for carrying passengers between Affreville and Teniet el Haad, a distance of thirty-six miles, and various lines are now under consideration for connecting the railway with centres of population of sufficient importance.

It would seem that the motor-car was destined to fill a real need in the economical system of Algeria. This might seem strange at first, if it is remembered that the country produces a great number of fine horses which sell at low prices, and the maintenance of which is quite inexpensive. The automobile, however, offers advantages from the standpoint of increased speed, endurance and relative cost in many instances, and for omnibus service over distances of thirty to sixty miles, for regular lines in suburban districts, and for the transportation of merchandise, motor vehicles will no doubt find advantageous use.

The number of vehicles which have so far been registered in the Department of Algiers is 445, in the Department of Constantine 117, and in the Department of Oran 65, making a total of 627 cars. The price of vehicles is the same as in France if the vehicles are taken possession of at the factory; otherwise it is increased by the cost of transportation, which amounts to from £6 to £8 per vehicle from Paris to Algiers. Petrol is kept for sale at all the garages, and at nearly every locality connected by

a road suitable for motoring. The garages in the larger towns are equipped for making all necessary repairs. It will thus be seen that although Algeria is a country of relatively recent development, it offers the same facilities in the way of supplies and repairs as most of the provincial districts of France. Chauffeurs are trained locally; they are quite numerous, and the wages range from £5 to £9 per month. For touring the country it is possible to hire vehicles at prices varying from £3 5s. to £5 per day, according to the mileage. Touring maps are available which show all the principal roads and the steepness of the hills. As to the former, they elicit the admiration of all tourists. The national and departmental roads are generally 36 ft. wide. The manufacture and use of automobiles in Algeria are regulated by the decree of May 28th, 1902, which provides measures generally similar to those in force in France. As regards the motor traffic regulations in Algeria it is provided, however, that vehicles of foreign origin, before being placed in service, must be submitted to the Department of Mines to determine whether they conform in every respect to the legal requirements; if the car is found to be of the proper construction, the manufacturer or owner is furnished a certificate. For placing a car in use an application must be made to the prefect of the department;



Touring in Sicily.—An Ancient Grecian Theatre near Messina.

declarations made in France are, however, honored in Algeria. Although the regulations provide that the speed must not exceed 30 kilometres per hour in the country and 20 kilometres in towns and villages, they are by no means rigidly insisted upon.

To explain the electrical ignition necessary in connection with petrol motors is the purpose of a new book recently published by Messrs. Whittaker and Company. This is by Mr. W. Hibbert, whose lecture at the Royal Automobile Club recently occasioned much discussion. The author's experience in connection with the Electrical Engineering Department of the Regent Street (London), Polytechnic has enabled him to explain "electric ignition for motor vehicles" in a simple way for the benefit of novices. We have the meaning of timing explained, and explanations of primary and secondary batteries, contact makers and coils, much attention being given to the action of the latter. Instructions for the wiring connections of multi-cylinder motors are given, free use being made of elucidatory diagrams. Recognising the popularity of the magneto, Mr. Hibbert goes fully into that branch of the subject, and his chapter on "Faults" will assist his readers to avoid them.

CONTINENTAL NOTES.

Touring Trials in the Touraine District.

The Automobile Club de Touraine is organising two competitions for touring cars, to be held from June 19th to 22nd next. The first, which is known as the Coupe de Touraine, is for teams of three cars, whose endurance and regularity of running will be tested by five runs of 200 kilometres, the prize being awarded to the team which, collectively, gains the highest number of marks. The second event is known as the Grand Prix de l'Automobile Club de Touraine, and is open (1) for cars of a minimum weight of 941 kilogs., and engines of a maximum of 127 sq. centimetres piston area; and (2) vehicles maximum weight 1,503 kilogs., and maximum piston area 226 sq. centimetres. The programme for this trial consists of three daily runs each of 200 kilometres. Full particulars of both competitions can be obtained of M. Barat, 27, Rue Victor Hugo, Tours.

Pekin to Paris by Motor Car.

Much interest is being taken in the projected automobile run from Pekin to Paris which is being organised by "Le Matin," of

The Kaiser's Prize Race.

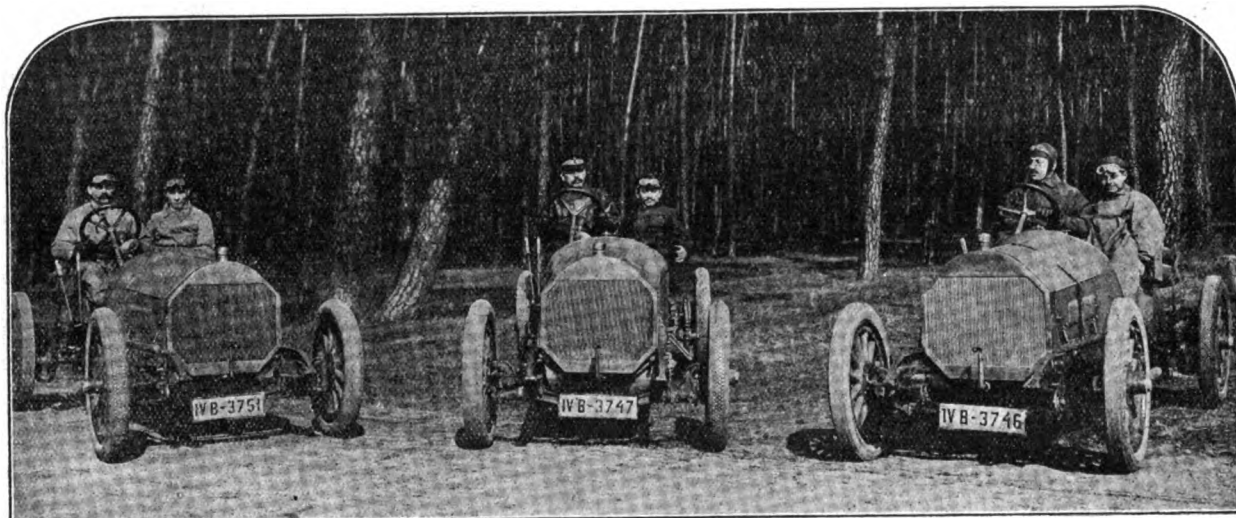
The Kaiser has notified the German Imperial Club of his intention to offer four additional prizes in connection with the race for the Kaiser's Prize, which is to be held on the Taunus course on June 14th next. A couple of the prizes will be offered to the two vehicles which, in the opinion of the Organising Committee, are the most interesting, and one each to the German and foreign built vehicles which make the next best times to the winner of the contest.

The Herkomer Touring Trophy Contest.

June 5th has been definitely fixed as the start of the Herkomer Touring Trophy contest, the reception of the cars taking place in Dresden on June 4th. Entries at ordinary fees will be received up to the 15th inst., and at double rates until May 15th.

Public Services in Germany.

Negotiations are in hand for the establishment of a public motor-car service between Gressen, Gleiberg and Krofdorf. A company is also being formed to inaugurate a service between Oldenburg and Wardenburg.



The three Benz Cars which have been entered for the forthcoming Targa Florio Race in Sicily. The vehicles, which are of 50-h.p. and weigh when in running order 1,250 kilog., in accordance with the regulations, will be driven by the Duke of Bojano, Herr F. Erle and Herr P. Spamann.

Paris. So far about twenty-five entries have been received, these including a Spyker, an Itala, a Panhard, two Metallurgiques, and three De Dions.

A French Touring Trial.

The Automobile Club of Poitiers is organising an interesting touring competition for May 20th, which will comprise a long-distance run, a hill-climbing test, and a brake trial. The competitors will be divided into the following classes:—1, single-cylinder cars of a maximum cylinder diameter of 105 mm.; 2, ditto, over 105 mm.; 3, two-cylinder cars, maximum bore 85 mm.; 4, ditto, over 85 mm.; 5, four-cylinder cars, maximum bore 110 mm.; and 6, ditto, up to 140 mm. bore. For the vehicles in Classes 1 to 4 the distance is 170 kilometres, and for those in Sections 5 and 6 280 kilometres.

Motor Vehicles and the Postal Service.

Some trials are at present being made by the Post Office Department in Vienna with a number of electric motor carrier tricycles in connection with the rapid collection of letters. In France the postal authorities are inviting tenders until the 26th inst. for the transport of the mails in Paris by means of motor vehicles. The contract, which calls for the supply, maintenance, and working of 73 cars, with an additional ten as a reserve, is to come into operation at the end of September, 1908.

The Hotchkiss Tour of France.

The tour of France by the Hotchkiss six-cylinder car is nearing its end, about 5,000 miles having been covered up to Sunday last. During the past week M. Van Marcke has visited Rouen, Amiens, Lille, Cambrai, Chalons-sur-Marne, Montbéliard, Besancon, and Lyons. He is due to reach Paris on Friday, the 5th inst., when a dinner will be given at the A.C.F. by the Hotchkiss Company in celebration of the completion of the event.

Miscellaneous Items.

The Hungarian Automobile Club proposes to hold an international touring competition during the coming summer. The projected route is from Budapest to Temesvar and back.—A garage capable of accommodating up to 700 cars is to be established behind the grand stand, at the starting point of the Grand Prix race, near Dieppe.—The French Government has given the necessary official permission for the holding of the Criterium de France and Coupe de la Presse contests in August next.—A public motor-car service for the transport of both passengers and goods is about to be started between Rheims, Jueux, and Rosnay, France.—A number of taximeter motor-cabs have just been put in service at the Hague, Holland.—A motor Volunteer corps is being formed in Hungary.—Forty-two entries have so far been entered for the trial of industrial vehicles which is to be held by the French Automobile Club from the May 20th to June 10th next.

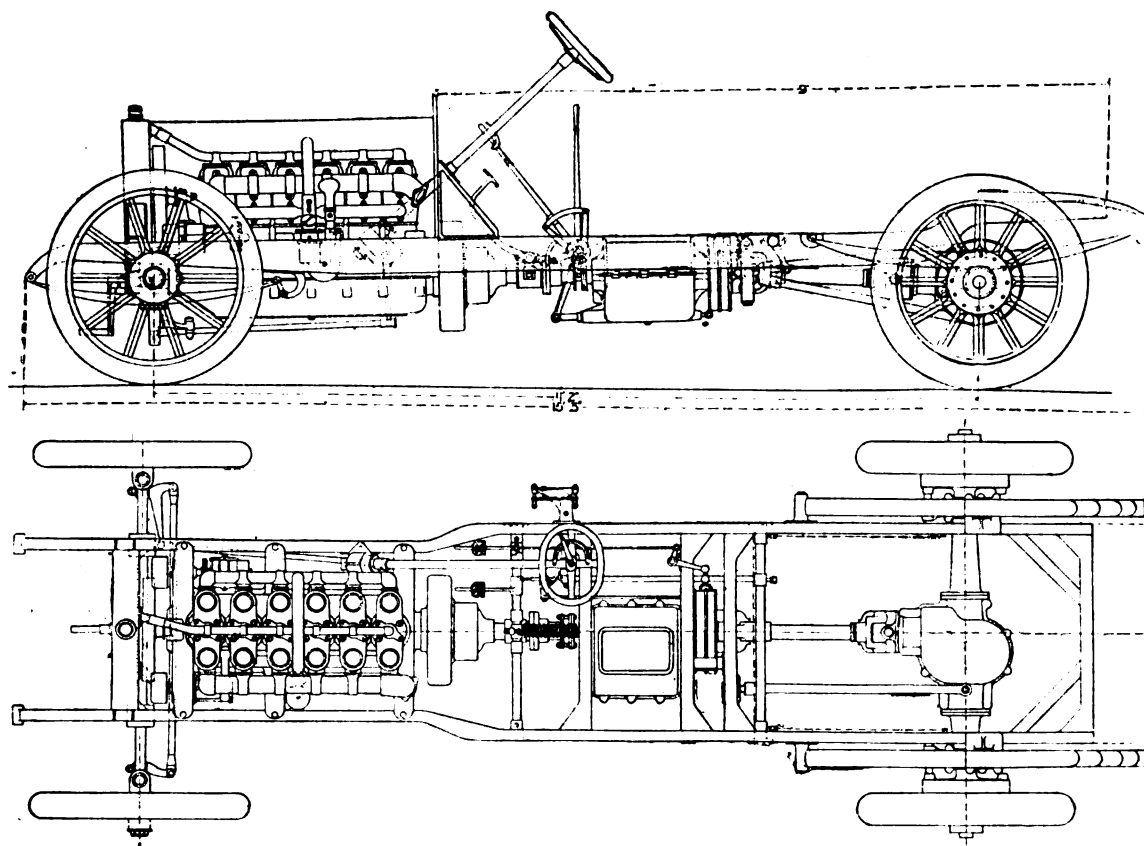
THE GERMAIN SIX-CYLINDER CAR.

AMONG the many excellent cars which are being turned out in Belgium, none are probably more popular either in that country or in England than the Germain. For some years the makers have confined their attention to four-cylinder vehicles, but at the last Paris *Salon* they exhibited for the first time a six-cylinder model which attracted considerable attention. We have already given a few brief particulars of the new car, but as there are several noteworthy features in the design, the fuller description we are now able to publish, together with the detail illustrations, will no doubt be of interest.

The frame is constructed of pressed steel, the side members being, as will be seen from Fig. 1, bent upwards at the rear to reduce the angularity of the cardan shaft, and also to allow plenty of room for the movement of the rear axle under the influence of the springs without unduly raising the body from the ground; in front the width of the frame is reduced to per-

noteworthy. In place of the usual wide bearing between each of the crank throws there is a disc formed solid with the shaft; the periphery of the disc is grooved out to form cups or races for the ball bearings, the corresponding outer cups being made in large diameter rings suitably carried in the lower half of the crank case, and within which the discs of the crank shaft rotate.

The ignition is by a gear-driven Eisemann high-tension magneto, a new departure being the coupling up of the governor to it, so that the sparking is automatically advanced and retarded. An auxiliary ignition by accumulators, in which the magneto distributor is employed together with its coil, can be fitted, if required. The carburettor, which is of the float-feed spray type, with automatic air control, is situated on the exhaust side of the engine, an overhead induction tube conveying the mixture to a horizontal distributing pipe connected with the inlet valve chambers. The water circulation is maintained by a gear driven pump—the spindle of which has a very long bearing—and a honeycomb radiator set in an oval-shaped radiator, which, with a motor bonnet of corresponding design, gives the vehicle a



Figs. 1 and 2.—Elevation and Plan of Chassis of Germain Six-cylinder Car.

mit the steering to have a very wide range. The engine, which is supported directly on the main frame by means of three brackets on each side, comprises six separate cylinders, these being made, as usual with the Germain Company, of steel with brass water-jackets; the dimensions are 120 mm. bore by 130 mm. stroke. The cylinder heads and valve chambers are cast in one piece and fastened to the cylinders by the bolts seen in Fig. 3, special provision being made to obtain perfect water-tight joints. They can thus be readily detached to enable any carbon deposit due to over-lubrication to be removed. The brass water jackets are fixed by steel rings shrunk on, without any brazing whatever. The valves are located on opposite sides of the engine, and are mechanically operated. The cam shafts are situated within the crank chamber, and driven by gear wheels enclosed in an extension of the crank case in which they run in oil. The bottom half of the base chamber can be removed without in any way disturbing the crank shaft. The arrangement of the latter with the object of keeping the overall length within reasonable dimensions is particularly

distinctive appearance. The radiator is provided with a belt-driven air-inducing fan, the belt tension being easily adjustable by means of an eccentric bearing. The water connections are on simple lines, a single horizontal pipe connecting the heads with an inclined lead to the radiator, while the lower portions of the jackets are similarly coupled together, except that the connection to the pump is made between the two central cylinders. The speed of the engine is regulated by means of a lever on the steering wheel acting on a variable lift to the inlet valves. Each lifter has a quick-pitched thread cut on its upper end, over which fits a cap. The six valve-lifter caps are coupled by means of small arms to a horizontal rod, the movement of which, by means of the lever on the steering wheel, rotates the caps and lengthens or shortens, as required, the effective length of the lifters. A throttle valve is also fitted in the induction pipe, this being connected to a pedal in proximity to the clutch pedal, so that both may be depressed together and the engine thus prevented from racing when the clutch is withdrawn. The normal speed of the

motor is 1,000 revolutions per minute, at which about 50-h.p. is developed. As regards the lubrication, a large oil tank working under pressure from the exhaust is fitted inside the bonnet; and on the dashboard is mounted a drip feed lubricator, which supplies oil to the engine, gear-box and live axle. Holes and channels are formed in the crank shaft, which is cut from the solid forging, to enable oil to pass to each of the big ends, and so ensure perfect lubrication.

The clutch, which is of the multiple metal disc type, is contained in the centre of the flywheel, where it runs in oil; the flywheel, the cage holding the plates, the casing, and some of the

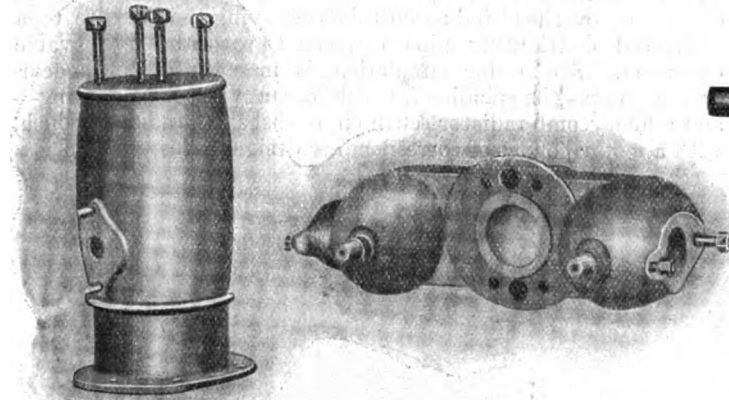


Fig. 3.—View of a Germain Steel Cylinder and separate Cast Iron Head.

plates themselves are shown detached in Fig. 4. An outside clutch spring is employed, situated above the main shaft, and easily adjustable, while a braking device is provided to slow the primary gear shaft to facilitate speed-changing. The clutch is so arranged that it can be taken down without disturbing the spring or any other part of the mechanism. The change-speed gear gives three speeds forward and reverse, and is controlled by a lever, which works in a straight-through quadrant constructed so as to do away with the necessity for a trigger on the lever itself. The quadrant is mounted on small springs so that it is forced bodily outward when changing gear, and flies back into position directly the lever comes opposite to a notch. On the top speed the drive is direct, this being obtained by sliding one of the pinions within an internally-toothed wheel. The gear shafts are supported on

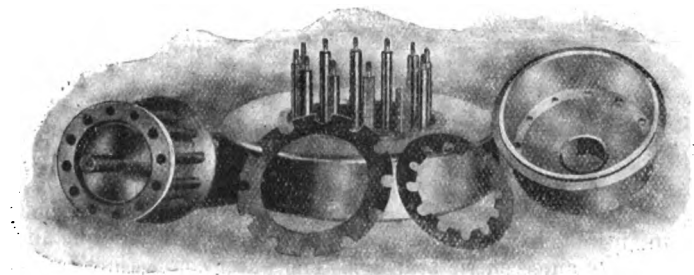


Fig. 4.—The Germain Multiple Disc Clutch dismantled. Only two of the Discs are shown.

ball bearings, and the gear rings are bolted to steel centres forming part of the shafts.

The final drive is by a cardan shaft to a live axle, which latter is also of an interesting design. The road wheels are carried on the sleeve or casing surrounding the live axle, the outer ends of which are extended and turned over to form, as it were, the hub caps, which are bolted to the wheels. By removing these bolts the cap and the half axle can be readily drawn out. The sleeve is made in four parts, the two tubular portions being secured to the differential casing, which is itself divided horizontally. The differential gear, as will be seen from Fig. 6, is of the spur pinion type. A substantial torque rod extends from

the axle casing to one of the cross members of the frame, on which it is supported in a spring bracket.

Irreversible wheel steering is fitted, adjustable for back-lash. The column is set at a comfortable angle, and passes through the dashboard to the inside of the bonnet, and the bar coupling the front wheels is placed behind the axle to protect it from injury. Three metal-to-metal brakes are provided, one situated immediately behind the gear-box being foot-operated and of the contracting type, and two internal-expanding brakes working within drums connected with the hubs of the rear wheels, actuated by a side lever.

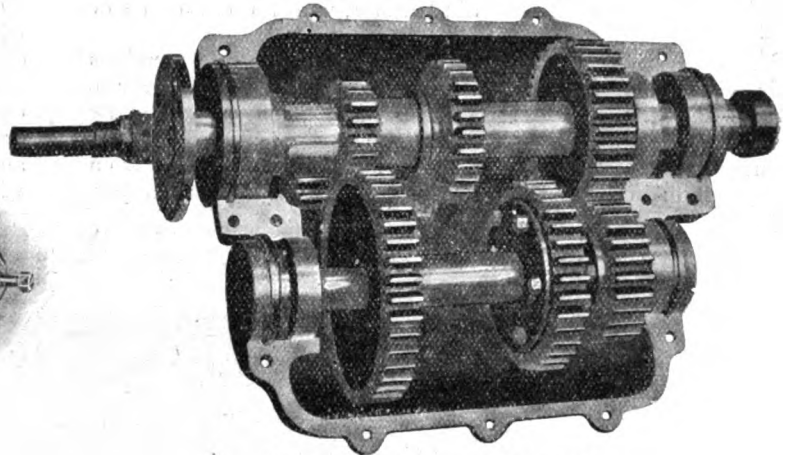


Fig. 5.—The Three-speed Gear-Box.

The frame is supported on semi-elliptical springs at the front and three-quarter elliptic at the back, the latter having shackles only at the rear end. The wheel base of the vehicle is 11 ft. 2 in. and the available space for the body behind the dashboard 9 ft.

From the foregoing description it will be seen that the new Germain six-cylinder car, for which Captain Theo Masui is the British agent, should prove an excellent touring car, and one that should give as excellent results as regards reliability as the four-cylinder models.

THE first public auction of motor-cars in Dundee took place on the 29th ult.

PART six of the catalogue of Messrs. Alfred Herbert, Ltd., of Coventry, deals with the firm's milling tools exclusively.

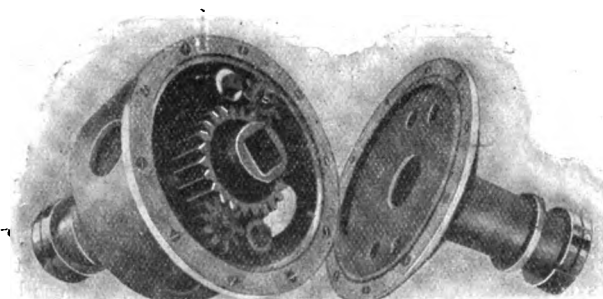


Fig. 6.—The Differential Gear on the Germain Six-cylinder Car.

MESSRS. CULROSS AND SPROSTON, LTD., of Leeds, have published a Directory of Manufacturers and Wholesale Importers and Exporters on the North Eastern Railway system, which is issued in consonance with the policy of this enterprising company of attracting new industries to its territory. Apparently the railway realises that the best way to achieve this is to endeavour to augment the trade and prosperity of the manufacturers along its system. The directory, which contains upwards of 600 trade headings, presents in handy form the names and addresses of manufacturers, &c., handling any specific product, and, as it is also classified under "town" headings, should be useful to both buyers and sellers.

MOTOR-CAR CONSTRUCTION IN HOLLAND.

A VISIT TO THE SPYKER WORKS.

HOLLAND has so far not taken a very important place in the list of motor-car manufacturing nations, there being practically only one large factory in the country. The vehicles produced in this, however, bear such an excellent reputation, not only at home but also in England and in France, that we were pleased to avail ourselves of the invitation which Mr. F. F. Wellington, the manager of the British Automobile Commercial Syndicate, the head British agents, extended to us the other week to run over to Amsterdam to inspect the Trompenburg Works, where the Spyker cars are being turned out in steadily increasing numbers. It was a pleasant little party which foregathered at Liverpool Street Station, where the evening boat train for Harwich was taken, and with no untoward incident the Hook of Holland was safely reached about 5 a.m., and Amsterdam a couple of hours later. Our stay in Holland extended over a couple of days, and, thanks to that excellent means of modern and comfortable travel—the automobile—we were able during that short time to see a considerable stretch of the country, and to gain some idea as to its suitability as a

The illustration given herewith depicts the factory as it appears from the river; in it are located the general and drawing offices, while to the rear is a large single storey building divided into a number of departments—among others the heavy and light turning shops, the milling department, the radiator shop, the chassis erecting room, &c. As we passed through the various departments we were able to note the up-to-date character of the machine tools, which include some special bevel-gear cutters, cylinder and crank-shaft grinding machines, &c. "Automatics" are made use of to a considerable extent, while, the work being largely standardised, jigs are freely employed. The finished parts all pass to the stores, whence they are issued to the fitting and erecting shops, in the latter of which close upon twenty cars were on the stocks at the time of our visit. A recent addition to the factory is seen in a large detached three-storey building, the ground floor of which has been equipped with automatic machine tools of the latest approved type, these being fully engaged in the production of the smaller components of motor vehicles. Considerable time was spent in the upper storeys, where the always interesting operation of "fitting" is carried on. Here the visitors were able to see the various parts of the Spyker cars being assembled, the points of interest in the engine being the special method of lubrication, the oil being sprayed on to the



General View of the Spyker Factory at Amsterdam.

touring ground for British motorists. With this latter subject we propose to deal in a subsequent issue, confining ourselves on the present occasion to the more serious portion of our visit to the land of *mynheer*.

While breakfasting a messenger brought the news that two cars—naturally Spykers—had arrived to convey us to the factory, which is situated on the banks of the wide river Amstel, about three miles from the city. It was well that our drivers knew the way, for all the narrow thoroughfares bear a notification in Dutch that they are closed to motor-cars, while the numerous bridges across the canals, which form so striking a feature of Amsterdam, require careful negotiation. Eventually leaving the last of the tram-lines behind, and just as we began to approach the open country, our cars pulled up outside an imposing building, where Mr. John Spyker, the head of the Trompenburg works, was waiting to receive us. After the necessary introductions, a start was immediately made on an inspection of the works, which we found to be of an unusually complete order, as may be judged from the fact that, except the forgings, castings, and other raw materials, which are mainly obtained from England, all parts of the cars are turned out in the factory, which derives its name from Admiral Van Tromp, of masthead "broom" fame, who lived on this spot in times gone by. As a further indication of the comprehensive character of the undertaking, it may be stated that even the pressed steel frames, the radiators, and the bodies are of the firm's own manufacture, much interest being shown by the visitors in the machinery installed for this purpose.

moving parts and the ball-bearing crank-shafts. The change speed gear is not only of liberal dimensions, but the large inspection lid to the gear-box and the ease with which it can be removed and replaced are not the least important features of the design. Then, as regards the transmission, which is by a cardan shaft to a live axle, the form of the universal joint and the arrangement of the axle sleeve so that no irregular strain shall be thrown on the axle proper, both came in for careful scrutiny, it being apparent that much careful thought has been given to these portions of the car's anatomy in order that they shall withstand the roughest usage.

To the rear of the main buildings is another series of large premises, in which are located the engine room and boiler shed, which alone give an idea of the importance of the Spyker undertaking. Steam is supplied by boilers of the Babcock and Stirling types, while the engine is a fine example of a modern horizontal compound built by Bollinckx, of Brussels. This drives by a series of ropes a large dynamo, which supplies the necessary power to the various departments and the factory, which are all electrically operated. In the adjoining buildings are housed the smithy and the engine-testing shop, where the motors for Spyker cars are all subjected to a brake test ere being fixed in the chassis. Passing again through the erecting shop we crossed the street, where, adjoining a long row of houses belonging to the firm, and in which many of the workmen and their families live, we visited still another large three-storey building, entirely devoted to the body-building department and the necessary adjuncts of upholstery and carriage painting departments.

Established originally for the manufacture of horse-drawn carriages, Mr. Spyker has taken a keen interest in the automobile movement since the early nineties, and some eight years ago produced the first car, a vehicle on Benz lines, while in 1902 one of the first, if not the first, six-cylinder cars here first saw the light. Since that time the factory has been gradually extended, until now it gives employment to about 550 persons, and is turning out seven or eight cars a week. Further extensions are in hand which, when completed in the course of a month or so, will enable the number of hands to be increased to over 700, and the output of cars to from ten to twelve, while that there is ample room for still greater expansion is seen in the fact that the site of the factory is about ten acres in extent. At the present time four sizes of Spyker cars—10-15-h.p., 15-20-h.p., 20-30-h.p., and 30-42-h.p.—all fitted with four cylinders, are being built, the latest addition to the list being the 10-15-h.p. chassis designed for use as a motor-cab. While following the general lines of the Spyker vehicles, the new car, which will make its *debut* in England at the Cordingley Show, comprises a number of new features, notably the engine, which has the four cylinders cast *en bloc*.

From the inquiries we made it would seem that Amsterdam in general, and the Spyker works in particular, in view of their



Leaving the Spyker Factory for a run to Utrecht. At the wheel of the leading car is M. Godard, who will drive a Spyker in the Pekin to Paris Trial.

competence, are in somewhat an unique position, not merely for the construction of motor-cars on a large scale, but, what is most important, for building them at a comparatively low cost. The reason for this is found in a fortuitous series of circumstances. In the first place, although, in order to attract good workmen, the rate of wages at the Spyker factory is higher than the average at Dutch engineering works, yet it is somewhat lower than in England, and, secondly, labour troubles are extremely rare. Again, the excellent means of communication and the relatively low freights for water carriage enable not only the raw material to be brought to the very gates of the works, but the completed cars to be shipped to England and elsewhere at a minimum of cost. In fact, it was with some surprise that we learned from Mr. Spyker and Mr. Wellington that it is possible to ship a car from Amsterdam one day and receive it in Long Acre, London, W.C., the next, and that at a cost ranging from 22s., according to the size of the car—a figure which will certainly excite the envy of many manufacturers who are compelled to despatch their cars from the factory to the depots by rail. With such a combination of favourable conditions it is, of course, not surprising that the Spyker cars should have taken so high a position in the automobile world, a position which, as our visit to the works enables us to testify, it is the intention of those at the head not only to maintain, but to leave no stone unturned to improve.

The business portion of our excursion over, the remainder

of our stay in Holland was spent in two delightful excursions *en automobile*, Mr. Spyker not only placing a couple of his cars at the disposal of the party, but accompanying his visitors on a run from Amsterdam to Utrecht and back *via* another route, and in a trip to Haarlem and Zandvoort, a rising seaside resort, some details of which, and the impressions gained of the suitability of Holland as a touring country, we hope, as already mentioned, to give in a later issue. In the meantime, it must suffice to say that the vehicles did not belie their reputation for reliability, and the puncture demon for once looking another way, the outing proved one of the most enjoyable we have had for a long time.

CLEANING THE SILENCER.

WHY should it be taken for granted that the silencer is something that need never be taken apart, asks a writer in an American contemporary. That its design in numerous instances has been based upon this assertion is evident, but the reason for so doing is not quite as apparent. Of course, any silencer can be taken apart, and so can a locomotive boiler, but it is plain that the value of the object will disappear in the process, and this must always be the case with those types of silencers in which the design and construction are of a nature that precludes a revelation of their interiors without resorting to the hammer and cold chisel. The necessity for taking the exhaust-box to pieces does not occur often, probably never more than once in a season, and in the majority of instances a car is usually run without attention to this essential until its condition makes it imperative. After two or three years' exposure to wind and weather a silencer is bound to prove a difficult thing to dismantle despite any provisions made to this end, as rust and dirt combine to form a powerful union between threaded joints. No matter how thorough an overhauling may be given a car preparatory to a season's use, the silencer is apt to be overlooked. It is not generally considered as a part that is in need of inspection. That this is an entirely erroneous view, however, is well appreciated by every motorist who has seen a silencer dismantled after one or two seasons' use. Nor is there any question in the minds of those who have gone to the trouble that it is a proceeding that pays. Some people have their house chimneys cleaned regularly and others wait until they choke with soot and fill the house with smoke; this seems to sum up the situation where the silencer is concerned. Except that in this instance those who wait till the last finally come to the silencer in search of the cause of diminished power in the engine. At some time or other in its history every car is run with too rich a mixture or with an excess of lubricating oil, and these circumstances are combined more or less often according to the care of the driver. Every time they happen there is a deposit of soot varying with the degree in which these adverse conditions present themselves, but even proper adjustments throughout are productive of soot to some extent and some of it remains in the passages of the silencer. This is certainly a good reason why it should be well cleaned at least once a year, and an equally good one why it should be so constructed that it can be cleaned without having to practically rebuild it after the process.

THE Road Committee of the Chelmsford Town Council has called attention to the excessive speed at which motor-cars travel at cross roads in the town without sounding an alarm, and said they had directed the town clerk to look up the law upon the matter and to advise if some regulation on this point could be issued.

MESSRS. SHORT BROS., as an example of the rapidity with which ballooning is being popularised in this country, inform us that since the opening of their new balloon factory at Queen's Circus, Battersea Park, S.W., last June, they have superintended no less than sixty-one balloon ascents for private members of the Aero Club, involving a total of 2,745,000 cubic feet of gas and 234 passengers.

SOME CURRENT TOPICS.

Brakes.

Special attention was devoted by M. Perissé, in his statistics of the recent Paris *Salon*, to the subject of brakes, the section dealing therewith being one of the longest in his return. He deals firstly with the rear wheel hub brakes, and shows by the following table how rapidly the internal expanding type has ousted the contracting variety from the premier position.

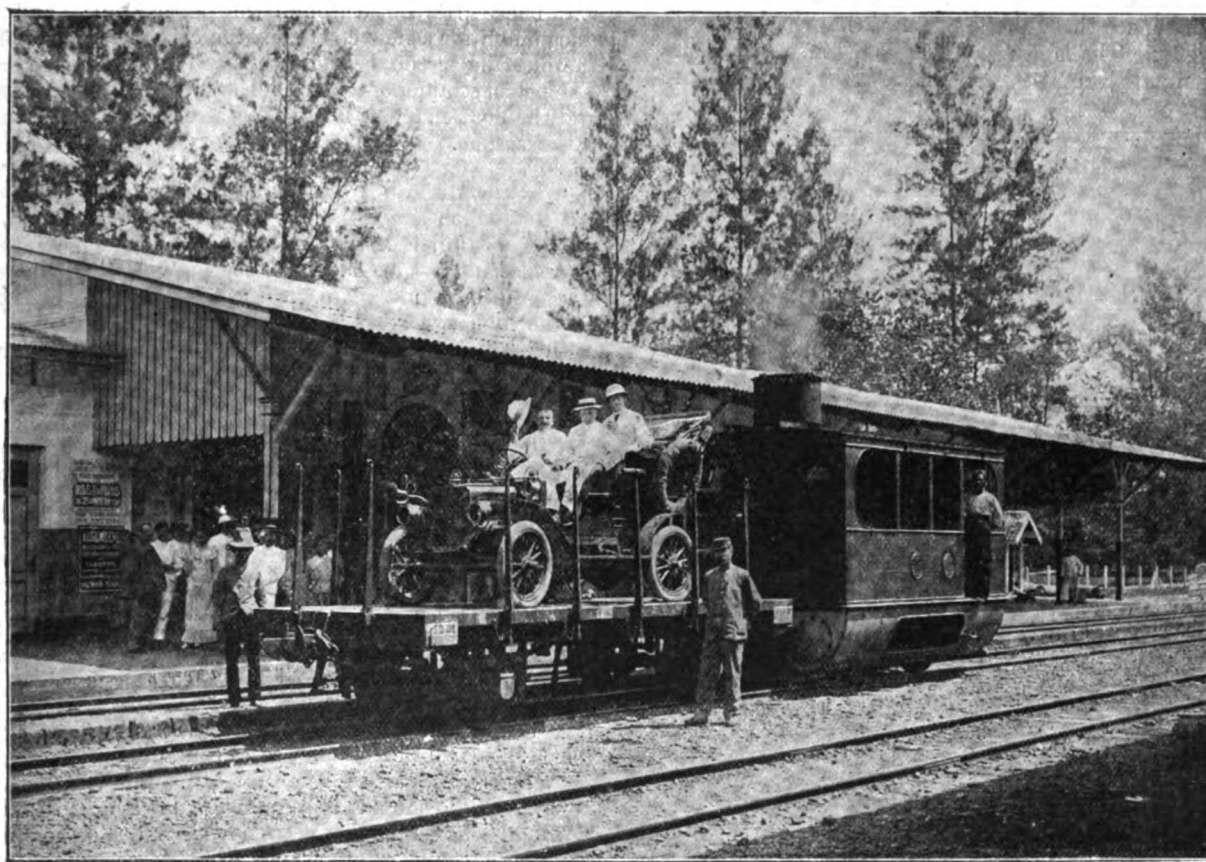
Rear Wheel Brakes.	1903.	1904.	1905.	1906.
	Per cent.	Per cent.	Per cent.	Per cent.
Internal expanding type	44	82	91	90
Contracting type...	56	18	9	10

steel. Both these have, however, given way slightly to steel on steel brakes, which once more show an advance, as will be seen from the following comparative figures:—

	1903.	1904.	1905.	1906.
	Per cent.	Per cent.	Per cent.	Per cent.
Cast iron on steel ...	26	36	51	46
Phosphor bronze on steel ...	17	17	32	27
Steel on steel ...	33	30	13	21
Miscellaneous ...	24	17	4	6

Repairing a Badly-Worn Foot Brake.

If a car has been run a considerable time, say well over a year, with but scant attention, the foot brake may have become so worn as to be quite inoperative. Examination will probably show that both the drum and the shoes are worn: the latter have gone first and then worn the drum unevenly, and eventually have worn it so thin as to render it unserviceable for further use. Let us commence with the drum. This must be dismantled and



Between Kertosono and Bjonibang, Java, flows the wide Brantas River, which is spanned by a railway bridge. As this is the only means of communication, motorists are conveyed across by rail in the way depicted in the above illustration.

(De Auto.

As regards foot brakes—60 per cent. of which are on the end of the shaft from the gear-box and 40 per cent. on the differential shaft and other points—it was found that the contracting type is still the most favoured by motor-car manufacturers, this form being employed on 61 per cent.; this is, however, a decrease as compared with last year, when 75 per cent. was recorded. On the other hand, internal brakes have advanced from 25 per cent. to 39 per cent.

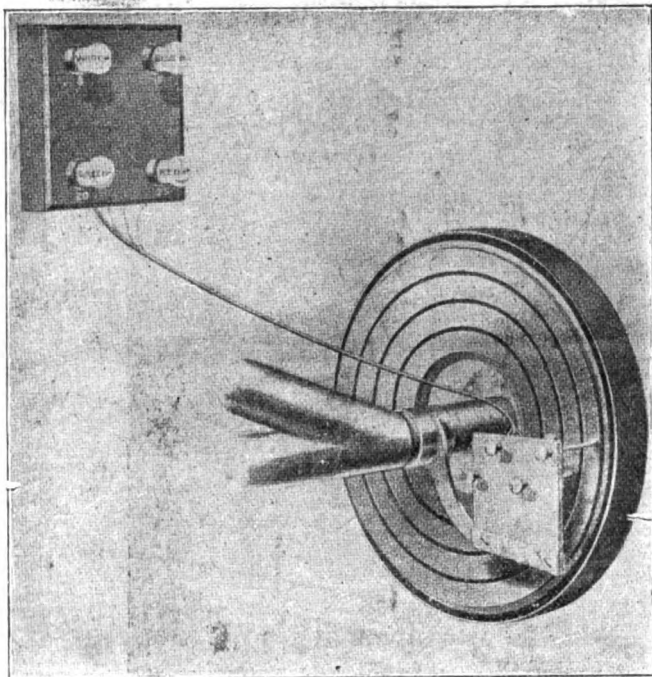
The Material for Brakes.

While the metal-to-metal brake is now almost universally employed, a good deal of experiment appears to have been made in the direction of arriving at the right materials to use for the two frictional surfaces, those most largely adopted at the present time being cast iron on steel, followed by phosphor bronze on

put in the lathe, and its surface turned reasonably true. If there is a flange it must be turned off. A mild steel ring must then be forged and next turned inside, just so small that it will only start to go over the drum. This ring must be made red hot, when it will, with a few taps, go over the drum. It must then be cooled off in water quickly, and it will become "shrunk on." The drum is then put in the lathe and turned to its correct size, and the ring may be additionally secured by a few rivets. Coming next to the shoes, these are easily disposed of. Rivet on good liners of copper and fit same to the drum, so that they "bite" evenly when the brake is on, and come clear away when it is off. This is not at all a complicated repair, and is one that any good mechanic can do. It is not expensive, being a good deal cheaper than a new drum, and if the car happens to be a fairly early model, there may be some difficulty in getting the exact article.

A NOVEL SPEED INDICATOR.

A NOVEL speed indicator has lately been devised by Mr. Lawrence Mott, an electrical student at Harvard University, U.S.A. The device, which is being put on the market by a Boston firm, is simple in construction, the working parts being a pair of flat centrifugal weights pivoted on a vulcanite disc, which is bolted close to the hub of either one of the front or rear wheels of any motor-vehicle. The weights are connected by links, so as to work in unison, and are drawn in by springs. As they fly out by centrifugal force, due to the rotation of the wheels, a contact brush carried by one of them moves across a series of four contacts connected in circuit with an equal number of collector rings mounted on the opposite side of the disc from the weights. Brushes fixed to an insulating support on the axle casing press against these rings, and are connected by wires with a series of four small glow lamps grouped on a porcelain base fixed to the dashboard. A return wire leads from the lamps to a battery of dry cells located in a convenient place on the vehicle, and from thence through the metal of the wheel bearings back to the weights. The lamps have globes of different colours and become illuminated in succession as the different speeds are



reached. The device, as now put on the market, indicates four speeds, viz., eight, fifteen, twenty, and twenty-five miles an hour, although they can be equipped for higher, lower, or intermediate speeds. A lacquered casing protects the weights and their contacts from dirt and mud. One of the principal claims made for the device, in addition to its simplicity, is the fact that the indicating devices are mounted directly in front of the driver, who can perceive his speed at a glance without appreciably diverting his attention from the road, by simply noting the particular colour of light which burns. The lights show readily in the daytime, and, of course, have the advantage of being conspicuous at night. No driving connection from the wheel is necessary, as the weights are on the wheel, and the only connection from the wheel to the body is an electrical one. The weights are opposite acting and counterbalanced by each other, so that any position which they assume under the influence of the speed of the vehicle is not disturbed by vibration due to the roughness of the road. Speed plays so important a part in motoring that the need of some convenient and approximately certain method of gauging it has always been felt. The marked increase in the number of motor-vehicles, and the consequent activity of the authorities in many districts to repress all speed excesses,

real or alleged, has but made the need more plain. There is scarcely a motorist to whom an instrument capable of gauging his exact rate of speed does not appeal. Quite aside from the satisfaction he may feel at knowing just what he is doing, whether it be up hill or down or on the level, there is the certainty that he cannot go wrong unintentionally when he has a faithful companion of this sort.

SOME USEFUL NOTES.

THE stiffness of the body springs of new cars is proverbial, and it is only after some little use that they acquire their expected easy riding qualities. Careful driving over rough roads is advisable with a new vehicle, in order to bring the springs into condition with the least amount of general wear and tear.

It often happens that in the process of making the petrol tank small pieces of solder, soldering flux or metal are left within it. These pass out through the petrol pipe, and it is not uncommon for a new car to exhibit carburettor troubles, due to the filtering screen becoming clogged with this foreign material. The petrol strainer of a new vehicle should consequently be cleaned and the float chamber flushed out after they have been in use for a short time.

IN the case of an inner tube which always goes down when inflated on the car, and yet reveals no puncture or leak when tested, it is fairly certain that the cause is one or the other of the following:—(1) The valve seating is leaking where the valve is secured by a nut. This can usually be discovered by blowing up the tube as hard as is safe, and when under water, catch hold of the valve and bend it over in all directions. The cure is simple. Tighten down the nut. (2) The tube is porous, in which case it is useless.

THE road wheels are frequently neglected by owners and drivers. They are really very important and should be carefully attended to from time to time, more particularly those with plain bearings. The leather washers in these wear after a certain time, and cause looseness in the wheels, which is very bad. Ball bearings require periodical examination, as sometimes, through faulty hardening, a ball race is a bad one, and consequently the more the car is run the more damage is being done. If a car is in regular daily use, the wheel caps should be filled with grease and oil every 500 miles.

TIME spent in an occasional thorough cleaning out of all oil passages, lubricators and cases containing oil on a petrol car is by no means wasted. The use of paraffin is most effective in this work. It should be allowed to run rapidly through oil cups until all dirt and gum is removed, and it should be forced through all oil passages and pockets. Gear and crank cases should be liberally supplied with paraffin and the liquid then rapidly drawn off, when it will carry with it the minute metallic chips and dust which frequently accumulate, as well as draining away the gummy portions of the oil. When all internal parts are clean, and all oil-ways clear, one may expect lubrication to be effective.

TYRE covers with a burst in them should not be scrapped. They are useless for retreading or repairing in the ordinary way, but they can be made into a serviceable spare cover—good for at least another 500 miles—if repaired as follows. Suppose the burst to be four inches long. Take a good section from a disused cover of the same cross section ten inches long. Remove the beads from it, and carefully trim it down with a sharp knife, thinning it as it approaches the beads of the existing cover. When a suitable inside gaiter has, so to speak, been obtained, carefully fix it by pure solution centrally under the burst. To be of any service this inside gaiter must be secured otherwise than by solution alone, so rivet it with copper rivets to the wall of the cover each side. A further lining of canvas will be necessary inside to cover up the heads of the rivets.

THE headmaster of Eton has been appealing to the parents of boys at that school not to call for their sons in motor-cars on Sundays.

A NOVEL feature in the district council election at Beckenham was a motor-car placed at the disposal of any of the candidates, irrespective of party. The car, which was labelled "Vote for the best man," was driven all over the district and conveyed many voters to the poll.

It is becoming quite the fashion to adopt a distinguishing mark on the radiators of cars. Following the example, Captain Theo Masui, the British Agent-General, has sent us a specimen of the marks which are now being fitted to the radiator and hub caps of the German cars. These take the form of artistic multi-coloured plates with the Belgian lion and the arms of the town of Charleroi set in a shield, which is surmounted by the monogram A.G.—the Ateliers German—where the vehicles are built.

CAPTAIN DEASY started his 1,000 mile reliability trial from the Irish Automobile Clubhouse, Dublin, on Tuesday, and, after an uneventful run, reached Cork just before darkness, covering a distance of 173 miles.

MESSRS. STRADLING AND PLENTY, whose motor garage at Newbury has been enlarged three times since its erection, are now making a further extension, which will give them facilities for accommodating thirty more cars.

THE entries to date for the International Tourist Trophy Race for Motor Cycles are: Mr. M. J. Schulte, 2-h.p. Triumph; Mr. H. A. Collier, 2-h.p. Matchless; Mr. H. G. Cove, Minerva; Mr. Albert Brown, Brown; and Mr. C. B. Franklin, J.A.P. motor-cycles.

MESSRS. B. H. THWAITE and R. F. Thorp will read a paper on "The Renard and Surcouf Road Train system, at a meeting of the Society of Engineers at the Royal United Service Institution on Monday next. This will be of interest to those who see the Renard train at Cordingley's Motor Show.

MESSRS. JARROTT AND LETTS have just received an interesting piece of news from Monte Carlo, to the effect that two Crossley cars have received awards in the Concours d'Elegance held at Monte Carlo last week. Mr. Jarrott on his 30-40-h.p. Crossley, which has just broken all records to Monte Carlo, received one of the awards, and the other was gained by Mr. Claude Borrett on his 40-h.p. on which he is touring round France.

TWO of the largest motor-omnibuses in New Zealand have just been put into service in the Hawkes Bay district. The vehicles, which are of British construction, were assembled and placed in running order by the Wellington and Wairarapa Motor Company, Ltd., at their new garage, Cuba Street, Wellington, N.Z.

THE General Committee of the Scottish Automobile Club is drawing the attention of members of the club, motor-car drivers, and the motor trade north of the Tweed generally, to the provisions of the Prevention of Corruption Act, 1906, and is inviting the co-operation of every person interested, in order to secure a strict and rigid observance both of the letter and of the spirit of the Act.

HERE AND THERE.

APPLICATION for a speed limit of ten miles an hour is being made at Ware.

MESSRS. HILLIER AND COMPANY, whose garage is on the main road between London, the New Forest and Bournemouth,

kept their Camperdown Motor Works, on the Winchester road, Romsey, open throughout the holidays for the convenience of touring motorists.

THE 40-h.p. Siddeley car now under trial for long distance travelling by the Royal A.C. has nearly completed a journey of 6,000 miles—a trip that, commencing on February 12th, has been continued in all "samples" of weathers, on all conditions of roads, and in many different counties. In Scotland a snow-drift was encountered on the Spital of Glenshee, and other difficulties have been got over with credit in the northern part of this island. Now the car is coming south again, and is expected back in London towards the end of the month.

MR. D. W. WILLIAMS, the United States Consul at Cardiff, gives the reduced demand for carriage horses in this country, owing to the advent of the motor-car, as a reason for the increased exportation of horses for food in certain Continental countries.

AFTER exhaustive enquiries and trials of various wagons by their engineer, the County Council of Rangitikei, New Zealand, have purchased a steam wagon from Messrs. Norman Heath and Co., Wellington, who represent Messrs. Sidney Straker and Squire, Ltd.

IN Bombay, Calcutta, and Madras are up-to-date motor-car establishments well able to supply the requirements of Government officials desiring to become possessed of motor-cars. Consequently the "Indian Motor News" expresses surprise at the attempt now being made in high circles in the Dependency to prohibit such officials from purchasing them in the country.

THE feature of the holiday traffic in North Wales on Saturday was the extraordinary invasion of motor-cars into the towns. There were hundreds of cars along the Holyhead main road, and the clouds of dust they raised was the subject of general complaint. The walking tourist, with knapsack slung across his back,

now a familiar figure in North Wales, kept away from the beaten track.

FROM Balfour House, Finsbury Pavement, E.C., comes a catalogue of the Heinz accumulators, for which Messrs. Snowden, Sons, and Company, Ltd., are the sole agents in this country. The list is prefaced by some useful general instructions with regard to charging batteries and the upkeep of accumulators, following which particulars are given of the various types of ignition accumulators for cars, voltmeters and ammeters, etc., in which the firm is interested.

MR. C. HOODONK, whose establishment at 6, Leather Lane, Holborn, E.C., is the London depot for the "Dependence" lamps made by Messrs. J. and R. Oldfield, has issued a new list for the season, in which are given particulars of various specialities for which he also acts as agent, including Bassée Michel coils, Ossant silencers, Longuemare carburettors, "Bercley" motors, "Janus" motors, steering wheels, motor horns and various sundries for motorists.



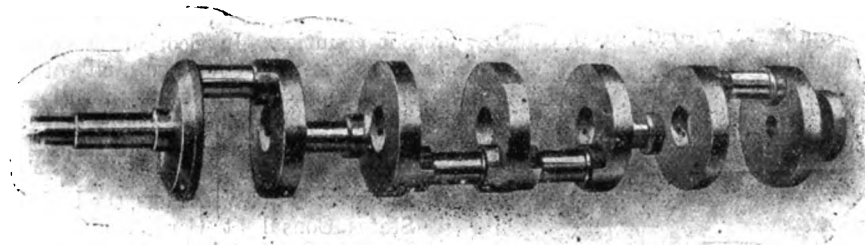
THE Grand Duke Franz Ferdinand of Austria has just acquired a 45-h.p. Mercedes car.

AMONGST the latest purchasers of the 40-h.p. "Weigel" chassis are Lord Wandsworth and Sir Hugo de Bathe.

THE long-expected Commercial Vehicle Trials are now announced for September 9th; the regulations will be issued in a few days.

MR. C. D. ROSE, M.P., the new chairman of the Royal Automobile Club, has placed an order with Messrs. J. E. Hutton, Ltd., for one of the new six-cylinder Mercedes chassis.

WHILE motoring from Frogmore to Windsor on Good Friday the Prince of Wales was able to render "first aid" to a horse vehicle that had overturned on the roadside.



The Germain Six-Throw Crank Shaft, showing Circular Crank Webs which act as Crank-shaft Journals. (See page 105.)

MR. JAS. McCONECHY, of 113, St. George's Road, Glasgow, sends us a photograph showing a cross section of his patent corseted walls, as applied to an ordinary tyre cover. The corseting occupies a position in the centre of and outside the cover fabric, the cords being bedded in soft rubber, and covered with a separate canvas lining. They are claimed to prevent undue lateral flexion of the cover walls—throwing or directing the pressure from the air tube from the rim directly on to the crown head or tread of the tyre. When the tyre is under compression the corseting, acting as it does as a fulcrum for the direction of the pressure contained in the air tube, changes the compression from the lateral to the vertical plane, the advantage being that the resilience produced by vertical compression is more acute. The patent compressed combination tread introduced by Mr. McConechy has great wearing and road gripping qualities.

A 40-H.P. Napier car, entered by Mr. S. F. Edge, started on a 500 miles long distance trial under club regulations and observation on the morning of the 26th ult., after being passed by the Technical Committee. The car was entered that the consumption of oil in the engine might be tested. It went to Southampton and back, a distance of 151 miles. On the following day the route was to Bath and back, a distance of 212 miles, and on the 28th ult. the route was to Daventry and back, 147½ miles, which completed the test, and the car was then examined and released from observation.

WE learn that the Star Cycle Company, Ltd., of Wolverhampton, are about to place on the market a new car, which will be known as the "Royal Starling." The vehicle has a 10-h.p., two cylinder engine with a bore and stroke of 3½ in. by 4½ in., and is controlled by a variable inlet. The change-speed gear gives three speeds forward and a reverse, and the transmission is by cardan shaft. The gear-box and live axle are provided with Hoffman ball bearings. The new car, which can be fitted with either a two or four-seated body, will make its debut at the Cordingley Show at the Agricultural Hall.

THE CONTINENTAL TYRE COMPANY are supplying car buffers of the best rubber in various styles. One model is provided with a base of hard vulcanised rubber; another is specially suitable for fixing on round axles and a third description is intended for small vehicles. The use of buffers has not always received due consideration from motorists and the Continental Company will be pleased to advise car owners on their utility.

MR. A. H. BURNAND, A.M.I.Mech.E., has been lecturing, before the Hartley University College Engineering Society, at Southampton, on motor-cycles.

AN Argyll motor-car is being employed by the "Liverpool Courier" for the delivery of papers at Chester, in order to catch the early mail train to North Wales.

MESSRS. SAYERS AND COMPANY, who came into public notice at the Cordingley Motor Show of 1906, have Stand Nos. 79 and 80 at the present exhibition, whereon they show many good examples of British carriage work as adapted to the purpose of the automobile. The work is of a very high grade.

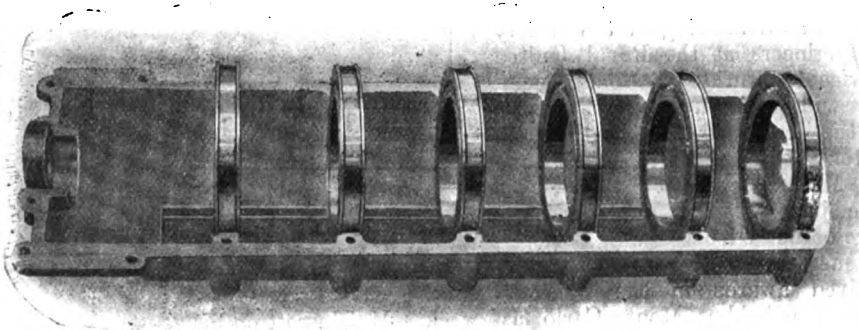
IN view of their increasing business in the North of England the Daimler Company have found it necessary to take over additional buildings adjoining their present depot, at 60, Deansgate, Manchester. Extensive alterations are being made to these premises, which will henceforth be known as "Daimler Buildings."

"MOTORS and aeroplanes may be ordered for 10.15 p.m." was the announcement made on a hand-bill in connection with a concert held at Hersham Village Hall on Easter Monday.

DURING the Easter holidays several of the London dailies made use of motor-cars for the rapid conveyance of their papers to seaside resorts. Thus one of the light delivery vans of the New Leader Motors, Ltd., was employed in conveying supplies to Margate, and one of the cars of the Automobile de Luxe, Ltd., performed the same work as regards Brighton and Eastbourne, the papers in both cases arriving well in advance of what was possible by train.

THERE were many amusing incidents during the driving examination of the non-commissioned officers and men at Plymouth, owing to the examiners ordering the men down lanes and alleys that had never seen a motor-car before. On one occasion the examiners found themselves within a few feet of the edge of the Great Western Docks pier head with no alternative but to turn back.

MR. S. F. EDGE has recently had some tests made at the Northampton Institute, Clerkenwell, of the exhaust gases from a 40-h.p. six-cylinder Napier. Two samples were taken, one, A, at a point 28 in. away from the exhaust port of the engine, and the other, B, 35 in. away, after the gases had passed through the silencer. The following are the analyses by volume of the



Lower half of Base Chamber of Germain Six-Cylinder Motor, showing the Ball Races in position. (See page 105.)

samples, each analysis representing the mean of two others on the particular sample. The hydro-carbons represent the unburnt petrol gases and the CO² together with the oxygen and carbon monoxide should give an indication with the hydro-carbons of the nature of combustion:—

Mean of Samples A.			Mean of Samples B.		
% volume CO ₂	...	= 8.70	% volume of CO ₂	...	= 8.15
„ volume oxygen	...	= 2.75	„ volume of oxygen	...	= 3.50
„ volume carbon monoxide	= 0.30		„ volume carbon monoxide	= 0.95	
„ volume hydro-carbons	= 6.55		„ volume hydro-carbons	= 5.70	
„ volume nitrogen	...	= 81.70	„ volume nitrogen	...	= 81.70
		<u>100.00</u>			<u>100.00</u>

CORRESPONDENCE

[Letters to the Editor should be addressed to the office, 87-88, Charing Cross Road, W.C.]

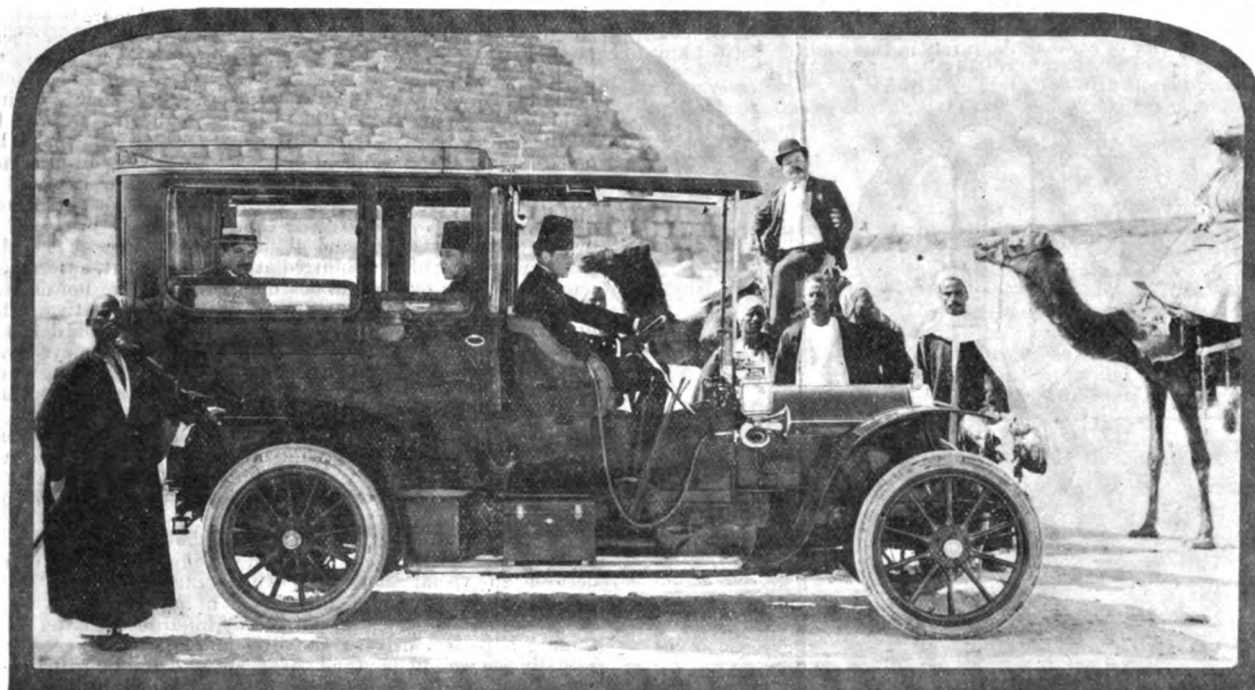
VARYING PETROL CONSUMPTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you allow your columns to be opened to a discussion on the question of the great variation in the consumption of petrol in different cars? In your issue of the 30th ult. you mention a 40-h.p. Napier car owned by Mr. Justice Gorell Barnes, which was driven, under observation, on a consumption of one gallon to sixteen miles, including London street traffic. A Clement-Talbot car, 10-12-h.p., is stated, with four people, to have run fifty-seven miles on a gallon of spirit. I own an Alldays two-cylinder car which is about 11.5-h.p. This car will not run more than twenty-two to twenty-four miles to the gallon. I drive with my petrol throttle open as little as possible, and the spark well advanced, and average, perhaps, eighteen miles an hour. In driving the car into Kent from Birmingham, when one of their own drivers drove

run of punctures may be experienced. An inside and outside gaiter should be carried, as they are handy for bursts, when it is not convenient to fit a spare cover. A good pump in thorough working order is most essential with a spare rubber connection. Can there be anything more annoying than a pump which persists in leaking somewhere, and takes about three times as long as it should to blow up a tyre?

Let me pass on to other parts of the car. If the car be chain-driven, in addition to having spare links, bolts, &c., have a couple of spare chains, they take but little room, and save a lot of dirty work on the road, in the event of chain troubles. As regards the ignition, if low tension magneto, be sure to have all spare igniter parts and springs. If ordinary accumulator, or high tension magneto, have at least four spare plugs; the latter behave very oddly at times with no apparent reason, therefore a good reserve contingent is handy. The usual magneto spares, such as brushes and springs, and make and break parts, should be taken. When accumulators are used three good batteries should be carried, and never have them charged on the road, unless you know the people are competent. A spare piece of high and low tension wire is most necessary. As regards the engine itself, two spare valves should be carried and three springs, also several collars, if that method of fixing the springs be adopted; these last are little things and easily lost. Always have a good assortment of copper-asbestos joints of all likely sizes, and as well a yard or two of asbestos string, and last, but not least, four or five feet of medium copper wire. The tool outfit should always include a good hammer, a small cold chisel, and two good files and a



Touring in Egypt.—The Old Style and the New at the Pyramids.

the car, we used close on 10 gallons of petrol to drive the 220 miles. Again the same average by a nominally skilled driver.

Now with the h.p. developed, or rather the nominal h.p. of the engines, the Napier 40-h.p. car only uses half as much petrol again as I do, and the engines are nearly four times as powerful. Is the carburettor at fault, and what is the experience of drivers of light low-powered cars as regards their consumption of petrol? If any statistics could be arrived at, and comparisons made, as regards the usual consumption of petrol by light cars, some useful information might result, if my experience is in common with other drivers of light cars. If others experience what I do, it seems to me that we do not get nearly the results out of light cars for the petrol consumed that we ought to.—Yours truly,

D 2804.

WHAT TO TAKE WHEN TOURING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—What a large number of people start off on a tour without half their necessary equipment! If one really wishes to enjoy a motor tour, there must be freedom from breakdowns. Absolute immunity from trouble is not very often experienced, but it is most annoying to find that a trouble cannot be properly handled because something has been forgotten and left at home! Let us commence with tyres. One spare cover should always be carried; thanks to present excellence of tyres, it is not often necessary, but it should be there if required. At least three spare tubes should be taken; one never knows when a bad

small vice. A few spare bolts and nuts and washers and split pins of the usual sizes should not be forgotten. If one takes the trouble to fit out a car as described, there will be no difficulty in tackling any ordinary trouble on a tour.—Yours truly,

EXPERIENTIA DOCET.

NON-SKID EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In these days we hear a great deal about the desirability of anti-skidding tyres, or, as the French call them, *Anti-dérapants*. Of course no one disputes the desirability of some invention—whether it be a tyre or what not—which will prevent, or even lessen, lateral skidding; but I for one must protest against the idea that anything can be invented, or should be called for, which will entirely suppress—or rather counteract—the force of inertia, especially when going around curves. The so-called “centrifugal force,” which after all is not centrifugal force, but tangential force, as the moving mass, no longer held to the centre, tends to keep on in a straight line tangent to the curve in which it has been revolving, is not to be suppressed in so summary a fashion as automobilists wish.

Given the case that a motor car is turning, or is intended to do so, and that the ground is too slippery to enable the curve to be “negotiated” as desired. We will assume that at the moment when slip begins it were possible to provide the tyre with a set of radial spikes which would absolutely prevent sidewise motion and only permit the wheels to rotate. If the velocity is very great, as is often the case,

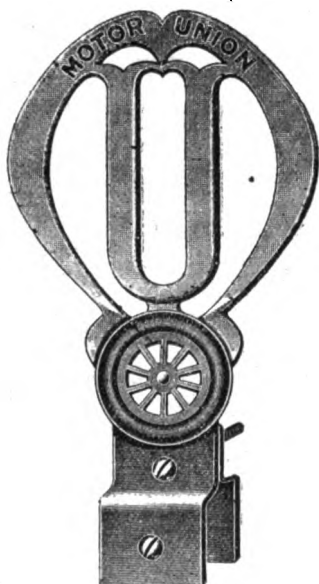
one of these things must happen on the curve. As the wheel cannot slip sidewise, either the road material will be squeezed sidewise towards the circumference of the arc, or the wheel will be dished, or the axle will break, or the entire car will be turned over sidewise in the same direction. There is a speed at which the occurrences will be limited in number to those which will cause an accident; that is, the road surface will not give and the wheel will not skid, so the choice will be among axle-breaking, wheel-dishing, or car-overturning. No inventor can suppress the action of the natural force which we call momentum or inertia, and which acts in accordance with the fact that a body can neither start itself from a state of rest, nor stop or slow up when once in motion, without the action of a force outside such body. So the possession of a set of non-skiddable tyres must not make the motorist too confident, else he will either come to grief himself, or cause someone else to do so, or both.—Yours truly,

R. G.

PROGRESSIVE CHANGE-SPEED GEAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I thank Mr. Smith for his letter, but he does not answer my inquiry. I do not see that my letter stated the belt was a perfect device, but to me it does seem a very great improvement, and, if I remember aright, has nothing in common with the various belt drives of six or seven years ago. That it has not been taken up counts for little; the steam engine, the screw propeller, and even motors of more than one cylinder, scarcely met with enthusiastic receptions. Even the epicyclic gear, which has been exhibited for five or six years, has not yet been adopted by the majority of car manufacturers in this country. Still I am



The New Car Badge of the Motor Union.

glad to know that such a sweet running gear is in use on a 40-h.p. car, and that Mr. Smith finds it satisfactory. I regret I cannot accept his kind offer of a run on the same.—Yours truly,

R. HANNEN.

MOTOR LUBRICATION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to "D.D.B.'s" article in the *M.C.J.* of the 23rd ult., on the above subject, I am glad to find that this gentleman agrees with me in so many of his statements. I must ask, however, to correct the impression which he would create, if his reference to myself were allowed to pass without comment. He says that I advocate the use of French chalk as a lubricative improvement when added to grease. My letter referring to Mr. Duncan's article mentioned:—"Then regarding the grease, I find that an admixture of French chalk is condemned because when the wearing parts have become hot, the grease melts. Now with such a grease, in which there is a proportion of mica (or, as it is otherwise known, soap stone, French chalk, or talc), if the oily portion of the grease melts, the mica is still left to act as a lubricant, and, although it is not so effective a lubricant as graphite, it answers the same purpose somewhat less efficiently. and its presence is certainly preferable to its absence. As a matter of fact, my firm never use mica in its motor grease, but, in its place, flaked graphite. Then as to the use of graphite on oil bearings, this is not desirable, because it chokes the oil ways, and, for the same reason, its use must be condemned in cylinders, as in this case it gets behind the rings, spoiling their elasticity, and ultimately leading to their breakage," by which I mean that if the grease melts and runs away, it would be better that such a grease should have contained some French chalk,

because it would be preferable to have the bearings lubricated with French chalk than running dry, owing to the fact that all the grease had melted.

I should like also to ask "D. D. B." to give figures indicating what he means when he speaks of a "heavy and light" oil, as the terms which he used are merely comparative. In my opinion it is a pity that "D. D. B." does not state his name and standing, because, otherwise, how can he expect anyone to attach much importance to a chatty article such as his, which contains so many statements which he does not proceed to prove, but gives simply as a matter of personal opinion?—Yours truly,

A. DUCKHAM.

EYESIGHT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I note your remarks in the *M.C.J.* of the 23rd ult. on the eyesight of automobile drivers and the question as to tests. I should like to point out that this is a matter which will require very careful consideration and one in which any attempt at hurried legislation will end in failure.

The chauffeur is in quite a different position to the engine driver on the railway or the look-out on board ship; seeing at long distances is of less importance in his case than the quickness and steadiness of nerve necessary to decide what to do in an emergency.

For instance, a man with a considerable amount of myopia (short sight), uncorrected, might be a much safer and more reliable driver than one troubled with a much smaller amount of astigmatism; because in the former case, if it were merely uncomplicated short sight, there would be no eye strain and the individual's mental faculties need not necessarily be in any way impaired. But, on the other hand, one suffering from such a small amount of astigmatism that it would not prevent him passing all the ordinary visual tests might be terribly handicapped, because this defect causes eye strain, and that, strange to say, often in inverse ratio to the amount of the defect. To put it in figures, I would rather trust myself to be driven for a long period by a driver suffering from four diopters of myopia uncorrected than to one who possessed only half a diopter of astigmatism and did not wear glasses. The short-sighted person would see objects blurred at a distance, but, as forcing the accommodation of the eye would not help him, he does not do it, so escapes eye strain. The person suffering from astigmatism, however, is unconsciously almost all the time trying to correct the defect by attempting to focus or accommodate the eye; this produces eye strain, and the nerves are affected; he will be sure to relax his attention occasionally in the attempt to get rest, and may do this at the critical moment with disastrous results.

Defects of the muscular apparatus of the eye will, even when the sight of the eyes is good, produce the same troubles and are liable to upset the nervous system and render the sufferer unreliable as a driver.

Hypermetropia or long sight of small degree will also frequently cause eye strain.

I merely mention these facts to show that ordinary methods of sight testing, such as looking at distant objects, are not of much use in deciding the visual competence of a chauffeur.

As, however, all these defects can in most instances be corrected by means of glasses, they need not be any hindrance to the individual becoming a perfect driver; the difficulty is to make anyone who can actually see well understand that. Notwithstanding this, the headaches, eye strain, imagined biliousness, &c., from which he may suffer after a long drive, whether actually piloting the car or not, are probably due to a defect in the formation of the eye or the maladjustment of its muscles, and that a pair of glasses will in many cases relieve the whole trouble.—Yours truly,

JAMES AITCHISON.

SPARKING PLUG POSITION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—A friend of mine and I have recently been interested in observing the difference between two 7-h.p. Panhards. One is a 1901-2 three-speed Centaur type, and the other a 1903 model with four speeds, enclosed radiator and wheel control. The 1901 car is much the better, I should say—fully a horse-power stronger. We have eliminated as far as possible all factors outside the engine. The bushes and gears are good and smooth in both. The weights we have adjusted. The engines are exactly the same with one exception—in the 1901 car there is a small explosion chamber in the plug bush; in the 1903 the spark is in the combustion chamber. Is it possible that the jet of ignited gas from this small chamber into the combustion chamber gives a better pressure than ignition from the ordinary position?

Before getting an old type plug bush we would like to know whether any of your readers have had a similar experience.—Yours truly,

W. R. ETCHES.

[We do not think that the difference of power in favour of the earlier model is to be accounted for by the reason suggested by our correspondent. Position of sparking plugs is of importance, but in both the cases in question they are situated in the middle of the crown. The plugs of the 1902 model might be expected to keep cleaner, but theoretically any difference in power should favour the 1903 type. The only satisfactory way of proving whether the 1902 engine really gives more

power than the other is to take a brake test of 10th, and this can be accomplished without removing the engines from the chassis. There are several factors to be taken into account besides the sparking—compression, carburation, timing of valves, friction of piston rings, &c. Again, the ratio of the gearing to the road wheels may be different, so that



The Electrical Motor Hearse which has recently been put in service in Berlin.

a proper comparison is rendered more difficult. Perhaps the 1903 model is geared higher, speed for speed, than the other.]

THE LIFE OF TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Ignoramus," re 750 by 85 tyres, I bought a set of extra fort; they have run the car 1,500, and I think they are quite equal to another 1,500 miles. My car weighs 12 cwt. If the writer does not slow down over $1\frac{1}{2}$ in. granites, the tyres would probably cut badly and require some of the usual stopping in the cuts, but how the tyres can have worn out in six weeks I cannot understand, unless he drives at top speed and pulls up in a "stylish" way, by the back brakes, or starts at high speed with a fierce clutch.

I should send the covers to the makers and ask their opinion.—Yours truly,

R. HANNEN.

WIRE OR WOOD WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Edge, in a letter in your Correspondence column, states that he believes "that the straight forward and usual artillery wheel is the best form of wood wheel." He asks for tests of staggered wheels as compared with wire wheels and artillery wheels of the same weight. It hardly requires a test to prove that the staggered spoke wheel is stronger, but only to see how much stronger. Before adopting staggered spoke wheels as standard for our cars, we had exhaustive tests to compare them with the artillery wheels which we formerly used, for we also consider that nothing but the best is good enough for the Argyll. Three 815 mm. by 105 mm. wheels of the artillery type were compared with three staggered wheels of the same size. The strength of the spokes between the felloes was identical in all the wheels. Average weight of the three ordinary wheels was 33.14 lbs., as against 35.36 lbs. for the staggered wheel. The difference in weight arises from the fact that the staggered spokes have a broader hub, and this difference of weight was exactly equal to the extra wood and extra length of hub required for the staggered wheel. The average breaking strain of the ordinary wheels was 3,020 lbs., and on the same basis the staggered wheel should have been broken at 3,222 lbs., if they were only as strong in proportion to their weight as the artillery wheel, but they actually stood an average of 3,917 lbs., which shows them to be, weight for weight, 20 per cent. stronger than the artillery wheel.

This test was taken by Messrs. Kirkcaldy and Sons, of London, and the figures quoted are from their official report. Even better results than these have been got, but we prefer to use the figures as verified by Messrs. Kirkcaldy. The strength, to resist side strains, of the wire wheel which Mr. Edge prefers is entirely due to the staggering of the

tension spokes, and if Mr. Edge gets a wire wheel with straight spokes, he has a comparison somewhat analogous in principle to the staggered and ordinary artillery wood wheel. A good deal can be said for the wire wheel, but unfortunately it has a decidedly cheap and nasty appearance when fitted to a well-appointed car.—Yours truly,

ARGYLL MOTORS, LTD.

AUTOMATIC CHANGE-SPEED GEAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It would seem that one of the pleasing mechanical possibilities to which the motor-car transmission lends itself is automatic speed changing transmission, in which the ratio of reduction from the engine to the rear road wheels is regulated entirely without the supervision of the driver. Next to the gearless car, such as the Direct, which made its appearance two or three years ago but of which nothing has since been heard, this is the ideal thing in transmission mechanism, and were its achievement perfectly feasible without introducing too much additional complication, its general adoption might be speedily looked for. As it is, however, and notwithstanding the appearance of one or two automatic devices, motorists are still compelled to use the change-gear lever, while dreaming of the time when their entire efforts will be confined to the simple operations of steering and controlling the motor. Judging from the arrangements that have so far been designed, it would seem questionable whether it is advantageous to replace a number of simple operations for one or two of the greater complexity necessary to accomplish the same net results. Continued refinement may serve to eliminate or combine the elements in such a way as to make possible the achievement of such mechanism with a small number of parts. For the present, however, the average motorist is fairly well satisfied with the simplest possible amount of mechanism, even though its use entails a little more labour.—Yours truly,

COLONIAL.

STARTING HANDLE LOST.—While motoring from London to Worthing on the 26th ult., Mr. J. Arthur Formoy, of Chestham, Sutton, Surrey, shed the starting handle of his Brush car. He will be pleased to reward the finder who returns it to him.

THE FLEXIBILITY TRIAL.—Mr. Colin Defries has sent us a copy of a letter he has addressed to the Secretary of the Crystal Palace Automobile Club, in which he mentions that his Porthos car withdrew from the competition in consequence of his mechanic falling off the car, which went over his foot, while ascending a hill, with the result that it was impossible again to start on top speed. He also



The Motor Coach which Fiat Motors, Ltd., intend to run during the coming Summer between London and Brighton, at Crawley.

The vehicle, as will be seen, differs from the ordinary motor-bus, inasmuch as there is no upper deck, and the engine, being a 24-h.p. Fiat, is capable of propelling the carriage with from twelve to fifteen people on board at a considerable speed.

points out that he stopped his car long before it had entered the test zone, so that as he did not cover the course or even barely begin it, it was a matter of absolute impossibility to record any speed whatever.

CLUBS AND ASSOCIATIONS.

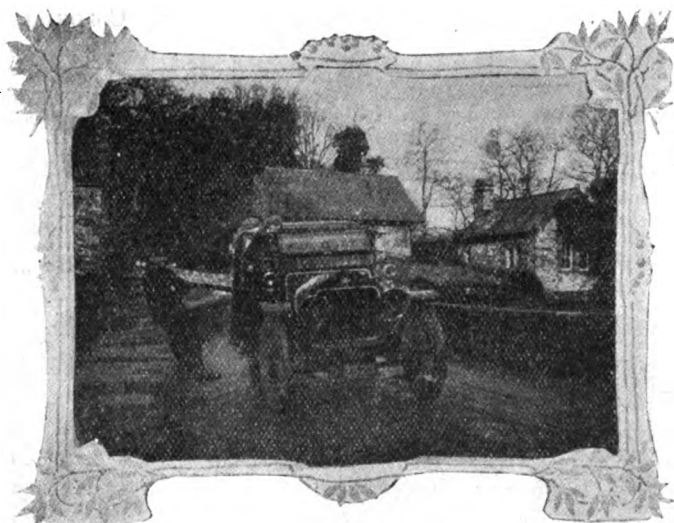
THE JUNIOR AUTOMOBILE CLUB.

THE officers of the executive of the Junior Automobile Club organised a run to Baldock on Good Friday, and twenty-four members and friends lunched at the Rose and Crown. The season proper of the club will open with a week-end run to Brighton on the 13th inst., and prospective members, who would like to be present on this occasion, are invited to write to the hon. secretary, Mr. S. C. Darrington, "Oakthorpe," Brownlow Road, New Southgate, N.

In order to keep the amateur element preponderating, in accordance with one of the original ideas that prompted the formation of the Junior Automobile Club, a resolution has been passed by the committee to the effect that no more members of the motor industry shall be elected for the next six months, this motion only to be rescinded by a full committee meeting.

RICHMOND AND DISTRICT M.C.C.

THE first annual general meeting of the Richmond and District Motor Cycle Club was held at 18, Down Street, Piccadilly, on the 22nd ult., Mr. F. Straight being in the chair. The Marquis de Mousilly St. Mars was elected president, and the vice-presidents for 1907 will be:—



The Long Distance Trial of the 40-h.p. Siddeley Car. A snapshot at Bettwa-y-Coed.

Messrs. F. Straight, Dr. W. M. Paul, E. M. P. Boileau, and Captain L'Estrange. The new committee consists of the following gentlemen:—Messrs. S. Bramley-Moore, F. C. Wood, J. H. Greenwood, L. B. Clare, A. P. L. Sladen, and L. Holman. A rule regarding the election of members was passed to the effect that members of the club who are engaged in the motor-cycle trade be not eligible to enter for competitions, the definition of a trade member to be settled in each individual case by the committee.

SCOTTISH A.C.

THE annual meeting of members of the Scottish A.C. was held at Edinburgh on Thursday, the 4th inst., when it was reported that the membership totalled 765. Reference was made to the many activities of the organisation during the past twelve months, all of which have been chronicled from time to time in our columns. We understand an effort will be made during the year to bring every Scottish motorist into the ranks of the club.

THE COMMERCIAL MOTOR USERS' ASSOCIATION.

THE members of the Motor Van, Wagon and Omnibus Users' Association, at their annual meeting held on the 26th ult., resolved that in future the association should be known as the Commercial Motor Users' Association. The annual report, which was adopted, shows, among other matters of interest, the work of the association done in connection with the Commercial Vehicle Trials, the registration of motor vehicles by the War Office, extraordinary traffic claims, and the periodical inspection of mechanical vehicles. In the course of the discussion reference was made

to the recommendations of the Royal Commission on Motor-cars, the Lights on Vehicles Bill, and the Metropolitan Water Board Scheme for the supply of water for motor vehicles. The association includes in its membership and upon its committee representatives of the leading railway companies, omnibus companies, breweries, &c.

MOTOR YACHT CLUB.

THERE is every prospect of the British International Cup Race of 1907 proving extremely interesting, for in all probability the American challenger "Dixie" will bring a companion with her.

The estimates for the boats and engines for the one-design class of motor-boats show clearly that a most useful boat can be built for a little over £150.

A meeting of the Joint Committee of the Motor Yacht Club and the Society of Motor Manufacturers and Traders took place recently for the final consideration of the rules for the 1907 Reliability Trials. The chief point under discussion was the rule to determine the marks due to vessels under the score of economy of fuel, last year's rule having been found unsatisfactory, and a solution of the difficulty was finally obtained. It was also decided that grounds upon which marks had been deducted from a boat should be communicated to the competitor for his private information. An important addition was made in a rule which debars boats that do not start within ten minutes in the case of those using petrol for starting, and twenty-five minutes in the case of boats starting on paraffin, from being eligible for a non-stop certificate.

THE Liverpool Motor Club had an Easter tour to the Lake District, making Keswick the centre of their excursions.

THE annual meeting of the Berkshire A.C. will be held at the Great Western Railway Hotel, Reading, on the 20th inst.

JUNE 29th has been provisionally fixed as the date for the annual Birdlip Hill climb of the Bristol and Gloucestershire A.C.

THE new handbook of the North London Automobile Club is a very interesting booklet containing much general information as well as the diary of club events and list of club members. Mr. J. Thomas Barber, the new hon. secretary, is to be congratulated on its appearance.

THE opening run of the Notts A.C. for the 1907 season will be held on the 13th inst., to Ye Olde Bell, Barnby Moor.

ON the 27th inst. the Harrogate A.C. will hold an inter-club meet with the Yorkshire A.C. at the Crown Hotel, Boroughbridge.

ROAD REPORTS.

DEVON.—Motorists in the neighbourhood of Dartmouth have lately found a dangerous piece of road between Paignton and Kingswear. Water mains on this road have been laid from near Churston Station, and it has been almost impossible to drive thence to the top of the hill leading down to Kingswear. As to avoiding this bad piece, Mr. F. C. Hunter, of Exmouth, advises motorists to keep to the left at the fork after passing the station mentioned (just beyond the golf course) and to go through Brixham. This is only a few miles round. Returning from Dartmouth, they should, when at the top of the hill above Kingswear keep to the right on the Brixham road.

DERRYSIRE.—The Baslow road is in a very bad state owing to the quantity of loose stone which has been recently laid and not rolled in. The Committee of the Sheffield A.C. have instructed their secretary to take the matter up with the responsible authorities.

ISLE OF MAN.—The Royal A.C. has voted £200 to the Highway Board of the Isle of Man.

CROMER.—Motorists who have visited Cromer during the holidays report that the roads were in splendid condition.

GODALMING.—On the suggestion of the Highways Committee of the Godalming Town Council some roads in the town are to be tar-coated and others to be treated with calcium chloride, with a view to the testing of the merits of the two systems. The latter plan will be tried on thoroughfares with steep inclines, as the tarring might become slippery and involve a strain on horses. The cost of the two methods as adopted by the local surveyor is practically the same.

MR. G. H. JACK, who has been appointed County Surveyor of Herefordshire, has read a paper on "A Retrospective View of Roads and Road Making" to a meeting of the Midland Association of Local Government Officers. Referring to the future of our main heavily trafficked thoroughfares, Mr. Jack said that if they are to remain under macadam, much more money than hitherto must be spent on maintenance, and many must be entirely reconstructed to provide the required stable foundation. In view of that and of the comparatively short life of the very best macadam road, it might not be altogether out of the question to suggest that the road of the future may be a reversion in essential particulars to the Roman road—a hard, coherent, scientifically-formed foundation, covered by a compact, watertight pavement. Such a road would meet the demands of all sorts and conditions of traffic, afford easy traction, be comparatively dustless and mudless, and easily cleansed and kept in repair.

DUST NUISANCE AT KINGSTON-BY-SEA.—The annual Kingston-by-Sea parish meeting took place last week. During general business several ratepayers expressed the opinion that the dust nuisance along the main road was an intolerable one, and a strongly-worded resolution was passed to be sent to the District Council to forward to the County Council, with a view to steps being taken to abate the same.

The Cordingley Show.

TO-DAY (Saturday), at the Agricultural Hall, London, the Twelfth International Motor Car Show organised by Messrs. Cordingley and Company will begin, and will continue to attract the attention of the motoring world throughout the whole of next week. Many important novelties, such as the eight-cylinder engine for the Weigel car for the Grand Prix race, the new six-cylinder Florentia and S.P.A. cars, many important new British vehicles, and other features of an important motor-car exhibition are on view, full reports of which will appear in subsequent issues of the *M.C.J.* Meanwhile the following notes on some of the exhibits will prepare the way for the more exhaustive report next week.

The Wallis Steam Wagon.

Messrs. WALLIS AND STEEVENS, LTD., of Basingstoke, exhibit a standard 5-ton tractor and a 5-ton steam wagon. The Wallis tractor has become such an everyday feature of road traffic as hardly to require description, but the firm have steadily improved their machine with such great experience to guide them, and the exhibition tractor represents the last word on the subject. The engine is of the compound type with link motion operating slide valves on the outside of each cylinder so that the steam chests are readily accessible. The whole of the motion is enclosed, together with the change-speed gear. The 5-ton steam wagon, of which we give an illustration in Fig. 1, is described by the makers as their standard tractor put between shafts. The boiler, engine, and

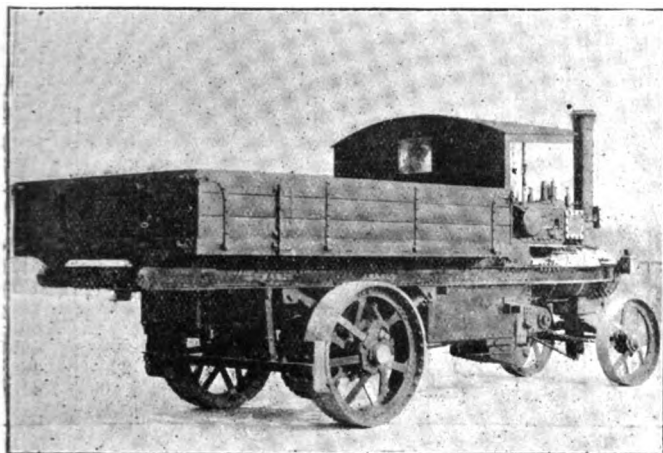


Fig. 1.—The Wallis and Stevens Steam Wagon.

countershaft, together with the front axle and steering gear, is practically identical with that on the tractor. The channel frames of the wagon are riveted to plates secured to the fire-box shell plates, and are continued to the smoke-box, where they fit into brackets, but are not fastened rigidly to the latter, so that the boiler is free to expand independently of the channels. The drive is transmitted from the second-motion shaft by a Renold roller chain to the differential on the five back axle.

The Burrell Steam Tractor.

Messrs. CHARLES BURRELL AND SONS, LTD., exhibit a steam tractor which in general design follows the lines of the Burrell traction engines. The locomotive boiler, with single cylinder or compound engine, is mounted on the boiler barrel, the motion work being over the top of the fire-box. The fast and slow pinions on the end of the crank shaft drive direct on to the differential, and the two road wheels are driven independently, by separate pinions, on either end of the differential countershaft, driving spur wheels secured to each road wheel. This makes a much easier drive, and also lends itself to the introduction of a device for instantly locking the differential gear from the foot-plate, directly one wheel begins to slip. The steering gear is also special to the Burrell engines, as, instead of the worm shaft and chains, a positive gear is introduced. A special fly-wheel brake, operated by a wheel and screw from the foot-plate, provides an extra control over the engine. Large water tanks are provided, slung under the boiler barrel, and a winding drum is carried between the spur wheel and road wheel, on the left side of the engine.

The Magnoid Process for Repairing Castings.

Considerable interest will be shown in the exhibit of the MAGNOID COMPANY, LTD., who have acquired the rights in a new French process for the repair of castings of iron, steel, aluminium, and bronze alloys.

Various methods have at one time or another been employed to fuse together aluminium or cast iron; but these were not wholly successful, owing to the fact that shrinkage and warping of the castings, uncertainty of the weld and hardness of the joint were unavoidable. The various samples of repair work on view afford conclusive evidence of the value of the process, by means of which castings that have from one cause or another been damaged can be made perfect at considerably

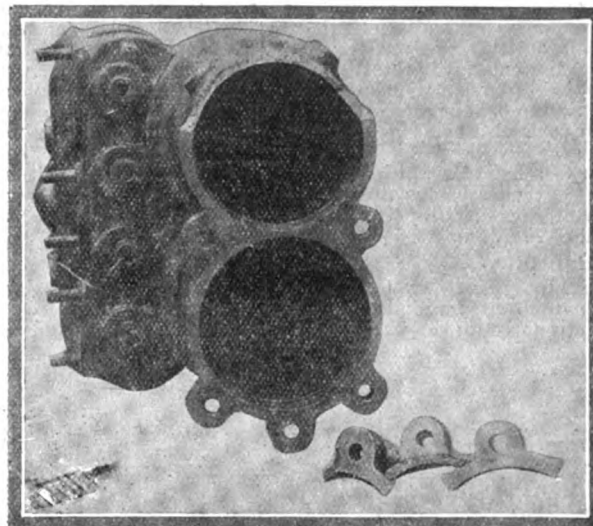


Fig. 2.—A Comparatively Simple Form of Fracture at the Base of a Cylinder before repair. The broken lugs are also shown.

less cost than an entirely new part. The process must not be confounded with soldering, as in carrying out a repair a metal of the same composition as the casting is melted into the space that has to be filled up, and which can afterwards be machined. The accompanying illustrations show a comparatively simple form of fracture at the base of a cylinder, three lugs having been broken off. Much more difficult work than this can be undertaken, the Magnoid Company having sent us illustrations of the upper half of an engine base chamber with one of the supporting arms broken, of a cracked cylinder and gear wheels with broken teeth, all of which have been successfully mended. As to the strength of the repair, we have seen a cast iron

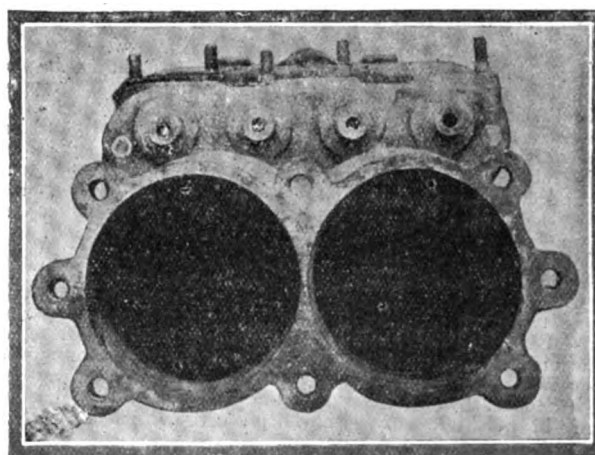


Fig. 3.—The Cylinder as Repaired by the Magnoid Company.

test piece which was first cut apart exactly in the middle. The two parts were then joined together by the Magnoid process, and, after being machined to a suitable section in the lathe, the whole was subjected to a tensile test, applied by means of chains through eyes in ends of the specimen. Instead of breaking at the point where the repair had been effected, a fracture occurred at a tensile stress of six tons, but not at the join.

The Humid Six-Cylinder Car.

Among the six-cylinder cars on view is the Humid, made by Messrs. HURST AND MIDDLETON, LTD., of Windsor Road, Holloway, N., which is noteworthy on account of the relatively low price at which it is offered. We gave an illustrated description of the vehicle in the M.C.J. of September 29th last, but it may be briefly mentioned that it follows the general design of live-axle cars. The 40-h.p. motor, which is built throughout by the firm, comprises six separately cast cylinders, the dimensions being 4 in. bore by 4½ in. stroke, and the normal speed 1,000 revolutions per minute. The valves are mechanically operated off separate cam shafts, the inlets being arranged on one side and the exhausts on the other. A separate exhaust pipe is provided for each cylinder, the burnt gases first passing into an expanding chamber, and thence to the silencer proper. The water circulation is maintained by a gear-driven pump and a framed tubular radiator of the firm's own construction, an air-inducing fan also being fitted. No governor is provided, the speed of the engine being controlled by the throttle and ignition levers fixed above the steering wheel. The pedal operating the clutch is, however, so connected up that as the latter is withdrawn the motor is automatically throttled down. To the gear-box the power is transmitted through a wide leather-faced clutch fitted with springs to allow the load to be taken up without jerks. Three speeds forward and reverse are controlled by a single lever, the drive on the top being direct. From the gear-box the power is conveyed through a cardan-shaft and bevel gear to a live axle which has only the driving strain to withstand, the weight of the car being carried by the sleeve surrounding the axle. Any form of carriage body can be fitted to the chassis, which has a wheel base of 10 ft. 3 in.

Lubricating Oils.

The STERN-SONNEBORN OIL COMPANY have their usual display of high grade lubricants for motor-cars, &c., and a collection of specialties recently introduced for various purposes in connection with the running

A minor vexation almost inseparable from motoring is the clinging nature of the grime and dirt that lingers on the hands of the practical motorist. Several preparations have been introduced to alleviate this disagreeable feature, and that shown by the SANITAS COMPANY has won distinction among such goods. This is an "Automobile Soap" of pure degree that has the further recommendation of being a fragrant soap of disinfectant properties acting instantaneously and not hurting even the tenderest skin. This and a metal polish constitute the exhibits of a new comer in the accessory section of the Show.

Fluxite.

The registered "Fluxite" soldering paste is shown by the AUTO-CONTROLLER AND SWITCH COMPANY, who claim that it is effective, clean, and handy, while there is no mess or waste in its use. With this flux practically any metal can be soldered or tinned without being first prepared or cleaned. Being in the form of a stiff paste, it will adhere to the object to be soldered; it can also be carried with safety in the tool bag. An important quality of Fluxite is that it can be employed on cast iron, steel, lead, zinc, &c., where neither spirits nor resin is suitable. The solder will "run" with great ease and adheres perfectly on practically any metal when this paste is used as the flux. It has the advantage of not affecting the insulation of electrical machines and apparatus, and should be found in all motor-car works and repair shops.

(To be continued.)

THE FLEXIBILITY TRIAL.

WITH reference to the Flexibility Trial of the Crystal Palace A.C. we are asked to mention that the Committee tender their thanks to Col. Holden for his very kind offices in connection with the formula. Nearly all the cars did most remarkably good performances—in fact, considering the difficulties of the London to Bexhill road, it would hardly have been

Official No.	Description.	Cylinders.	Running Weight. lbs.	A.C. Rating D 2.n./3.	Maximum Speed.	Minimum Speed.	Speed Ratio.	Marks for Track.	Number of Gear changes.	Marks lost.	Maximum possible marks after adjustment for power and weight.	Marks for Gear changes.	Number of Engine stops.	Marks for Engine.	Grand Total. Marks.
2	60-h.p. Napier ...	6	4 569	50.0	57.69	3.48	16.78	500	0	0	594	594	0	200	1,294
5	14-h.p. Vulcan ...	4	2,944	16.35	39.13	4.75	8.23	248	2	45	730	685	0	200	1,133
3	28-h.p. Mass ...	4	3,584	29.8	40.18	6.39	6.28	189	1	23	571	548	1	180	917
8	24-h.p. Courier ...	4	3,475	25.0	46.39	5.28	8.79	255	4	64	600	596	3	0	851
12	40-h.p. Ford ...	6	3,511	40.5	48.38	6.36	7.6	228	1	24	440	416	0	200	844
4	16-h.p. Reo ...	2	2,576	15.0	34.28	7.03	4.88	147	1	34	492	458	0	200	805
11	30-h.p. N.E.C. ...	4	4,541	27.0	35.29	—	4.58	69	1	200	430	230	0	200	499
10	25-h.p. Brooke ...	6	3,868	26.25	34.61	6.36	5.45	164	13	329	387	58	0	200	422
13	35-h.p. Maudslay ...	4	4,428	33.3	40.54	5.16	7.86	238	1	260	438	178	1	0	416

Car No. 8. Engine stop marks. This car was delayed 56 minutes in all, but could not lose more than the full 200 marks.
Car No. 13. Ditto (lost 23 minutes).

of vehicles. They show samples of Clutcholine, which, as its name implies, has been prepared for use on metal or leather clutches, improving the grip and securing the general good behaviour of the device. It is a pure non-corrosive lubricant of tried merit. A newer introduction to the motorist is Cooloricid—a preparation for cooling the hot bearings, brakes and clutches of cars. The company have their comprehensive range of Sternal Huile, Motosternal, Autosternal, gear oil, &c., as well as their elastic Sternaline chain paste, which forms a hard yet elastic surface, simultaneously acting as a lubricant and reducing noise.

The Transport of Cars.

Messrs. HENRY JOHNSON AND SONS call attention to their facilities for the packing and transportation of automobiles of every description by means of the model of a crate. This firm has always recognised the importance of the import and export trade in motor-cars, and, having specialised on this class of business, possesses unique knowledge with regard to boat and rail services, and are able to economise time and money in the interest of those who place the shipment of vehicles in their hands.

Office Requirements.

Now that the card system has become recognised as almost an indispensable part of modern business methods, special interest is given to the stand whereon the SHANNON, LTD., demonstrate the applicability of their method of filing to the particular requirements of the motor-car trade—either in the garage or the office. The Shannon filing cabinets for recording and classifying information relating to cars and parts as well as to individual customers are likely to attract considerable notice from those anxious to facilitate business and ease the strain of modern business life.

thought possible by the average motorist that so many cars could have completed this distance with so few changes of speed, and at the same time do such high speeds on the Bexhill track.

The honours of the day fell to the six-cylinder Napier, but a good deal can be said for the six-cylinder Ford, which performed excellently, and it was unfortunate that at River Hill, owing to its having to fill up with water at Tonbridge, due to a leaky radiator, it did not do itself quite full justice. Mr. Colin Defries' Porthos was looked upon at one time as a very likely winner, but an accident which resulted in his running over his mechanic and then his engine stopping in the slow speed test put him out of the competition. The 14-h.p. Vulcan running in the second division was a well-deserved success. The very clean record of the Mass car should also be noted, only having one change of speed throughout the whole journey. The Reo also showed up well in the test, it being the lowest powered car in the competition. The 24-h.p. Courier was prominent on the fast speed test as a likely winner, its top speed being excellent, but on the slow speed test not doing quite as well as was expected.

POLICE TRAPS.

THERE is a police trap at Henley-on-Thames worked by officers concealed in a garden at the town end of the Fair Mile on the right-hand side of the town going towards Oxford.

AT Ashington, about ten miles from Worthing on the London-Worthing road, a police trap has been established.

THE police trap in Loampit Vale, Lewisham, has been in active operation again.

AERONAUTICS.

LORD AND LADY LLANGATTOCK had an Easter balloon party at their place in Monmouthshire, and were among the passengers in the Hon. Mrs. Assheton Harbord's "Nebula." After several captive ascents it made a free journey, travelling in the direction of Herefordshire.

MR. W. MANSERGH VARLEY has translated and Messrs. Whittaker and Co. have published Major H. W. L. Moedebeck's "Pocket Book of Aeronautics." This presents an authoritative summary of the state of the science at the present day.

THE annual general meeting of the Aero Club was held on Wednesday, the 20th ult., at 166, Piccadilly. It has just issued its official notices for the year, from which we learn that club ascents will be made on several occasions from the Crystal Palace during the year, and the "Harbord" cup race will be held at Ranelagh on May 25th, that for the "Hedges Butler" challenge cup taking place on June 29th. The first ascent of the year will be held from the Crystal Palace on the Thursday following the close of the Aero Club's Exhibition in connection with Cordingley's Motor Show next week.

MAJOR B. F. S. BADEN-POWELL, addressing the members of the Royal Meteorological Society recently on "The Exploration of the Air," said that the atmosphere was a vast and little-explored ocean. We crawled about the ground like crabs on the bottom of the sea, and made our meteorological observations down on the ground, ignorant of all that was going on in the midst of that great expanse of air. There were three means now at the service of man by which he might ascend into those desirable regions or may send up self-recording instruments to probe the mysteries of the skies, viz., balloons, kites, and flying machines. Although the balloon at the time of its invention was hailed with acclamation, as promising the conquest of the air, it was now realised that this cumbersome and delicate apparatus was not capable of much practical application. Meteorological kites had also been much improved in recent years, and instruments lifted by kites retained by steel wires had actually ascended to a height of four miles, while at Aldershot kites had been regularly introduced into the service. Men were first lifted by this means in 1895, in which year the lecturer himself made a number of ascents up to 100 feet high, but improvements have gradually followed until now men have actually gone up to a height of 3,000 feet, an elevation practically beyond the reach of rifle bullets and so high as to render the aeronaut almost invisible. Major Baden-Powell concluded by saying that the flying machine has come to stay. Years ago people argued that it was impossible to lift in the air that which was far heavier than the air, but the advocates of the cause pointed to the birds, and there was no gainsaying that the thing was possible. Then pessimists cried that it would not be possible to balance the apparatus without the intelligence of a bird, but models were made, finally so good as to fly three-quarters of a mile, and men also took to gliding on wings and sailing on the wind. Huge machines were constructed with very light engines, and during the last two or three years not only had men been successfully raised off the ground, but they had been able to sustain themselves in the air for half-an-hour at a time. Very little remained to be done before it could be said that man had veritably conquered the air.

COURTESIES OF THE ROAD.

THE Scottish Automobile Club, with a view to engendering good feeling on the part of the public to motor-cars and motor-cycles, recommend all drivers of automobiles, whether amateur or professional, to be especially careful on the following points:—

Passing cyclists and horse-drawn vehicles.—Give the maximum space possible.

Passing restive horses.—Use the utmost consideration, even to stopping the engine, if necessary, although no hand may have been held up. On narrow parts of roads, cross roads, corners, and bridges, drive slowly and with caution, and before passing from behind wait until a suitable part of the road is reached.

Passing through towns and villages and at roadside residences.—Go slowly, so as not to fill houses and cottages and cover gardens with dust, or throw mud about, and also for the safety of the inhabitants and their animals, &c.

Passing pedestrians.—Take care not to splash them with mud, or over them with dust.

Show caution and consideration always.

THE DANGERS OF THE HORSE.

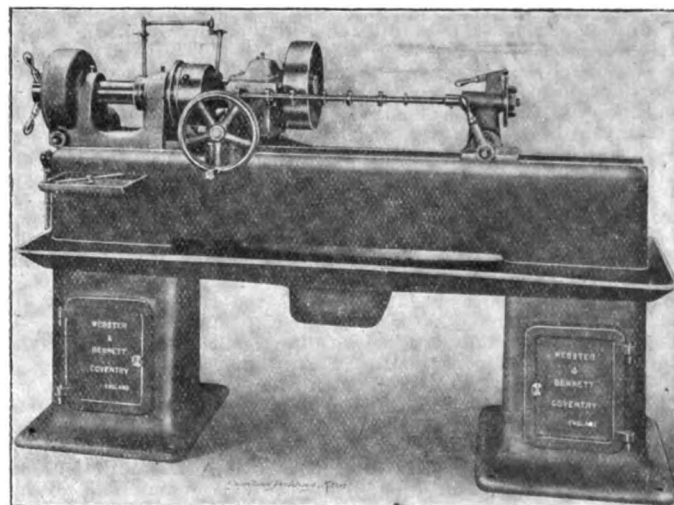
SIR JOHN E. DORINGTON, chairman of the Gloucestershire County Council and formerly M.P. for the Tewkesbury Division of the county, had a miraculous escape whilst being driven in his motor-car in the Toadsmoor Valley on Good Friday. Whilst the car was travelling along a very narrow road, a runaway team of cart horses attached to a trolley laden with timber was seen emerging round a corner 150 yards away. There was no driver with the horses, which were galloping as hard as they could, and as there was barely sufficient room for two vehicles to pass considerable alarm was felt by the occupants of the motor. With great presence of mind the chauffeur ran the motor-car against a

wall by the side of the road, and urged Sir John to leave the car and jump over the wall. This Sir John did, and when the chauffeur followed his example the leader in the team of runaways was level with the car. The horses galloped past the deserted car, which escaped with some scratches. All danger being apparently over, Sir John Dorington and his chauffeur returned to the car, but had barely got back into the road when the horses were seen returning in the same manner. It seems that further down the road, where it was wider, a man had shouted at the runaways, which in a remarkable way turned round without upsetting the trolley. The shouting of Sir John Dorington and the chauffeur this time stopped the animals in their wild career.

MACHINE TOOLS FOR MOTOR-CAR BUILDERS.

WE illustrate herewith the Motor Cam Profile Milling Machine which has recently been introduced by Messrs. Webster and Bennett, Ltd., Atlas Works, Coventry, and which is finding its way into the shops of all motor manufacturers who desire every detail of their engines to be as perfect as possible. It is, of course, quite a special machine and is designed solely for the motor engineer.

The cam-shaft is turned before entering this machine, the cams leaving the lathe in the form of circular discs on the shaft. These are accurately milled to the outline determined in the drawing office, this being governed by a large copy which slowly revolves with the cam-shaft while the milling cutter does its work. As the cams are all milled from the same copy, it follows that they are exactly alike. When two or three outlines are required on one shaft a double or treble copy is arranged accordingly and the copy roller shifted from one to the other as the job progresses. The angle of the cams to each other is determined by a division plate. This important factor is made certain by the use



of cams solid on the shaft, and what is more, the angle cannot vary, as is too often the case when loose cams are pegged on the shaft.

A companion machine to the above in one which is designed on similar lines for grinding the cams after the shaft is hardened. An emery wheel takes the place of the milling cutter. In most other respects the two machines are alike in appearance and action. The product of the grinder has, of course, the highest obtainable finish and gives the greatest smoothness in working together with good wearing qualities.

PUBLIC MOTOR SERVICES.

THE proposal recently made by Mr. Holden to the Watch Committee of the Brighton Town Council to transfer ten char-a-bancs and twenty cab licences to motor vehicles was accompanied by the promise of the licensee that he would teach the horse drivers to drive the motor vehicles.

THE drivers employed by the General Motor Cab Company are now being examined by the Royal A.C. prior to their passing the usual police test at New Scotland Yard. Several drivers holding the Club's certificate have been supplied to the above company during the past week.

GREAT improvements have taken place in the motor-bus service at Eastbourne. Four new vehicles were put into public employment just before the opening of the holidays, during which they were well patronised.

DURING the holidays Messrs. Woodyatt arranged an attractive programme of motor-car tours from Malvern, including a trip to Broadway, a quaint old-world village on the western face of the North Cotswolds. On Easter Monday their cars ran to Goodrich Castle and Symond's Yat; Tuesday, Powick and Tewkesbury; Thursday, Witley and Martley; and Friday, Bosbury, Ledbury, Eastnor, and the Raggedstone Pass.

A MOTOR-BUS service has been inaugurated between Newcastle-on-Tyne and Marsden.

CASES UNDER THE MOTOR CAR ACT.

UNLICENSED DRIVER.

Thomas Marlowe, of Champion Hill, has been summoned by the police for driving a motor-car at East Dulwich Grove, he not being licensed for that purpose. Mr. Robert Humphreys, appearing for the defence, said the circumstances were these: Mr. Marlowe was about to purchase a car and on the 11th ult. he went out in a car in charge of an experienced chauffeur. The defendant wanted to see how the thing worked and took the wheel. He had not driven quite a mile when the officer came up and found he had no licence. A little episode which occurred during the run convinced the defendant that he was not a born chauffeur. He had no intention of driving again, but intended to leave the driving in more experienced hands. Mr. Hopkins.—Was any damage done?—Yes, sir, to a brewer's dray, but Mr. Marlowe has made that good. Mr. Hopkins fined the defendant 20s. and 2s. costs.

EXCEEDING THE LEGAL LIMIT.

Harold E. Dew, of Battersea, was fined £5 and costs, at Greenwich, on Saturday, for driving a motor-car at thirty-three miles an hour in Loampit Vale, Lewisham. He said an electric tramcar stopped suddenly in the "trap," and he put on a spur to pass it before it started again, but his speed just before was only eighteen miles. Alexander Maurice David de Groot, of Blackheath, was fined £3 and costs for driving a car at twenty-seven miles an hour in Shooters Hill Road; and Charles Gardner, of Whalley Range, Manchester, was similarly fined for a speed of thirty miles an hour.

COMPANY NEWS.

MEETINGS.

WEBLEY AND SCOTT, LTD.—Presiding at the annual meeting of Wobley and Scott, Ltd., on the 26th ult., the chairman, Mr. G. B. Winn, said that within the next fortnight they would have a motor-car on the road.

CHARRON, LTD.—The statutory meeting of Charron, Ltd., was held at the office of the company, 32, Old Jewry, London, E.C., on the 25th ult. Mr. Davison Dalziel presided and said that they had accepted for 1907 orders amounting to no less than 762 chassis. Beyond this they had signed very advantageous contracts for Belgium, Holland, Luxemburg, Germany, Austria, Hungary, and the Balkan Peninsula. In order to give a comparison of the results obtained during the first two months of the present year and the first two months of the preceding year, he said that, whereas in 1906, during the month of January, they turned out eleven chassis, and in February they turned out twenty-two, in January, 1907, the production was thirty-six chassis, and in February forty-two. The turnover of the business for January, 1906, was 236,000f., and for February, 1906, 594,000f., or a total of 830,000f. for the two months, whereas in January, 1907, the turnover was 576,000f., and in February 1907, 700,000f., making a total of 1,276,000f. The directors were extremely satisfied with the condition of the business, and were very sanguine indeed as to its future prospects.

NEW COMPANIES.

FIPPARD HYDRAULIC CLUTCH.—£5,000. To acquire the invention and patents of Mr. A. J. Fippard for improvements in hydraulic clutches for motor vehicles and other purposes. No initial public issue. First directors, Messrs. R. H. Measures (chairman), H. A. F. Measures, G. E. A. Measures, A. J. Fippard, H. C. Walker, and H. T. Wright. R. H. Measures may retain office while holding 1,000 preference shares, or half number issued for time being, with power to appoint two other directors, said H. A. F. Measures and G. E. A. Measures being first nominees. Qualification (except other first directors), 200 shares. As fixed by company.

COVENTRY CHAIN COMPANY.—£100,000. To acquire the business of the Coventry Chain Company, Limited, to adopt an agreement with the said old company, and to carry on the business of manufacturers of and dealers in chains of all kinds for motor-cars, &c. First directors to be appointed by signatories.

PADDON AND SOPWITH.—£5,000 (4,800 ordinary and 200 "B" shares of £1 each). To acquire the business carried on at 1, Albemarle Street, W., as Paddon and Sopwith, and to carry on the business of dealers in motor-cars, &c. No initial public issue. First directors, Messrs. P. W. Paddon, T. O. M. Sopwith, and H. V. Hermon. 1, Albemarle Street, W.

MOTOR-CAR ACCIDENTS.

MR. LIONEL NATHAN ROTHSCHILD has been lying at the Queen's Hotel, Birmingham, suffering from injuries sustained in a collision whilst motoring in the neighbourhood of Birmingham on Thursday of last week. Mr. Rothschild, who was driving the car himself, was unable to avoid a milk float at an awkward corner, and the collision caused him to be thrown against the head of the horse drawing the float. His injuries chiefly consist of superficial wounds caused by the goggles he was wearing. His sight is fortunately unimpaired.

A MOTOR-CAR has been partially wrecked and two cyclists seriously injured in an accident which occurred on the Buxton road near Stockport. The car, driven by a chauffeur and owned by Mr. J. H. Stansfield, Rawtenstall, was going towards Hazel Grove. To get past a tram-car and a number of cyclists it was turned to the off-side of the road. The tram prevented the chauffeur seeing two cyclists who were approaching from the opposite direction, and when he got from behind

the tram he was so close upon them that in order, if possible, to avoid a collision he ran the motor on to the footpath. But this did not prevent the smash. Both the cyclists were knocked down. They were subsequently taken to Stockport Infirmary, where it was found they had sustained serious injuries.

At a late hour on Saturday night Alfred Sexton was crossing the Kennington Road at the end of Brook Street when he was knocked down by one of the new motor-cabs. He was taken to St. Thomas's Hospital, where he died a few hours later.

In trying to avoid a wagonette at Rottingdean, near Brighton, on Easter Monday, the chauffeur of a motor-car in which were seated Mr. Cecil Edge and the Misses Catherine and Aileen Hennessey, collided with another car occupied by an Eastbourne doctor and a friend. Miss Eileen Hennessey was thrown out of the car, and upon being assisted to a neighbouring hotel was found to be seriously hurt about the head. The other occupants escaped without injury. The front part of Mr. Edge's car was smashed.

The inquest on the body of Charles Jackson, of Greenhills, Middleton Junction, near Manchester, who was killed in the motor accident on Blackpool Road on Sunday afternoon, has been held at Kirkham. After evidence of identification had been given, John Howarth, living at Middleton, said he was the owner of the car. Jackson and he set out to Blackpool from Middleton, calling at Chorley. They proceeded all right through Kirkham, and turned round a sharp corner down an incline into Blackpool Road. The car was then travelling at fifteen miles an hour. He reduced the speed to nine miles, but they came on to another corner before he knew where he was. When rounding this, the speed having previously been increased to fifteen miles, the hind wheels of the car skidded on the embankment, and the car turned turtle, pinning both the witness and his friend underneath. The witness freed himself, but his friend was dead. The jury returned a verdict to this effect, adding riders recommending that danger signals be placed on either side of the turn, and that the County Council be asked to widen the road, because it was dangerous.

ALLEGED FRAUDULENT MOTOR SCHOOL.

THE case against W. Addison and R. Foulkes, reported in our last issue came again before the Brighton magistrates on the 27th ult. The defendants were charged with conspiring together, on or about the 29th October, 1906, and other subsequent dates, to obtain by false pretences the sum of £2 in money, and four postal orders for the payment of £1 2s. 6d., with intent to cheat and defraud Alfred William Young and others. There were four alternative charges preferred by the Sussex County Automobile Club against the prisoners for obtaining by false pretences £2 from Young, £1 10s. postal order from Proctor, on 27th November, a postal order for 5s. from Dunstan on 3rd December, and a postal order for 10s. from Frederick Peter Cecil Burman on 28th November. Earl Russell (instructed by Mr. C. W. Buckwell, on behalf of the Sussex County Automobile Association), appeared to prosecute, and said he proposed to drop the charge of conspiracy and prefer the other charges. After hearing the evidence the magistrates retired to consider their decision, and on their return the Chairman said Addison would be bound over in his own recognizances in the sum of £5, to come up for judgment if called upon. Foulkes would have to go to prison for six weeks in the second division on each of the two charges, the sentences to run concurrently.

BUSINESS NEWS.

THE export business of the Daimler Company is daily increasing, and large packing cases containing cars can constantly be seen leaving the works for the station.

THE Hon. Evelyn Hubbard has written to Messrs. Humber, Ltd., stating that his Coventry Humber car has now been running for about six months, and reports that it is a very quiet and comfortable car, and on a fair road can keep up an average of twenty miles per hour without difficulty so long as it is not over-laden.

THE recent fine weather has already influenced the motor trade in the number of orders which are being received. Amongst recent purchasers of Daimler cars are the Earl of Normanton, who has ordered a 28-h.p. Daimler chassis, Lord Mount Edgcumbe, who has purchased a 28-h.p. "Stoneleigh" Daimler, and Rear-Admiral Sir Chas. Graves-Sawle, who has ordered a 30-h.p. "Milverton" model Daimler.

To meet the wants of motorists, Gaulois Tyres, Ltd., kept their despatch department open on Easter Monday.

CAPTAIN MASUI, who has recently been touring India, has arranged with Messrs. Ashworth Taylor and Company, Chowringhee, Calcutta, to act as agents in Eastern India for the Germain cars, and with the Bombay Motor Car Company, Ltd., for Western India.

MESSRS. A. GAAL AND CO., 17, Hanover Square, London, W., have secured the British agency for the Westinghouse cars.

THE Victoria Carriage Works, Ltd., of Long Acre, W.C., have received the first of the 1907 models of the 16-24-h.p. Leon Bollee car, and are now in a position to give trial trips to demonstrate the flexibility of the engine and the remarkably quiet running of the car.

ARRANGEMENTS have now been concluded with the London and North-Western Railway Company whereby the Royal Automobile Club will stock passenger tickets for the convenience of its members and arrange for the transport of their cars on the company's services, including Ireland and the Isle of Man.

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COMMENTS.



ALTHOUGH the Lights on Vehicles Bill has secured a smooth passage in Parliament thus far this session, all is not won. There are many agricultural districts that are exciting much local discontent against the proposal that vans and similar vehicles should carry lights, and M.P.'s representing rural constituencies are being inundated with protests against such suggestions. In view of this it is to be expected that the organisations of motorists will not relax the efforts already made to convince legislators that the dangers of evening and night travelling mainly arise from the slow moving vehicles. This is the experience of those who drive horses, and is by no means confined to motorists. The latter have to illuminate their vehicles at the rear; but the necessity certainly seems greatest in the case of those lumbering vehicles that are not seen in the darkness until any succeeding vehicle may be almost upon them. The objectors are urging that the presence of so many lamps about farm buildings will add to the risks already associated with such places. They also point to the habitual carelessness of farm hands, &c., in connection with wagons. Agreeing that such is the case the Lights on Vehicles Bill may be recommended as a piece of educational work in that respect; while the risks of lamps can easily be dismissed in view of the improvements that have taken place in this department of industry since the advent of the car.

Motor Bodies.

IN fact, the coming of the automobile has had its effect in many ways, and has not only caused makers of lamps to direct their efforts to secure better results in their productions, but other trades have been incited to more intelligent efforts. No one can visit a motor-car show without recognising the impetus that the mechanical carriage has given to the body-building industry. Until the modern motor movement began carriage builders had managed to run in a well-defined rut, and innovations were few. Standard lines had to be followed, and departures from the conventional were regarded with ill-favour by the trade, and often with contempt by the customers. But the new conditions brought out by the motor-car have altered that attitude, with the result that a comfort and convenience is being given to carriages hitherto unknown. An inspection of some of the vehicles now being exhibited at the Agricultural Hall reveals a luxury in the way of internal arrangements that the carriage builder of two decades ago would have scorned. New designs, finer outlines, and a general all-round development are recognised as necessary by British carriage builders determined to keep in the front rank so far as the international outlook is concerned.

Ferry and Bridge Tolls.

THE Motor Union is now engaged in investigating five cases in which it has been alleged that the tolls imposed are excessive. One is the Floating Bridge from Devonport to Tor Point, which is governed by a very ancient Act of Parliament; at present 2s. 6d. is charged for a car weighing under one ton, which covers the return journey if made on the same

day. Another is the Saltash Ferry, where the Saltash Corporation have increased the charge from 1s. 6d. to 2s. 6d. for cars carrying more than two persons. Complaints have also been received by the Union as to the charge of a shilling made for each time of crossing the bridge at Goring-on-Thames. The charge made for crossing that between Lymington and Beaulieu (Hants) is also considered to be excessive. The facilities for the transit of motor-cars when crossing from New Holland to Hull and *vice versa* are the subject of negotiations between the Union and the Great Central Railway.

Water by the Roadside.

ONE of the difficulties of users of steam wagons in the past has been that of obtaining a supply of water in the streets. Taking water from the troughs dedicated to horses has brought the drivers into conflict with local authorities, and it was with satisfaction that we were recently able to announce that the Metropolitan Water Board was preparing a scheme which should relieve users of such vehicles of anxiety. Necessarily any plan of such a nature would have to guarantee the ratepayers against preferential treatment being accorded to any particular section, and the proposals now made by the engineer to the Water Board deserve credit as an effort in that direction. The idea is to erect at central and convenient spots a series of penny-in-the-slot machines from which water may be taken for steam vehicles. No great delay need arise before these are placed in position.

The Exhaust Gases.

THE tests that have recently been carried out by the Royal A.C. in connection with the Vapour Emission Competition revealed the fact that some of the cars were emitting an excess of carbonic oxide gas, and now it is pointed out that in cases where cars give out more than 2 per cent. of this gas they are objectionable to the public. The Club is prepared to undertake the necessary test of any car that may be submitted to it, to take samples of the exhaust gases, and to report the results of the analysis. Carbonic oxide (represented by the formula CO) is the lower oxide of carbon. It is colourless and transparent, has an unpleasant odour, and is poisonous. It is slightly lighter than air, having a specific gravity of .968. The particularly obnoxious nature of this carbon oxide is well known. A feeling of discomfort and headache may be produced by inhaling it. When the engine is running and the carburettor is being adjusted, it is advisable that the doors of the motor garage should be open, so that plenty of fresh air should be admitted.

Scotch Law.

DOUBTLESS the Scottish Automobile Club will keep watch over the proceedings of the annual general meeting of the Convention of Royal Burghs, which has been held in Edinburgh. Here many of the authoritative persons from various parts of the northern kingdom have assembled to discuss matters of varying importance. Two debates have occurred in which motorists claim as much interest as other people. One had reference to the imposition of a new tax on all mechanically-

propelled vehicles; the other was concerned with the recent decision of the Court of Justiciary to the effect that magistrates in Scotland have no jurisdiction to try offences under the Motor Car Act. With regard to the former matter it was ultimately decided to delay a vote for a year—a wise proceeding with which all motorists will have agreement; and on the second point a resolution was adopted in favour of such offences being brought before the magistrates. The Assessor for Ayr, who introduced the motion, declared that as the magistrates had the regulation of the roads and had to get up the cases, it was but reasonable that they should try the matters. To our mind these are just the reasons which should confirm the view of the higher legal authorities, for it is always well to separate the dispensers of justice from those who have the power to set the machinery in motion.

A Steam Car at Flood Time.

If there were ever any motorphobes in the city of Alleghanny, Pennsylvania, U.S.A., they probably revised their ideas after the great flood which recently occurred there. Never were means of swift and sure transportation more needed than when the Alleghanny River commenced to overflow its banks and to inundate a part of the residential district.



Although warnings there had been in plenty that a flood was imminent, it was not until the water commenced to course through the streets that people thought of abandoning their homes and seeking shelter on higher ground. Then they found that the means of escape at hand were hopelessly insufficient. Those who had obtained possession of boats were charging a guinea a head to carry people to places of safety. Empty boxes, planks and all kinds of household furniture were pressed into service as rafts. In many instances these frail craft were swept out into the river, with the result that a score of lives were lost in this way in the vicinity of Pittsburg alone. Just at the moment when all was confusion Mr. H. I. Cashman, of Pittsburg, appeared on the scene with his White steam car. He had driven over to Alleghanny merely out of curiosity, but on arriving there he saw at a glance that he could use the car for service. Accordingly, he drove into the streets along the water front and carried load after load of people to places of safety. As the flood increased he retreated gradually from street to street and it was not until night fell that he ceased his hazardous work. His car suffered no harm from this amphibious service, and he gained not only the thanks of the authorities, but also the gratitude of the people.

Roads Again.

POSSIBLY some of our readers will have a feeling of alarm when they learn that a conference is to be held in London next week, when eight papers will be read, or taken as read, on the subject of Roads. Engineers' societies, ratepayers' associations, rural councils, motoring organisations, and, in fact, everybody talks of roads. Tests of materials, trials of dust-layers, learned disquisitions on Continental methods, and general advice as to how to improve matters are as frequent as changes in the weather; but the dust rises with the coming of the car, the cost of maintenance advances, and the grumbles become universal. Surely we have nearly come to the end of the talking period, and the time for practical demonstration is near at hand. Elsewhere we give the programme of the conference, from which it will be seen that three of the papers have the word "could" in their titles. The word "must" ought to be substituted; and then the National Dustless Roads Committee might get to business and justify itself. But with the multiplication of committees and the duplication of organisations dealing with the matter the roads will soon be strewn with as many impossible notions and lost hopes as would constitute a nuisance almost equal to the dust it is sought to allay. Sir John Wolfe Barry will take the chair at the forthcoming conference.

State Aid in the United States.

It is certainly a remarkable coincidence that almost contemporaneous with the holding of this conference the annual convention of the American Roadmakers' Association has been taking place at Pittsburg. There were 2,500 delegates, representing no fewer than thirty-eight States of the Union, and it was reported that 1,151 miles of road have been improved under the State Aid law, by which wide and sound roads are being encouraged. One of the speakers—State Road Commissioner E. C. Hutchinson—said that "State aid for road improvement has done more for our State (New Jersey) than any law ever placed upon the statute-books. It has increased the value of our farms, and has added not only to the pleasure and comfort of our farmers, but to that of the city men who have bought farms and built large country mansions along the line of our improved roads, thus increasing the rateable property by millions of dollars." We commend this to the notice of Mr. E. J. Lovegrove, who is to bring the question of State aid to the notice of next week's conference. The recognition of main road making and maintenance as a national matter must become a plank in the motorist's propaganda platform.

The Revival of the Toll Bar.

ALTHOUGH the Renard road train is not seen in the Agricultural Hall building, the public has shown a keen interest in this means of transit, and the vehicle has made many trips daily in the square to the rear of the Minor Hall—which, by the way, is to be utilised for the extension of that section of the building. On Monday evening the subject was considered by experts at a meeting of the Society of Engineers, when Messrs. B. H. Thwaite and R. F. Thorp read a paper on the system. The authors, having traced the evolution of the mechanical road transport system from its practical introduction in 1820-40, went on to say that the success of Stephenson's railways and the railway boom of the forties in their combined effect suppressed all interest in road motor coaches just as they did in the case of stage coaches. Since the passing of the Act of 1896 the expansion of the motor-propelled road transport vehicle in industry had been marvellous. Merely taking the application of the motor to the metropolitan buses, startling figures were obtainable. Unfortunately, the application of the motor to omnibus vehicles had been too hurried and too rapid, and but little real progress had resulted. The economics of transport work had not been properly studied and respect for the surface maintenance of our roadways had been considered to be a negligible quantity. Doubtless the

tendency of modern transport inventions to return to the road would be followed eventually by a revival of the toll-bar system, and it was very probable that the tolls would be proportionate to the wear and tear characteristics of any given mechanical road transport system. Indeed, that would only be fair. It would, in the opinion of Messrs. Thwaite and Thorp, indirectly provide a premium for the best designed vehicular system.

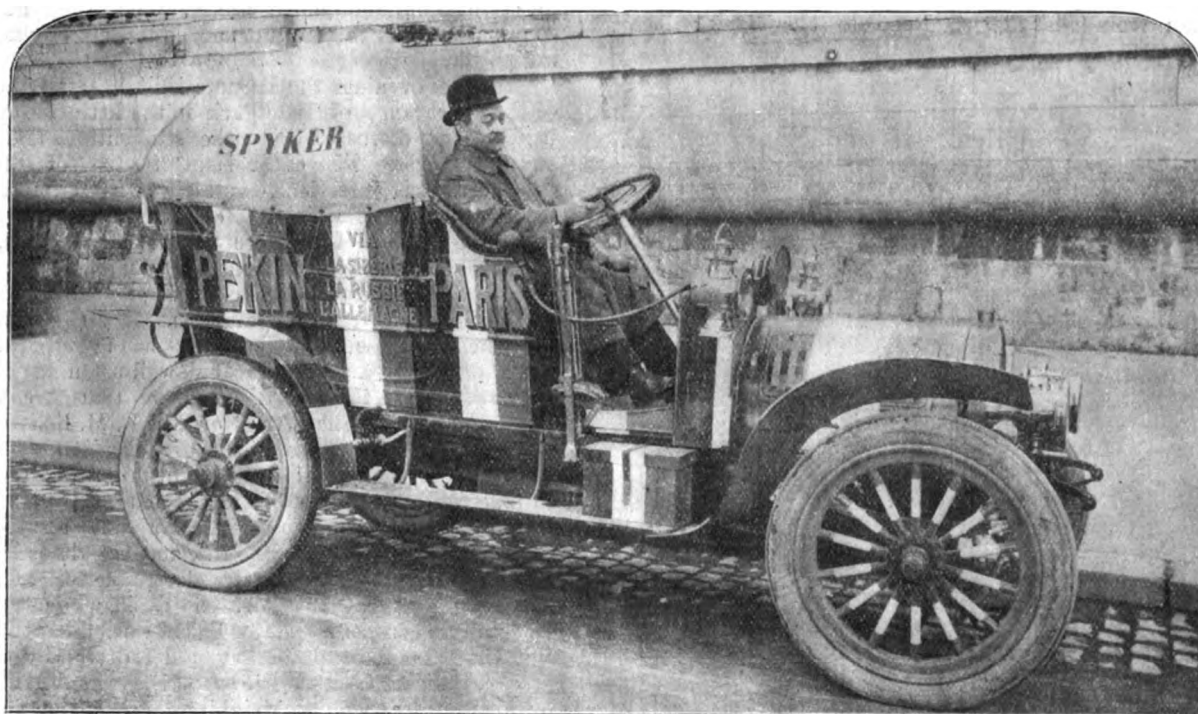
Taxation.

SUCH suggestions may sound strangely on our modern ears; but there is no doubt that the whole question of the cost of roads will shortly come up for revision, and motorists will have to be wary in declaring themselves with regard to the sources and the scope of taxation. On Thursday next, at the annual meeting of the Association of Municipal Corporations, a proposal will be laid before the delegates by the Legal Committee in favour of the additional taxation of motor-cars. Then, too, we have the usual crop of Budget rumours associating the automobile with the Chancellor of the Exchequer's raid upon the pockets of the people. To these latter, however, little credence is given by those who know how Mr. Asquith and several of

notice that the time for renovation has come. Otherwise the continued use of the cover may injure the outcrop of cord. Verily in this case "a stitch in time saves nine."

Protecting the Public.

WITHIN the past ten days the Motor Union has secured the conviction and punishment of two persons guilty of offences against users of the road. The first case was one of obstruction, the second of assault. The obstruction case was heard at Edgware Police Court, and resulted in a carter being fined 10s. and 7s. costs, or fourteen days' imprisonment. Earl Russell was driving his Daimler car between Finchley and Child's Hill, and had for a passenger Mr. Rees Jeffreys, Secretary of the Motor Union, when a carter held them up for ten to fifteen minutes by refusing to move his own vehicle and so allow the car to pass; he also declined to give his name and address. Fortunately a mounted patrol appeared on the scene and required him to give way, and the police subsequently took out a summons. Mr. Rees Jeffreys appeared as witness in support of the summons, with the result mentioned above.



M. C. Godard on the 40-h.p. Spyker Car he will drive in the Pekin-Paris Trial.

his colleagues have studied the automobile question from the practical as well as the theoretical aspect.

Care in Minor Matters.

PERHAPS in no pastime or business does the neglect of little things play such an important part in comfort and happiness as in motoring. And it is the small matters that are often ignored, with consequent loss and worry. To guard against a carelessness that seems fairly general several motor-car makers issue elaborate books of instruction, and the constructors of tyres are equally thoughtful. The demonstrations in cord tyre making at the Agricultural Hall may be regarded as part of the education of the "complete motorist"; and although visitors have been particularly struck with the cording arrangement, the subsequent process is also of importance. After cording a covering of rubber is applied and the beads attached. In the tread a strip of red rubber is inserted to act as a warning when the cover needs immediate repair. The wearing of the rubber of the tread to that point is a

These cases make the seventh successful prosecution for obstruction, and the sixth for assaults on motorists, obtained by the Union during the past nine months.

The Speed Limit at Ware.

THE inquiry held by the Local Government Board into the application for a speed limit of ten miles an hour through the streets of Ware does not seem to have resulted in any confirmation of the view taken by the Urban Council of the place and officially proclaimed through the County Council of Hertfordshire. The town is situated at the junction of several main roads—the main roads from London to Cambridge, from Hertford to Bishop Stortford, and from London through Ware to the Great North Road at Stevenage. There is an ever-increasing number of motor-cars passing through to get to the main roads beyond, and owing to the streets being extremely narrow and the local traffic being of such a peculiar nature, the applicants were emboldened to make the application. But the Superintendent of Police, who was called in support

of the application, gave very good reasons why it should be refused. There were, of course, isolated cases where motorists drove furiously, but, speaking generally, he agreed that motor-cars were driven through Ware at a reasonable pace, and that since warning notices had been put up the drivers had slackened down and generally driven carefully. The replies to several questions were exceedingly interesting, and the Inspector remarked that the Superintendent evidently preferred the present elastic power of dealing with anyone driving dangerously to the ten-mile Order wanted by the Urban Council—a view to which the witness assented. The witnesses against the application included the Rev. W. Errington, rector of Hunsden, the Rev. George Rowley, rector of East Wick, and Mr. P. A. Sharman, the hon. secretary of the North Herts A.C., and there appeared little doubt but that the application will be rejected.

The World on Wheels.

ALDERMAN IVEY gave an address the other evening, at a meeting of the West Ham Burgesses' Association, on "Roads and Rails," in the course of which he recalled some interesting information with reference to the world on wheels.

He mentioned that the first London omnibus was started in 1829, and ran from Marylebone Road to the Bank; local



A View of some of the Exhibits in the Aero Club Section of Cordingley's Show.

interest might have been excited by telling of the adventures of the motor-bus constructed in the locality by Hancock, and put into service between Stratford and Paddington in those pre-Victorian years. The first Metropolitan tramway was laid along the Whitechapel Road in 1872. Since then locomotion has completely changed its form, and even now finality has not been reached. The coming of the motor-bus has effected another change, to which Alderman Ivey only referred in order to dismiss it as an expensive method of conveyance as compared with the tramcar—a point of view that he may modify ere the close of the present decade.

The Show Catalogue.

THE fact that the Catalogue of Cordingley's Motor Show and Aero Club Display contains the names and addresses of more than 400 firms and persons interested in the motor-car and aeronautical developments of to-day lends

value as well as interest to that publication, which extends to nearly 200 pages, and constitutes a useful directory. It is published at sixpence, and will be sent post free for tenpence to any address in the United Kingdom on application to Messrs. Cordingley and Co., 27-33, Charing Cross Road, London, W.C.

THE AEROPLANE DISPLAY.

WHILE heavy vehicles and other terrestrial things have attracted attention on the ground floor of the Agricultural Hall, London, this week, men of flighty ideas have demonstrated their higher hopes in the Berners Hall and the extensive Arcade Gallery. Just as at one of the earlier Cordingley Shows the coming of the motor boat was foreshadowed in an artificial lake in the Gallery, so at the present exhibition we are offered a glimpse into one of the most interesting problems of locomotion in the future. Man has made conquest of land and sea, but the domain of air he has not yet won, as was pointed out by Mr. Bennet Burleigh in his article on the Aero Club Display in the "Daily Telegraph" on Monday. But, continued the famous War Correspondent, who was an interested visitor on the opening day, the Aero Club "has grafted upon the magnificent automobile show which was opened at the Agricultural Hall, Islington, on Saturday, an exhibition of apparatus designed to solve the whole problem of aerial navigation. The collection is fitly associated with a Motor Show which sets forth the latest development of the marvellous wheel, the origin of which, though lost in antiquity, has done so much for civilisation, and which has now been brought forward in conjunction with the newest and lightest of engines for developing power."

In the evenings the Berners Hall has presented something of the appearance of Hyde Park in the little groups of men who have eagerly discussed each other's inventions and criticised one another's ideas. The enthusiasm of some of these inventors of airships is infectious, and it was interesting to see a sceptical person, weighing eighteen stone, gradually converted to the belief that ere he was much older, and heavier, he would be able to journey home above the houses while motorists followed the devious roads planned by local authorities on *terra firma*. General opinion amongst those who have been prominent in these little gatherings has favoured the bird as the model of flight—a very natural as well as an ancient thing to do, for was it not in the days of Xenophon that Archytas invented a pigeon he hoped would fly. Now Mr. R. M. Balston and Mr. José Weiss have given us embodiments of their views of aerial navigation in the form of a bird of nondescript order and of the albatross respectively. Mr. Balston's model is the largest in the display, measuring 17 ft. from tip to tip. Major R. F. Moore, too, relies on the idea of the flight of birds, and has devised airships with flapping wings and a miniature electric motor. One of the most admired models is that of Mr. Ezio Tanio, who has a steel working model of an aeroplane; Major Baden-Powell has three; Mr. A. V. Roe shows no fewer than five models driven by propellers, and Mr. W. Gabell attracts notice with his mechanical kite to be driven by an acetylene engine weighing 1½ lbs. and measuring 7½ in. in length. Much attention is being given to the air glider shown by Mr. W. Cochrane, whose previous endeavours in connection with motor-boat propellers have been shown at other Cordingley exhibitions. His glider is not unlike a torpedo with propellers at each end and fitted with bird-like wings. This is constructed of aluminium and weighs only 4½ lbs. Mr. Cochrane is a believer in the wing action and shows corrugated aluminium wings modelled on the exact form of the feather in the wings of birds. These are attached on light canes, and when struck upwards or downwards through the air suggest an excellent parallel with the motion of a bird's wing.

Probably the exhibition marks a distinct period in the history of aerial navigation, and, although no great flights may be expected in the trials to be held in the Alexandra Palace grounds on Monday next, it is evident that experts are now seriously studying the subject, learning from each other's failures and being guided by the accumulated knowledge contributed by all the countries of the world. For the thirst for aerial flight is as international as the motor-car.

AN examination of the motor-car drivers employed by the Duke of Portland has been held at Welbeck.

THE VAGARIES OF MOTOR VEHICLES.

BY A. J. MCKINNEY.

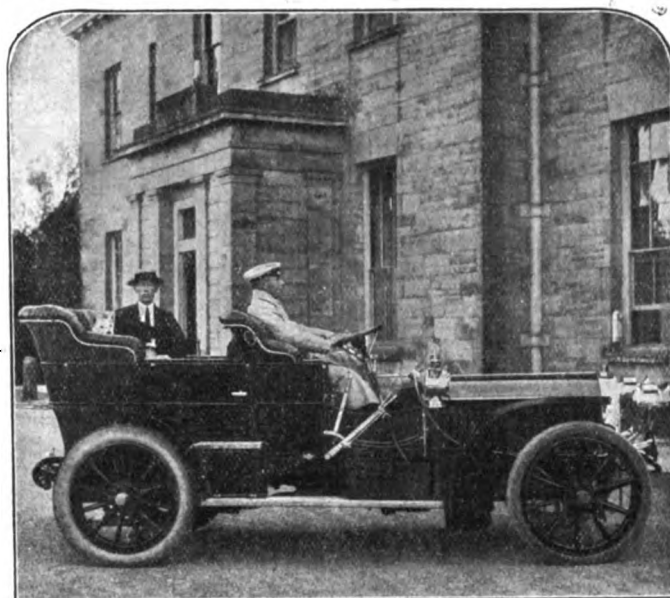
THERE is a funny story told of two men who began disputing about the appearance of a particular tower, each maintaining that it was different to the description the other gave. Very shortly they fell to fighting and were hard at it until a passer by enquired the reason. On learning the cause he rebuked them, pointing out that both were right but both were also wrong. Each had correctly described the tower from his point of view, but had not taken the trouble to look at the other side. It is much the same with motoring. Not so long ago most people were anti-motorists, and obloquy and derision were the mildest treatment extended towards the more enlightened section of the population. In another way now there are still two very pronounced classes of people, though fortunately the quarrel is not a personal one. These concern the relative point of view taken of motor vehicles themselves, one class pointing out how reliable they are and the other affirming the direct opposite. Both of course are right, within limits; but the question must be viewed generally, since no individual cases can form universal law. Allowances must be made for many stoppages which are more or less voluntary or the driver's fault, while at the same time no car can be guaranteed to be absolutely immune from trouble.

The motor vehicle is a wonderful illustration of the Latin proverb "multum in parvo," for the number of component parts of a complicated and delicate nature is large. The question appears at first sight to be very simple, only to mount an engine and couple it up to the driving wheels. Yet what a record of disappointment, trouble and disaster the history of this movement affords; the difficulties connected with the steering, cooling, transmission, ignition, carburation, &c., are fresh in our minds, where they have been burnt in by the hot iron of bitter experience. Nowadays the picture is very different, for it is a fairly common thing for cars to run 1,000 miles and more without stops arising from any inherent fault or imperfections. Still, in spite of the progress made in motor vehicles, and the general high standard of skill amongst motorists of to-day, it must be said that there is some ground for those who say that these vehicles are as yet by no means absolutely reliable. There are so many things that can go wrong, trivial in themselves yet enough to cause a stop, so that there is foundation for the assertion of the "uncertainty" of motor vehicles. Yet after all the question is a relative one. No one, for example, would be foolish enough to demand or expect absolute certainty, for even railway trains are liable to break down in spite of their long history and the favourable conditions under which they are run. Therefore, when a fair comparison is made, allowing for the difference in the circumstances, it will found that the motor vehicle is not such a bad second after all.

Having admitted this, we may glance at some of the reasons to which stoppages and delays are sometimes due. The Rajah of the Kanker State, India, when he bought his first motor-car sent one of his native servants to Bombay to learn to drive it. This man, when he returned, had profited to such an extent that he had to "set the levers so, to turn the handle and drive." No wonder that under these conditions the car stopped through no fault of its own. On the other hand, in these enlightened times it is safe to say that a large percentage of the stops is due to the little idiosyncrasies of the details included under the term of motor-car. The day will come to all, even the best behaved of cars, when it seems lifeless and pulls badly. Sometimes it is the engine which is the cause of the trouble, as, for example, when a particular car I knew became very noisy and seemed to drag heavily. Inspection showed that the holding-down bolts on one cylinder had worked slack so that the piston was binding in it. In another case the piston rings broke continually every few miles, fortunately without doing much harm. When made of another alloy they proved perfectly satisfactory. An engine in which the combustion head was separate from the cylinder suddenly blew it right off, sending it upwards through the bonnet, while another of the same make could never be made to develop more than about 20

per cent. of its original h.p. after being fitted with a new piston. When the hydraulic test was applied the cause was seen, the piston-head was porous. Owing to a want of appreciation on their part of this possible cause, two men's time for five weeks had been wasted. Two other causes of sudden loss of compression occurred when the centre of a sparking plug was shot right out, and where an inlet valve of the light automatic type broke. When the valve was replaced a start was hardly made when the compression went off again. Baleful language issued from the driver's lips as he undid the valve caps, of which there were two, and found the valves were both sound. Further investigation showed that the spring which belonged to the former valve had shot up one branch of the induction pipe and run down the other to the second valve, which it had kept from closing.

The clutch is another member which can give a great deal of trouble if so disposed. The breakage of this article put one of the competitors in the last T. T. race in the Isle of Man *hors de combat*. Slipping, fierce, and locked clutches are too well known to need reference to, and fortunately the newer types of disc, metal-to-metal cone, and other patterns have practically exterminated this hydra-headed terror. Like a snake in the grass the innocent looking gear-box has been, so to



Col. Colin Campbell, of Stanmer Park, Falmer, Sussex, in his 40-h.p. Six-cylinder Napier Car. Col. Campbell, who married a sister of the late Lady Curzon and the Countess of Suffolk, for some time owned the first Napier car ever built.

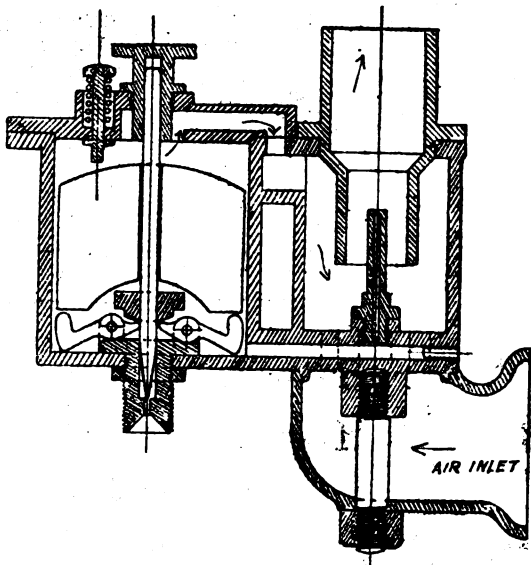
speak, known to raise it crested head and cause worry to the poor human at the wheel. One car was afflicted with a slipping striker which would not stay in the correct position more than an hour or so. The top speed (direct drive) could be put in and the car would run along sweetly, when dur-dur-dur-dur-dur, and the dog clutches would jump and jar. The trouble is still uncured.

(To be concluded.)

BODY design is progressing steadily, what with the special body-building departments opened by car manufacturers and the attention given to the requirements of motorists by carriage builders who have added motor-body work to their older established departments. One of the most distinctive bodies in design, and also one of the most comfortable in practice, is the new one just produced by Maythorn and Son for Mr. G. S. S. Monck, chairman of Horch Motors, Ltd., to that gentleman's own design. A feature of the design is that it gives the Horch car a most comfortable driving seat, a little matter which will appeal with force to those who drive their own cars.

THE CRAVEN AUTOMATIC CARBURETTOR.

WE give herewith a sectional view of a new automatic carburettor which has recently been put on the market by Messrs. Cravens, Ltd., of Darnall, Sheffield. The device differs but little from other carburettors, it having a float chamber, petrol spraying chamber with choke tube above, and single air inlet below. The particular feature which forms the subject matter of the patent, and which is claimed to effect a considerable economy in petrol consumption, is the connection from the top of the float chamber to the spraying chamber, indicated by arrows. This connection is not limited in size, and, as a consequence, the patentees claim that instantaneous action is secured without any "time lag" entering into the movement. The petrol emerges from the jet under a head or pressure determined by the size of the atomising sleeve, the suction of the engine, and the opening to the atmosphere. The latter can be fitted with a regulator, for setting to the correct percentage of fuel to air required—this being found by trial at a slow engine speed—so that when the vacuum round the jet increases, due to the acceleration of the engine, the



vacuum between this point and the air opening—and, consequently, on top of the petrol in the float chamber—also increases in the same proportion, and the petrol emerges from the jet under the same proportional head or pressure, viz., the difference between the amount of vacuum in the two separate compartments, this difference being constant at all speeds of the motor. The larger the opening or entrance for air, as compared with the bore of the sleeve around the spraying nozzle, the greater the difference between the amount of vacuum in the float and spraying chambers, and, therefore, the greater the pressure causing the petrol to issue from the jet. With a given sized jet, if the mixture contains too great a percentage of fuel, it is only necessary to reduce the air opening by the regulator until the correct mixture is obtained. The carburettor will then supply this mixture at any engine speed without any further alteration, irrespective of the position of the carburettor throttle. There is a limit to the permissible variations between the area of the air sleeve and the exterior air admission opening, beyond which the column of petrol issuing from the jet would be at too great a velocity. The new carburettor is being made in sizes suitable both for motor-cycles and cars.

THE Ontario Motor League is being formed in Canada to carry on in the colony the "good roads movement," which is doing such useful work in the United States of America.

A HILL-CLIMBING EXPEDITION.

A HILL known as Hog Trough Hill, on a little-known bye-road from Cudham to Brasted, having hitherto enjoyed the distinction of never having been surmounted by a motor-car, an interesting expedition thereto was made on Thursday last week, the participants including a 35-h.p. Daimler, a 30-h.p. Westinghouse, two 40-h.p. Spykers, a 20-28-h.p. Spyker, and a 24-40-h.p. F.I.A.T. The first car to attempt the ascent was the F.I.A.T., with five aboard. The road itself looks easy enough from the bottom, but after about a sixth of a mile it turns suddenly, and ascends at a gradient of 1 in 4.3. The driver of the F.I.A.T. had not reckoned upon the suddenness of this turn, nor the uneven surface of the road. Changing to his first speed too late for service, his car came to a full stop. Thereupon he backed down to the foot of the hill again to make a second attempt. The 40-h.p. Spyker, with five people up, was the next to essay the climb. Proceeding on top speed to within a dozen yards of the turn, a change was made on to second, and on this gear the steep, rubbly hairpin bend was successfully negotiated. Following the Spyker came the 35-h.p. Daimler, which breasted the ascent very easily up to the difficult corner, and thereafter dropped into first speed, on which it completed the rest of the journey without difficulty. A second Spyker, with four aboard, came next, and did the whole journey on second. Then followed the F.I.A.T., this time with only two passengers, and, of course, romped up quite easily, changing to first in ample time to meet the most difficult part of the road. The Westinghouse, a formidable-looking car, with four up, dropped into first speed some distance down the hill, and thus had plenty in hand to finish. The last to make the hill was the 20-28-h.p. Spyker, with two aboard, but this was unable to equal the record of its predecessors by keeping on second speed all the time—it being obliged to drop down to first. The particular hill on which this climb was made is known as Cudham Church Hill, and is the continuation of the road from Downes to Cudham. A notice board of the District Council at the top of the hill warns vehicles against descending without a skid pan, and officially gives the grade at 1 in 4.3.

THE committee of the Auto-Cycle Club have slightly modified the conditions of the forthcoming International Auto-Cycle Tourist Trophy contest. The tank must now hold at least one and a quarter gallons, as against two gallons under the old rule. In order to encourage the entry of multi-cylinder engined machines it has been decided to class such machines separately, and the consumption of fuel allowed to them will be one gallon to each seventy-five miles.

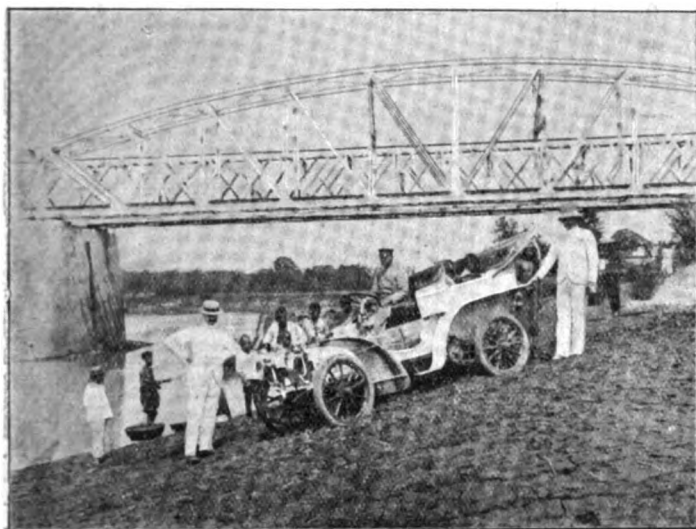
MR. H. T. BURBURY, driving a steam car, called at the Bridge Garage, Leeds, to have a slight repair done. He himself superintended the work, which consisted of soldering one of the pipes from the petrol tank, and in doing this he loosened one of the couplings without, apparently, first releasing the pressure in the petrol tank; the result was that a jet of spirit was forced out and saturated his clothing, also catching fire from the heated burners. Prompt assistance was at hand, and with the aid of a chemical fire extinguisher and sand the fire was quickly overcome.

THE first 1,000 miles Reliability Trial held in Ireland under the auspices and official observation of the Irish Automobile Club has just terminated, when Capt. Deasy, on a 24-h.p. Deasy car, completed the distance of 1,024½ miles. The mileages of the daily runs were as follows:—Dublin to Cork, 173½; Cork to Killarney, 337; Killarney to Lisdoonvarna, 517; Lisdoonvarna to Sligo, 706½; Sligo to Garron Point, 881; Garron Point to Dublin, 1,024½. The route taken was thus a complete tour of Ireland, and every day the car ran successfully and to the complete satisfaction of the official observers, notwithstanding the heavy and rough surface, the Irish roads, especially at this time of the year, providing an exceptional test for any car.

SOME CURRENT TOPICS.

The Cordingley Show.

The attention of the automobile world has this week been centred on the Agricultural Hall, where the twelfth of the annual exhibitions organised by Mr. C. Cordingley is in progress. The Show was unfortunately not in quite so advanced a state on the opening day as was desired, owing mainly to the intervention of the Easter holidays. By Monday a considerable improvement was effected, although even then several interesting productions, for which space had been taken, had not put in an appearance, amongst these being the Rennie cars, whose absence is due to a serious fire at the company's works, and a new steam 'bus which the Yorkshire Steam Wagon Company were unable to complete in time. Notwithstanding this, however, the exhibition is marked by the appearance of quite a number of new cars, both British and Continental. Of the former we may mention the Roydale and the All-British, the eight-cylinder motor of the last-named being especially worthy of notice; while notable among the new-comers from Germany are the Adler, Nacke and Horch cars. Another feature of the Show is the display of petrol-electric vehicles, those on view including the Auto-Mixte, the Mercedes-Mixte and the Hart-Durtnall, the latter company showing a double-deck 'bus, the quiet running of which augurs well for its success.

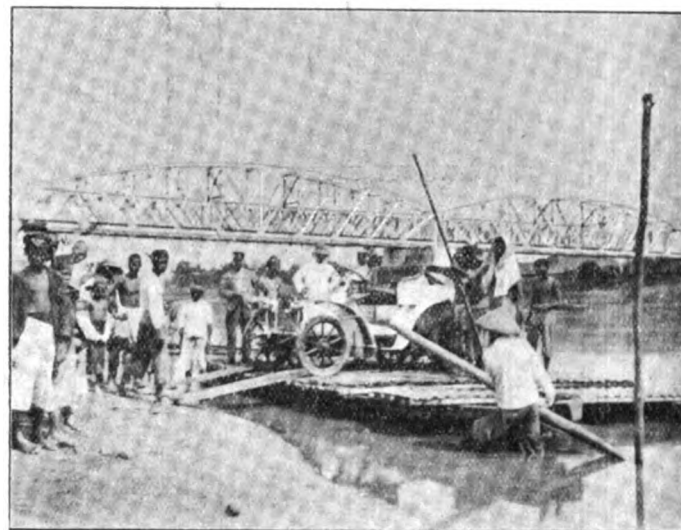


Waiting for the Ferry.

getting a car ready for a projected run, and when this was done, and everything was ready for a start, all were hopeful, but not confident, of getting home without a breakdown of one kind or another, for it was rarely that a spin of fifty miles or so could be undertaken without some incident arising. Many are the tales that could be told of experiences on the road with these early machines, and, although not without their annoyance at the time, we believe that the older generation of motorists look back with pride on the part they took in the initial stages of educating the public to the coming revolution in road traffic. Nowadays long excursions are undertaken and hardly any fears are entertained as to the possibility of making a non-stop run of a hundred or more miles. On the contrary, a motorist would be rather disgusted should his car fail in such an attempt, even with no more preparation than would be given by filling up with petrol, oil and water.

Experiences Invited.

This degree of reliability is one of the most evident marks of improvement in the industry. At the same time we have not yet reached the point when accidents cease from troubling, and those who served their apprenticeship when a repair had to be made every few miles still find occasional opportunity of putting to useful service their knowledge of the derangements motors may be subject to. Because an accident is unlikely its



Disembarking from the Ferry.

[De Auto.]

MOTORING IN JAVA.

Six-Cylinder Cars.

The tendency of the times is seen in the increasing number of six-cylinder cars which are making their appearance on the market, the 1907 Cordingley Show marking the introduction of several new vehicles of this type, among them being the S.P.A. and Florentia, two Italian productions of the highest grade. Other exhibitors of "sixes" include the Star Co. and Messrs. Brown Brothers, Ltd., while those interested in seeing what can be done in the way of producing a six-cylinder car at a moderate price should by no means omit to inspect the "Hurmid" and "Malcolm" vehicles, both of which find a place in the Great Hall. This brief survey by no means exhausts the list of novelties and attractive exhibits, a report of some of which appears elsewhere in the present issue.

Roadside Repairs.

There are few if any parallels to the wonderful strides that have been made in the short space of ten years in automobilism and in automobile construction. The modern luxurious and silent running car bears but the faintest semblance to the troublesome yet pleasurable vehicles with which the pioneers of the movement enjoyed themselves in more ways than one. In the early days of the Act considerable time had to be spent in

seriousness is not lessened, and although breakdowns may be few, that makes it no easier to get home when one does occur. It is in cases like these that the ingenuity of motorists is called into play. It may be a broken universal joint that has caused the stoppage, or a broken cardan shaft, a stripped pinion, or even a much smaller and simpler breakage. We know of one instance where the cotter pin holding the contact maker to the half time shaft was lost—owing to it not having been sufficiently firmly fixed in place—allowing the latter to revolve without carrying with it the necessary make and break device of the ignition and so stopping the engine. It was late at night, and a search through the tool box brought to light nothing that would replace the lost pin. Fortunately, a cottage was near, where the only likely thing that could be obtained was a French nail, and it was by means of this temporary repair that home was safely reached. There must be scarcely a motorist who at one time or another has not had to exercise his ingenuity in consequence of a breakdown, and it would, we feel sure, be of interest to other readers of the *M.C.J.* if those who have been called upon to make roadside repairs would send us a brief account of the difficulties they have been in, and the way they have surmounted them to enable their destination to be safely reached.

CONTINENTAL NOTES.

A Revolution in Motor-Boat Propellers.

Advices from Brussels suggest that a radical revolution in the method of propulsion of motor-boats will result from the invention of a propeller of novel design by M. John P. Koch, of Antwerp. The propeller, which, it is asserted, will produce abnormal speed, is of huge dimensions, its circumference equalling the girth of the craft at its bulkiest point. By the rapidity of its revolutions the propeller, which is located in the front of the boat, produces a perfect vacuum, into which it rushes, dragging the hull, which is almost wholly submerged, after it. By reason of the vacuum produced the resistance of the element is claimed to be reduced to a minimum, while there is also a complete absence of "cavitation" (stern suction). The boat about to be built is to be fitted with a propeller 7 ft. in diameter, and a motor of 100-h.p.; the length over-all will be about 45 ft. It is hoped that the vessel will be finished in time to compete in the motor-boat races at Arcachon. M. Koch expects his boat to attain a speed of seventy-five miles per hour! Trials of the latest model were recently made in the lake at

motor-car from Paris to Nice in considerably less than 17 hours. He left Paris on a 60-h.p. De Dietrich at two o'clock in the morning, and arrived at the Place Masséna at Nice at 6.15 p.m., having covered the thousand kilometres (625 miles) between the two places in exactly 16 hours 15 min., or an average speed of nearly forty miles an hour. On the way he stopped only five times—a quarter of an hour at Avallon, half an hour at Lyons, a quarter of an hour at Orange, half an hour at Aix, and five minutes at Frejus. No trouble of any kind, not even a puncture, was experienced on the run.

The Pekin-Paris Trial.

Active preparations are being made for the great Pekin to Paris motor-car trial, which is being organised by "Le Matin," of Paris. At first it was proposed to select a route through Central Asia, but that idea has now been abandoned, and the route chosen will lie through Mongolia, Siberia, and European Russia. The distance is about 6,200 miles, and over roads which will severely test the reliability of the competing cars. From Pekin the line lies through Kalgan, Urga, Irkutsk on Lake Baikal, Kansk, Tomsk, Omsk, Petropavlosk, Kurgan, Zlatoub,



The 10,000 kilometre tour of France.—M. Van Marcke arriving in Paris at the end of his long trip on a Hotchkiss Six-cylinder Car.

Tervueren, near Brussels, and were, we are informed, highly satisfactory. The model, which is 4½ ft. long and is driven by a small electric motor of 1-16-h.p., travelled upwards of 20 ft. per second in a spin over a quarter of a mile, or at the rate of nearly fourteen miles per hour.

A Belgian Industrial Vehicle Trial.

A three days' trial of industrial motor vehicles organised by the Belgian Automobile Club commenced on Monday last, the competitors comprising a 20-22-h.p. Orion 3-ton lorry, a 30-h.p. Saurer 3½-ton lorry, a 12-h.p. Bovy-Dheyne 30-cwt. van, a 12-h.p. Bovy-Dheyne 10-cwt. van, a 20-24-h.p. Brillié 5-ton lorry, a Brillié 26-seated brake, a 24-h.p. Janvier 5-ton lorry, two 24-h.p. N.A.G. 5-ton lorries, and a Mauguy carrier tri-car. On the first day the run was from Brussels to Antwerp, 68 kilometres, on Tuesday from Antwerp to Ghent, 70 kilometres, and on Wednesday from Ghent to Brussels, 60 kilometres.

Paris to Nice in Sixteen Hours.

M. Sorel, the winner of the Pyrenees Cup last year, accomplished the remarkable performance on Sunday last of driving a

Kazan, Nijni-Novgorod, Moscow, Warsaw, and thence through Germany and Belgium to Paris.

Public Motor Services in Germany.

A company is being formed at Sellin to establish a public motor-car service between that town and various pleasure resorts in the district. It is also contemplated to establish similar services between Scharbeutz, Timmendorf and Travmunde.

Miscellaneous Items.

Originally announced to take place on April 28th, the Chateau-Thierry hill-climbing competition has been postponed until September 15th.—The Saxon Government has appointed a Commission to inspect the roads in Saxony over which the cars taking part in the Herkomer Trophy Contest will run, with a view to putting the same in good condition in time for the event.—Among the British firms which have taken space at the forthcoming exhibition in Madrid are the Daimler, Straker-Squire and Iris.—The 10,000 kilometre tour of France by a six-cylinder Hotchkiss was successfully completed on Friday last week, when a large crowd gathered in the Place de la Concorde, Paris, to welcome M. Van Marcke.

THERE are now thirty-three entries for the Tourist Trophy Race.

IN the reliability Trial of the Midland A.C. six out of thirteen cars obtained the maximum number of marks. Of these three were Siddeleys—a 30-h.p., 15-h.p. and 18-h.p. The others were a 30-h.p. Darracq, 28-h.p. Lanchester and 16 h.p. Star.

MESSRS. COLIN DEFRIES, LTD., have received an order from Messrs. Bewick, Moreing and Co., the well-known mining engineers, for a 24-h.p. Porthos car for shipment to Australia.

THE Britannia cars built by the Britannia Engineering Company, Colchester, are now being introduced into the United States, the first car having just arrived in New York.

THE County Motor Company of Grace Hill, Folkestone, is the new name of Messrs. Blenchley Bros. and Holman, whose good motor work is appreciated by many visitors to that resort.

THE Cadogan Garage and Motor Company, Ltd., Chelsea, inform us that they have decided to call their cars the Cadogan, and not the Leander, as stated in the catalogue of the Cordingley Show.

AMONGST recent purchasers of Daimler cars is Captain the Right Hon. Gerald Portman, late A.D.C. to Lord Curzon in India, who has ordered a 10½ ft. wheelbase 30-h.p. "Milverton" landaulet.

THE glassless motor goggle, known as "La Steno," is being placed on the British market by the Goldschmidt Motor Accessories Company, Ltd. By its use the draughts often associated with goggles are prevented, and "La Steno" should become as popular here as in France.

WE learn that during its daily run on Tuesday the 40-h.p. Siddeley car, which is undergoing a long distance reliability trial, succeeded, near Matlock Bath, in beating the existing long-distance record, which has hitherto stood at 4,007 miles. The total distance completed by the Siddeley car is now over 7,000 miles, only one involuntary stop having been recorded.

MESSRS. BOLSOVER BROS., LTD., Eaglescliffe, Co. Durham, after experimenting for two or three years with the various welding processes, have finally installed an oxy-acetylene welding plant with the most satisfactory results. By this means the firm are in a position to weld broken exhaust valves, cracked water jackets, crank cases, &c., at less than half the actual cost of new parts, the welded parts being in all respects equal to new.

COINCIDENCES are rather frequent just now down Reigate way, and one policeman at least is not pleased with their frequency. Good Friday was a beautifully fine day, and the air on the top of Reigate Hill being particularly bracing, a certain inspector thought that he would take a walk up the steep ascent and see how things looked from the top. Incidentally, as there were many motor-cars passing to and fro, he perhaps hoped to do a little business in the way of fine collecting. By a curious coincidence, an Automobile Association patrol also came to the conclusion that the air on top of the hill would be good for his health that afternoon, so he too, pushing his bicycle, strolled casually in the same direction. This is coincidence No. 1; now for the second. About the same time of day a constable on the Sutton-Reigate road decided to extend his beat to the Tea House near the top of Reigate Hill. Strangely enough, an Automobile Association patrol happened to be going in the same direction. A third constable in plain clothes was lounging aimlessly in front of the Tea House, apparently with no particular business on hand. An Automobile Association patrol, who seemed to have nothing better to do, was also in the neighbourhood. Now it will be seen that as the inspector moved on the Tea House in one direction and the constable in another, the three policemen met simultaneously with the three patrols. The inspector, like a true strategist, took in the situation at a glance, and decided that it was high time for afternoon tea. If he had had a keen sense of humour he might have invited the patrols to join him. But he preferred leaving them to watch outside, where, when this history closes, they were still waiting for further coincidences.

HERE AND THERE.

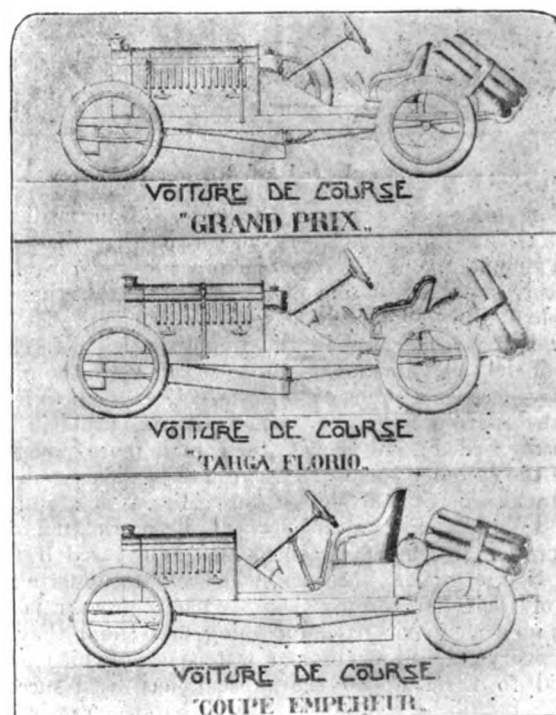
A NEW garage has been established at King's Lynn by Mr. L. E. Taylor. It is located on the London road and contains an inspection pit.

ENTRIES close on the 18th inst. for the Frome's Hill climb of the Herefordshire A.C. at ordinary fees, and at double fees on the 22nd inst.

APART from the aeroplanes at the Agricultural Hall, London, there is a suggestive balloon section, in which the baskets of new or famous balloons are shown by Messrs. Spencer Bros., Messrs. C. G. Spencer and Sons, Messrs. Short Bros., and Mr. A. E. Gaudron.

MR. J. D. SIDDELEY was recently commanded to attend at Sandringham, when Her Majesty the Queen expressed her great satisfaction with the new 30-h.p. Siddeley car which has been built for her by the Wolsley Tool and Motor Company, Ltd., and honoured them with a further order for a larger and more powerful car.

THE illustration reproduced herewith shows the designs of the special cars which Messrs. De Dietrich are building for the



three principal events this year, viz., the Grand Prix, the Targa Florio, and the Coupe Empereur, or Kaiser's Prize contest, and is a proof of the interest this firm are taking in these races. All three cars are different, as will be seen from the various sizes and positions of the petrol tanks.

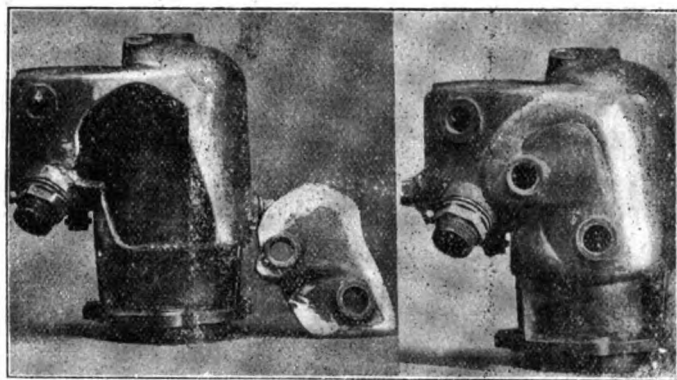
MESSRS. TANGYES, LTD., of the Cornwall Works, Birmingham, are introducing a new motor-car jack for vehicles weighing up to 35 cwt. The arrangement of the driving worm, which is provided with a sliding as well as a rotary motion, is a distinctive feature of the device. Having placed the jack in position under the axle, the head of the rack is lifted by the hand—an operation that automatically slides the worm out of gear. Immediately the head of the rack is released the worm falls into position and the car is then raised by a lever. The lowering is effected by merely reversing the lever till the head of the jack is free, when the rack can be instantly lowered. The Tangye patent motor-car jack has no mechanism likely to get out of order, is compact, light and strong, and adds a reliable device to the tool box of the motorist. We understand it is the intention of Messrs. Tangyes, Ltd., to bring out a heavier jack of similarly effective design for use with motor-omnibuses and heavy vehicles.

D.

IN the Haymarket, Edinburgh, the Peebles Motor Company are opening a new garage.

COUNCILLOR HAMPSON has suggested, at a meeting of the Blackpool Town Council, that an attempt should be made to limit the speed of cars to ten miles an hour on entering the town.

MANY motorists who neglected to take the precaution to run the water out of their tanks, radiators, and cylinder jackets during the recent frosty weather will be suffering the effects of the same, the frost having unfortunately cracked the water-jackets of their cylinders. The accompanying illustration (Fig. 1) shows an interesting view of a cast-iron water-jacket which has had a large-sized piece burst clean out by the frost,



Figs. 1 and 2.

the broken piece being shown alongside. Many will wonder why it is that the water-jacket is the portion that usually bursts, for, as a rule, it is connected to the pipes by india rubber connecting tubes, and it would at first sight appear that these should be capable of allowing for the necessary expansion. The reason, however, is that the water in the connecting pipes freezes first because of the small amount of water contained in the pipes and the relatively large amount of pipe surface exposed to the cold. When these are frozen the outlets of the water-jacket are hermetically sealed; and when, after a little more exposure, the water in the cylinder jacket freezes, the expansion usually forces out or cracks a portion of the casting. Fig. 2 is an illustration of the same casting, after having been repaired by the special process, which has recently been introduced by Messrs. Lea and Son, engineers, Runcorn, who are now undertaking the repair of cast-iron water-jackets. Their process is purely metallic, no cement nor patching being used; and they inform us that every cracked or broken water-jacket which has been submitted to them up to the present has been successfully repaired. It will be seen from Fig. 2 that the repair is very neat, and is scarcely discernible.

MESSRS. A. KEAN AND CO., who are interested in the motor business of Hereford, and have branches at Coleford and Cinderford, have established a garage in a new building in Union Street, Hereford, where they have ample facilities for assisting motorists passing through the city.

THE new motor house premises of the Royal A.C. have entrances at 108, Piccadilly, and Brick Street, and will be ready for occupation on the 18th prox. There will be accommodation for upwards of eighty cars, and it is the intention of the Royal A.C. to establish a laboratory there for the purpose of testing brake horse-power, carburettors, &c.

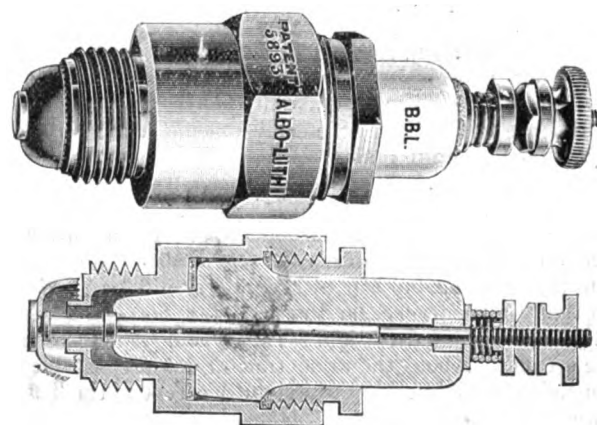
THE Gobron-Brillie Motor Company, Ltd., are making arrangements to start a service of motor-cars plying between London and Paris. This will probably commence on May Day, starting from the company's offices in Piccadilly, W., and arriving in Paris the same night at eight p.m. The route taken will be:—From London, *via* Maidstone, to Folkestone, and thence to Boulogne by boat; Boulogne to Montreuil, 27½ miles, and Montreuil to Abbeville, 25 miles, thence to Grand Villiers, 30½ miles; Grand Villiers to Beauvais, 18 miles; and on to Pontoise, 27½ miles; to St. Germain-en-Laye, 12 miles; and to Paris, 10½ miles; a total of 151 miles from Boulogne.

MESSRS. MARK AND CO., of 6, City Road, London, E.C., are introducing a new shock absorber, known as the Traffault-Hartford, for use in connection with the springs of motor-cars. It is constructed of spring steel throughout, and can be applied to any make of car.

FROM the Pope Manufacturing Company, of Hartford, Conn., U.S.A., come two artistically-designed catalogues dealing with the Pope-Toledo automobiles. Special attention is devoted to the Pope-Toledo model No. XV., which is a 50-h.p. vehicle, having four cylinders, with copper water-jackets and mechanically-operated valves located in the cylinder heads.

WE briefly referred in our last issue to the excellent report which the club engineer had made of the 14-h.p. Star car which Mr. F. R. Goodwin, of the Star Motor Agency, supplied about a year ago to the Royal Automobile Club. Mr. Goodwin has since sent us a copy of a letter he has received from Mr. J. W. Orde, the Secretary of the R.A.C., in which it is stated that the car was delivered in February, 1906, and was at once put into use for teaching members of the Club and members' servants the art of driving. "The log-book shows that the car has now run over 10,000 miles; number of lessons given, 552; number of candidates examined in connection with the Club's Certificates Department, 318. The cost of repairs and replacements to the mechanical portion of the car for thirteen months has been *nil*. At the end of the time it was deemed advisable to dismantle the car to ascertain the amount of wear on the mechanical parts, and I am pleased to inform you that the Club have every reason to be satisfied with the result of this examination. The gears show only the slightest wear, and the ball bearings to same are perfect. Regarding the engine only one of the big end brasses wants attention, the gudgeon pins being unmarked. The valves and springs are the original ones supplied with the car, and are in excellent condition. The chains and chain wheels are also in excellent order and apparently fit for a lot of work yet." Having in view the conditions under which the car has been run, the performance is an excellent testimony to the reliability and durability of the Star cars.

WE illustrate herewith a new sparking plug, known as the "Albo-Luthi," which has just been put on the market by Messrs. Brown Brothers, Ltd. As will be seen, it differs considerably from the ordinary pattern, the double dome protector preventing any fouling of the porcelain and misfiring owing to short circuits. The electrodes are of pure nickel, while the various parts are



made on the interchangeable system, and so fitted that they can be readily taken apart. It is claimed that the new plug is capable of withstanding the highest temperature and that it is waterproof, the washers being of compressed asbestos. A plug on similar lines, but with mica in place of porcelain, is also made, this being known as the mica "Albo-Luthi."

THE Gordon Carriage Works has been established in the Harders Road, Peckham, S.E., to devote attention to the production of motor bodies. The proprietors have early distinguished themselves by the introduction of a new wind screen, which possesses distinctive features of considerable merit. It is known as the Gordon, and will be found in the Gallery at the Cordingley Show.

The Cordingley Show.

(Continued from page 118.)

CORDINGLEY'S Motor-Car Show and Aero Club Display has attracted the motoring world to the Agricultural Hall, London, during the week, and by the time the doors close at 10 p.m. on Saturday, the 13th, few who follow the doings of the movement with keenness will have failed to see this year's Exhibition. The present is the twelfth of the series, and has again demonstrated the popularity of the Cordingley Show as presenting a representative view of the motor-car industry in its many aspects, as well as an indication of

PETROL VEHICLES.

The Bristocar Motor Lorry.

The BRISTOL WAGON AND CARRIAGE WORKS COMPANY, LIMITED, of Lawrence Hill, Bristol, who have recently taken up the construction of commercial vehicles fitted with petrol engines, exhibit for the first time a lorry for loads up to 25 cwt., in which there are a number of interesting features, notably the accessibility of the various parts. The engine, which is rated at 12-16 h.p., comprises two separate cylinders, 4½ mm. bore by 5 mm. stroke; it is of the slow-running type, the normal speed being 900 revolutions per minute. The valves are all operated



General View of the Show.

'the next line of advance,' viz., aerial navigation. In its many branches—commercial and pleasure vehicles, petrol and electric cars, heavy lorries and lighter automobiles, as well as in accessories and the like, the Show gives a capital idea of the advance that has been made, thus sustaining its educational character. As our readers have doubtless seen for themselves, the Press have been warm in their praise of the event, which, as the *Sphere* remarks, "is twice justified" in the fact that "the selling season begins at Easter and lasts until the early autumn." That it has commenced has been amply demonstrated by the business done at the Show, which has amply rewarded the exhibiting firms for their enterprise and loyalty to the pioneer motor exhibition in this country. Herewith we continue our report of the various stands.

off a single cam shaft, the arrangement of the inlet and exhaust pipes being such that they can be detached with a minimum of trouble. The ignition is by means of coil and accumulators, and it is worthy of note that the governor which is provided is so connected up that it automatically advances or retards the spark, and at the same time varies the quality of the mixture in accordance with the speed of the motor. The control of the engine by the driver is thus reduced to the manipulation of the throttle lever. Large hand holes are provided in the aluminium base chamber, to give access to the big end bearings on the crank shaft. The transmission is through a leather-faced cone clutch to a three-speed and reverse gear-box, universally jointed shaft and differential, and thence by side chains to the rear road wheels. Ample brake power is provided, and the body, which may be of the open or closed type, is hinged at the rear, so that it may be tilted up to enable any of the working parts to be easily reached. The arrangement of the radius rods and of the rear springs is another point to which attention may

be drawn. The ends of the latter are not fastened to shackles, but are connected with hardened steel rollers which are free to work in slides formed on the frame. In this way they are able to accommodate themselves to the load being carried, and at the same time it is an easy matter, in case of necessity, to remove the rear road wheels, together with their axles and springs. The vehicle, which made an excellent run up by road from Bristol to the Show, appears to have been well thought out, and we learn that another on similar

rocking hinges, the hinge stud being formed of the stock of the lamp bracket. Special attention may be drawn to the engine lubrication system. The supply of oil is maintained by gravity from a drip feed lubricator set upon the dashboard. This tank is, however, kept replenished by means of a small pump, which draws the oil from a long sump attached to the base of the crank chamber. The oil drips over the bearings, and, falling into the pump, is pumped back into the lubricator. In this way the motor cannot give off smoke owing to over-lubrication,

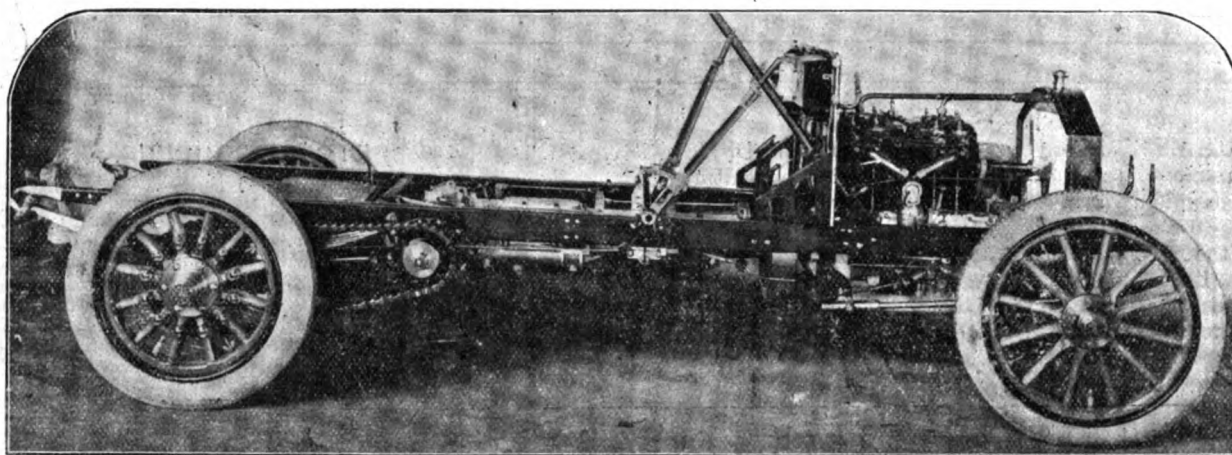


Fig. 4.—Chassis of Nacke 35-37-h.p. Car.

lines, but fitted with a four-cylinder engine, is also in course of completion.

The Nacke Car.

A new German car, seen for the first time in this country, is the Nacke (Fig. 4), which is displayed on the stand of Messrs. BOULT, TAYLOR AND Co., the British agents. The chassis on view is of the 35-37-h.p., and, while following the now generally-accepted lines, the various details appear to have been well thought out. The frame is of pressed steel, the side members being narrowed at the front in order to increase the lock of the steering wheels. The four cylinders, which are 110 mm. bore by 140 mm. stroke, are cast in pairs, with the valves located on opposite sides, and operated off separate cam shafts. The latter are readily accessible, running in bearing cases independent of the crank chamber. The half-time gear wheels are enclosed in a separate and easily accessible gear-case in front of the crank chamber. A special form of automatic carburettor is employed to furnish the mixture, the supply of petrol to the jet being varied in accordance with the degree

while, even if the pump should from any cause fail, the lubrication can still be maintained by gravity. The power is transmitted through a large leather-faced cone clutch and a jointed shaft to a gear-box, giving four speeds forward and a reverse, with direct drive on top, the control being by a lever working in a "gate." The final drive is by side-chains from a differential shaft. The brakes are of substantial construction, and are provided with a simple means of hand adjustment; ball bearings, it may be added, are fitted to all parts except the engine. A Nacke 14-h.p. 2½-ton chassis, designed for commercial purposes—it can be fitted with either a lorry or van body—is also on view. This is equipped with a four-cylinder engine, the speed of which is regulated by means of a variable lift to the inlet valves. The motor and gear-box are supported on a sub-frame of channel steel, a long cardan shaft connecting the change-speed gear with the differential shaft, from which the power is conveyed to the rear road wheels by side chains. Altogether the Nacke cars, which are made at Coswig, near Dresden, by Herr E. Nacke, appear to be of high-grade construction, and are well worthy of close inspection.

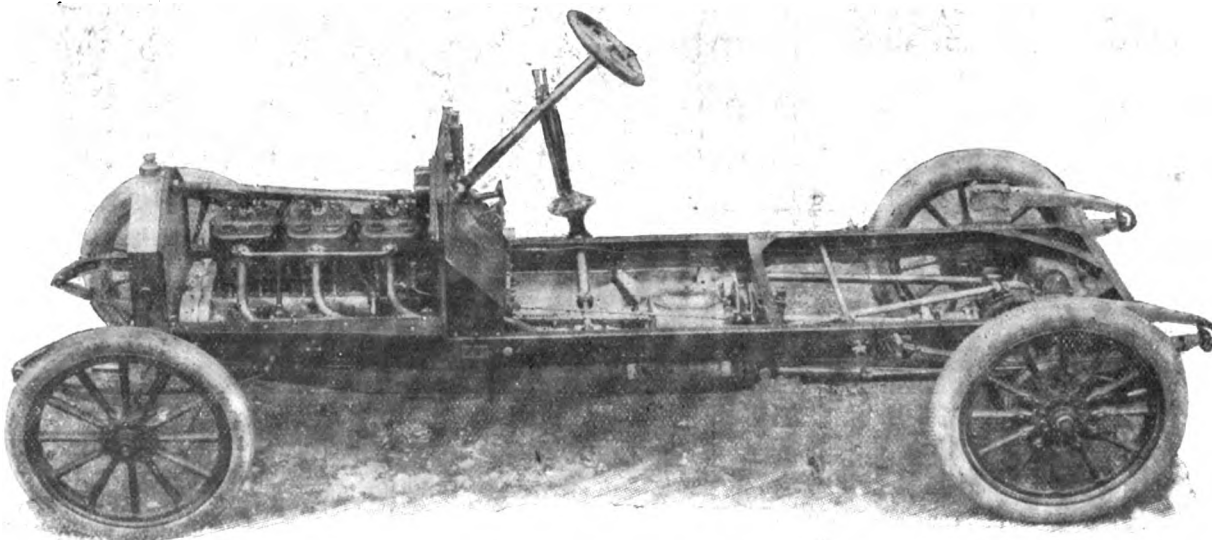


Fig. 5.—Chassis of Florentia Six-cylinder Car.

of opening of the additional air-valve. Two ignitions—high-tension Simms-Bosch magneto and coil and accumulators—are fitted. The magneto is driven by gearing from the centre off the exhaust valve cam shaft. A centrifugal governor is provided in a separate casing, this being connected to the throttle. The speed of the engine can also be controlled either through the lever on the steering wheel or by a small pedal on the footboard. The water circulation is maintained by a gear-driven pump and a special form of radiator; the latter, which is, as usual, provided with an air-inducing fan, is supported on both sides on

The Florentia Cars.

Principal interest at the stand of the FABBRICA DI AUTOMOBILI FLORENTIA, of Florence, Italy, represented in England by Messrs. M. de Brou and Co., Ltd., is the chassis of the new 40-h.p. six-cylinder car, which is now shown for the first time, and of which we give an illustration in Fig. 5. The six-cylinders, which are cast in pairs, are 100 mm. bore by 140 mm. stroke. The M.O.V. valves are located on opposite sides, and the ignition is by high-tension magneto. The mixture is furnished by a special design of automatic carburettor. The

adiator is of the honeycomb type with fan, the induction of air being also assisted by a fan formed in the flywheel. The lubrication of the engine is effected by the pressure of the exhaust, the oil passing through neatly arranged sight feeds on the dashboard. The clutch is of the multiple disc type, and the change-speed gear, which is controlled by a lever working in a "gate," is adapted to give four speeds forward and a reverse, with direct drive on top speed; the final transmission is by cardan shaft and bevel gear to a live axle; the latter has only the driving strain to withstand, the drive to the rear wheel hubs being by the square ends of the axle,

tioned that the object of the designer has been to so arrange the leading components that any of them may be readily detached without disturbing the others. The cylinders, which are 130 mm. bore by 136 mm. stroke, are cast in pairs, and have the valves arranged on opposite sides. The carburettor is of a special automatic type, claimed to give an exactly proportioned mixture at all engine speeds. The ignition is by low-tension magneto, the make and break of two cylinders being actuated by a single cam mounted on the upper end of a spindle which passes up through the cylinder-head casting, so giving free

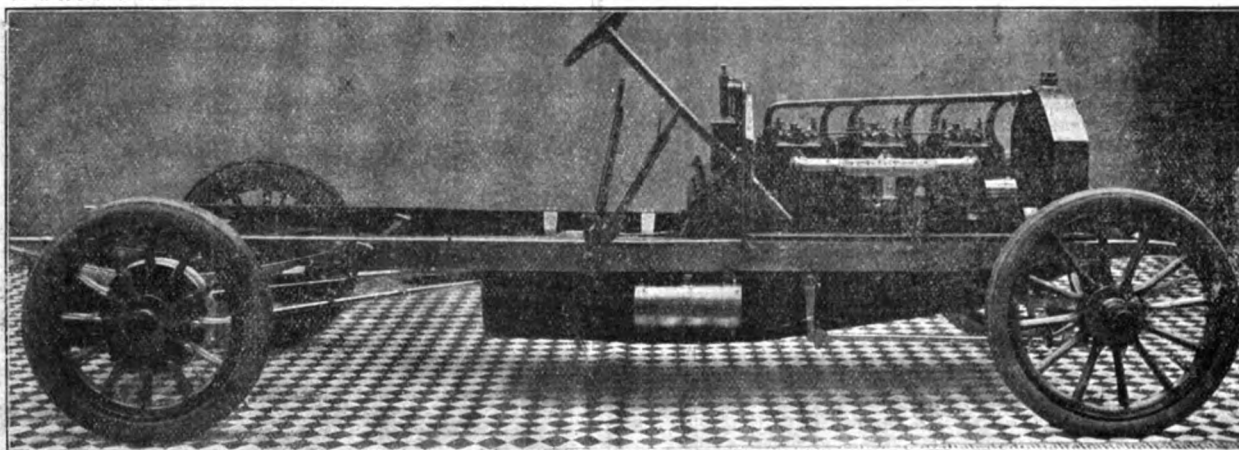


Fig. 6.—Chassis of S.P.A. 60-h.p. Six-cylinder Car.

the weight of the car being carried by the sleeve. The usual dumb irons at the rear are replaced by halves of semi-elliptical springs. We may add that ball bearings are used throughout except the engine. Of the 20-30-h.p. four-cylinder Florentias there are on view a chassis, a double landaulet, the body of which is by Messrs. Morgan and Sons, and a double landaulet by Messrs. Windover. We have already given a description of this type, but it may be briefly mentioned that, except as regards the number of cylinders, the general arrangement is similar to that of the 40-h.p. vehicle above described. Finally reference may be made to a handsome 40-50-h.p. with double landaulet body, by Messrs. W. Coles and Sons. In this vehicle the four cylinders of the engine are 140 mm. bore by 160 mm. stroke, and are separately cast. The ignition is by low tension magneto, and the final transmission by side chains. The frame, too, is worthy of notice; it is of pressed steel, with the cross members electrically welded in place, no rivets being employed.

The S.P.A. Cars.

Among the most interesting of the new cars which make their first public appearance in this country at the Cordingley Show are the S.P.A.,

access to the valve springs, and enabling the inlet pipes to be so arranged that the mixture from the carburettor has an equal distance to travel to each of the cylinders. The water circulation is maintained by a gear-driven centrifugal pump and a honeycomb radiator, a current of air being drawn through the latter by means of a fan formed in the flywheel. The clutch is of the multiple-disc type, and the change-speed gear, which is adapted to give four speeds and a reverse, is controlled by a lever working in a gate. On the top speed the drive is direct through the cardan shaft and bevel gear to a well-supported live axle. Ball bearings are, of course, employed to all parts, except the engine. Altogether the S.P.A. forms a noteworthy addition to the already long list of high-grade cars now being turned out in Italy.

The Stella Car.

A new car to this country is the Stella, made by LA COMPAGNIE DE L'INDUSTRIE ET MECANIQUE, of Secheron, Geneva, and exhibited on Messrs. Sayers and Co.'s stand by the Stella Motor Co., of Pall Mall, London, S.W. The one on view is a live axle vehicle of 16-20-h.p. The engine comprises four cylinders, cast in pairs (90 mm. bore by 120 mm. stroke), with the m.o.v. valves set on opposite sides. One of the most interesting features of the vehicle is the carburettor, which can not only be quickly detached, but is of the multi-jet type. There are altogether four jets, the small outlets in which vary in size; these are

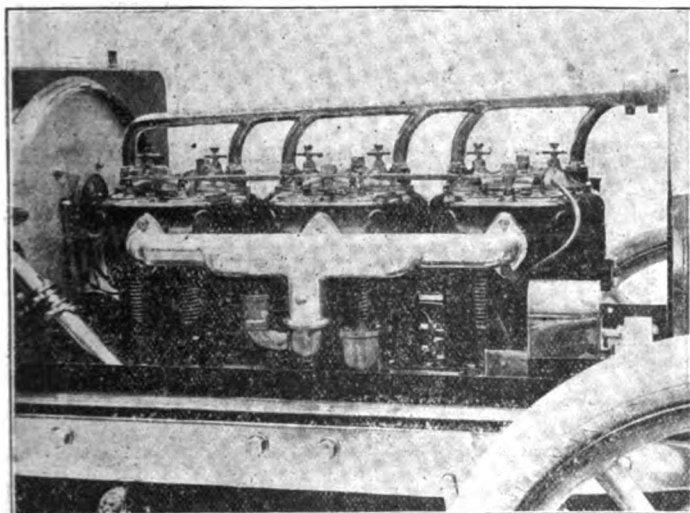


Fig. 7.—The S.P.A. 60-h.p. Six-cylinder Motor.

made by LA SOCIETA' PIEMONTESE AUTOMOBILI ANSALDI-CEIRANO, of Turin, Italy, and the British agency for which has been secured by the S.P.A. Motor Co., of Riding House Street, London, W. Two sizes are on view, a 40-h.p. four-cylinder and a 60-h.p. six-cylinder, both having live axles. Except as concerns the number of cylinders, the two vehicles are identical as regards the details, so that the following particulars may be taken as applying to both. In the first place it may be men-

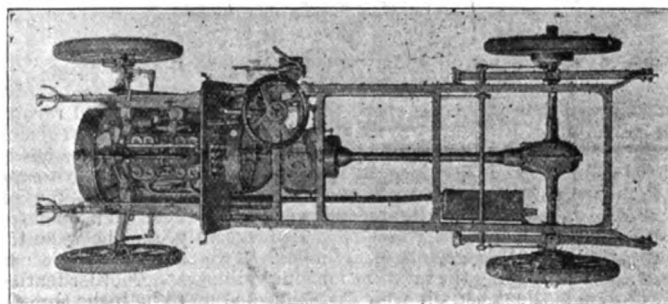


Fig. 8.—Plan of Chassis of Stella 16-20-h.p. Car.

so arranged that as the speed of the engine increases the supply of petrol to the vaporising chamber is rendered proportionate to the air. The main inlet for the latter is through holes in the body of the device at the side of the jets, while the additional supply is through an automatic valve below. The ignition is by low-tension magneto, the tappets being so arranged that they can be readily adjusted. The bottom half of the base chamber is so fitted that it can be detached without disturbing the crank shaft or its bearings, while the bracket for the support of the starting handle is an integral part of the motor. No mud-protecting shield of the usual pattern is employed, the base chamber being extended at the sides so as to serve the same purpose. The flywheel and clutch are also provided below with an aluminium shield, this being bolted at the forward end to the crank case. The change-speed gear is

gate-controlled, and gives a direct drive on the top third speed. The final drive is by a cardan shaft bevel gear to a rear live axle. A useful feature of the sleeve surrounding the latter, and of the differential casing, is the plane surface, any necessary webs being inside; thus there are no corners in which mud and dirt can collect, a point which was brought out in Mr. J. L. Martineau's recent paper on "Accessibility and Cleanliness." Very long dumb irons are provided at the rear, which enables springs of good length to be fitted. The clips which connect the springs to the axle casing are not rigidly fitted to the latter, but are free to move to a slight extent to allow for any variation in the relative position of the two parts.

The All-British Eight-cylinder Motor.

One of the most novel petrol motors in the Show is that exhibited on the stand of the ALL-BRITISH CAR COMPANY, of Bridgeton, Glasgow. It is made in accordance with the designs of Mr. G. Johnston, the managing director of the concern, who was responsible for the invention of the original Arrol-Johnston horizontal engine. As will be seen from Fig. 10 it comprises eight vertical cylinders arranged in pairs, four on each side of the centre line of the crank shaft. It is claimed that by reason of this novel arrangement for a given horse-power the space occupied by the engine can be curtailed by 40 per cent., while at the same time a perfect balance and torque are obtained, and the side thrust, with consequent friction and wear of the pistons on the cylinders, reduced to a minimum. Reference to Fig. 9 will show that the piston-rods are not connected directly to the crank shaft but to one end of a rocking arm, the piston-rod of the corresponding cylinder on the opposite side being connected to the other end of the rocker, which imparts a rotary motion to the crank shaft through the main connecting rods, of which there is one for each pair of cylinders. The inlet valves, which are located in the cylinder heads, are of a special type. At slow engine speeds they open

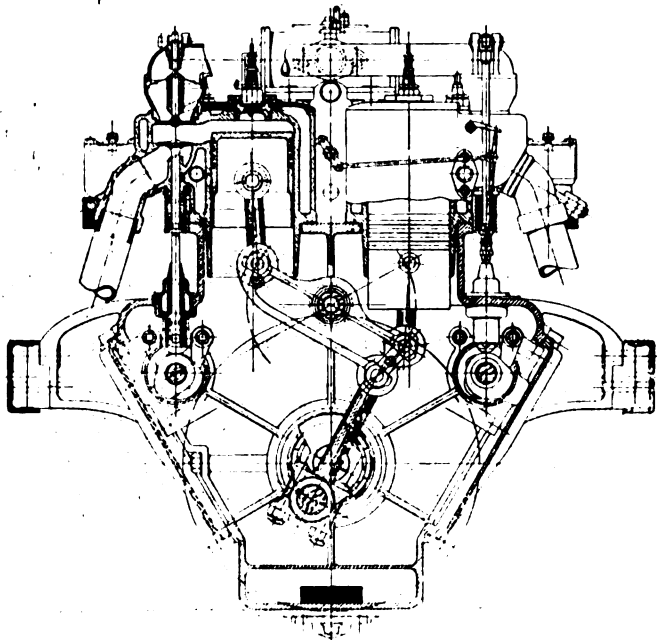


Fig. 9.—Sectional View of the All-British Eight-Cylinder Engine.

automatically, but when the speed of the motor exceeds 1,000 revolutions per minute they are mechanically actuated, the action being assisted by a light diaphragm plate of large area, which moves with the valve, and fits into a seat at the top of the valve case. Two ignitions are provided—coil and accumulators and low tension magneto. The latter is located above the flywheel and operated directly off the fan spindle, which is carried centrally, and between the upper part of the two groups of cylinders. Two carburettors are employed, each furnishing the mixture for four cylinders. Another feature of the design is the governor, which is connected up to both the throttle and the ignition, which latter is consequently automatically advanced and retarded. The design of the cam shafts is on novel lines, the cams being provided with clutches by means of which it is possible to cut out the valve action of any or all of the pairs of cylinders. The engine can thus be controlled by three separate methods:—By cutting out the valve motion of any two cylinders, the pistons of which are moving simultaneously in the same direction. These pistons, on their up-stroke, compress a full charge of air in both their respective cylinders, which compression absorbs one half the power given off in the down-stroke working cylinder. The power thus stored in the compressed charge by the two pistons is given off on their return stroke, and thus a perfectly even torque is ensured, even with only two cylinders working out of eight. By this method of control only the number of cylinders required for the work to be done at the time are in use, the others being held in reserve, and balancing the torque as explained. As the full compression is maintained in the cylinders which are working, the maximum efficiency of the petrol used is always obtained, and a saving of from 20 per cent. to 50 per cent. is claimed to be effected over the

usual methods of governing. The second method of control is by means of a special throttle on the admission, and the third by the governor, which, operating in the usual way, can be set to give any desired engine speed. The motor is fitted with ball bearings to crank and cam shafts and to the governor and fan. Unusually large inspection doors are provided in the base chamber. The All-British Company also exhibit a chassis fitted with one of the eight-cylinder engines and a special epicyclic change-speed gear, reference to which we must reserve until a later issue.

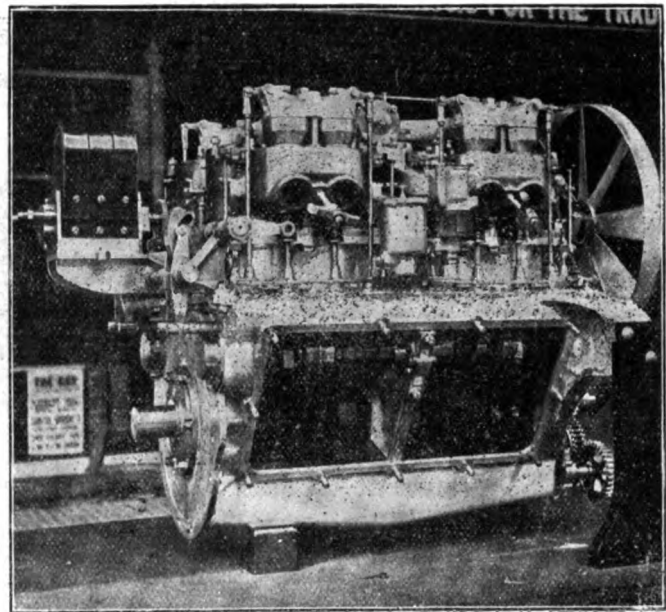


Fig. 10.—The All-British Eight-cylinder Engine.

The Ruppe Light Car.

A light two-seated car of German construction, known as the Ruppe, is shown by Messrs. KURTNER, MACDONELL AND COOKSON, LTD., of Endell Street, London, W.C. The engine, which is of 8-h.p., comprises two air-cooled cylinders set at an angle in the form of a V. They are air-cooled, being provided with heat radiating fins, with an air ventilating fan both at the front and the rear. The valves are mechanically

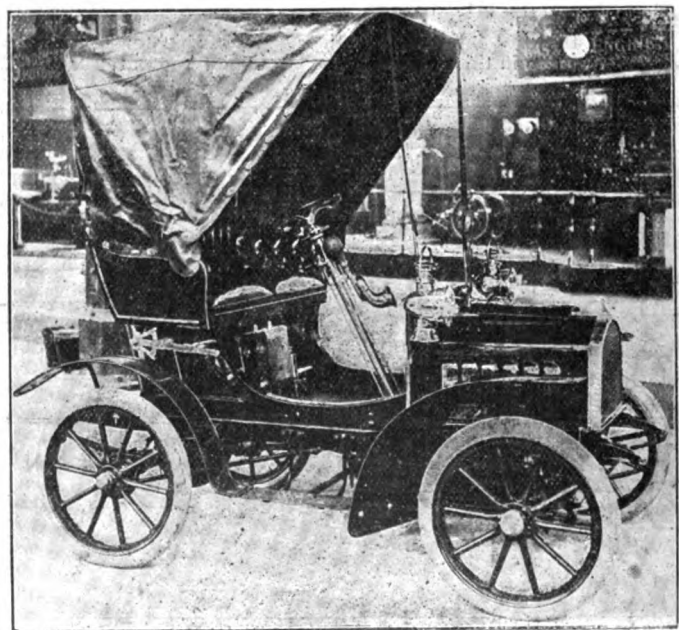


Fig. 11.—The Ruppe 8-h.p. Phaeton.

operated, and the ignition is by accumulators. The change-speed gear gives three speeds forward and a reverse. The control is effected by a lever under the steering wheel and the clutch is worked by pedal. Power is transmitted from the gear-box to the differential by a cardan shaft. All gear wheels operate in oil and the rear axle runs on ball bearings. The light weight of the car, approximately 7 cwt. complete, reduces the wear and tear to a minimum, the petrol consumption being also correspondingly low.

The "Roydale" Cars.

One of the great features of the Show is the appearance of the new all-British car built by the ROYDALE ENGINEERING COMPANY, Huddersfield, to the designs of Mr. Chas. Binks. The vehicles on view are all of the same power, 18-22-h.p., and comprise a chassis and two excellently finished side entrance double phaetons. The engine and gear-box are carried on a sub-frame, the main pressed steel frame being narrowed at the front to increase the lock of the steering wheels. The

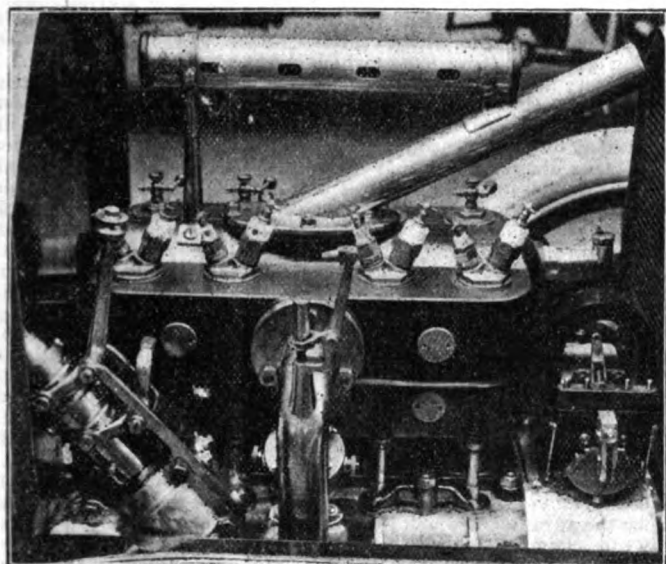


Fig. 12.—The Roydale 18-22-h.p. Motor with all Four Cylinders cast in one piece.

engine, which comprises four cylinders cast in one piece, is exceedingly compact. The valves are all mechanically operated and are located on opposite sides; the mixture is furnished by the Binks automatic carburettor, a feature of which is a choke tube, by means of which it is claimed to be possible to run the vehicle at any speed from five to forty-seven miles per hour on the top direct speed without declutching. There is only one inlet and one exhaust pipe, these being bolted up to distribution chambers in the cylinder casting, the valve stems and springs

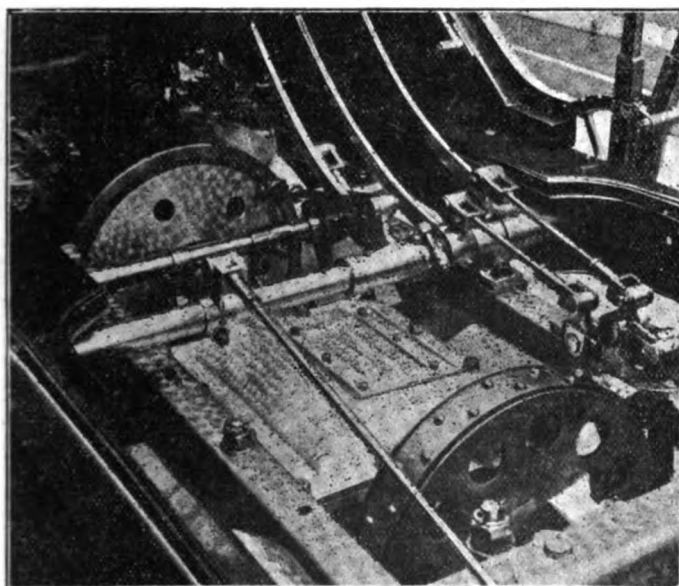


Fig. 13.—View of Clutch, Gear-box and Footbrake of Roydale 18-22-h.p. Car.

being thus rendered most accessible. The lubrication of the engine is maintained by the pressure of the exhaust. The oil is fed up to the top of the dashboard, where it can be seen dropping in a dome-shaped glass, and if by any reason the latter becomes discoloured or splashed with oil it can be screwed out and cleaned with a cloth in a moment. The water circulation is effected by a pump; it is, however, so arranged that should anything go wrong with the latter the water will still flow on the thermo-syphon principle. The radiator is of the honeycomb

type of the Roydale Company's own design, an air-inducing fan being formed on the periphery of the flywheel. Two systems of high tension ignition—magneto and accumulators—are provided. The throttle valve is operated by a lever on the steering wheel and also by the clutch pedal, so that as the clutch is withdrawn the speed of the motor is automatically cut down. The clutch is of the leather-faced cone type, and the gear-box, which is adapted to give three speeds and a reverse, is provided with roller bearings. The final transmission is by a cardan shaft and bevel gear to a well-designed live axle, which has only the driving strain to withstand, the road wheels being carried on the axle casing, the power being transmitted to the wheels by jaw clutches in the hubs. Two foot brakes are provided, one working internally and the other externally on a large drum at the rear of the gear-box, the usual internally expanding brakes in connection with the hubs of the rear road wheels, and operated by a hand lever, being also provided. The dashboard and footboard is of a pleasing design. The petrol tank is located below the latter, and has a capacity of eight gallons. On the dash are mounted a gauge showing the amount of spirit in the tank, and a similar gauge indicating the amount of oil supply. One of the finished cars exhibited has a novel receptacle at the rear of the body, in which four suit cases stood. In the other car a loose floor is provided, lifting up which discloses a box in which a spare tyre can be kept. Altogether the Roydales form a noteworthy addition to the list of British-built cars, the details all bearing indication of having been carefully thought out, while only the highest grade of material is employed in the construction. A new detachable rim is also to be seen at this stand, by means of which a damaged tyre can be removed and a fully-inflated tyre fixed in position in two minutes. The damaged



Fig. 14.—The Aries 30-35-h.p. Berline.

cover can be readily detached from the loose rim and a new cover put on without difficulty, by means of a screw arrangement which contracts the rim.

The Aries Cars.

The British agency for the Aries cars is now in the hands of the AUTOMOBILES DE LUXE, LTD. (West End Agency), who are exhibiting examples of the 30-35-h.p. and 24-30-h.p. models, including the luxuriously finished berline shown above in Fig. 14. The chassis we examined was of the 30-35-h.p. type. The engine comprises four separate cylinders, 120 mm. bore by 140 mm. stroke, with mechanically-operated inlet valves and automatic carburettor, the extra air inlet being controlled hydraulically by a branch off the water circulation system. The lower half of the base chamber is so arranged that it can be detached without disturbing the crank-shaft, which latter has a bearing between each throw. Two systems of ignition are provided, accumulators and magneto. The clutch is of the metal-to-metal disc type and the transmission is by cardan shaft and bevel gear on to a live axle. The latter is of special design, a fixed axle being provided below it to support the differential case and render it rigid. The shafts from each side of the differential run through the hollow ends of the dropped fixed axle, on which the road wheels are mounted on balls, the drive to the wheels being through a star dog clutch on the end of the live shafts. The differential shaft has thus only to transmit the power without carrying any of the weight of the car.

Messrs. BAEDER, ADAMSON AND COMPANY have a collection of miscellaneous goods for the motor industry, including horsehair for the upholstery work of cars.

ELECTRICAL VEHICLES.

The Scheele Electrical Carriages.

The SCHEELE ELECTRIC CARRIAGE COMPANY, of Grosvenor Mews, New Bond Street, London, W., display a trio of the Scheele electric cars, including a brougham, a landaulet, and a limousine; the latter is an exceedingly luxuriously-furnished vehicle, having accommodation for seven persons inside. Outwardly it closely resembles a petrol car, the battery being carried under a bonnet in the front part of the car, and the controller operated by a side lever. The electrical energy in the limousine is furnished by a battery of 46 Hagen accumulators of a capacity

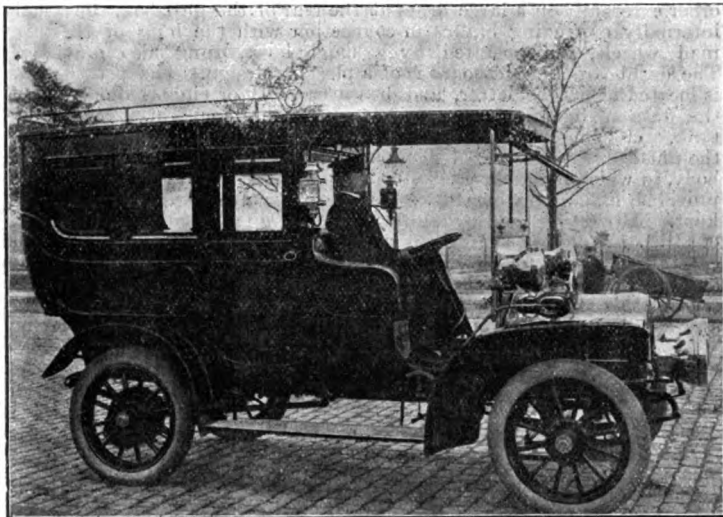


Fig. 15.—The Scheele Eight-Seated Electric Limousine.

260 ampere-hours, this being stated to be capable of running the car a distance on one charge of about sixty miles, at a speed of from eighteen to twenty miles per hour. The controller is adapted to give five forward speeds, two electric braking positions and two reverse speeds, a feature of the Scheele system being that the various speeds are obtained, not in the usual way by varying the accumulator grouping, but by means of the motors, of which two—of the series type—are employed, they being supported from the rear axle and driving, through spur pinions, crown wheels connected with the hubs on the rear road wheels. The various combinations given by the controller are:—First speed, the resistances, fields and armatures are in series; the second speed is obtained without the resistances and with the armatures and fields in series; for the third speed the fields are in series and the armatures in parallel; for the fourth speed both motors are in parallel; while for the fifth or top speed the resistances and fields are in parallel and the armatures in series. The broughams and landaulets are on similar lines except that the battery is carried under the driver's seat, and that the controller is operated by a small lever below the steering wheel.

The Electric Vehicles Development Company's Exhibit.

Several broughams and landaulets on the Vedrine system are displayed by the ELECTRIC VEHICLES DEVELOPMENT COMPANY, LTD., of Market Street, Edgware Road, London, W., the feature being that the various speeds and reverse motions are obtained not by altering the accumulator connections but by varying the magnetic field in the single electric motor employed. The latter is located at the rear of the vehicle and drives the live axle through spur gearing and a differential. It is of the enclosed four-pole compound-wound type and is radially supported on the live rear axle, its weight and the driving efforts being taken in front of the back axle by transverse laminated and coil springs. The electrical connections between the battery, motor field and armature, and the regulating resistances, are simple, there being only two conductors, one of these being attached to one of the brushes and the other passing by the series exciting winding of the motor to the other brush inside. The motor, which has a patented improved field magnet yoke, converts into mechanical energy a mean power of 4,250 watts with an E.M.F. of 85 volts, and an efficiency of 95 per cent. Its speed under full load may be varied from 550 to 1,600 revolutions per minute, by simply varying the shunt-exciting current from 2.5 amperes to 0. When the exciting current is zero, there still remains a certain number of ampere turns supplied by a series winding, which is sufficient of itself to ensure the working of the motor at high speed. A simple pedal-operated starting switch is used to regulate and finally cut out resistances in series with the armature of the motor, and a reversing switch, also operated by pedal, for effecting the necessary change of motor connections for the reverse direction of running. These

switches are only required for starting and reversing, and are consequently generally out of use, the variations in the speed being obtained by acting solely on the shunt exciting circuit of the motor, that is to say by introducing resistances into this circuit. For this purpose the steering wheel is provided with a handle moving over a circular rack. This lever operates the exciting rheostat located at the lower part of the steering pillar on the frame. The mechanical operation of the rheostat is effected by a steel cord carried down to the frame through the interior of the steering column, and attached at its lower end to the device for operating the rheostat, composed of a part capable of moving round a shaft and carrying on one side the brushes, which run over a suitable number of contacts connected to the resistances, and on the other side carrying a sector with an eye to which the steel cord is connected. A simple safety arrangement makes it impossible to depress the starting pedal so long as the accelerating handle has not been returned to its "rest" position. Another safety arrangement consists in the automatic disengagement of the forward running pedal, which serves as a current interrupting device, as soon as pressure is exerted either upon the reverse motion pedal or upon the brake pedal. This method of speed regulation by varying the field strength of the motor provides the means of restarting the carriage either gradually or quietly, as may be necessary, without requiring the use of the mechanical brakes except for abrupt stops or when descending severe gradients. A feature of the motor is its ability to endure heavy overloads; in fact, it is claimed to be possible to double the normal power without danger of damage. The battery, which weighs about 500 kilogs., has a capacity of 130 ampere hours, sufficient to run the vehicle a distance of fifty miles on one charge. It is claimed that by dispensing with all coupling of the accumulators the life of the latter is increased, while the operations of starting, changing speed, and stopping are performed without jerk, the change taking place progressively. The frame of the vehicle is of a specially curved design, which brings the floor at the point where the entrance door is located 15 in. from the ground, thus affording easy and comfortable egress to the car, which complete weighs about 32 cwt. Among the advantages which the Electrical Vehicles Development Company, Ltd., claim for their carriages are low consumption of electric power, which enables them to perform with batteries of less capacity and weight than those generally used, and smoothness of running, stopping, and re-starting. We may add that one of these carriages was recently driven from London to Brighton on a single charge in 3 h. 52 min., the average speed working out at about thirteen and a half miles per hour, the battery in this case having a capacity of 137 ampere hours, and eighty two volts.

An Electrical Motor Delivery Van.

The IMPROVED ELECTRIC TRACTION COMPANY, LTD., London, S.W., exhibit a 2-ton electric delivery lorry stated to be capable of conveying its load at a speed of twelve miles per hour and of running forty miles on one charge of the battery, which is hung



Fig. 16.—The Electric Vehicles Development Company's Landaulet.

below the main frame. A single electric motor is employed, this driving, through spur gearing, a differential shaft, from which the power is conveyed to the rear road wheels by side chains. The vehicle is, we may add, of American construction. This company are also expecting a novel vehicle in the shape of an electrical motor-bus with all four wheels driven, but this had not arrived at the time of our visit to the stand.

HEAVY STEAM VEHICLES.

The Foden Steam Wagons.

Messrs. FODENS, LIMITED, are present with a couple of their standard heavy steam vehicles, intended for general hauling purposes for loads up to 5 tons (Fig. 17). In general appearance the wagons, which are built to comply with the Local Government Board regulations, take the form of a small traction engine, behind which is mounted a platform upon which the load is carried. The boiler, which is of the horizontal multitubular type, forms the front part of the framework. The sides of the frame are constructed of channel steel tied and braced together in such a manner as to secure great strength in the complete lorry. The

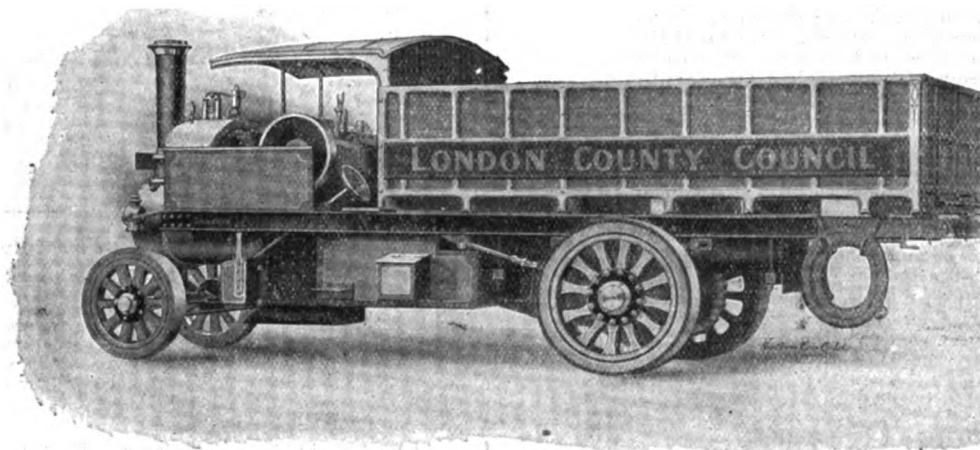


Fig. 17.—The Foden Steam Wagon.

boiler can be fired with coke, coal, or wood. The wagon is driven by a compound steam-engine fixed on the top of the boiler. The cylinders are fitted with high-pressure gear, by means of which both can, in case of emergency, receive live steam from the boiler, and each cylinder exhaust independently into the chimney. The power is transmitted by spur wheels to the compensating gear shaft, and thence to the rear axle by an extra strong Renold roller chain. The gearing is arranged for two speeds. The Foden wagons are among the most popular with users of this type of vehicle, among the orders recently secured being several for the London County Council.

The St. Pancras Steam Wagon.

The ST. PANCRAS IRON WORK COMPANY, LIMITED, are present with two examples of the St. Pancras 5-ton steam wagons, in which a number of interesting features are incorporated. The boiler is of the fire-tube vertical type, fitted with horizontal tubes. There is a large central fire-box fired from the top through a central shoot, and at the bottom of the shoot is a baffle plate riveted to the fire-box plate, which completely cuts off the upper part of the central space from the fire-box. The products of combustion pass outwards through the lower eight rows of tubes to

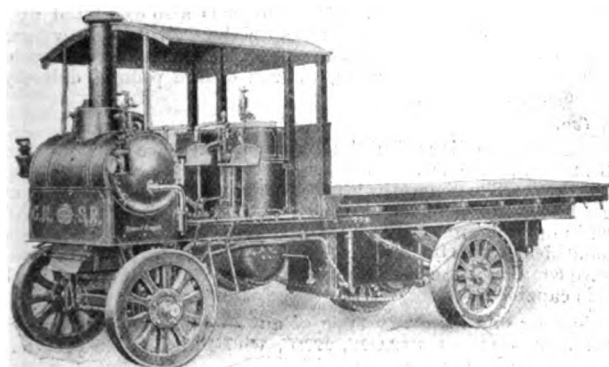


Fig. 18.—The Yorkshire 6-ton Steam Wagon.

an annular smoke-box, and are returned inwards through the upper rows of tubes to the central space above the baffle plate, from whence they rise to the funnel. The water level is well above the top row of tubes, even on a considerable incline. Advantage is taken of the position of the baffle plate to make it into an exhaust steam superheater, from which the exhaust is finally emitted through a nozzle in the base of the funnel. The casing or annular smoke-box is provided with doors, so that all the tubes can be properly swept, and the top cover plate of the boiler can be unbolted to clean the outside of the tubes. The working pressure is 220 lbs. per sq. in., and the heating surface 92 sq. ft. The engine is of the horizontal compound type, the cylinders

being $4\frac{1}{2}$ in. and 7 in. in diameter by 6 in. stroke. It is fitted with link motion actuating D slide valves. There is a central bearing to the crank shaft, all the bearings being lined with phosphor bronze brushes. A recent improvement is seen in an intercepting valve, which allows both cylinders to receive steam direct from the boiler. The power is transmitted by spur gearing to the countershaft and thence to the back wheels by roller chains, the latter being provided with mud-protecting covers. One special feature of the St. Pancras wagon is the patent fore-carriage. This gives a three-point suspension on the road, and permits either of the leading wheels to surmount large obstacles without distorting the main frame.

The Yorkshire Steam Wagon.

The YORKSHIRE PATENT STEAM WAGON CO., of Hunslet, Leeds, had intended to exhibit a new steam motor-bus chassis, but, unfortunately, were not able to complete it in time for the show. Their display is consequently confined to one of their 6-ton steam wagons, of which a considerable number are now in use in different parts of the country. Since last year several modifications have been introduced, notably the adoption of vertical engines in place of the horizontal type, and chain transmission in place of the former gear drive. The boiler is of the company's patent cylindrical type, placed transversely across the front of the frame. The engine, which is located to the rear of the driver, is of the vertical compound type, the cylinders being $4\frac{1}{2}$ in. and 7 in. in diameter, with a stroke of $7\frac{1}{2}$ in. The right-hand end of the crank shaft is provided with a heavy flywheel, and an auxiliary valve enables high-pressure steam to be admitted to both cylinders, to give additional power when starting the wagon on a hill, or on soft

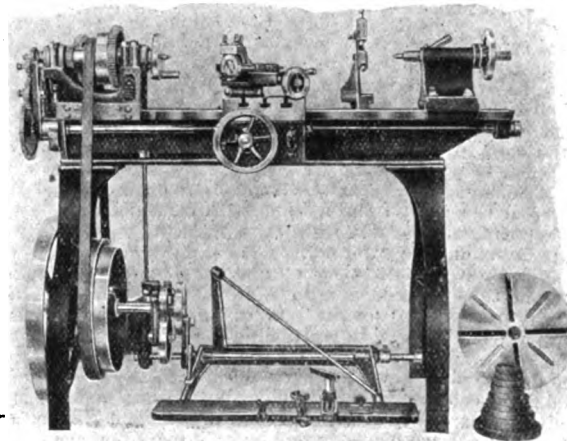


Fig. 19.—The Drummond 6-in. self-acting, sliding, boring, surfacing, and screw-cutting lathe. (See page 138.)

ground. Two speeds are provided by means of sliding pinions, the final drive being by a centrally-located Renold roller chain to the differential gearing on the back axle.

Office Requirements.

Much interest is being taken in the distinctive feature of the Oliver standard visible writer typewriter, as well as the typewriter supplies and hand duplicators of the OLIVER TYPEWRITER COMPANY, LTD. At another stand the BLICKENSDECKER COMPANY, LTD., made a good show of their typewriters, duplicators, and other apparatus for facilitating the work of the office.

MISCELLANEOUS EXHIBITS.

Machine Tools for Motor Repairers.

Messrs. DRUMMOND BROS., LIMITED, of Rydes Hill, Guildford, have an interesting display of their special lathes for the repairing of motors. Among others are three small 3½-inch self-acting boring, sliding and screw-cutting lathes, which have been designed with the view of enabling all usual light-running repairs to be readily carried out. This small tool is capable of very much heavier work than the ordinary lathe of this size; for instance, all the parts of a 3-h.p. cycle motor can, the makers inform us, be turned out by its means. The tool is supplied with either treadle or arranged for power operation, a bench pattern being also made. Two of the new design 5-inch heavy lathes, capable of making throughout the machinery of any ordinary car, are also to be seen, as well as a "Workman's" lathe (Fig. 19), designed for professional repair work, a small bench-shaping machine and an assortment of lathe chucks and accessories. Messrs. Drummond Brothers, Ltd., are devoting considerable attention to the production of special tools for motor repairing, the design of the same being the result of long and careful experiments on the work they are intended for.

The Palmer Tyres.

One of the most attractive displays in the exhibition is that of the PALMER TYRE, LTD., whose wonderful cord-laying machine has demonstrated the possibilities of mechanical work in a most emphatic way. By means of this machine the company have been enabled to so reorganise their establishment as to reduce the prices of their tyres, and so assist the automobile movement to a considerable degree. For experience has shown that the Palmer tyre is almost impervious to punctures, while being free from internal friction, heating and other troubles often regarded as inevitable. It is scarcely necessary to say that this tyre is on the cord principle, with the threads so arranged that the strains are direct. By the really unique method of manu-

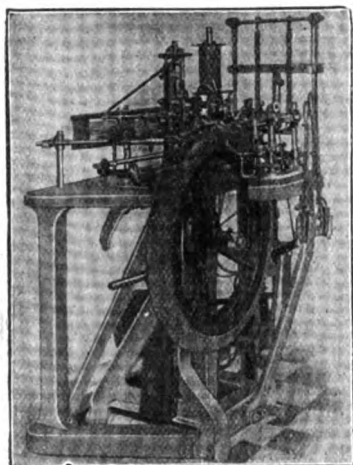


Fig. 20.—The Palmer Cord-Laying Machine.

facture irregularities of workmanship are prevented, so that there are no slack threads and the tension on all the threads is uniform. Two layers are employed, one in each direction. Of course, the shape of the side walls will be altered by the tread making contact with the road, but the strength of the cord fabric is not reduced at the time when it is most required to transmit the driving power to the road. In securing this result the new cord-laying machine running in the exhibition, and illustrated in Fig. 20, plays its part. The "former," or that part of the machine on which the tyre is built, is provided with a row of anchoring pins on each side. The cord is folded into loops by a lever or arm, and placed across the "former" at the required angle at which the cords are to be laid in the finished tyre. The cord is led from the supply spool to a sensitive regulator designed to contain an ample supply of cord at a uniform tension, to be drawn upon as required. From the tension regulator the cord is led to a pulley, from which it passes to the "former," being folded and guided in its course by the folding arm. The latter delivers the cord to the "former" in the shape of two loops, one on each side, each loop being held out straight by two pins on the folding arm. Two transferring arms then come into operation and transfer the loops from the pins of the folding arm to one of the pins of the "former" on each side, at the same time laying the cord at its proper angle and curve on the "former." The folding arm then returns through a half revolution, takes up another length of cord, folds it into loops, and the operation is repeated until the whole circumference of the slowly revolving "former" is covered. Before leaving the folding arm the cord is held in position on the "former" by a pressure foot. The downward movement of the transferring arm causes the loops of cord to be placed over the pins on the "former." A number of guides and fingers come into operation during the last-mentioned movement, to give the cord the required quarter twist and place it in position on the "former." When one complete layer is placed on one "former" it is transferred to another machine for the purpose of applying the second layer of cord at the reverse angle, after which the rubber to form the tread is applied. A pair of these machines will place two layers of cord in ten minutes, an immense saving in labour that has enabled the makers to reduce the cost of the Palmer tyre. Moreover, by this machine a uniformity in tensions and angles is assured that could never have been expected with hand labour.

Rushmore Lamps.

From a coign of vantage in the Arcade the Rushmore Searchlight has been penetrating to the uttermost ends of the Hall and reminding us that the firm responsible for the Rushmore lamps, that have lately come into prominence on British automobiles seen in our streets, originally won renown in connection with marine work. The Lens

Mirror is the distinctive feature of these lamps, introduced here by the RUSHMORE LAMPS, LTD. To safely maintain high speed on a dark road it is necessary that the beam be shifted to see that the road is clear before reaching a curve. With the Rushmore Swing Light it is possible to maintain a speed of forty miles when examining the road past several corners; while with a fixed light it is necessary to slow down at curves, as the beam is then far off the road. Attempts have been made to swing the light by connecting it with the steering gear of the car, but this has been found impracticable, as at high speeds it is necessary to see across the curve before reaching it. The searchlight is mounted in a swinging frame with bracket for mounting on a flat vertical dashboard, special brackets being provided for any particular make of car requiring a special design. Mention might also be made of the company's generators; but description of their good points is reserved for a later issue.

Aluminium.

In his familiar stand at the entrance to the Arcade of the Hall, Mr. ROBERT W. COAN has a comprehensive exhibition of aluminium castings of every description for motor-car work. Mr. Coan is a practical worker in pure and hardened aluminium for turning and other purposes, and makes a feature of the repair of broken parts of aluminium. A novelty at his stand consists in the "Telephone Receiver Rest," an ingenious device for users of the telephone, which was recently described in our columns, and the exhibition of which at the Show is a matter of much public interest. This holds the receiver in position to the ear whilst speaking, leaving both hands free should it be desired to make notes.

Silencers.

The three silencers of SHARPE'S UNIVERSAL PATENTS COMPANY LTD., that won the first three prizes in the recent Auto-Cycle Club's Silencer Trials attract public attention at the stand of the makers, who naturally take pride in the fact that only one mark separated the three types of silencer from first prize taker. It will be remembered that the points considered by the judges in the competition were: 1, back pressure; 2, noise; 3, facility of attachment; 4, weight and strength; 5, capacity; 6, means of cleaning and maintenance and cost. The company also show their silencers for cars, which have now stood the test of four years' actual experience with results that have proved a growing appreciation on the part of motorists.

The Pegasus Specialities.

A good show of leather goods for motorists, including gaiters, motor tool bags, travelling cases, &c., is made by Messrs. MIDDLEMORE AND LAMPLUGH, LTD., whose specialities are distinguished by the trade name "Pegasus." This also serves for a non-skid of effective design, which also provides a good protection to the tyre. This consists of a strand of stout English leather of more than the usual thickness and specially prepared to withstand damp, while the surface next to the tyre is smoothed so that it cannot injure the rubber. The hardened steel studs provide an efficient surface to withstand any greasy roadways. Despite the stoutness of the leather, the whole device is very light, and, as it can be easily fitted in the minimum of time, the "Pegasus" non-skid should rapidly come to the front. The same firm have a gaiter of equally good form, which should prove useful in repairing cuts or tears in the outer covers.

Wheels.

A varied collection of artillery wheels for heavy and light motor-cars and commercial vehicles is shown by Messrs. SMITH, PARFREY AND CO., LTD., who have long specialised on such work as well as in axles and all classes of motor forgings. Bent timber is also exhibited by the firm, who can supply any description to special patterns or drawings. In their Pimlico wheel works the firm have introduced an electric welding plant with considerable satisfaction, and can ensure prompt delivery as well as good workmanship.

Lamps, &c.

The well-known Zanardini lamps from Italy are shown by Mr. C. F. BERTELLI, who is actively engaged in placing them upon the British market. The generator is manufactured on excellent lines, while the light, instead of being dispersed, is concentrated upon the road, as described in our columns at the time of the Stanley show. Mr. Bertelli is also identified with Oleoblitz, a high grade lubricating oil, tests of which have convinced the English agent of the character of the work of which it is capable.

Lubricating oils for every type of automobile are shown by the BOWRING PETROLEUM COMPANY, LTD., whose high-grade productions are well favoured by experts.

Messrs. A. F. HARDING AND COMPANY, LTD., are giving much attention to preparations for the revival of the worn leather and upholstery of motor-cars, the brightening of metal parts and similar cleaning operations which add to the appearance of vehicles on the road. A new liquid metal polish known by the descriptive name of "Osoesy" is shown, and we are able to speak well of its capacity to give an excellent finish with a minimum of labour. Another of the firm's preparations for removing dirt and grease from the leather of motor-cars, &c., is known as "Stainless." All the goods of Messrs. Harding and Company, Ltd., are distinguished by the trade-mark of "the fish and the ring," and characterised by good quality for the special purpose for which they are intended.

(To be continued.)

CORRESPONDENCE

[Letters to the Editor should be addressed to the office,
27-33, Charing Cross Road, W.C.]

POINTS ON THE ACTION OF A MAGNETO.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with great interest the valuable paper which Mr. W. Hibbert read before the Royal Automobile Club, on some points on the action of a magneto. As I have carried out a considerable amount of experimental work in connection with magneto-electric generators for ignition in internal combustion engines, some of the information gleaned from these might be of interest to your readers.

One set of experiments proved conclusively that ignition took place at the instant the contacts began to separate in the combustion chamber, proving that with the engine heated up to normal running conditions a most minute spark suffices to explode the charge. These experiments were carried out by means of a short circuiting device on a drum of large diameter, rotating with the crankshaft, the short circuit being arranged as a shunt across the terminals of the sparking plug. They also proved conclusively that there is no electrical lag in the case of a low-tension magneto, which,

couple of bearings. The weight added to the crankshaft is practically negligible.

I think that the figure of 5,300 lines per square centimetre for the induction in the magnets is somewhat low. I have frequently got over 7,000, and in one case 7,700. In conclusion, I would most heartily endorse Mr. Hibbert's remarks on the difficulty of making reliable brake tests. Undoubtedly by far the most satisfactory way is to have the engine under test directly connected to a continuous current dynamo whose constants are known.—Yours truly,

T. BLACKWOOD MURRAY.

TRAFFIC PROBLEMS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The traffic in our streets, and the difficulty in adequately dealing with it, are steadily increasing, especially under the changed conditions consequent upon the introduction of mechanical traction. The absolute necessity of wider streets has been realised by the authorities, but in many cases the improvements which have been effected are almost neutralised by numerous obstructions placed in the centre of the road—lamp-posts, electric cable standards, cab-stands, &c. These have the effect of dividing a safe wide street into two dangerous narrow ones. The posts placed at cross-roads congest the traffic at the very places where most space is required, and make the crossings dangerous not only to vehicles (which frequently collide at these points) but also to foot passengers.

The blocks which occur every fine summer afternoon in Piccadilly, for instance (sometimes extending from the Circus to Hyde Park Corner) are mainly due to the lamp-posts and cab-rank at the eastern



Mrs. Veitch, of Edinburgh, on her Argyll Car. Dr. Veitch has used an Argyll for fourteen months with a total of only three hours' delays.

of course, is precisely what one would expect, as while the contacts are closed the current is rising in the armature circuit, and therefore there is a spark the moment the circuit is ruptured.

The popular fallacy as to the advantage of a hot spark is, I think, explained by the fact that it is extremely difficult to keep up a very high insulation standard in ignition circuits, particularly in the plugs, and therefore the more lively a magneto (or coil, as the case may be) one has to generate the igniting spark, the better margin one has to allow for leaky circuits, and therefore the more certain is regular ignition secured. A leakage across the spark gap either in low-tension or high-tension ignition has a most detrimental effect on the rapid rise of potential, which is essential to the formation of a satisfactory spark.

As to the power required to drive low-tension magnetos, careful tests showed that at a speed of 750 revolutions per minute, neglecting the friction losses, the power required to drive an ordinary Siemens H armature magneto was 13 watts (less than 1-50th of a horse-power) while generating the usual ignition current. Including the friction of the bearings, the power required was 28 watts (less than 1-25th of a horse-power). This magneto has a properly laminated armature. Magnetos with solid or partly solid armatures would, of course, be slightly less efficient.

I am glad that Mr. Hibbert has drawn attention to the positive and negative work done in rotating the magneto armature, and the consequent possible losses and noise due to backlash in the driving gear. This is one of the reasons which has led us in all Albion cars to fix the rotating part of the magneto rigidly to the crankshaft of the motor, and thus eliminating this loss and also frictional losses consequent on another

outlet. If these were removed there would be room for an additional row of traffic each way, which would probably be sufficient for ordinary requirements. In many cases the presence of these obstructions makes the correct observance of the rule of the road difficult, and in cases where the "two narrow dangerous roads" are monopolised by tramlines, (e.g. Ealing route) practically impossible. Most collisions appear to be due to the use of covered vans and buses the drivers of which are unable to obtain a view of traffic overtaking them on either side. The small windows or apertures fitted in the covers merely evade the principle of the bye-law which was expected to mitigate this evil.

There is an irritating lack of uniformity in the disposition of the gates in Hyde Park. The Stanhope gates are indicated IN, OUT, alternately; at Marble Arch, on the contrary, the arrangement is in pairs.

We have heard and read from time to time a good deal about the smoke nuisance, especially since the advent of motor-buses. One would have thought that the pungent odour from smoky exhausts would have been welcomed rather than otherwise, disguising as it does the sickening stench of putrefying offal which is always present where horse traffic abounds. It is most astonishing that such a disgusting nuisance and menace to health should be tolerated, considering how easily it might be entirely prevented.

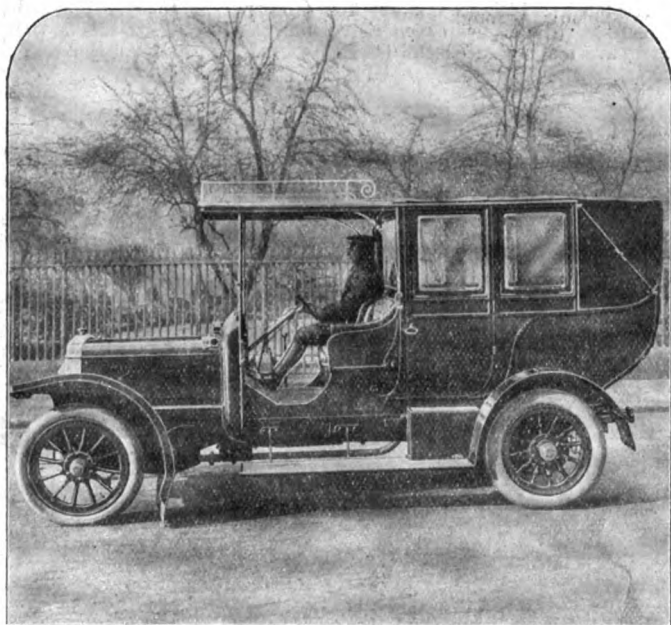
The principal cause of skidding is, of course, the excessive curvature or camber of the road surface. The idea that this steep slope is necessary or desirable for drainage purposes is quite erroneous. In Hyde Park, for instance, the main road has in places a gradient of 1 in 9, descending 15 inches in 20 feet to the gutter. Driving a car out of this gutter is equivalent to making a standing start on the steepest part

of River Hill. A smooth, well-made road with a curvature of 1 in 100 would drain just as well, and, not being subject to the severe lateral abrading action occasioned by the tendency to skid, would last much longer. On these excessive cambers heavy vehicles with broad wheels are simply cutting into the surface with the edges of the tyres; the advantage of the broad tyre is to a large extent lost. Thus the worst holes and puddles are generally found on the roads with most camber. The effects of heavy rain remain on such surfaces much longer than on a flatter and therefore smoother road.

It appears to be a point of etiquette amongst horse-cab drivers to turn round in busy streets, without looking, as often and as suddenly as possible.

Much of the slight damage to vehicles is due to the foolish practice—encouraged often by the police—of running up so close to the preceding one. Many horses move backward when restarting, to the detriment of the head-lamps or wings of motor-cars following them. All horsed vehicles ought to be provided with sprocket sprags, making it impossible for the wheels to revolve backward unless the ratchet is released by the pedal operated by the driver. A forward locking device also would be a valuable safeguard against runaway horses.

Much of the congestion and difficulty so frequent in the fashionable shopping thoroughfares might be avoided by the simple expedient of compelling all vehicles to pull up on the left side only. In all circumstances the passage of the faster traffic would be greatly facilitated if all vehicles consistently kept as close to the left as possible.



The 28-h.p. Daimler recently supplied by Messrs. Henry Angus, Sanderson and Co., Newcastle-on-Tyne, to Sir Walter Runciman, Bart.

The body is an original design of the firm named, and it was, of course, manufactured by them. The body is made in such a manner that it can be opened right out; the canopy can also be made removable, although in this particular car the canopy and front pillars are a fixture. The car is capable of holding five in-side, three on the back seat, and there are two detachable revolving arm chairs fitted to the inside. It is luxuriously upholstered in grey French cord and is fitted up with canteens, cigar lighters, electric lights, &c.

There must be an appalling amount of time in the aggregate wasted in enquiring and searching for unknown streets, &c. All this could be avoided by simply adding to the present names numbers and letters according to the American system.

The suggestion has been made that certain main streets should be limited during part of the day to traffic travelling one way only. This method would probably be quite impracticable, as it would involve and confuse the traffic in the adjacent side streets, and continual congestion would arise from vehicles turning to and fro in the endeavour to find a through route available in the required direction. The only practical remedy for congested traffic is to widen streets where necessary, but the conditions may be greatly ameliorated by utilising the whole available area, instead of, as at present, restricting the use of one-third of the roadway by the presence of posts, cabs, and other obstructions. The Sheffield Corporation have recently realised the danger and inconvenience of central posts, and have removed the cable-standards from the centre of "The Moor," which is once again a reasonably safe and easy thoroughfare to traverse. When a similar reform is effected in London, virtually increasing by half the effective width of Piccadilly, Shaftesbury Avenue, &c., we shall be considerably nearer at least a partial solution of our ever-present and increasing traffic problems.—Yours truly,

ERNEST A. WADDY, M.I.A.E.

POLISHED CHASSIS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There can be no doubt that the polished chassis at the Agricultural Hall this week have a strange fascination for many people who visit the Show, and it is not an exaggeration to say that some really believe that they can order such a chassis and use it on the road. The fact that the polish is merely put on as an attractive method of advertising the chassis does not at once appeal to them. They require a lot of convincing that nearly nine-tenths of all the parts they see so highly finished simply have a thick coat of paint or enamel on in the practical article sold to the public. There is much diversity of opinion amongst manufacturers as to whether results justify the great expenditure entailed in finishing off a chassis for show purposes. There is this to be said in its favour, however; that to the general public, who are only superficial observers, it brings home to them the fact that the modern motor-car is a splendid piece of mechanism, representing the highest level yet attained in engineering science. The practical motorist, of course, knows just what the true value of show finish is. He knows that he must look for good design, efficiency, and accurate workmanship, and that polish is the least of all considerations.—Yours truly,

PROVINCIAL VISITOR.

VARYING PETROL CONSUMPTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to "D 2104's" letter in your Correspondence columns on "Varying Petrol Consumption," it might interest him to know what my 8-h.p. De-Dion type of three speeds and reverse does in the way of petrol consumption. The best I have done is from Poole to Guildford, eighty-two miles, on two gallons and one pint with two persons and luggage which would be about equal to another one. I had a straight run, only stopping the engine once for lunch, and only used my lowest speed once or twice in the whole distance. The petrol used would have been a little less, but I had to run about Guildford to find my friends and the garage; this is where most of the low speed was used. This year I have done 436 miles on exactly fourteen gallons on petrol (Pratt's), thirty-one miles to the gallon. Most of this distance has been done in short journeys in a hilly district. It is a heavy car for the power, heavier than the recent De-Dion, 8-h.p. tonneau body. The car has been about 10,000 miles, and this week I thought I ought to see if new piston rings were required, as none had been put in since it was new in 1903. I found the top ring worn a bit but the other two hardly at all, the cylinder as good as the day it left the works, no play at all on the bearing. It seems almost impossible that it should be so after 10,000 miles, but it was so. It is wonderful what these cars will do, and for economy and reliability there is nothing like them, in my opinion.—Yours truly,

OWEN CARTER.

DETACHABLE MOTOR CARRIAGE BODIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A year ago I placed an order with the Windham Detachable Motor Body Company for a phaeton body to my 20-30-h.p. Renault chassis. This body embraced the "sliding principle," by which at very short notice a racing or other body can be substituted for the existing one. My friends rather tried to dissuade me from placing the order, contending that the principle was a new one, and that in use the body was sure to work loose and to rattle and shake more or less. I have now had my car nearly a year, during which time I have ridden it 9,176 miles, many of these on poor mountainous roads in Switzerland and Italy, and it is with much pleasure that I am able to testify that I have not had one moment's trouble from it, and that the body is now as sound and free from rattle as when I first acquired it. I am remitting to the firm the sum of £5 which I held as guarantee for the proper performance of the body, being perfectly satisfied with the work done. As I dare say your opinion has been solicited by intending purchasers, I thought it might be of use to you to have the opinion of a user and one who has no interest whatsoever in the company.—Yours truly,

CHARLES V. THOMSON.

A COMMERCIAL VEHICLE RUN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It was suggested at the lunch, and I have since been requested by several of the firms whose vehicles joined in the run to Ripley on the 10th ult., to organize another run on similar lines but on a much larger scale, on some date a few months hence, to be subsequently decided upon. I am very desirous of seeing the next one more representative of all the leading makes than was the last, and therefore propose the formation of a committee of management, composed of several of the makers themselves.

Properly organised, there is no reason why these runs should not become as much an annual event as, say, the cart horse parade of May 1st.

I shall be happy to receive at the Paul Street Works, Wolverhampton, names of those gentlemen desirous of joining the committee, and to assist as far as I possibly can to make the next and subsequent runs as successful as was the last.—Yours truly,

LEO HARRIS.

TESTS OF EXHAUST GASES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The tests which Mr. S. F. Edge has had carried out at the Northampton Institute on the exhaust gases from a six-cylinder Napier are of very great interest, as they show that such a large proportion, nearly 50 per cent., of the hydrocarbon (petrol) is wasted. But it is a question whether this proportion is not even greater than appears at first sight, because these tests only deal, I presume, with the constituents of the exhaust which were still in a gaseous condition at the time the analysis was made, and so no account has been taken of hydrocarbons that probably have condensed since the sample was drawn, and no mention is made of the water resulting from the oxidation of the hydrogen.

The proportion of nitrogen compared with that of the oxygen shows a remarkable discrepancy from the ratio in which they occur in the air. Neglecting the consideration of the small percentage of CO in the case of Sample A, the test actually accounts for 11.7 volumes (as the volume of oxygen in the CO₂ has the same volume as the CO₂ itself).

Then taking the formula for petrol to be roughly C₇H₁₆, the volumes of oxygen required to combine with the hydrogen (corresponding to 8.7 volumes of CO₂) would be 4.9, which brings our oxygen up to 16.6 volumes. The proportion of oxygen to nitrogen in air being approximately 1 to 4, we have to account for 20.4 volumes, and therefore there is a shortage of 3.8 volumes, and it is a question whether these have not gone to form oxidised compounds of the hydro-carbons, such as have not come within the consideration of the analyst as gaseous.

It would be very interesting if these discrepancies were cleared up, and I would suggest to Mr. Edge that he should undertake the determination of all the products of the combustion, not only those which remain gaseous. We all know that the petrol consumption of the six-cylinder Napier is good as compared with that of many other makes, and so we may presume that the loss on the average car is greater than indicated in this instance. At a time when petrol is so high in price it is of the utmost importance that such waste should not occur, and from some preliminary experiments which I have made I surmise that the trouble is due to the petrol not being equally and completely distributed throughout the air which carries it.—Yours truly,

A. DUCKHAM.

MOTOR-CAR EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A short while ago I read in your Journal an enquiry as to experiences with a Rover car. I would like to say that on Good Friday, accompanied by another gentleman, I ran from Burnham to Portsmouth and Southsea, returning on Saturday via Southampton, Lyndhurst, Bournemouth and Wells, covering in all a distance of 240 miles. I used eight gallons of Pratt's motor spirit for the journey, thus averaging thirty miles to the gallon. My first run was to Salisbury, a distance of sixty-four miles; this I did on less than two gallons. I had not the slightest trouble of any kind with the car from start to finish, in fact, I did not have to touch it in any way. My car is an 8-h.p. four-seated Rover. I purchased it last August from the Bridgewater Motor Company, and I have driven it 3,000 miles in all weathers, and on all roads, as far north as Manchester, and I can speak most highly of its reliability and its hill-climbing powers, and can thoroughly recommend anyone wanting a small, but reliable and economical car, to purchase a Rover.—Yours truly,

THOMAS COX.

THE HEAVY TOURING CAR RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to a letter signed by me, which appeared recently in your esteemed Journal, the secretary of the Royal Automobile Club points out to me that I was incorrect in believing that it was necessary for the screen which is to be fitted on all cars in the Heavy Tourist Trophy to be of glass; on the contrary, it is to be of wood. I think it only fair to the secretary of the Club that you will permit me to publicly accept his correction; but, at the same time, the only difference that I can see is that the danger to the driver is changed from the danger of glass to the danger of splinters, or, in other words, I consider it a most dangerous practice to race with appliances of this description, or even with an ordinary tourist body, and that the method adopted by the Brookland track is far preferable.—Yours truly,

D. M. WEIGEL.

LUBRICATION TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 12-h.p. two-cylinder Darracq, the engine of which is lubricated from crank chamber. I find one of my cylinders gets no lubrication. Can you or any of your readers advise me the best way of lubricating the cylinder independent of the lubrication of crank chamber?—Yours truly,

W. GRODON.

[This trouble is no doubt due to insufficient oil being admitted to the crank case, as both cylinders should be well lubricated if the rods were allowed to touch the oil. The only means of lubricating one cylinder without the other would be to drill and fit a lubricating pipe

in the cylinder below the water jacket. The pipe must be fitted with a small cheek valve near the cylinder to prevent the oil from being forced back into the lubricator. If, however, sufficient oil be admitted into the crank chamber we think the fitting of an extra pipe would be unnecessary.]

COURTESY (?).

TO THE EDITOR OF *The Motor-Car Journal*.

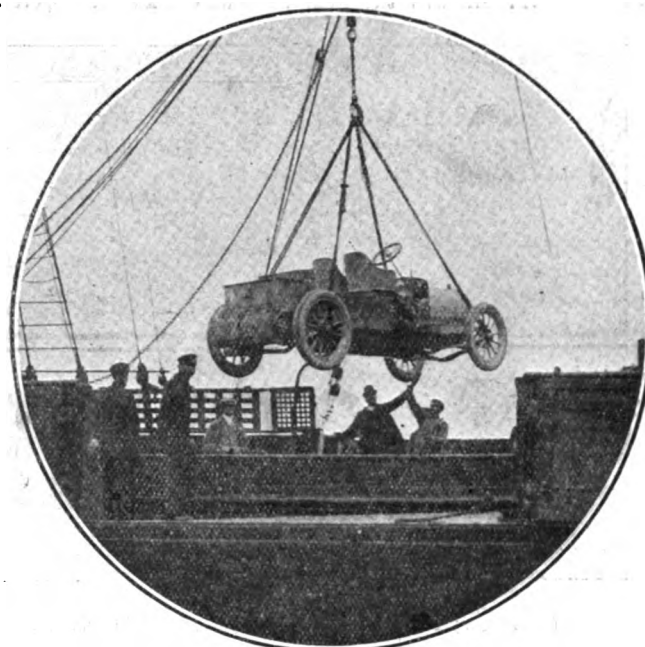
SIR,—In a recent issue of the *M.C.J.* the matter of "Freemasonry amongst Motorists" was touched upon. Up to that time I had always found that motorists were most willing to render any assistance to one in a fix, but on Good Friday evening a 20-h.p. American car broke its chain about two and a half miles from the nearest garage. My employer kindly housed it for the night, and on the following day the owner came down with a man to repair the same, and asked me to help the man. This I did for about two and a half hours, leaving my own car, which I was preparing for the Easter holidays, and so causing me to work some hours later than I should otherwise have done. I may say the gentleman generously rewarded me with two sixpences. Should anything of the kind happen again I am afraid I should not be so willing to render assistance.—Yours truly,

FREEMASONRY.

WIRE OR WOODEN WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the absence of further information we are entitled to regard the tests of Messrs. Kirkaldy as strictly comparable with those recently



Despatching Racing Cars from Marseilles to Messina, Sicily, for the Targa Florio Contest.

carried out in the Rudge-Whitworth laboratory. Messrs. Kirkaldy's tests show that, to be as strong, an Argyll staggered wheel must be 66 per cent. heavier than a Rudge-Whitworth wire wheel, the one weighing 35.36 lbs. and the other 21.25 lbs. The wire wheel offers less resistance to the air by reason of its thin spokes, and for the same reason whirls up less dust, which advantages should more than balance the aesthetic objections, which correspond to those raised a few years ago to pneumatic tyres on bicycles.—Yours truly,

JOHN V. PUGH.

PAINT FOR RENOVATING CAPE CART HOODS.—J. B. M. writes asking for the name of the makers of a paint or preparation for renovating canvas Cape cart hoods which have begun to fade and look shabby.

Mr. J. H. SUNTER, 15, Lord Street, Liverpool, has found a Salisbury tail lamp, evidently lost from a Lanchester car on Saturday, March 30th, between Capelcurig and Bettwa-y-coed. The owner can have the same on applying to Mr. Sunter.

IN reply to several inquiries we would mention that the address of Messrs. W. Whittaker and Co., the publishers of Mr. W. Hibbert's book, is 2, White Hart Street, Paternoster Square, London, E.C., and of Messrs. A. Constable and Co., who publish "O'Gorman's Motor Pocket Book," is 10, Orange Street, S.W.

INSPECTION PITS.—F. W. W. writes:—"Some time ago I had a catalogue from a firm advertising glazed fireclay motor pits. I have since mislaid the same, and cannot remember the name, and should be glad if any of your readers could supply me with the necessary information."

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

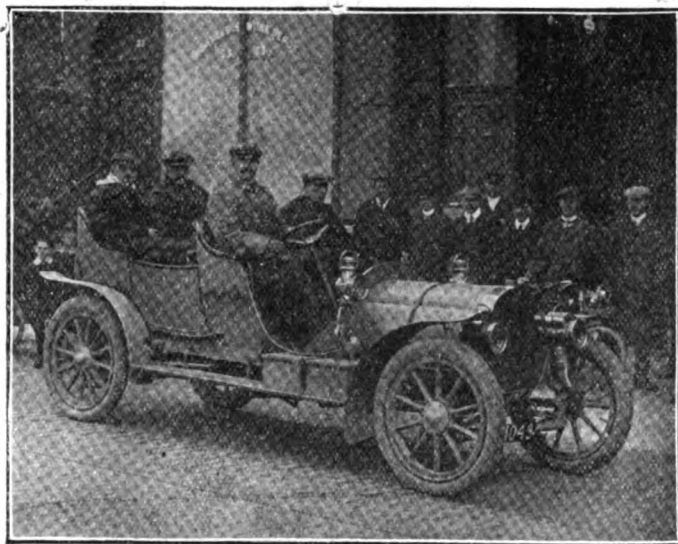
THE sixteenth entry for the International Heavy Touring Car Race is Mr. J. S. Moyse's Thornycroft car. Entries for the International Isle of Man Races cannot be received after the end of this month.

The results of the analysis of the exhaust gases in connection with the Vapour Emission Competition have induced the judges to recommend that a further competition should be held in about a month's time.

A private enclosure for the stabling of the cars of members of the club during the four days' racing at Ascot (Tuesday, June 18th, to Friday, 21st) has been arranged.

THE LIVERPOOL MOTOR CLUB.

A COMMITTEE meeting of the Liverpool Automobile Club was held at the headquarters of the club, Exchange Hotel, Liverpool, on Monday afternoon. The assistant hon. secretary reported the visit of the sub-committee appointed to deal with the arrangements for the Motor Union meet at Southport, on July 20th. to Knowsley to meet the Hon. Arthur Stanley, M.P. An invitation from the Town Clerk of Southport to the



Capt. Deasy starting on his 1,000 Mile Trial in Ireland.

General Committee of the Motor Union to lunch with the Mayor and members of the Corporation after the committee meeting in the town hall on July 20th was cordially accepted on behalf of the Motor Union. The report of the sub-committee appointed to deal with facilitating the entries of cars of American visitors into the port of Liverpool was received, and arrangements in this respect are nearing completion. In order to encourage the motor industry in Liverpool, the committee has decided to offer a silver cup for the best motor-car built within the port of Liverpool, and subscriptions amounting to about £20 have been promised. A club meet has been arranged for April 27th at the Brine Baths Hotel, Nantwich, and an inter-club meet with the Manchester Automobile Club and other northern clubs at Buxton for June 29th.

LINCOLNSHIRE MOTOR CYCLE.

THE Lincolnshire Motor-Cycle Club, which has 250 members, opened the season with a members' hill climb at North Carlton, four miles north of Lincoln, and had a most decided success. Dr. Godfrey Lowe was judge, Mr. W. H. Smith starter, Mr. A. E. Kirkpatrick, N.C.U., and Mr. G. W. Robinson, N.C.U., were timekeepers, Mr. A. Nissler, clerk of the scales, and Mr. G. J. Wilkinson, hon. sec. The results were—

Class 1.—Up to 3½-h.p. (1) Rev. G. A. Grace, Besthorpe, 3½-h.p. four-cylinder F.N. Handicap figure 1011. Time 45 sec. Figure of merit 23.5. (2) F. Naylor, Lincoln, 3-h.p. N.S.U., 1020, 52½ sec., 20.4; (3) A. E. Brunning, Lincoln, 3½-h.p. Rover, 983, 50 sec., 20.

Class 2.—Over 3½-h.p. (1) J. A. Metham, Grantham, 4½-h.p. Mineiva. Handicap figure 729. Time 39 sec. Figure of merit 19.4; (2) H. Haagenen, junr., Grimsby, 5-h.p. Vindec, 810, 42 sec., 16.2; (3) F. Richardson, Lincoln, 5-h.p. Vindec, 15.9.

MOTOR CYCLING CLUB.

THE London to Edinburgh twenty-four hours' run of the Motor Cycling Club will take place on May 17th. This event is open to members of the club only, so that motor-cyclists who are not already members and who wish to take part in this event should communicate as soon as possible with the hon. secretary, Mr. A. Candler, 1, Lime Grove, Shepherd's Bush, W.

KENT.

DURING the present season the Kent Automobile Club will hold luncheons at Canterbury, Folkestone and Margate in connection with East Kent meets. The membership of the organisation is 119.

SCOTTISH A.C.

IN the absence of the Right Hon. Sir J. H. A. Macdonald, Lord Justice-Clerk of Scotland, Mr. H. M. Napier presided over the annual meeting of the Scottish A.C. in the North British Station Hotel, Edinburgh, last week. In moving the adoption of the report and balance-sheet he congratulated the members on the vitality of the club. It was only seven months since the Eastern and Western sections were consolidated, committees formed, and work begun. The increase of membership was very gratifying, there being now 765 members, an increase of 116 during seven months, and more were down for election. As to finance, they began with a balance in hand of £457 12s. 9d. The balance in hand now was £1,312 14s. 9d.

Mr. John Wilson, in seconding, also referred to the success of the club and the beneficial effect which the consolidation would have upon motoring. He would like very much if the club could make a start to have the roads improved. Round about Edinburgh during the past week or so the dust had been very bad. The office-bearers had been re-elected with the exception of two members of committee, whose places Mr. Wallace Fairweather, for the Glasgow District, and Mr. Hunter Crawford, for the Eastern District, were chosen to fill. A vote of thanks to the chairman concluded the proceedings.

With regard to the Club's Reliability Trial the committee notify the following amendment on Rule 57, which is now to read:—"No replenishing of water or fuel will be permitted at any of the luncheon stops or at other times without penalty except in the case of steam cars, which will be allowed five minutes before restart from each luncheon place for the replenishing of water."

The following additional entries have been received:—Thomas Shaw (Dundee), Ltd. (Siddley); Western Motor Company, Ltd. (Argyll cars); Walter Phillips (Coventry Humber); Buchanan Shiel (Mercedes); Adams Manufacturing Company, Ltd. (Adams Hewitt).

ON Saturday next the East Surrey A.C. will have a run to Hampton Court.

THE Essex Motor Club will have a penalty run to Clacton on the 21st inst.

MR. W. O. SPILLER has been elected chairman of the Society of Motor Omnibus Engineers.

THE Derby Club's participation in the inter-club meet at Ashby on the 27th inst. will constitute its opening run of the season.

THE Nottinghamshire A.C. has issued a neat programme of their summer events. It is of a size to go in the waistcoat pocket.

THE secretary of the Motor Yacht Club is compiling a register of motor yachts and boats, and asks us to assist by inviting owners and builders to send him particulars of any motor-boats they may own or have built.

MOTOR-CAR ACCIDENTS.

MR. R. C. LEHMANN, M.P., with his two young daughters and a niece, was returning after his holiday to Bourne End in his motor-car, and was about to descend Hedsor Hill, when the hand brake snapped. He endeavoured to stop the car with the foot brake, but was unsuccessful, and the car went down the hill at a great pace. Mr. Lehmann turned and ran his car into a bank by the side of the road. The ladies were thrown out, and the car turned completely over. The car was a light one, and, although Mr. Lehmann was pinned beneath the steering gear, he escaped serious injury. He was soon extricated, and was able to go home with his daughters and the niece, who were unhurt, though much frightened. The car was badly damaged.

MESSRS. STRAKER-SQUIRE, LTD., have just opened a large West-End depot at 75, Shaftesbury Avenue, W., where the latest models of the Straker-Squire car are on view.

THE London and Parisian Motor Company, Ltd., have removed from South Molton Street, W., to new show rooms at 87, Davis Street, Oxford Street, W.

THE STEPNEY SPARE MOTOR WHEEL, LTD., have opened works for the manufacture of the Stepney spare motor wheel in Germany at 18-19, Lindower Strasse, Berlin, under the management of Mr. W. Mertens, late of the Continental Tyre Company, Ltd., London. The output of the spare wheels at present is 1,250 per month, but, owing to the new extensions at the Llanelli works, the company will soon be in a position to turn them out at the rate of 2,000 per month.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING LEGAL LIMIT.

Oliver Stanton was accused at Marylebone of driving his motor-car in Avenue Road, St. John's Wood, at over twenty miles an hour, and failing to produce his licence when desired by the police. Defendant said his indicator registered only eight miles an hour. He told the officers he refused to show his licence to anyone of lower rank than an inspector. The police were very brusque, and looked like brigands. When they asked for his licence he refused to produce it because it had no stain upon it. Afterwards he met a high official from Scotland Yard, to whom he confessed with regret that he had fallen into a police trap. The high official then asked, "What did you do?" and he told him that having been caught in a trap himself he went to the top of the Avenue Road and warned every motorist who came along. Altogether he warned forty-two, and held them up, and they all went down the road like a funeral procession. Mr. Plowden said no other course was open to him than to impose a fine of 40s. on one summons and 10s. on the other, with costs.

Several motorists were fined at the Shoreham Petty Sessions on Thursday of last week, for exceeding the legal limit at Southwick.

The case against a Brighton motorist for leaving his motor-car unattended on the road at Shoreham has been dismissed.

A motorist from Worcester has been fined 10s. and costs at Gloucester for causing an obstruction with a motor-car in that city.

DANGEROUS DRIVING.

Hugh Jones, chauffeur to Prince Hatzfeldt, of Draycott Manor, near Chippenham, Wiltshire, was at Gloucester on Saturday summoned for

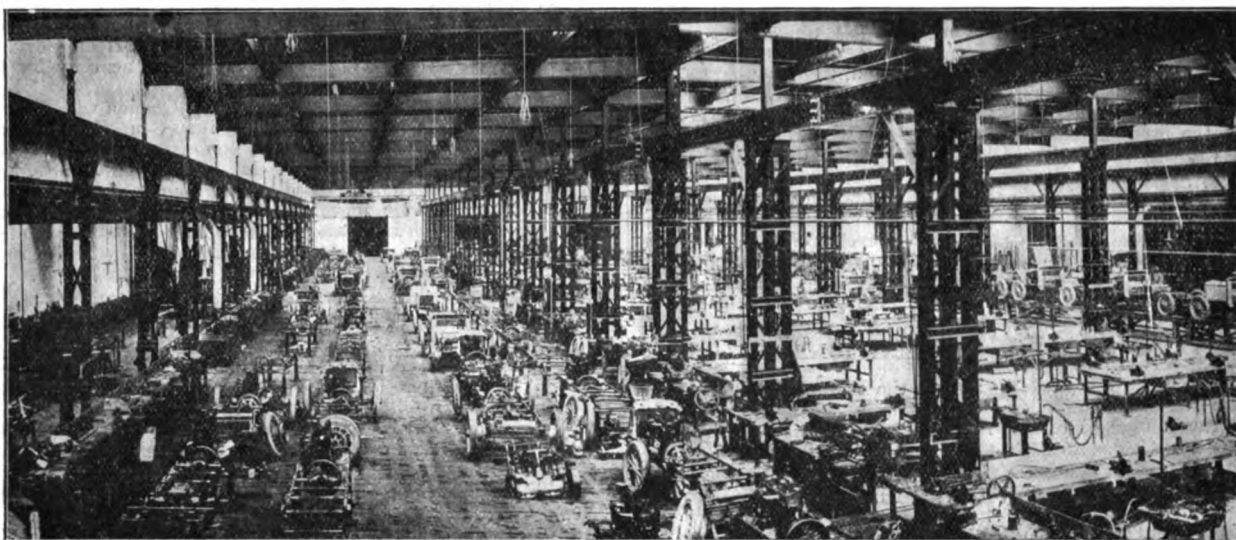
speed, which he eventually did, but did not do so from the notice given by the sergeant, which he at the moment looked upon as a salute from the sergeant to him as a magistrate. The chairman announced that the majority of the magistrates considered that neither of the charges had been proved, and both summonses should be dismissed. He himself felt it was his duty to state that various representations had been made by different parties as to the high rate of speed at which Lord Portarlington was in the habit of driving in congested districts in and about the town of Portarlington, and, although he had no personal feeling in the matter, he was bound to say that sooner or later something serious would happen if the speed was not abated.

NO LIGHT.

Arthur Scully, of the Royal Military College, Sandhurst, Camberley, has been summoned for riding a motor-bicycle at Horsham on March 23rd without a light, and, further, with failing to produce his licence on demand. Defendant admitted both offences. P.S. Paull gave evidence, saying that defendant told him his friend in advance had his licence. Defendant now stated that he had no licence. It was the first time he had been out on a motor-cycle, and this one he had borrowed. Superintendent Goldring asked for the full penalty to be imposed under the circumstances. In each case a fine of 40s. and costs was imposed, amounting in all to £4 11s.

NO LICENCE.

At Northampton, Cyril Durlacher was summoned for driving a motor-car through Fenny Stratford, on March 8th, having no red light, and, secondly, for at the same time and place not having his number plate illuminated. Fined 20s. and costs, 8s. 6d. in each case. Herbert Alfred Evans was also summoned on two charges, one for not having his number plate illuminated, and the second for driving without having a



The above striking illustration shows an interior view of the new Daimler erecting shop, which is claimed to be by far the largest shop in the British Motor Industry. The erection of this building was necessitated by the very large demand for Daimler Cars, the present production being now nearly double that of twelve months ago.

driving at a dangerous speed at Hucclecote, near Gloucester. It was stated that the car was going at forty-five miles an hour. P.C. Perkins said he tried to take the number, but could not on account of the dust. There was a vehicle on either side of the road, and the driver of one of them was nearly knocked over. The motor-car did not touch either vehicle, but it was a very near thing—a matter of inches. Dr. Carter, of Chippenham, who was in the car at the time, said that he had done a lot of motoring with Prince Hatzfeldt. The speed through the village of Hucclecote did not exceed fourteen miles an hour. Defendant and another chauffeur who was in the car corroborated. Defendant, who had been twice previously convicted under the Motor Car Act, having been fined on one occasion £10 and costs and on another £2 and costs, was now ordered to pay £20 and £1 11s. 8d. expenses, and his licence was endorsed.

Mr. R. Vesey Fitzgerald, R.M., presided at the Petty Sessions at Portarlington, when two summonses were brought against the Earl of Portarlington for furious driving in the neighbourhood as under:—(a) Driving his motor-car in the public highway on the 25th of March, and failing to stop when signalled to do so by the complainant holding up his hand; and (b) driving his motor-car at such a speed and in such a manner as was dangerous to the public. Sergeant Molloy, Kilmalogue, deposed that Lord Portarlington was driving at the rate of twenty-five to thirty miles an hour up the street of Kilmalogue. He held up his hand and said "Much too fast, my lord," but he could not say that Lord Portarlington reduced the speed at which he was travelling at the time.

Mr. Turpin, solicitor, who appeared for Lord Portarlington, said his client did not understand the signal as a warning to reduce his

licence in Fenny Stratford, on March 7th. Fined 20s. in the first case and 30s. in the second, with 8s. 6d. costs in each, or fourteen days.

INTERNATIONAL AUTO-CYCLE TOURIST TROPHY RACE.

IN order to encourage entries and to create additional interest in this event, the Committee of the Auto-Cycle Club have opened a fund to raise an amount of about £100 for the purpose of providing cash prizes of, say, £60, £30, and £10, to be awarded to the entrants of the winning machines in this race. The expenses of organising an event of this kind, and the cost of closing the road in the Isle of Man for the purpose, will be so heavy that the amount received for entry fees will be insufficient to provide cash prizes in addition. The Committee are, therefore, appealing for donations towards the fund in the hope that there will be a general encouragement of the club in its efforts to promote an event which must ultimately benefit the motor-cycle industry generally.

MESSRS. SMITH'S PATENTS, LTD., 256 and 258, Borough High Street, London, E.C., send a circular and list of their unpuncturable leather tread and non-skid. These are made for cars and voiturettes, and by a special process the firm claim to strengthen the beads of motor-covers when fitting their leather treads.

MR. H. WAYMOUTH PRANCE, A.I.E.E., who makes a speciality of examining and reporting upon second-hand cars, has for the convenience, and in deference to the wish of many of his clients, had the telephone installed in his consulting room at 39, Westbourne Gardens, W., the number being 3737 Western.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

Vauxhall Motors.—£25,000. To adopt a sale agreement between the Vauxhall and West Hydraulic Engineering Company, Ltd. (vendors), of the first part, L. Walton of second, P. Kidner of third, J. Todhunter and W. Gardner of fourth, and Vauxhall Cottage Company, Ltd., of fifth, and the company of sixth, and two management agreements with said L. Walton and P. Kidner respectively, and to carry on the business of manufacturers of motors, &c. No initial public issue. First directors (not less than two nor more than five): P. Kidner and L. Walton (permanent managing directors) and W. Gardner. So long as the vendor company hold 5,000 of shares allotted to them under sale agreement, they may appoint a director, W. Gardner being first nominee.

Pretoria Engineering and Motor Works.—£500. To adopt an agreement with Mr. W. C. Davies for the acquisition of the business of a general and electrical engineer, automobile manufacturer and dealer, &c., carried on by him at Brownhill Road, Catford, S.E. No initial public issue. Registered without articles.

Irish Motor Touring Company, Ltd.—Capital, £1,500 in £1 shares, for the purpose of carrying on business of conveyance by motor-cars, motor-cabs, boats, omnibuses, carriages, vans, &c., of all descriptions of passengers and goods, and to organise trips and tours throughout Ireland. Registered offices, Haddington Road, Dublin.

Dreadnought Motor Cycle Company.—£36,000 (£1). To acquire from Mr. F. M. S. Lewin the benefit for the United Kingdom of an invention relating to the starting of engines worked by explosive gases.

COMPANY MEETINGS.

Edinburgh and District Motor Omnibus Company, Ltd.—A meeting of this company has been held to consider a proposal to sell the assets of the company to a new company to be formed. Mr. C. E. Hogg presided. Mr. Young took some legal objections, and a long discussion ensued. On the motion being put to the meeting, it was lost. Mr. Young then proposed that a committee should be appointed to investigate the affairs of the company. The Chairman said he would cordially welcome a committee of inquiry, but when he was about to put the proposed names to the meeting, Mr. Young said he desired that the committee should have power to appeal to the Court. The Chairman said he should most strongly object to the committee having power to plunge the company into liquidation at the cost of the shareholders generally. After further discussion, the Chairman said that so much hostility had been shown, and several of the committee appeared to enter upon their duties in such an unfriendly spirit, that he should refuse to put the resolution to the meeting, which he then declared was at an end.

TAR-SPREADING COMPETITIONS.

FULL details have already appeared in the *M.C.J.* with regard to the two competitions that are being conducted by the Roads Improvement Association on behalf of the Royal Automobile Club and Motor Union. The competitions are for:—

- (a) The best Tar-spreading Machine, and
- (b) The best Preparation of Tar for road purposes.

The following is a list of entrants:—

TAR-SPREADING MACHINE COMPETITION.

Thomas Aitken, County Buildings, Cupar, Fife.
 "Emulsifix," Ltd., 55, Cross Street, Manchester.
 "Tarmaciser," Ltd., 7, Victoria Street, London, S.W.
 "Tarpra," Ltd., 20, Victoria Street, London, S.W.
 Thwaite and Thorp, 29, Great George Street, Westminster, London, S.W.
 Johnston's Lassailly Patent Road Binder Co., 45, Parliament Street, S.W.

TAR PREPARATION COMPETITION.

A. I. Craig, c.o. Messrs. Wishart and Sanderson, 15, York Place, Edinburgh.
 R. S. Clare and Company, Ltd., Tar Distillers and Manufacturing Chemists, Liverpool.
 "Hahnite," 3-4, Great Winchester Street, E.C.
 Kay Brothers, Ltd., St. Petersgate Mills, Stockport.
 Tar (Patents) Solidifying and Distilling Company, Ltd., 15, Mansion House Chambers, London, E.C.
 T. G. Marriott, 328, Renfrew Street, Glasgow.
 Ermenite, Woodbank, Matlock Bank.
 Gas Light and Coke Company, London.

CONFERENCE ON ROAD-MAKING.

A CONFERENCE of road makers and road users is being arranged to be held at Olympia, Kensington, W., on the 19th inst., in connection with the "Surveyor's" Section of the International Building Trades' Exhibition. The following papers, previously circulated, will be discussed:—

- (1) What the State could do to Assist in the Road Question, by E. J. Lovegrove, borough engineer of Hornsey.
- (2) In What Way could Road Widening be Facilitated? By H. T. Wakelam, county surveyor of Middlesex.
- (3) What could be done to Reduce Skidding on City Road Surfaces, by J. W. Bradley, city engineer of Westminster.

(4) The Use of Tar in Road Construction, by A. Dryland, county surveyor of Wilts.

(5) How far Skidding is due to Road Surfaces—(a) Construction and Materials, by Douglas Mackenzie; (b) Cleansing, by E. Shrapnell Smith.

(6) Some Points of the Road-Bridge Problem, by H. Howard Humphreys, consulting engineer to the Army Council on Roads and Bridges.

(7) The Design of Modern Motor Vehicles in Relation to the Existing Roads, by Colonel R. E. Crompton, C.B., R.E.

(8) The Planning of Roads for the New Traffic, by Rees Jeffreys.

The joint secretaries of the conference are Messrs. Gibson Thompson, 24, Bride Lane, Fleet Street, E.C.; and Mr. Rees Jeffreys, 1, Albemarle Street, Piccadilly, W.

ROAD REPORTS.

WARRINGTON.—Loud complaints have been made at Warrington Rural Council about the re-appearance of dust clouds caused by motor-cars and damage to roads and crops. One member said that the motor traffic was causing the ceilings in houses to crack and break. The chairman said that if the Imperial Exchequer did not contribute to the upkeep of the roads the council would be justified in refusing to maintain them in good order and in allowing them to get in such a state that rapid traffic would be impossible.

EAST GRINSTEAD.—Being satisfied with the result of their experiment of tar-washing the roads to prevent dust, the East Grinstead Council are continuing the treatment this season. They have been disappointed that the East Sussex County Council do not yet look upon the system so favourably as they do, the local Council considering that further experiments are unnecessary. In East Grinstead in past seasons only the extremities of the town have been tar-washed, but now those living in the centre of the town, where are most of the business premises, wish to have the roads there similarly treated. One disadvantage of the treatment is the quantity of dust caused while the tar-washing is being carried out, the roads having to be perfectly dry. The benefit which follows, however, amply repays those near by for the temporary inconvenience.

PERTH.—In connection with the application which has been made to the Secretary for Scotland by the County Council of the county of Perth for closing of roads to and restriction of speed of motor vehicles on certain roads within the county, Mr. Alexander Stuart, Edinburgh, has been appointed commissioner to investigate the roads proposed to be affected. A public inquiry will be held in the courthouse, Perth, on Wednesday, 17th inst., and any automobilists who are interested in the roads involved are requested to communicate with the secretary of the Scottish Club, 59, St. Vincent Street, Glasgow.

BUSINESS NEWS.

OWING to the requirements of the London telephone service, the telephone numbers of the City depot of Messrs. Humber, Ltd., have been altered from 778, Holborn, to 5560 and 5561, Holborn.

MESSRS. DURHAM, CHURCHILL AND COMPANY, Sheffield, are building a 24-30-h.p. 2-ton lorry for the Newbottle Co-operative Society, of Fence Houses, co. Durham.

MR. SIDNEY GIRLING has recently written to the Elastes Company, Ltd., stating that he has now run his 20-28-h.p. Darracq car fitted with Elastes-filled tyres 5,000 miles, and finds this tyre-filling most satisfactory. He points out that his car has had particularly hard work, being used for demonstration purposes in all parts of the country.

AFTER many delays, Horch Motors, Ltd., are now installed in their new depot in Shaftesbury Avenue, W.C., and are displaying the latest models of the car which won the 1906 Herkomer Trophy. A fine 35-40-h.p. chassis and a show-finished 18-22-h.p. vehicle are being exhibited, and after Cordingley's Show the landaulet which is on view at the Agricultural Hall will also be installed.

FROM Messrs. S.F. Edge, Ltd., comes a copy of a booklet they have just issued entitled "The Press on the Six-cylinder Napier," which contains a number of extracts from recent articles published in the leading newspapers concerning the six-cylinder principle for powerful motor-cars, as introduced by Mr. Napier.

OF interest to motor traders is the new catalogue of motor components just issued by the Etablissements Malicot and Blin, of Aubervilliers (Seine), France. It gives full particulars of the various M.A.B. parts, including differentials, back axles, change-speed gear, steering gears, &c.

MR. CECIL H. LAMB, of the late firm of Messrs. Lamb Brothers and Garnett, has, we learn, joined Climax Motors, Ltd., and is now engaged in pushing the sale of the Climax cars.

WE learn that Mr. Batson is not now connected with the Lindsay Motor Manufacturing Company, Ltd., and that Mr. J. Clingoe has taken over the sole control of the business.

CONVINCED of the merit of things Scotch, Mr. L. W. Lanen, the Dutch agent for the Argyll cars, has adopted the Scottish national costume for his son, the little fellow in his novel rig-out being quite a feature of the Argyll stand at the recent motor show at The Hague.

LAST week a social gathering of the employees of the Humber works at Beeston was held to celebrate the opening of the new show rooms and despatch department. Mr. T. C. Pullinger presided, and upwards of 1,200 employees and their wives were present.

THE Motor-Car Journal.

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COMMENTS.



OUR reports of motor-car cases in the courts this week include reference to two canine tragedies which have happened in that part of Sussex of which Uckfield is the legal centre. One of the summonses was dismissed; the other resulted in conviction. The two cases afford an illustration of the different ways in which motorists look upon the feelings of other people, and should encourage considerate drivers in continuing a respect for pedestrians and those upon the highways. At the same time we would remind the organisations associated with motoring that the dog nuisance has not been mitigated in the least by the new regulations, and that they will have to give some heed to that annoyance and danger of the roads if they are to secure the safety of their members.

The 1908 Show.

BOOKINGS have already commenced for Cordingley's Motor Show of 1908, which will again be held at the Agricultural Hall, London, from March 21st to 28th. Despite the difficulties which were created by the holidays coming so near the date of the 1907 event, the Exhibition which closed on Saturday was a great success, and the exhibitors of delivery and pleasure cars alike were able to record good business done. The Press have also recognised the fact that orders were plentiful, while serious inquiries proved that Cordingley's Exhibition maintains its prestige as a selling exhibition. Fashionable visitors came in large numbers, and traders from all parts of the country attended to see the novelties, and, in many cases, to settle contracts and place orders. This experience was not confined to makers of cars, but the accessory and component firms were equally well satisfied with the character of the inquiries and the extent of the orders received. Facts such as these will weigh with exhibitors, who are naturally anxious to take advantage of the choice of position always available to the early comers at the Agricultural Hall Show. And, as we have already said, booking has begun.

An Automobile Re-union.

THERE was a pleasant and informal gathering of members of the Automobile Association at the Exhibition in the Agricultural Hall on Thursday of last week. Many members who had come up to town to see the Show took advantage of the opportunity to meet their brethren and to discuss the affairs of the Association. The chair was occupied by Col. Bosworth, who was supported by Mr. Charles Temperley, Mr. L. Schlentheim, Captain Benett Stanford and other members of the Association. There was no speech-making in the ordinary sense of the word, but Col. Bosworth referred to the very prosperous condition of the Association, which had gone on increasing in membership by leaps and bounds. The result was that the good work of patrolling the roads had been vastly extended, and a complete system of agencies had been established all over the country, so that the A.A. was now represented in nearly every town and village. Guides had also been organised to lead members through the crooked streets of

the larger towns. Another new feature was the establishment of a legal insurance department, which would defend members' cases in any part of the country for a nominal annual fee. In conclusion, the chairman referred briefly to the conduct of the Motor Union in adopting a badge almost similar to that of the A.A. He counselled members, however much they might disapprove of this conduct, to use moderation. The Association will shortly move to very commodious new premises in the West End, where every accommodation will be provided for visiting members.

A Typical Saturday.

THE open air season is now getting into full swing, and motor club life is reviving after its winter rest. From now till the end of September the motorist will have plenty of entertainment, and the programmes of the clubs that have reached us thus far show a keen desire on the part of the officials to give members variety of amusement, as well as opportunity of comparing notes on the road—a very useful means of automobile education. Saturday, April 20th, may be regarded as a typical day, and the events that are crowded into the week end are illustrative of our meaning. Opening runs are being held by the Yorkshire A.C. to Harrogate, and the Southern M.C. to Epsom. The Motor Cycling Club will have its hill climb on Pebble Hill, near Westerham, and the Newcastle M.C. its slow hill climb on Benton Bank. At Reading the annual meeting of the Berkshire A.C. will take place; the West Surrey A.C. will indulge in its annual lunch at Hindhead; and the Royal A.C. will settle down to a serious examination of candidates for its certificates at the University College, Birmingham. Ordinary runs will also be undertaken by the Birmingham M.C.C. to Dodden Hill, the West Essex A.C. to Billericay, the East Surrey A.C. to Hampton Court, the Essex M.C. to Ongar, the New Forest and Bournemouth A.C. to Brockenhurst, and the Walthamstow M.C. to Quendon. Some of these trips will be continued over Sunday, when the Kensington A.C. will have its inaugural meet of the season at Frensham Ponds.

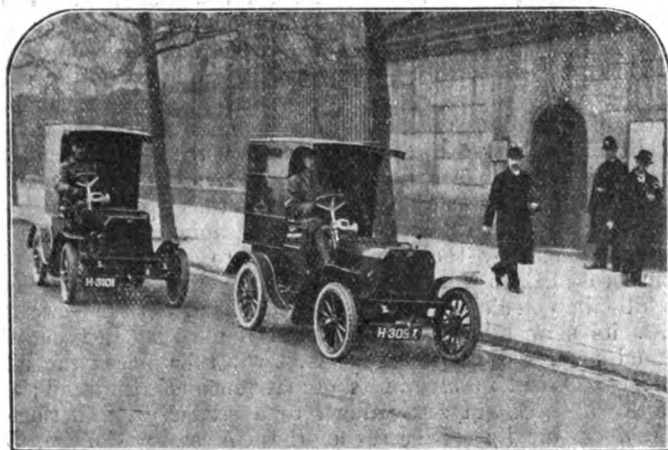
Benzole v. Petrol.

SOME degree of comfort may be gleaned from the evidence of Mr. Edmond Ledoux before the Fuels Committee of the Motor Union. Mr. Ledoux is the technical director of the Simon-Carves Bye-Product Coke-Oven Construction and Working Company, Ltd., and believes that if the demand for benzole were sufficiently great twenty-five to thirty million gallons could be recovered from coke-ovens and tar works. In fact, a third of that supply could be secured within a tolerably short time at 6d. per gallon at the works. If it was intended for use with motor-wagons, Mr. Ledoux believes that this 6d. unwashed benzole would be quite good enough, but if for pleasure and touring vehicles the further treatment that would be necessary might advance the price another penny. In confirmation of the suitability of this fuel he told the committee that he was using 65 per cent. unwashed benzole in his 16-h.p. De Dietrich, and found very good results so far as efficiency is concerned. He could travel 20 per cent. farther on the same quantity of fuel and could obtain perceptibly more power. He could start easily from cold, and the running was very smooth.

There was a certain amount of soot on the valves after running fifty miles in a hilly district, but not sufficient to cause trouble. The most serious drawback in the unwashed state was the smell. By further treatment, which could be done at an extra cost of, say, 1d. per gallon, all tendencies to sooting could be eliminated as well as the removal of the smell in the liquid state. Owing to the greater specific gravity of benzole the adjustment became automatic, *i.e.*, a less quantity of this liquid was admitted in the carburettor, consequently increasing the proportion of air in the mixture. Mr. Ledoux intends to use benzole on his car in the future.

Side-Slip and Skid Prevention Competition, 1907.

By a minute of November 7th, 1906, the Committee of the Royal A.C. authorised a competition for devices to prevent side-slip by motor-omnibuses, and announced that a cash prize of £100 would be given to the device which should prove efficient and receive the approval of the Chief Commissioner of Police and the Local Government Board. Forty-one devices were submitted in connection with this competition, of which number thirteen remained after the examination of the drawings, seven were submitted to a preliminary test on a prepared surface at the Clement-Talbot Works, Ladbroke Grove, N. Kensington, W., after which five were selected for the Road Endurance Test over a distance of 1,000 miles. The Road Test



Two of the Wolseley Vans which have lately been put in service by the Scotland Yard Authorities.

consisted of runs under service conditions on the Putney to Shoreditch route. The weather and road conditions were too good to provide a sufficient test of the side-slipping and non-skidding preventive qualities of the devices submitted. There were, however, two days on which the conditions were severe. The judges regret that no device submitted to or tested by them can claim to "efficiently prevent side-slip and skidding by motor-omnibuses" under all the varying conditions of street traffic. The Hartridge Tyre (rubber blocks, multi-sectional in direction of rotation), however, showed itself to be a practical device capable of application to existing road vehicles, and to be worthy of special commendation. Consequently, the judges recommend that a certificate be awarded to the Hartridge Tyre Syndicate, Ltd., and that the cash prize of £100 offered by the Club be also awarded to the company. The device submitted by Mr. H. B. Molesworth (three pairs of wheels, back and front steering) was presented in a condition which did not and could not do justice to the device; the judges are of opinion that even as presented it proved that the use of six wheels possesses distinct advantages in the prevention of side-slip, though as fitted and presented for trial the adhesion was so reduced as to result in a serious loss of driving and of brake power. The judges therefore recommend that a certificate of merit be awarded to the device entered by Mr. H. B. Molesworth.

The Dimensional Theory.

THE lecture which Mr. F. W. Lanchester delivered to the members of the Institution of Automobile Engineers last week at the Institution of Mechanical Engineers, Strrey's Gate, St. James's Park, under the Presidency of Colonel R. E. Crompton, on the horse-power of the petrol motor in its relation to bore, stroke and weight, was the most erudite paper which has yet been placed before that newly-formed body of experts. Briefly, Mr. Lanchester based his argument on the dimensional theory, concerning which he said that it had for many years been a surprise to him how little of the theory of dimensions was known, much less employed, by engineers, and if his lecture could bring it home to some few present that there was a valuable tool lying idle that was worthy of frequent employment his time would not have been wasted. The neglect of the dimensional theory seemed the more inexplicable when it was borne in mind how in other matters discovery and method were taken red hot from the physical laboratory and adapted post-haste by the modern engineer to meet the insatiable demands of western civilisation. The theory of dimensions might be said to be founded on the very simple and obvious fact that a time could never be equal to a volume or space, or an area to a linear quantity, or in general one physical quantity to another involving different fundamental qualities. The question of what constituted a fundamental quantity touched on the ultimate definition of our conceptions, but it was customary to recognise three fundamental quantities and three only, namely, length, mass, and time, into which all other physical quantities could be dissolved. The lecturer then dealt with the question of geometrical similarity in bodies of varying size, and went on to point out that if two machines, such as petrol motors, were built part for part alike, but differing in scale, their weights would be as their respective linear measurements cubed. He then dealt with horse-power as a function of linear dimension, immediate deductions from horse-power equation for engines of similar form, conditions of least weight, influence of changes in the density and stress on the horse-power developed, the consideration in detail of weight saving, proportions of least weight as affected by the number of cylinders, the rating rule, and some unaccounted factors.

The Vapour Emission Competition.

ON another page we give the judges' award in the Vapour Emission Competition held by the Royal A.C. on March 19th and 20th. It is gratifying to learn that although all could not be placed first in order, the judges found that the cars were, on the whole, successful, and that each competitor has been given the results of the analysis appertaining to his own car, with a view to such improvement as may be deemed desirable. The judges recommend that another competition be held on May 10th with a view to further encouragement in the direction of minimising the emission of vapour and of ascertaining the results of any improvements made in the cars not wholly satisfactory. This systematic testing and critical examination can only be productive of good, and we are glad to learn that the Royal A.C. has accepted the offer of a prize of fifty guineas by Mr. Dugald Clerk to the winner of the gold medal in the proposed further trial next month.

Motor-car Imports and Exports.

ALTHOUGH, as compared with the corresponding month of last year, there was an increased importation of foreign motor-car productions into Great Britain during March, the returns show that the rate of increase that has hitherto been recorded is not being maintained. The number of vehicles which reached this country during March is returned at 526, their value being given as £265,455. Parts were responsible for an additional £234,069, which gives a total of £439,524, as against £415,650 in the corresponding month of last year, and £314,535 in March, 1905. For the first quarter of the current year the figures are: Number of cars imported, 1,418; value of

same, £584,095; imports of motor parts, £580,672; total, £1,164,767. For the similar period of 1906 they were:—1,588 cars of a value of £617,981; parts, £506,081; total, £1,124,062. Turning to the exports of British motor-cars and parts, these continue to exhibit a very satisfactory increase. The number of cars shipped in March was 167, of a value of £67,700, while parts accounted for a further £42,894, the total of £110,594 contrasting with only £54,754 in the corresponding month of 1906. The aggregate exports of British motor-cars and parts during the first three months of the current year amounted to £315,602, as against only £159,178 in the corresponding quarter of last year.

The Lincoln Meet.

THE first of the provincial meets of the Motor Union will be held on Whitsun Saturday, the 18th prox., at Lincoln, on the invitation of the county Automobile Club. Having regard to the success of these gatherings last year, it is anticipated that the large attendance of motorists will tax the hotel resources of the city on the forthcoming occasion. At the evening dinner, Earl Brownlow, the Lord Lieutenant, will preside, supported by the Earl of Yarborough, Mr. C. D. Rose, M.P., Sir Hickman Bacon, Bart., and a large contingent of Lincolnshire M.P.s, including Lord Willoughby de Eresby and Mr. G. H. Roberts. The programme also includes a trip to Woodhall Spa, and a run across Tennyson's country, passing through Horncastle and Somersby. In addition to the social welcome that is being arranged, the municipal authorities are doing all they can to give motorists a favourable impression of their attitude towards the motor-car, and we understand that the mayor, Col. J. S. Ruston, J.P., is arranging that the route (three miles in length) between the Guildhall, Lincoln, and the grounds of Canwick Hall, where the gymkhana will be held, is to be specially swept and watered. Altogether, the Motor Union will have a good beginning for its summer meets of 1907.

Sign Posting the Roads.

To the Touring Committee of the Royal A.C. has been referred the consideration of the question of sign-posting Watling Street, which has been raised by Earl Russell. The idea is that a through route from London by way of Watling Street should be sign-posted, which would serve for Chester, Birkenhead, and the Isle of Man, for North Wales and Holyhead and via Liverpool and Preston for Carlisle. Apart from the Great North Road, this is perhaps the most important thoroughfare in the country, and, according to Earl Russell, it needs dealing with in this way because it is not at present recognised as a through route. Should the Touring Committee agree to the suggestion they have authority to take the matter in hand, so that those who go northwards during the summer may have the advantage of the notices which Earl Russell proposes.

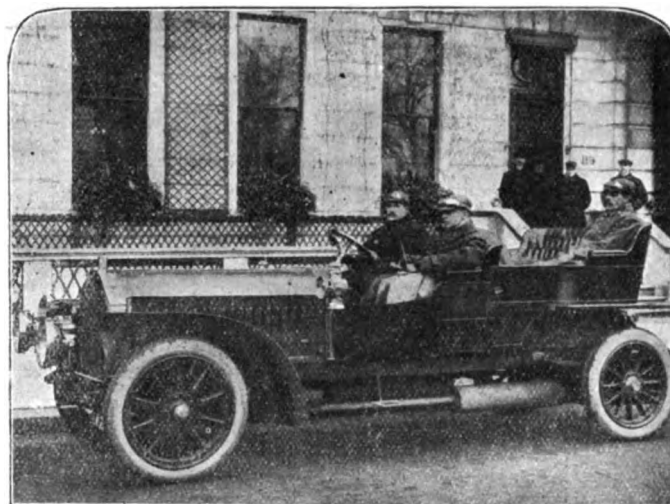
Local Patriotism.

Nor often do we hear of local automobile clubs suggesting prizes for cars built within the area of their operations; hence the interest of the announcement we were able to make last week with reference to the offer of the Liverpool Automobile Club of a silver cup for the best motor-car built in the city of Liverpool. This club, which is a successor of the Liverpool Self-Propelled Traffic Association, which did so much to give an importance to the movement in the North of England at a time when it needed such assistance, has deserved the thanks of local traders for proposing such an incentive. It is, however, hardly likely that any considerable number of clubs will follow the example, or the difficulties of manufacturers would be increased to a considerable degree. The feeling of patriotism which has favoured the British car in some quarters cannot be localised so that the residents of any particular town will confine their investigations only to the merits of cars produced in their own district. At the same time, it is evidence

of the friendly feeling which is now developing in so many provincial centres, which are anxious to attract some branch of the motor industry unto themselves.

Motor-Buses at Chester.

ONE of the most enjoyable meets of motorists held within the last two or three years was that at Chester. It failed, however, to secure universal approval for automobilism in the city, and, apparently, the doctors there have much to learn on the subject of motor-vehicles. The Chester Town Council have, by thirteen votes to eleven, just rescinded a resolution passed in October authorising the purchase of three motor-omnibuses, at an estimated cost of £3,000, to serve the outlying districts not supplied by tramways. The meeting was convened by the mayor in response to a special requisition. Since the October resolution the necessary loan had been sanctioned and a tender accepted. Dr. Griffith declared that it was well known among medical men that where motor-omnibuses had been introduced the death rate had increased, especially among those suffering from chest trouble. Infantile mortality had also increased. All the doctors present voted for the rescission of the resolution. In view of the progress that the motor-bus has made in London during the last few months, the



On Friday (morning) of last week Mr. E. A. Paul left the Royal Automobile Clubhouse in Piccadilly, London, at 8.30 a.m. He reached Monte Carlo the following afternoon, at four minutes past six, the journey thus having taken 33 hours 34 min., being 1 hour 31 min. in advance of the previous record. The car was fitted with Dunlop tyres, and Mr. Paul is to be congratulated on the result of his first attempt at record-making.

vacillation of the Chester City Fathers seems ludicrous, while the statements made by the doctors are scarcely likely to be borne out by evidence.

Motor Races for the Public.

AT length the legal controversy following the Brighton race meeting of 1905 is at an end, the Court of Appeal having decided that the Town Council were justified in incurring expenses to attract visitors to the town. It will be remembered that the Brighton Corporation arranged with the Automobile Club to pave Madeira Road with Tarmac in order to provide a course for the motor-car races. This was done at a cost of about £3,000. Subsequently some of the ratepayers objected to the expenditure, and a Divisional Court held that the money had been spent without authority, and that the action of the Highway Committee was wholly *ultra vires*. Against this decision the Corporation appealed, with the result already mentioned. The case is of interest as establishing a precedent for other local authorities to expend money on securing perfect roads for motoring, if such expenditure is likely to result in increased visitors to the town.

THE VAGARIES OF MOTOR VEHICLES.

BY A. J. MCKINNEY.

(Continued from page 125.)

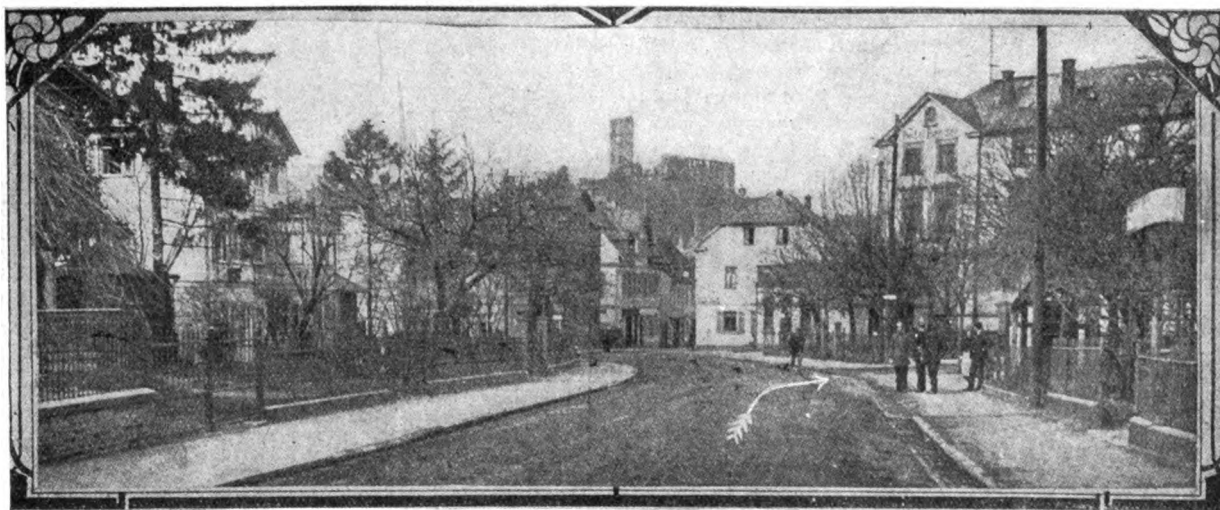
A NEW car was sent down to a client for a trial run. A change-speed gear with gate control was fitted. A start was made, and the first speed having done its duty, the second was requisitioned. On the change being made the car pulled up dead right in the middle of a busy crossing, while the engine raced away merrily. The symptoms were grave. "The cardan shaft broken?" no; it was only that the second speed seemed to be completely absent, though the third and fourth were as usual. The makers have so far not divulged the reason for this behaviour. A barrister friend had an unfortunate experience recently. He had left his car to be overhauled by a repairer in a county town not far from London. When advised that it was ready he called for it with three ladies and sailed gaily off. A few miles outside the town a loud crack was heard, followed by a grinding sound. Only the gear-box split from top to bottom, and a pair of pliers jammed in the gear wheels!

A good deal of trouble has arisen from defects or weaknesses in the transmission gear owing to inexperience on the part of manufacturers or the unskillfulness of the users. This, however, is now relatively very infrequent, though we still meet people

nothing they could suggest or supply was able to cure this trouble. At last the car was sent back to the manufacturers to be overhauled as a last hope. When there it was found that the differential gear had seized, so that the back axle was practically solid like a railway axle. When travelling round curves the outer wheel has a greater distance to go than the inner one, which means a tremendous strain on the tyres if there is no such device as the differential in operation. The difficulty was soon cured, though once it was most mysterious and the case seemed completely hopeless.

A friend's car was travelling in South Wales, near Swansea, at a fair pace when the left hand rear wheel came off. The car was dragged along on the live axle for some distance before it could be stopped, yet, strange to say, it did not get off the road, nor were the lady passengers frightened, for they hardly noticed the incident, at least so they said afterwards. The wheel was replaced and the vehicle was driven home to London, 200 miles without any trouble. Enough damage was done, however, to require a good deal of repair before it was advisable to use the car again. Such an incident would probably, in nine cases out of ten, have had very serious consequences; this one seems to be almost incredible, and yet it is a fact.

What volumes could be written about the shortcomings of the carburettor, the struggling with dirt, wrong-sized nipples,



The Kaiser's Prize Race.—A View of the Course at Königstein.

[Allgemeine Automobil-Zeitung.]

who have such ill-luck. In a case where a chain on a car was so damaged as to be useless, the motorist managed to get home on one, not having any spare chains with him. This was done by tying up the idle sprocket wheel so that it could not revolve. Perhaps there are more troubles with the chain drive than with the cardan shaft, but if anything does go wrong with this latter it is generally a more serious matter and not so easily remedied. I was once teaching a friend to drive a car which had a cardan shaft with a sliding or expansion joint made by the square end of the forward portion fitting into a corresponding socket on the other. There was only one torque rod fastened to the casing of the live axle. His foot slipped off the pedal and the clutch went in with a jerk, and caused the car to bound forward, after which it refused to respond to the engine. Investigation showed that the bolt holding the torque rod to the live axle casing had sheared its head, so that the casing had twisted partly round and drawn the two members of the cardan shaft apart. This was successfully remedied by means of a jack and the insertion of a fresh bolt.

A peculiar trouble and certainly a very uncommon one happened recently. A gentleman who possessed a fine new car suddenly experienced the most extraordinary run of ill-luck with his tyres. No matter what price he paid or how strong the tyres were, whenever he turned a sharp corner one of them was torn off. The various tyre manufacturers had a warm time of it, but

punctured floats, leaking needle valves, etc.! A car was found badly hung up on a hill which should never have given it the slightest trouble. The owner, who had only bought the car that day, was very angry and disgusted at its failure, particularly as he had three ladies on board. Another vehicle came up, the driver of which went to the rescue. On taking the cover off the float chamber he found it packed with cotton wool, so that the float was unable to fall in order to open the needle valve. When this was removed the effect was magical, for the car sailed away up the hill like a bird. The trouble was due to an oversight on the part of the makers, who had neglected to make certain that everything was in good working order. Other instances of carburettor troubles have occurred through the tank becoming air-bound owing to the cushion of a seat resting on the vent hole, and through water being in the petrol before it was poured into the tank. The use of the exhaust gases to cause the petrol to flow up to the carburettor has brought a similar trouble in its wake, as a certain portion of these gases form water on condensation, which, mingling with the fuel and entering the carburettor, has caused much perplexity and annoyance.

(To be concluded.)

A NEW garage and repair shop has been opened by Mr. H. Rae in Thornton Street, West Hartlepool.

CONTINENTAL NOTES.

Vehicle Trial.

As mentioned in our last issue, a three-days' trial of industrial vehicles has just been held by the Belgian Automobile Club, the total distance covered being 193 kilometres. The number of actual competitors was only five, which in the final classification were in the following order:—

	Average speed per hour.	Cost of Operation per kilometre ton.
1. Saurer 3½ ton lorry	21.48 kil.	032 franc
2. Orion 3-ton lorry	18.52 kil.	037 franc
3. Brillie 5-ton lorry	12.96 kil.	046 franc
4. Bovy-D. 30-cwt. van	18.00 kil.	062 franc
5. Bovy-D. 10-cwt. van	24.00 kil.	113 franc

A silver cup has been awarded to the Saurer vehicle as first prize; the Orion secures a gold medal presented by the Automobile Club of Flanders, and the Bovy-Dheyne a gold medal for being the first Belgian-built machine to finish.

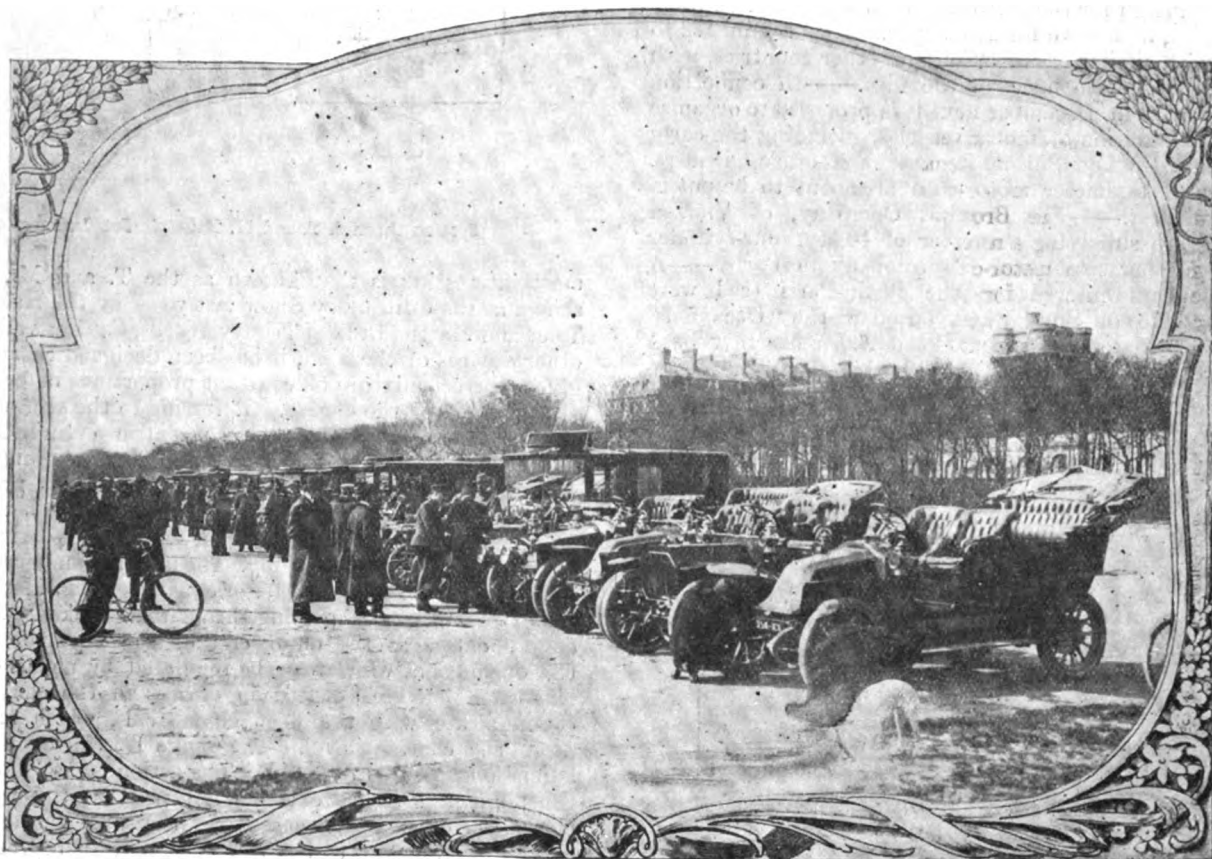
Gobron, and Benz; and four each Züst, Isotta Fraschini, Fiat, and Itala. The drivers include such well-known names as Wagner, Duray, Hemery, Lancia, Hanriot, Gabriel, Nazzaro, and Cagno. The start will take place at Bonfernello at 5 a.m., the vehicles being sent off at three minute intervals.

Military Motor-Cars in France.

A practical test of the mobilising powers of the French motor reservists was made a few days ago, when a number of motorists were summoned with their cars to Vincennes, and there given orders to make a circular journey of about fifty miles under official observation. About twenty cars put in an appearance and the trip was carried out most successfully.

The Paris-Ostend Motor-Cycle Trial.

The Auto-Cycle Club of France has, at the instance of a number of manufacturers, agreed to postpone the motor-cycle reliability trial from Paris to Ostend and back, which was to



The Cars of the Motorists on the Reserve lined up at Vincennes, near Paris, for inspection by the French Military Authorities.

The Targa Florio Race.

Arrangements are well in hand for the annual Targa Florio race, which is to be held in Sicily on Sunday next. The contest will be held over a 150 kilometre course, taking in Cerda, Castelbuone, Petralia, Castellana, and Caltavuturo, this having to be covered three times to give the total distance of 450 kilometres. The conditions under which the event is run provide for four-cylinder cars having a minimum cylinder bore of 120 mm. and a maximum of 130 mm., or for six-cylinder vehicles of minimum and maximum cylinder diameter of 85 mm. and 90 mm. The weight of the machines is in proportion to the bore, at the rate of 1,000 kilogs. for 120 mm. bore, with an additional 20 kilogs. for each mm. above this. For six-cylinder cars the weight is 1,000 kilogs. for 85 mm. cylinder diameter, and 40 kilogs. per mm. in excess. Altogether there are fifty-four entries, these comprising one each Opel, Couverchel, Metallurgique, Chanon, and Gaggenau; two each Darracq, Pilain, Clement-Bayard, Berliet, De Dietrich, Lucia, Diatto-Clement, Radia, and Aigner; three each Rapid, Junior, De Luca-Daimler,

have been held next month, until July. Entries will now be received at single fees until June 15th, and at double fees until July 5th.

A Swiss Industrial Vehicle Trial.

The Swiss Automobile Club is organising a trial of public service and industrial vehicles to be held from the 10th to 14th May next. The competing vehicles will be divided into the following categories:—(1) Motor lorries and vans for loads up to 1½ tons; (2) ditto from 1½ to 3 tons; (3) ditto over 3 tons; (4) public service cars for from six to twelve passengers, and (5) ditto, for thirteen to twenty-four passengers. The first day's run will be from Zurich to Bâle; the second from Bâle to Berne, via Solothurn; the third from Berne to Thun; the fourth from Thun to Lucerne; and the fifth from Lucerne back to Zurich.

Co-operative Motor-Cabs in Paris.

A group of old cab-drivers in Paris have lately formed a co-operative society to introduce a service of motor-cabs in the

French capital. After trials of various makes, an order has been placed for a number of Delahaye 10-12-h.p. two-cylinder cabs.

Speed Trials in Italy.

Arrangements are in hand for the holding of a series of speed trials at Ferrara, Italy, on August 15th next. The programme will include a kilometre with standing start, a flying mile, and a flying two miles race. Categories will be provided for both racing and touring cars.

A Motor-Bus for Coal Miners.

The Wenzelaus Colliery Company, of Hausdorf, Germany, has recently made a new departure by acquiring a thirty-seated motor-omnibus, for the purpose of conveying the workmen who live at a distance to and from the mines.

Miscellaneous Items.

The Swiss syndicate of cycle and motor traders are organising a campaign for the introduction of standardised parts for motor vehicles, and have formed a permanent committee to communicate with similar organisations in other countries, with a view to further development of the idea.—In connection with the Paris *Salon* in December next it is proposed to organise a retrospective exhibition of motor vehicles, including the early cars of Panhard, De Dion, Mors, Renault, and other pioneers.—A number of taximeter motor-cabs are about to be put in service in Budapest.—The Brouhot Company, of Vierzon (Cher), France, are supplying a number of 10-h.p. four-cylinder vehicles to a co-operative motor-cab company in Paris.—A number of the cars entered for the Pekin-Paris trial were shipped at Marseilles on Sunday last on board the "Oceanien" for China.—The date of the next Paris *Salon* has now been definitely fixed; it is to be held earlier than last year, from November 12th to December 1st.—Entries at ordinary fees for the Herkomer Trophy competition closed on Sunday with a

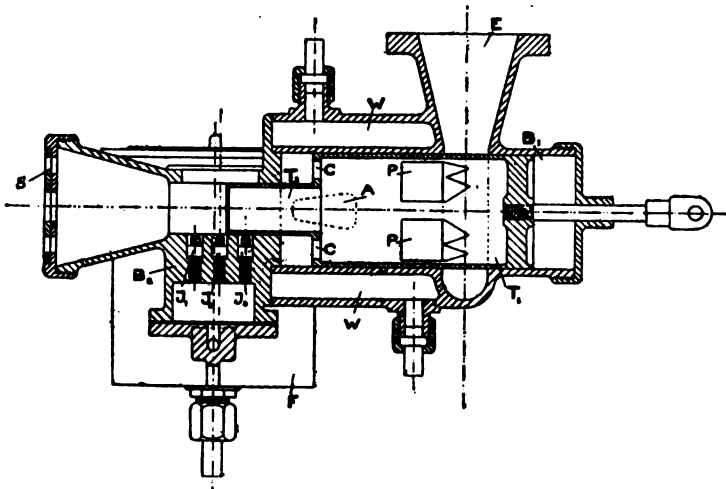


Hieronymus at the Wheel of the Gaggenau Car he will drive in the Targa Florio Race.

total of 170 competitors, as against 142 last year.—Thirty-eight entries have been received for the A.C.F. Grand Prix race, the latest additions to the list being a Gobron and three Fiats.—The French Syndicale de l'Automobile has appointed a committee to consider the question of standardising the sizes of motor-car wheels and tyres.

THE T. & M. MULTIPLE JET CARBURETTOR.

THAT the last word on the efficient and economical carburation of petrol has not yet been said is evidenced by the large number of new carburettors which have made their appearance since the turn of the year. One of the



Section through T. and M. Multiple-Jet Carburettor.

most interesting is that known as the T. and M., which was shown at the Cordingley Show last week by the makers, Messrs. Trier and Martin, Ltd., of Trinity Works, Camberwell, S.E. Like other devices of the kind, it has been designed to automatically give a correct mixture of constant proportions of petrol and air at any speed of the engine. Referring to the sectional drawing herewith, B¹ and B² are two concentric cylindrical chambers of unequal diameters into which fits a hollow plunger of corresponding diameters, T¹ and T². The latter is provided with ports P, in the part T¹, also holes in the flange between T¹ and T², and a rod is fixed to the open end of T¹ passing through a cap screwed to the outer casing. The larger chamber is surrounded with a jacket W, for hot water or exhaust gas circulation, and A A are extra air orifices passing through the jacket. The main air supply enters at the outer end of the chamber B², through the openings S, which can be regulated by means of a shutter. The three jets are situated in orifices in the chamber B², and communicate with the float chamber F, which maintains the petrol at a constant level. The flange E is for connection to the admission pipe to the motor. The action is as follows:—When the plunger is in its extreme left position the ports P P are closed, the extra air is closed and the three jets covered. On moving the plunger to the right the part T² begins to uncover progressively and successively the three jets J¹, J², J³, and the effect of the suction of the motor is felt on the first jet, next on the first and second, then on the first, second, and third. The suction does not make itself felt on each jet suddenly, but in a progressive way, in proportion as the piston uncovers the three orifices, so that an increase in the supply of petrol is obtained in perfect proportion to the speed and power of the motor. At the same time as the jets are being uncovered the part of the plunger T¹ progressively uncovers the orifices A, and the extra air passes through the holes C C, meeting the mixture in the larger chamber, and in the meanwhile the throttle ports P P have been opening in the same proportion. It will thus be seen that as the throttle opens more petrol is supplied and more extra air admitted, and by regulating the size of the jets the proportion of petrol to air can be kept constant. To obtain extremely slow running of the motor when running light it is necessary to have a rather rich mixture, and a special form of automatic valve is fitted in the main air entrance, which automatically closes off the supply of air when the throttle is nearly closed, but which allows the full amount of air to enter when the throttle is open.

THE "Henry Edmunds" Hill-Climbing Challenge Trophy Race will be held this year on Carter's Hill, near River Hill, on the road to Tonbridge.

LORD ROSEBERY has been elected a member of the Royal A.C. Other new members include the Hon. Evelyn Boscawen, the Hon. George Duncan, Sir J. T. Woodhouse, J.P., and Sir W. E. Cooper.

MESSRS. ARGYLLS LONDON, LTD., who have become pioneers in the light motor-van industry, are encouraging honest and careful driving by offering a prize of £5 to all chauffeurs who show really economical records over runs of 5,000 miles. One of the most interesting successes in this direction is that of Mr. Alfred J. Attrick, who, although only for five weeks a pupil in the Argyll School in Newman Street, London, W., has since



been in charge of a van in the service of Messrs. Bastin, Merryfield, and Cracknell, the wholesale linendrapers, and who has just been awarded the prize mentioned above. His running bill for 5,054 miles included all costs in connection with petrol, oils, tyres, repairs, and renewals, and the total only reached £37 4s. 8d., or 1.7d. per mile, a good record indeed for so young a driver.

CAPTAIN JONES is a familiar exhibitor at the Aero Club's displays at the Agricultural Hall. He has discarded the bird theory and pins his faith, as becomes an old sailor, to the shape of the ship, as being the best for cutting its way through the air.

MR. ARCHIBALD GRAY has taken larger premises at Quarry Hill, Guildford, where he is trading as Archibald Gray and Co., and acting as district agent for Darracq cars. His business includes the letting of vehicles for hire and the overhauling of cars for customers.

THE 1,500 men who are employed in the construction of the Brooklands motor track at Weybridge are reported to be giving considerable anxiety to the authorities, and an increase of the local police, together with temporary lock-up accommodation, is being asked for.

MR. J. LYONS SAMPSON and Mr. G. Foster Pedley, who examined the Royal A.C.'s 14-h.p. Star car before it was sent to the makers for the necessary repairs, have officially reported to the Motor House Committee that the car was in excellent condition after its 11,000 miles' service.

AN attractive circular setting forth the advantages of the new Bleriot petrol-oxygen light has been issued from the London depot, 53 and 54, Long Acre, and should prove of service to all interested in the lighting of the car. It is claimed that the luminous intensity of the new light is twenty-five times more powerful than acetylene.

A NEW motor garage has been established by Mr. G. W. Hill at the corner of the Cromer and Railway Roads at Sheringham. The opening ceremony was performed in the presence of the leading residents of that favourite Norfolk resort. The building will accommodate thirty cars, and should prove of great service to motorists visiting the town.

HERE AND THERE.

SEVERAL Tourist Trophy cars have put in an appearance at Douglas, where the roads are now being put into condition for the event.

A NEW benzol fuel for petrol cars, known as "Motor Spirit,

Pyramid Brand," is about to be put on the market by Messrs. Major and Co., Ltd., Hull.

THE Percy Cycle Company, of Newcastle-on-Tyne, has secured a fine new garage in Northumberland Street, where they have extensive repair shops and plant to deal with any classes of mishaps.

MR. COLIN DEFRIES informs us that the Porthos car for the A.C.F. Grand Prix Race will be fitted with an eight-cylinder engine, rated at 110-h.p. The vehicle for the Coupe Sportive contest will be of 55-h.p., the engine being a four-cylinder one. The cylinder dimensions in both cases are 120 mm. bore by 120 mm. stroke.

THE judges appointed by the Roads Improvement Association to conduct the competitions for the best means of treating roads with tar to render them dustless have provisionally decided that the tests of the tar-spreading machines shall begin on Wednesday, May 22nd. The roads upon which it is proposed to carry out the tests are in Middlesex, between Hounslow and Staines, the Middlesex County Council and Staines Rural District Council having consented to give the necessary facilities.

AN interesting letter has been received by Mr. D'Arcy Baker, managing director of Fiat Motors, Ltd., from the two mechanics who some months ago went out to Africa in charge of the Fiat lorries sold to the Soudan Government for use in connection with the Cape to Cairo Railway. Writing from Wan, Central Africa, on the 1st ult., they state that after leaving Khartoum they had a sixteen-day journey up the White Nile to a place called Mesra-el-Rek, then they had a walk of over 100 miles before reaching Wan. "When we arrived here we were very disappointed to find no roads for the lorries to run on excepting the tracks that had been made by the natives"



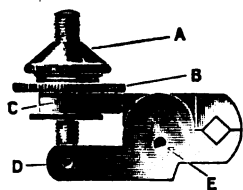
donkeys, &c.; and, as you know we were distinctly told that there were seventy miles of macadam roads made, it came as a great surprise. After clearing the undergrowth away for about thirty miles of forest the lorries were loaded with stores and supplies, each weighing about three and a half tons net, and then we started for a station about seventy-two miles away, the whole of the natives turning out to see us start. We had a splendid run, the vehicles causing no trouble, and, bar the stoppages at villages for the officer in charge to talk to the chiefs of the different tribes, we had a non-stop run over roads where no heavy traffic had ever been. The return journey proved equally successful."

A NEW garage has been opened in Oxford Street, Swansea, by Mr. J. S. Brown.

It is estimated that there are sixty-four trades and professions represented in the work done on a motor-car before it is completed.

THE Daimler Company have secured an order from Lord Grantley for a 28-43-h.p. chassis, to be fitted with Claverdon landaulet type body.

WE illustrate herewith the "Marsh" terminal clip, for connecting ignition wires to accumulators, which has recently been introduced by Messrs. Louis Marsh and Co., 22 and 25, King Street, Liverpool. It has been designed to obviate the inconvenience and expense of broken lugs resulting through the attempt to remove terminal nuts that have corroded. As will be seen, it consists of two small levers pivoted at *E*; the lower one is



attached to the screw at *D*, while the upper one is forked at *C*, so that by turning down the milled nut *B* the outer ends of the two levers are made to grip the accumulator terminal. A glance at the illustration will show that the action is the same as that of the finger and thumb pinching the screw, thus obviating all twisting strain on the latter. It will also be seen that the leverage, with the purchase obtained by the milled nut *C*, provides ample power to secure certain contact and easy removal when necessary. The nut *A* for fastening the connecting wire acts as a lock-nut. The makers inform us that in actual trial on a particularly bad accumulator terminal it was found corrosion had taken place to such an extent that the lug and clip were to all intents and purposes solid, and the attempt to remove a nut under the circumstances would have resulted in a broken lug, whereas the Marsh clip came away without the slightest effort and without straining the lug in the least. The device is worthy of the attention of motorists who have suffered from corroded terminals.

FORD cars are now being handled in this country by Messrs. Perry Thornton and Schreiber, Ltd., 117, 118 and 119, Long Acre, London, W.C., who are organising a tour of Ford cars for calling upon agents throughout the whole country.

THE Upper District Committee of the county of Renfrew have granted permission to the Scottish Automobile Club to erect notice boards at Clarkston Railway Bridge and Greenbank Church, Renfrew, cautioning motorists, in the name of the Club, to drive slowly.

MESSRS. CORBEN BROTHERS have adapted part of their coach and motor body works at Richmond Road, Twickenham, to the purposes of a motor garage. Here they will have accommodation for nearly thirty cars, and will be able to execute all classes of repair.

MR. BALLIN HINDE, the hon. treasurer of the Motor Union, has returned from a visit to India, and made his first appearance in motoring circles since his return at the Exhibition at the Agricultural Hall, London, last week. He has succeeded in securing the affiliation of the Motor Union of Western India with the Motor Union of this country.

MR. H. E. STARLEY, of Raikes Road, Skipton, has sent us a photo of a little improvement he has lately devised in connection with the use of dual ignition on petrol motors. It consists of a divided spindle which allows the ordinary contact-maker to be at rest when the magneto is in use, thereby saving all undue wear. Mr. Starley informs us that he has had the arrangement running on a 20-24-h.p. car for the last five months, and that it is giving every satisfaction.

THANKS to the efforts of the Motor Union, the Board of Trade has prohibited railway companies from allowing any train to stand across the line at the level crossing of Palace Road, Ripon. The Union is now in correspondence with the London and South-Western Railway Company with regard to the improvement of the level crossing at Sunningdale, on the main London-Southampton road, and with the Great Eastern Railway Company respecting the level crossing at Ware, on the main road from Ware to Hertford.

PRINCE ALBERT OF BELGIUM has just ordered a Germain chainless chassis with racing body, this being his second car of this make.

OPPOSITE Harrod's Stores at 78, Brompton Road, S.W. Messrs. Arkwright and Yorke are now conducting a motor business for the convenience of West End motorists. They hold an agency for the Daimler cars and have excellent garage facilities.

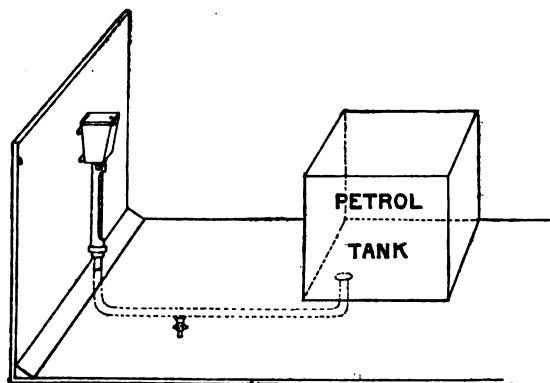
SOME critical notes on the new Patents and Designs Bill, introduced by Mr. Lloyd George last month, have been written by Messrs. Ernest Lunge and Bernhard Dukes, which will be useful in explaining the provisions of the proposed legislation. It is published by Messrs. Stevens and Sons, Ltd.

MESSRS. J. E. E. HUTTON, LTD., send a copy of the new Berliet catalogue, dealing with the vehicle that performed so well in last year's Tourist Trophy Race. It is a veritable work of art, and takes a premier place even amongst the fine examples of design that have lately been issued by automobile firms.

A DISAGREEABLE feature of roadside adjustments is the grimy condition in which they usually leave the hands. A good plan is to clean the hands on the spot with a little petrol and cotton waste, and the Bowden petrol strainer will enable the necessary quantity of petrol to be drawn off from the small tap provided at the bottom of the strainer.

WITH reference to the announcement in our last issue as to week-end trips between London and Paris, we are informed that Elastes is being adopted by the Westminster Bridge Garage and Works, of Westminster Bridge Road, S.E., who are responsible for this service. It is thus hoped to minimise the liability of tyre troubles and secure that the "Entente Cordiale" motor service shall run with train-like punctuality. The 48-h.p. Gobron-Brielié is being employed, and it is the intention of the Westminster Bridge concern to develop motor touring during the season.

THE accompanying diagram illustrates the general arrangement adopted in connection with the Davison dash filler, strainer and petrol gauge that has been introduced by Mr. A. C. Davison, of 12A, Pleasant Row, High Street, Camden Town, N.W. This is a patented device intended for cars where the petrol tank is located under the driver's seat. It has already been proved by experience, and enables the driver to always know exactly how his petrol supply is being diminished without troubling other occupants of the front seat or himself. From the diagram the principle of the gauge is made clear. The apparatus consists of a metal box or funnel with a hinged lid. This contains a removable strainer of phosphor bronze gauze of very close mesh.



Below the box is a $\frac{7}{8}$ in. magnifying gauge glass communicating with the petrol tank by means of a $\frac{3}{4}$ in. pipe. The device is attached to the dashboard, where it does not detract from the general appearance, being well made and supplied with fittings to suit any particular vehicle. Thus for a very small outlay the motorist can always check his consumption of petrol, while the advantage of filling the tank from the dashboard without trouble and the use of the funnel is one to be appreciated. For the present season some improvements in detail have been made, among which we notice the increased size of the opening by which the tank is filled, an enlarged strainer, and the lid fitted all round the body to exclude rain.

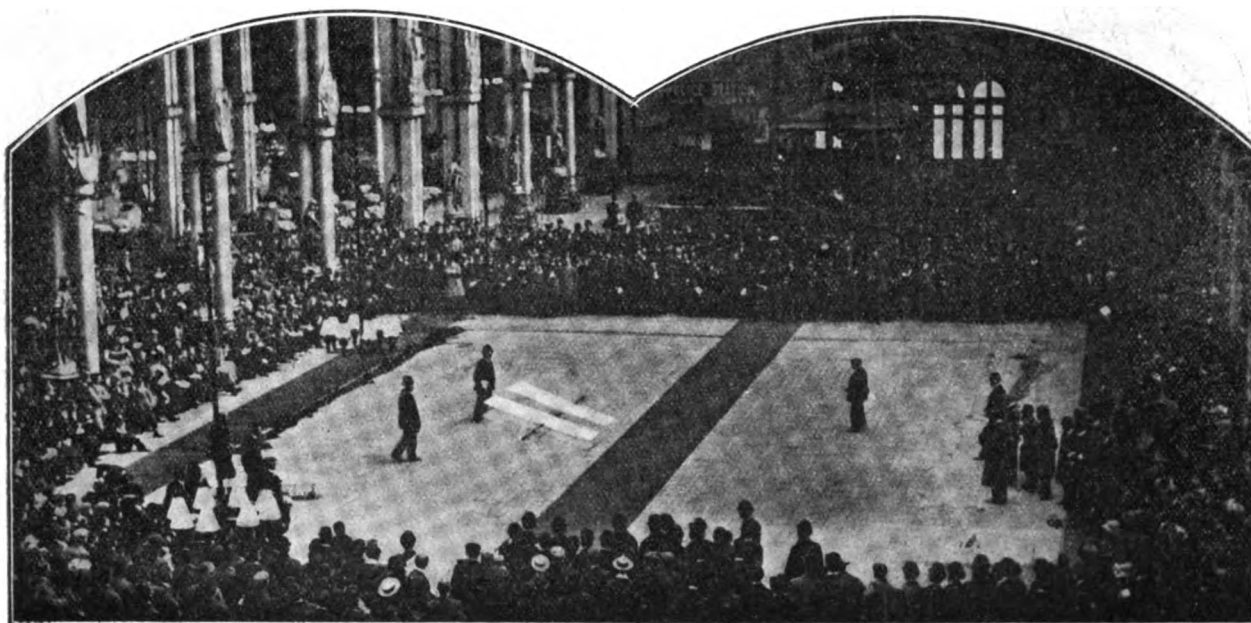
ATTEMPTS AT FLIGHT.

MONDAY last saw the dispersal of many hopes and demonstrated to the public that the airship era is not yet. All last week models of aeroplanes and flying machines excited the curiosity of visitors to Cordingley's Motor Show and Aero Club Display at the Agricultural Hall, London; on Sunday they were taken from their resting-place and consigned to the obscurity of three great furniture vans, in which they were transported to the Alexandra Palace at Wood Green. On Monday they emerged from the darkness into the light of day and their inventors and designers took careful charge of these embodiments of years of thought and study.

So keen was the interest taken in the trials that an audience of about 3,000 people gathered in the great Hall of the Palace to watch the proceedings—often amusing, sometimes pathetic, as hopes were dashed to the ground and models fell to the floor simultaneously. Of the large number of exhibits which were shown in the Agricultural Hall, less than thirty were placed in the trial lists, and of these several were withdrawn by discreet inventors. As will be seen from the illustration, a space of about

greatest success. One of his double-decked models, propelled with twisted rubber, flew the full distance possible, landing in the net which was stretched at the end to protect the spectators, and making a flight of eighty-four feet. Another competitor whose machine flew well was Mr. F. W. Howard. The first three times his glider covered a distance of about sixty feet. At the fourth attempt the machine did better still, flying right up to the net, a distance of seventy-five feet, the inventor pulling it back with a string attached for the purpose, in order to prevent it from being damaged in its fall.

The second part of the competition was held in the grounds of the Palace, and there a great crowd assembled to watch the failures that took place. The air was calm and no gusty currents retarded or assisted the attempted flight of the models. The ground on which the test took place sloped a considerable distance and was a pleasant venue; but it did not assist the competitors. Mr. W. Cochrane's corrugated aluminium machine was thrown high into the air but quickly returned to grass; Mr. R. M. Balston's "bird" broke one of its two propellers; a rocket surrounded the aeroplane of Mr. F. W. Thomas with plenty of smoke, from which it could not get clear away; Mr. H. A. Chubb's motor was in difficulties and



Mr. A. V. Roe's Aeroplane making the flight which secured the Second Prize for its Inventor.

100 feet square was cleared for the trials, a platform of about five feet high being the starting point of the machines. The judges were: Professors Huntington and Waynesforth, of King's College; Colonel Capper, Chief of the Military Balloon Section at Aldershot; Mr. Roger Wallace, Chairman of the Aero Club, and Mr. Patrick Alexander, a friend of the Wright Brothers, while Mr. Harold E. Perrin, the secretary of the Aero Club, generally supervised the proceedings with customary regard for the comfort and convenience of all concerned. Major-General Baden-Powell and Colonel Cody were among the spectators.

Of all the competitors only two attained anything approximating success. Mr. H. Crouchley's aeroplane fell on its rudder when the force of the preliminary throw was spent, and Mr. H. H. Piffard's model bent its propeller on the first attempt. Nearly forty feet were covered by Mr. P. P. Clarke's machine ere it fell, the combined force of the propeller and the inventor's "throw" securing such a result, the most encouraging up to that point. The great Albatross, that was generally surrounded by a crowd at the Agricultural Hall, only flew 10 ft., and then fluttered down on to its beak. Mr. H. B. Webb's three-decker aeroplane, after rising to some height, capsized, and made a rapid descent, which ended in the damage of the machine. Of those who competed in the Hall, Mr. A. V. Roe achieved the

Mr. Montford Kay's five-decker apparatus did little more than turn a somersault. Again Messrs. Roe and Howard were easily in advance of their rivals. Mr. A. V. Roe's Aeroplane flew full into a net ninety feet away, and Mr. F. W. Howard's glider, the screw driven by a coiled spring, went over 71 ft. After making slight repairs in the next two trials the machine covered respectively 88 ft. 5 in. and 108½ ft., part down hill. It would probably have gone farther on each occasion, but the crowd got in the way, and the police failed to keep a clear space.

In the end the following awards were made by the judges:—

MODEL FLYING MACHINES.

First prize £150.—Not awarded.

Second prize £75.—A. V. Roe, 47, West Hill, Wandsworth, S.W.

Third prize £25.—F. W. Howard, 18, Egerton Gardens, West Ealing, W.

MANUFACTURERS' SECTION at the Exhibition at the Agricultural Hall. Gold medal.—Short Bros.; for balloon exhibits.

Silver medal.—Truss and Company; for Method of Constructing Propellers.

Silver medal.—Ezio Tani; Model Flying Machine.

Bronze medal.—Shank and Taylor; for Method of Constructing Propellers.

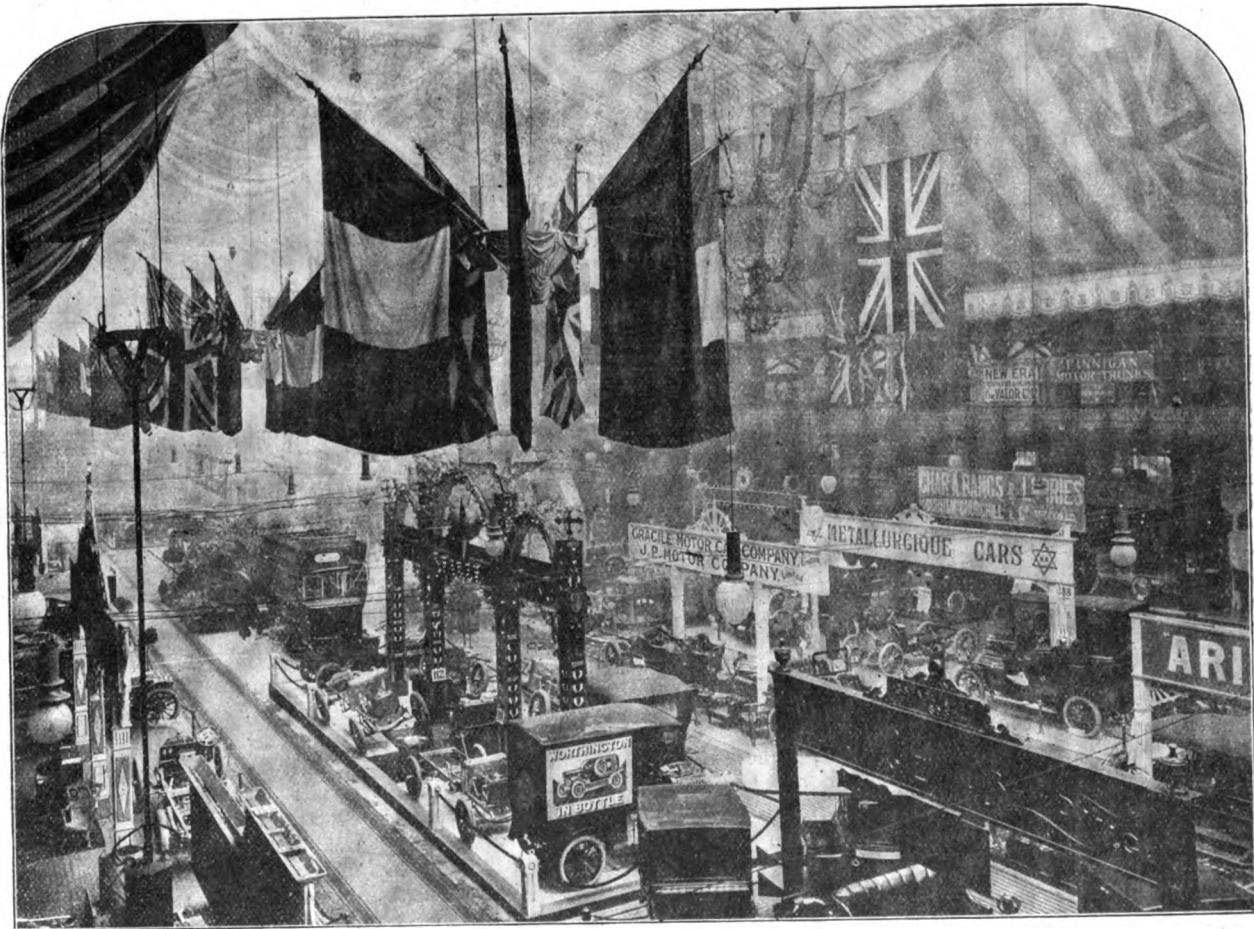
The Cordingley Show.

(Continued from page 138.)

HEREWITH we continue our report of the exhibits at the twelfth of the Motor Car Shows at the Agricultural Hall, London, which closed on Saturday last. During the week the attendance had been well up to the records of previous years, and the announcement of the date of next year's exhibition, March 21st to 28th, was duly noted, not only by exhibiting firms, but by those who were unrepresented on this occasion.

The Mann Steam Wagon.

MANN'S PATENT STEAM CART AND WAGON COMPANY, LTD., exhibited a 5-ton steam wagon of their standard type, but fitted with a special body, to the order of the Powell-Duffryn Steam Coal Co., Ltd., Aberaman offices, near Aberdare. This firm was one of the first to manufacture steam motor-wagons, and have from the start adopted locomotive type boilers, and an all-gear drive. The working pressure is 180 lb. per square inch, and the heating surface 80 square feet. The engine, of the compound horizontal type, has cylinders $4\frac{1}{2}$ in. and $7\frac{1}{2}$ in. diameter by 7 in. stroke, with a single eccentric reversing gear, actuating



General View of the Cordingley Show taken from the North Gallery.

The Wellington Tractors.

Messrs. W. FOSTER AND CO., LTD., of Lincoln, were present with a couple of their well-known steam tractors, one having water tanks sufficient for fifteen miles, and the other for thirty miles. The machines are designed on traction engine lines, with locomotive boiler. Special provision is made for cleaning out the latter in the shape of a hand hole in the fire-box casing, level with the crown of the fire-box, and another at the top of the smoke-box tube plate. The engine is a two-crank compound, the cylinders being $4\frac{1}{2}$ and $6\frac{3}{4}$ in. bore by 9 in. stroke. The slide valves are on the top of the cylinders, operated by ordinary link motion, and an auxiliary valve admits steam to the low-pressure cylinder for ease in starting. Both machines are fitted with all latest improvements, including feed-water heater, feed control valve, special spring-mounting method, winding drum and rope, together with geared feed pump and injector. Messrs. Foster and Co. have supplied no less than six of their Wellington tractors to the British War Office authorities.

plain slide valves. The boiler forms part of the main frame, and it is extended back by steel plates riveted to the back of the boiler and forming the side sheets of the oil bath, and also of the water tank. The whole of the motion work and of the gearing is enclosed in this oil bath. The special body referred to above consists of four separate steel compartments on runners, each of which may be tipped to either side of the vehicle, and may be lifted by tackle from the chassis.

A Four-Wheel Drive Electrical Vehicle.

In addition to the two-ton electric delivery lorry, referred to in our last issue, the IMPROVED ELECTRIC TRACTION COMPANY, LTD., of Cockspur Street, London, S.W., had on view the chassis of an interesting American-built electric car, suitable for use as a delivery vehicle or public service machine, inasmuch as four electric motors are provided, one to each road wheel. They are supported from the axles, the power being transmitted direct through enclosed spur gearing; the motors are each of 4-h.p., but are so designed that they are able to withstand a considerable overload.

PETROL VEHICLES.

The Astahl Cars.

The CENTURY MOTOR COMPANY, LTD., of Willesden Junction, the London agents, exhibited for the first time in this country an interesting series of cars known as the Astahl, which are worthy of attention on account of their moderate price. The 6-h.p. and 8-h.p. models are fitted with De Dion engines, while the 10-12-h.p. (Fig. 21) is provided with a four-cylinder motor, 75 mm. bore by 90 mm. stroke, all in one casting. The water circulation is either by pump or on the thermo-siphon system

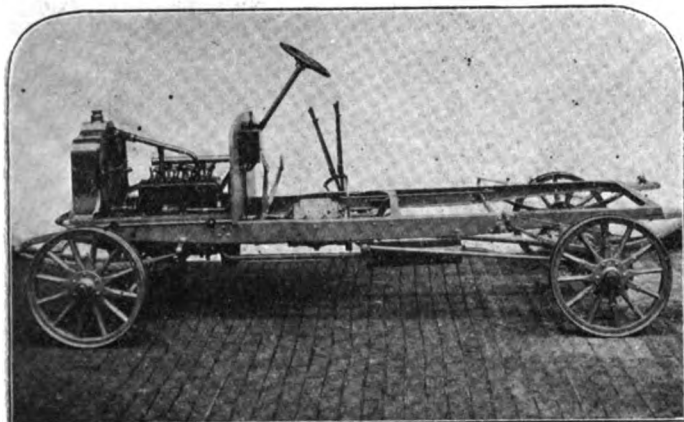


Fig. 21.—Chassis of Astahl 10-12-h.p. Four-cylinder Car.

as desired. A high tension magneto is provided on the large car in addition to that by coil and accumulators, as is also a Grouvelle-Arquembourg carburettor. The transmission is through a cone clutch three-speed gear-box and cardan shaft to a live axle. Ball bearings are used throughout, except on the engine, while a noticeable and useful feature is that the engine, clutch and gear-box and differential are so arranged that each can be dismantled independently without interfering with the other parts.

The Victoria Car.

A new comer to the Agricultural Hall displays was the VICTORIA MOTOR WORKS, of Godalming, which are now turning out an attractive 10-12-h.p. vehicle. The chassis, of which we give a view in Fig. 22, is fitted with a 10-12-h.p. engine, comprising four separately cast cylinders with m.o.v. valves. The usual accumulator ignition is provided, and the mixture is furnished by a Longuemare automatic carburettor. The radiator is of the framed ribbed tube type of a neat and distinctive shape, and we note that the water circulating pump is located in an accessible position. The transmission is through a clutch of the leather-faced cone type, three speed and reverse gear-box, and thence by a cardan shaft to a live axle of substantial construction. With front

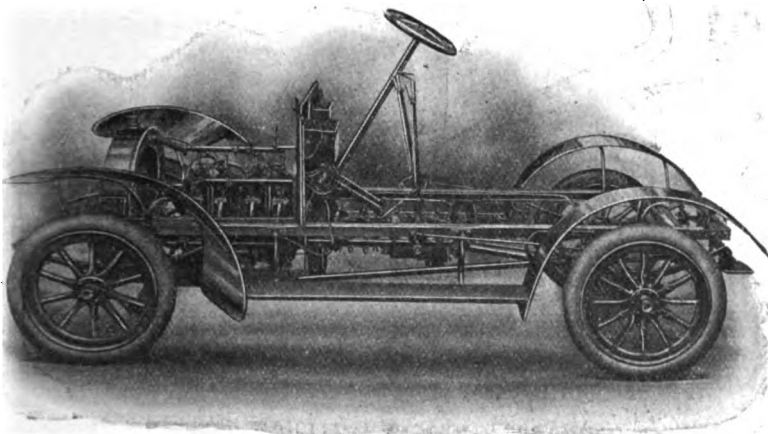


Fig. 22.—Chassis of "Victoria" 10-12-h.p. Car.

glass screen and side entrance double phaeton body, the Victoria forms an attractive little car, which has already earned a reputation in Surrey for its hill-climbing capabilities.

The Metallurgique Cars.

Prominent among the display of cars on the stand of METALLURGIQUE CARS was the 24-28-h.p. model which, since its victory in the Coupe de Liedekerke last year, has attracted considerable attention. A feature of the engine (Fig. 23), which comprises four cylinders, 102 mm. bore by 115 mm. stroke, is that the crank shaft is *desaxe*; that is to say, the cylinders are not in a perpendicular line with the crank shaft, an

arrangement which is claimed to reduce the friction between the cylinders and their pistons. The cam shaft is also placed eccentric to the valves to prevent side friction to the valve tappets and seats, and, what is equally important, a quicker opening of the valves themselves. The valves of each cylinder are held by long and elastic springs, and can be disconnected by simply removing a small cotter and cap. The pinions driving the magneto, the water-circulating pump, and the half-time shaft are enclosed in an aluminium casing, which forms part of the crank chamber. The crank shaft runs on special bronze bearings, and attached to one end is a flywheel nearly 24 in. in diameter, which acts also as a fan. The Metallurgique automatic carburettor, which is claimed to furnish a suitably-proportioned mixture at any engine speed, is controlled by a centrifugal governor, and also by a lever on the steering wheel. In addition to this a pedal is provided, by means of which the governor can be cut out of action and the engine accelerated up to its full power. Two systems of high tension ignition—accumulators and magneto—are fitted. The cylinder-cooling water is circulated by a powerful gear-driven pump actuated through a spiral spring, so that should the water congeal in the pump during cold weather the spring will be the first to break, and no further damage can be done. From the motor the power is transmitted to the gear-box by a metal-to-metal expanding clutch, which resembles in principle an internally expanding brake, two wide semi-circular brake-shoes being forced apart so that they press against the inner walls of the flywheel boss. The gear-box is adapted to give three forward speeds and a reverse, with direct drive on top, controlled by a single lever working in a "gate." The gear wheels are made of a special chrome nickel steel and are hardened by a new process rendering them practically unwearable.

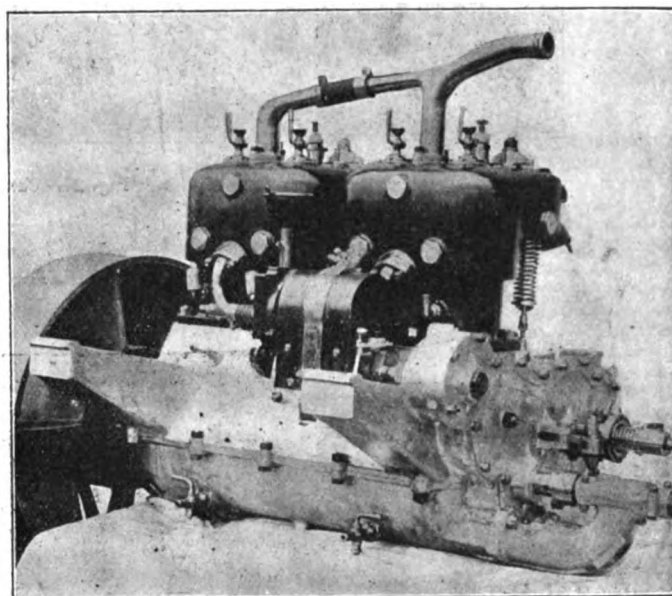


Fig. 23.—The Metallurgique 24-28-h.p. Motor.

From the gear-box to the back axle the power is transmitted by a cardan shaft and bevel gear through a patent spring drive. The hand brakes are of the internal expanding pattern, and act on the back wheels, while the foot brake works on a drum on the driving shaft. The steering gear, which is of the worm and sector type, is so arranged that any wear can easily be taken up. To facilitate steering and to save wear and tear on the tyres the front wheels are attached to the axle in such a way as to cause all the weight to fall exactly on the centre of the tread of the tyre. Ball bearings are used throughout, except on the engine. The chassis is sufficiently large to allow of comfortable and roomy limousine bodies with a wide side entrance being fitted. The Metallurgique cars are being made in a wide range of sizes, those on view comprising a 16-20-h.p. landaulet, a 20-24-h.p. limousine, a 24-28-h.p. chassis, a 30-35-h.p. double phaeton, and a 30-35-h.p. limousine. The body of the latter, by d'Ieteren, of Brussels, was especially noteworthy, the sides being so made that they can be removed, the roof remaining in position.

The Armadale Tri-cars.

The NORTHWOOD ENGINEERING AND MOTOR WORKS, of Northwood, Middlesex, have now taken up the construction of the Armadale Tri-Cars, and had on view at the Exhibition last week a two-seated machine fitted with an 8-10-h.p. two-cylinder motor. The principal feature of the vehicle lies in the variable change-speed gear with which they are fitted. The crank shaft of the engine carries at its rear end a large disc; at right angles to this is another large disc, which can be moved along a square shaft. By varying the position of the two discs one to the other any speed from zero to maximum can be attained; while if the sliding disc is moved over the centre of the fixed one the

car is driven in a reverse direction. A single chain transmits the power from the sliding disc shaft to the rear road wheel. The machine has comfortable accommodation for two passengers tandem fashion, and is able to attain a good turn of speed.

The Adler Car.

Quite a new series of cars were displayed by Messrs. Morgan and Co. Ltd., of Long Acre, London, W.C. We refer to the Adler vehicles, which are manufactured at Frankfort-am-Main by one of the largest

clutch and gear-box are built up and fixed in the frame as a unit. The engine comprises four cylinders, cast in pairs, the bore being 130 mm. by 140 mm. The valves are all operated off a single cam shaft, the gear wheels operating which are entirely enclosed. Two systems of high tension ignition are provided—magneto and coil—while the carburettor is of a special automatic type, the throttle being controlled both by a centrifugal governor and a lever on the steering wheel. The lubrication of the engine is effected by a pump operated off the governor spindle. The

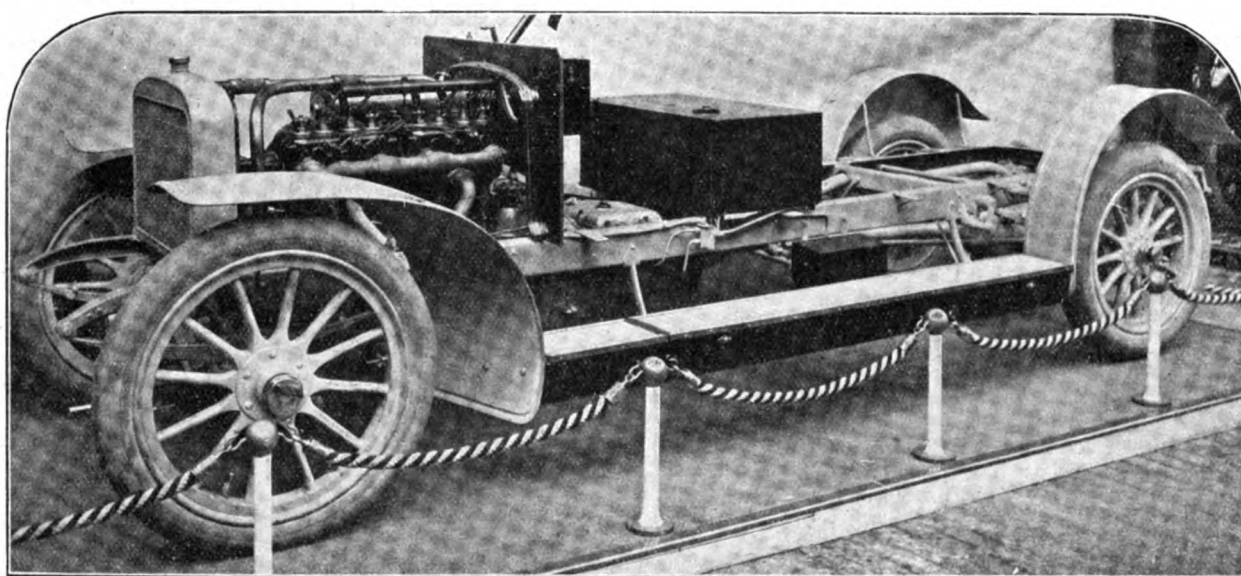


Fig. 24.—Chassis of Adler 50-h.p. Car.

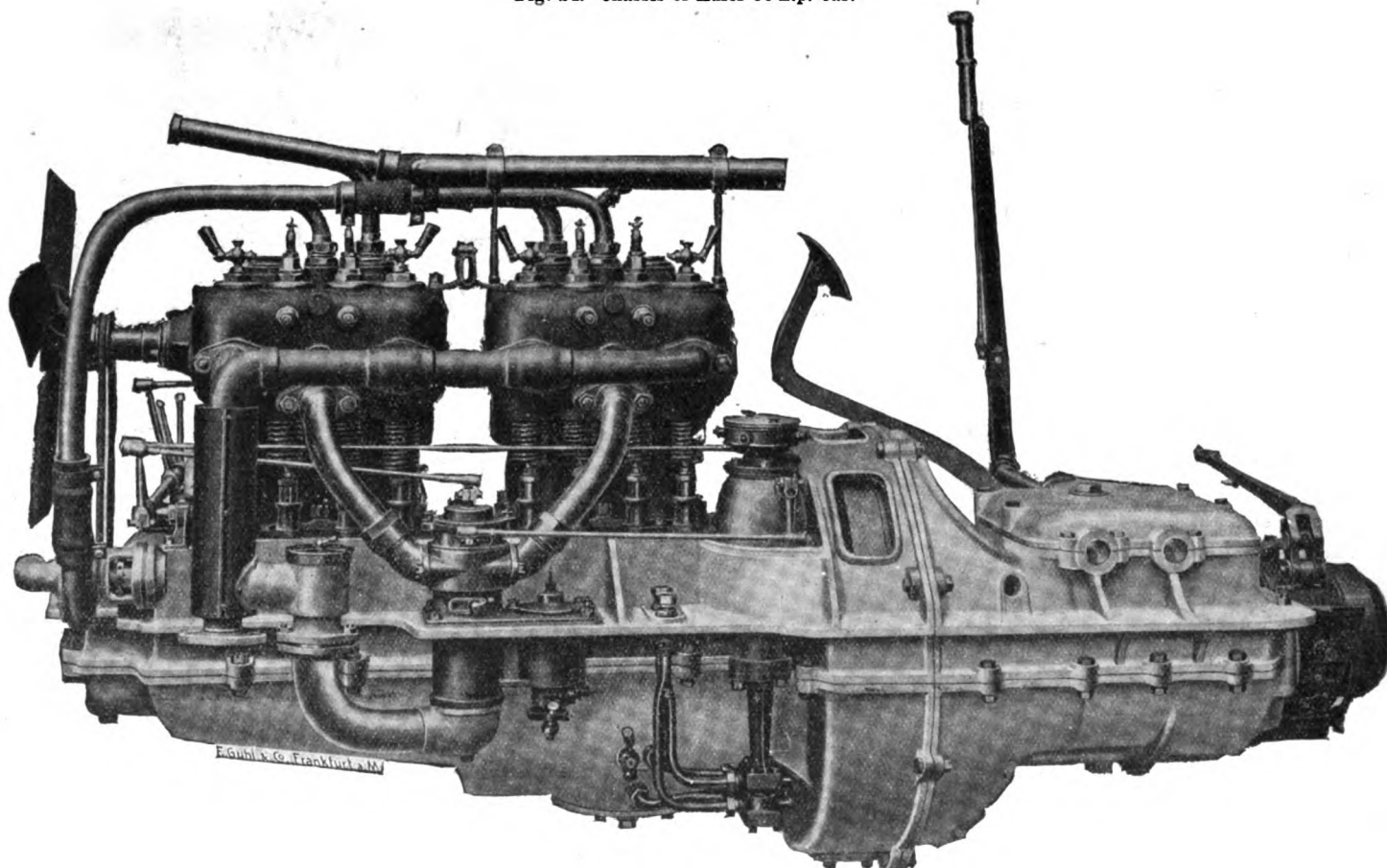


Fig. 25.—The Engine, Clutch and Gear Box of the Adler 50-h.p. Car.

motor concerns in Germany, and for whom Messrs. Morgan have secured the British agency. The vehicles are made in three sizes—18-h.p., 23-h.p., and 50-h.p.—and as the general arrangement of all is practically identical, the following particulars of the 50-h.p. car, of which we give a view in Fig. 24, may be taken as applying to the others. A feature of the Adler construction is, as will be seen from Fig. 25, that the engine,

clutch is of the metal-to-metal disc type working in oil, while the gear-box is of the sliding pinion variety, adapted to give three speeds and reverse with direct drive on top speed. The control is by a single lever working in a "gate." A neat arrangement is provided, which prevents the reverse motion to be engaged by mistake, a small cap to the top of the lever having to be lifted up to enable a knob within to be pressed

down. The final transmission is by a cardan shaft and bevel gear to a live axle. The cardan shaft is enclosed over its full length, the sleeve acting as a torque rod. Two radius rods also extend from the forward end of the cardan sleeve to the frame. Both foot and hand brakes are provided; the former is water cooled, a small pedal slightly in advance of the main one opening the water supply whenever the brake is applied. Ball bearings are fitted to all parts except the engine crank shaft, and the pressed steel frame, the side members of which are quite straight, is supported on long springs. There are many other points of interest in the Adler vehicles, but the foregoing particulars will give an indication that they are the result of expert design and consequently well worthy the inspection of

The Withers Car.

The display of Messrs. WITHERS AND CO., LTD., London, W., was interesting as showing the tendency of the times. The firm have for a long time been established as job masters, but, finding their business being interfered with by the increasing popularity of automobiles, they have converted part of their stables into a garage and works, where they are now turning out motor chassis and bodies. At the Show they had on view a 24-30-h.p. chassis, built on modern lines throughout. The motive power is supplied by a Barriquand and Marre four-cylinder engine, with two systems of high tension ignition—Eisemann magneto and coil and accumulators. The clutch is of the leather-faced cone type, and in place of the ordinary single clutch spring six small ones are employed

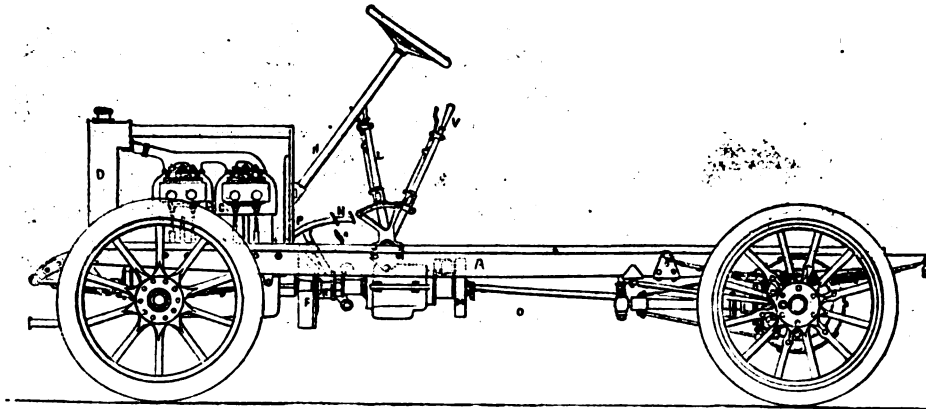


Fig. 26.—Chassis of Creese 12-h.p. Car.

motorists. A 22-25-h.p. Mercedes car fitted with a luxurious landaulet body, the latter of the firm's own construction, and the "Cromwell" patent folding wind screen were also on view.

The Creese Car.

There are several points of interest in the new car exhibited by Mr. A. E. CREESE, of East Dulwich, of which an elevation is given in Fig. 26. The vehicle, which is of French construction, being built by the Societe des Automobiles de Vierzon, is of 12-h.p. and is of the live axle variety. The cylinders of the four-cylinder engine are cast in pairs, and have the valves arranged on opposite sides. The water circulation is by thermosyphon, and we note that the fan, which draws a current of air through the ribbed-tube radiator, is mounted on a ball bearing. The carburettor, which is provided with a hot-water jacket, is of the automatic type, while the ignition is by low tension magneto. The lubrication of the motor is controlled by a pump, which forces the oil from the tank through a sight-feed lubricator on the dashboard. The control is by two levers on the steering wheel, one actuating the ignition and the other the quantity of mixture passing to the cylinders, the latter also varying at the same time the amount of petrol allowed to pass through the

these being so arranged that they can be readily adjusted. The gear-box is adapted to give four speeds forward and a reverse, with direct drive on the top, the control being by a single lever working in a "gate." The final transmission is by a cardan shaft and bevel gear to a well-designed live axle. Ball bearings are used to all parts except the engine, and the frame, which is raised at the rear to give clearance for the differential casing, is supported on five long springs. A 24-30-h.p. limousine on similar lines to the above, but fitted with an Aster engine, was also on view. The body of this vehicle, which was of the firm's own construction, was of a pleasing design, a small door being provided in the centre of the front seat, which is provided with a detachable cushion, so that a passenger can change his position and ride either inside or out, without having to descend on the road. We may add that Messrs. Withers undertake to do all repairs and renewals to their cars at cost price for a period of two years from the date of purchase, and are also prepared to enter into an annual maintenance scheme for a fixed sum supplying a competent driver, tyres, petrol, oil, repairs, renewal, insurance, &c.

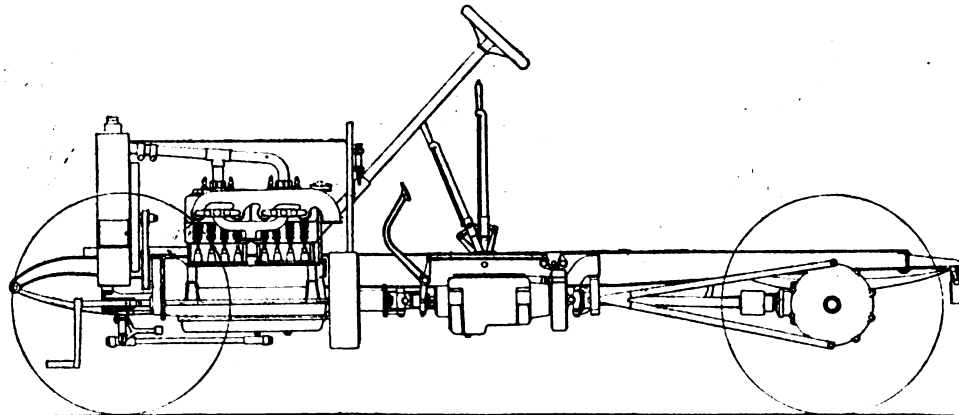


Fig. 27.—Chassis of Bolide 15-h.p. Car.

jet. Other features of the vehicle include the clutch, which is of the cone type, the male portion being built in halves, so that it can be readily detached. The gear-box is made under the Renault licence, giving a direct drive on the top speed through a cardan shaft and bevel gear to a well-supported live axle. At this stand was also to be seen an electric motor starter, this consisting of an electric machine arranged to run either as a dynamo or as a motor. It works in conjunction with a small battery of accumulators and is geared to the flywheel of the engine, the latter being provided with a toothed ring for the purpose. To start the engine, the electric machine is run as a motor off the battery. The latter is kept fully charged, for, once the petrol engine is in operation, any current drawn from the accumulators is replaced by the combined dynamo-motor.

The Bolide Car.

In addition to the Aries cars, reference to which was made in our last issue, the AUTOMOBILES DE LUXE, LTD. (West End Agency), also had on view another French-built car, the Bolide (Fig. 27). Following the general lines of live axle cars, one of the main features of the vehicle is its relatively low price. The 15-h.p. engine comprises four cylinders, 90 mm. bore by 120 mm. stroke. Simms-Bosch high-tension ignition is fitted and the valves are all mechanically operated off a single cam shaft. Universal shafts are provided both fore and aft the gear box, and the ball bearings of the D. W. F. type are fitted to the axles. The pressed steel chassis is carried on five springs, which renders the vehicle very easy riding.

The Brown Cars.

The great attraction at the stand of Messrs. BROWN BROS., LTD., was a 40-h.p. six-cylinder car fitted with a luxuriously finished landaulet body. The details of the vehicle have already been published in the *M.C.J.*, but it may be briefly mentioned that the engine, the cylinders of which are 100 mm. bore by 130 mm. stroke, is provided with both magneto and accumulator ignition. Special attention has been paid to the question of lubrication, as also to the water circulation, which latter is by gear driven pump and a Megevet type of honeycomb radiator. A

run from London to Brighton and back on top gear has attracted considerable notice was evidenced by the great attention which was accorded to the stand of REO MOTORS, LTD. We first inspected the 8-10-h.p. vehicle (Fig. 29) which can carry either two or four passengers, the rear seat being ingeniously made to fold up when not in use. The engine, which is set about the centre of the frame, is of the single-cylinder horizontal type, the bore being 4½ in., the stroke 6 in., and the normal speed 800 revolutions per minute. The ignition is by coil and accumulators and the water circulation by a gear-driven pump. The change-

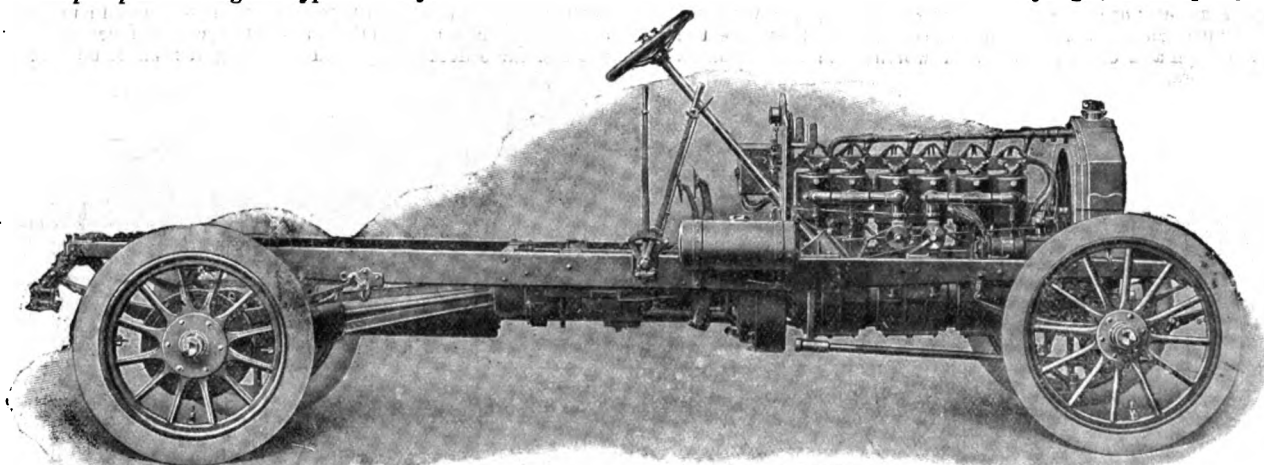


Fig 28.—Chassis of Brown 40-h.p. Six-Cylinder Car.

large leather clutch transmits the power to the gear-box, which gives four-speeds forward and a reverse, controlled by a lever working in a "gate." The transmission is by a cardan shaft and bevel gear to a live axle, the drive on the top speed being direct. Ball bearings are fitted to all parts except the engine; the wheel base is 10 ft. 6 in., which enables a roomy body to be fitted to the chassis. A useful car for travellers and others requiring a reliable and speedy little machine at a moderate price was seen a 10-12-h.p. vehicle fitted with a two-seated body and large sloping tool box at the rear. This is equipped with a

speed gear, which is of the epicyclic type, is adapted to give two speed and a reverse, actuated by pedals; the gear is mounted on an extension of the crank shaft, a single chain transmitting the power to the rear live axle. Other cars on view included a 16-h.p. double phaeton, a useful 20 cwt. van of similar power and an 18-h.p. side-entrance double phaeton with double extension hood and front glass screen, having accommodation for five passengers. In these larger vehicles the engine is of the horizontal opposed double-cylinder type, the transmission being similar to that referred to above. A dashboard of the curved type is fitted to the

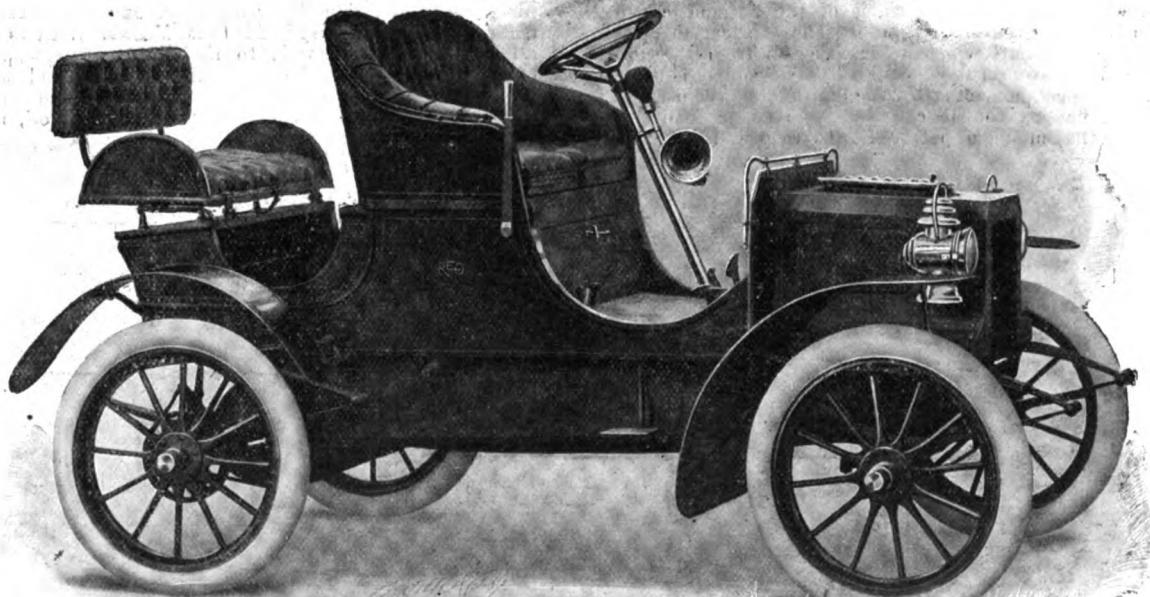


Fig 29.—The 8-10-h.p. Reo Car.

double-cylinder engine having the usual type of accumulator ignition, the control levers being conveniently located on the steering wheel. Like the larger car, a live axle is provided, a direct drive thereto being provided on the top, third, speed. The long springs employed add to the easy riding qualities of the car, which can, if desired, be equipped with a four-seated body.

The Reo Cars.

That the excellent performance of a Reo car in recently making a

18-h.p. vehicle, which is also provided with a special type of automatic carburettor, half-compression cocks, &c. In the latest models the bodies have been lowered 2½ in. and the length increased 7 in., to bring them more in accordance with English practice. All the cars are fitted with Goodyear tyres, which are noticeable for the ease with which they can be detached without the use of tools. The Reo cars have an excellent reputation for their quiet running and hill-climbing qualities, and, in view of their relatively low price, are finding a steadily enlarging clientele in this country.

The Jackson Cars.

One of the exhibits appealing particularly to the motorist of moderate means was that of Messrs. R. REYNOLD JACKSON AND CO., who had a range of the Jackson cars on view. They are all on modern lines, being fitted with pressed steel frames, push pedals, framed ribbed-tube radiators, and transmission by cardan shaft and bevel gear on to a live axle. The 6½-h.p. phaeton is a neat machine, the rear seat access to which is through a tilting front seat, being removable, rendering the car well adapted for commercial or station work, as a large amount of luggage can be carried. The engine is a De Dion, and three speeds and a reverse are provided. The 9-h.p. vehicle can be supplied either with a De Dion single-cylinder or Gnome double-cylinder engine; it is built either as a two-seated or four-seated dog-cart, or as a standard

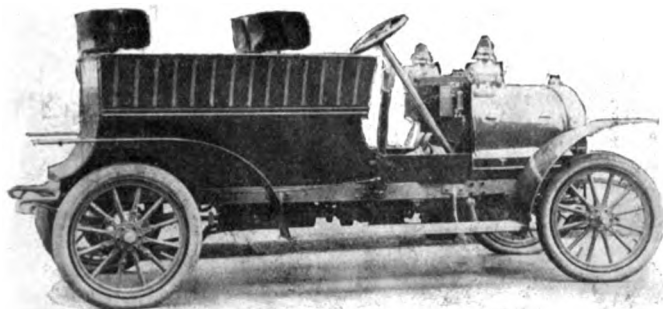


Fig. 30.—The Jackson 8-9 h.p. Dogcart.

side-entrance double phaeton. The latter is mounted on a longer chassis than usual, and a specially strong back axle. The ignition and throttle levers are also mounted above the steering wheel. The Jackson dog-cart which we illustrate above in Fig. 30, has been considerably improved. It is fitted with the latest type of 8-9-h.p. single-cylinder De Dion engine with mechanically-operated valves. The wheel base is longer, enabling a more roomy body to be provided; the latter is now provided with a curved back in place of the somewhat stiff lines hitherto adopted. The seats are made detachable, so that the car can be made to serve a double purpose—that is to say, it can be used both for pleasure and also for delivery purposes. Another interesting vehicle is a side-entrance double phaeton with a 10-12-h.p. engine, the four-cylinders of which are cast in one piece.

The Fouillaron Car.

In our report of the Paris Salon in December last reference was made to the somewhat novel progressive change-speed gear and transmission employed in the Fouillaron car. The system is now being introduced into England, and at the Show Messrs. MAINETTY AND CO., of Putney, exhibited a 14-16-h.p. four-cylinder chassis, suitable for a 15-20 cwt. delivery van. As will be seen from Fig. 31, the engine is set in the fore part of a pressed steel frame in the usual way, and drives through a clutch a pulley connected to a second pulley by a combination chain belt of peculiar construction. Each pulley is formed of two lamellated jointless cones, the arms of which are so intertwined that the inner end of each cone penetrates the interior of the other. The bottom of the pulley is represented by the circumference limiting the intersection of the two cones opposed to each other. One of these cones is movable, and can, by sliding along the shaft, penetrate more or less into the stationary lamellated cone, and thus modify the diameter of the belt on which the belt rests. A lever, connected to a non-reversible

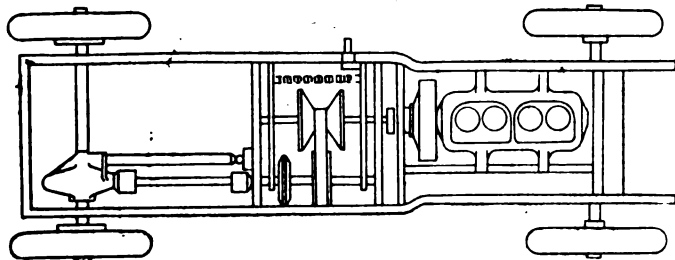


Fig. 31.—Plan of Fouillaron Car with Special Variable Speed Gear.

driving mechanism, enables one of the cones of each of the pulleys to slide along simultaneously, but in the opposite direction. This movement causes a variation in the diameter of the pulleys without modifying the tension of the chain, and enables the entire range of speeds, from a gear equal to five miles per hour up to one giving twenty-eight miles, to be obtained. A spring, the tension of which may be safely regulated whilst the car is running, is inserted in the driving gear, and tends to augment at the same time the diameter of the two pulleys. It automatically takes up all play that might be set up at high speeds by centrifugal force, and does away with slipping of the belt. The latter consists of a series of links or blocks of chrome plated leather mounted upon a chain of case-hardened steel. The

haft on which the second pulley is mounted is connected with the rear axle by a cardan shaft in the usual way. The reverse is obtained by means of a second bevel wheel on the differential shaft; the bevel pinion on the rear end of the cardan shaft is mounted on an eccentric sleeve, so that, by means of a special lever, it can be brought into mesh with either the forward or reverse driving crown wheel. The speed may be varied without disengaging the gear, which enables practical advantage to be taken of all speeds comprised between the limits available. Thus when ascending a gradient it is not necessary to "race" the engine; on the contrary, the latter should be kept running at its normal speed, the gear being varied slightly to suit.

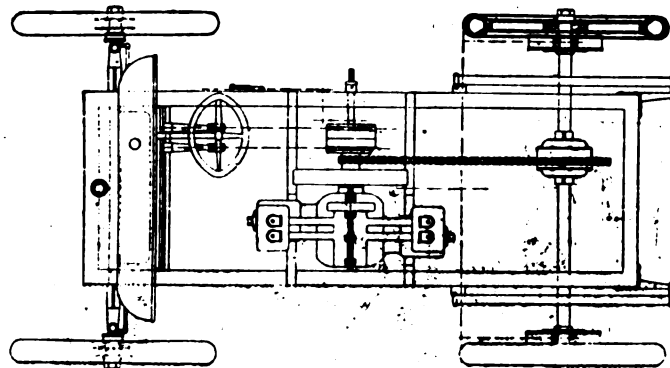


Fig. 32.—Plan of Chassis of the Dawfield-Phillips Cab.

The Dawfield-Phillips Car.

The illustrations herewith (Figs. 32 and 33) depict the interesting new vehicle which was shown for the first time by Messrs. Dawfield-Phillips, Ltd., of West Ealing, W. The vehicle, which is exceedingly simple in design, is provided with a 12-h.p. double-cylinder horizontal opposed engine, located at about the centre of the frame; the cylinders are 4½ in. bore by 4½ in. stroke, and the normal speed is 750 revolutions per minute. In order to obviate the trouble of leaking oil, each cylinder is cast in one piece with half of the crank chamber, which are bolted together. Hollow valve guides are also cast in one with the cylinder and half crank case, the valve stems, which work within them, being lengthened so that they are actuated off the cam shafts without the intervention of the usual tappets. The object of the designers in adopting this construction has been to prevent oil leakage owing to the pressure in the crank case.

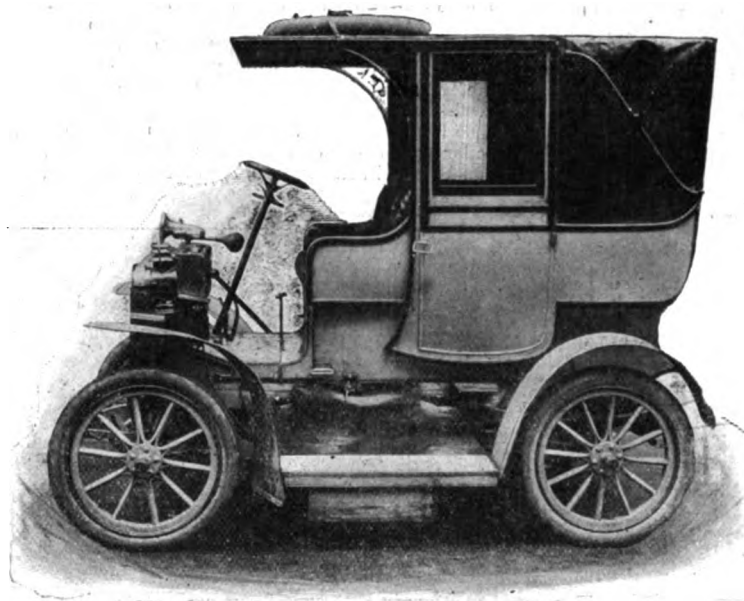


Fig. 33.—The Dawfield-Phillips Cab.

Ignition is by coils and accumulators, the contact maker being located on the crank shaft, and not, as usual, on one of the half-time spindles. The lubrication of the engine is effected by a pump driven off one of the cam shafts, while the water circulation is on the thermo-syphon principle, no pump being employed. The radiator is of a special type, both the inlet and outlet pipes being located at the bottom, so that the water has to pass both up and down the tubes of the radiator, so increasing the cooling effect. The engine control is effected by means of two levers mounted on the column below the steering wheel. The change speed gear is mounted on an extension of the crank shaft; it is of the epicyclic type so largely used on American cars; it is adapted to give two forward speeds and a reverse, the final transmission

being by a single centrally-located chain to the rear live axle. Semi-elliptic springs are employed at the rear for the suspension of the main frame, and full elliptic springs at the front. Ball bearings are used to all parts except the engine. The vehicle can be fitted with either a landaulet, cab or light van body, these being hinged at the rear so that they may be tilted up to give access to the engine; the car is capable of being turned in a twenty-foot road, so that it comes well within the Scotland Yard limits for public service vehicles. The makers claim that the flexibility of the engine is such that the speed of the car can be reduced to six miles per hour on top speed.

The Horch Cars.

The fact that it was a Horch car which won the 1906 Herkomer Touring Trophy contest caused the initial exhibition of these cars in this country by Horch Motors, Ltd., to come in for an unusual amount

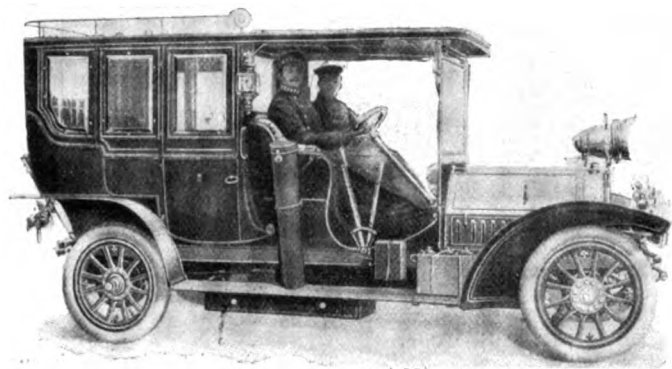


Fig. 34.—The Horch Limousine supplied to the Grand Duke of Oldenburg

of attention. Two models were shown—18-22-h.p. and 35-40-h.p., both fitted to four cylinder-engines, but, as these are built on practically the same lines, the following description of the more powerful car may be taken as applying to both. The cylinders, which are 115 mm. bore and 140 mm. stroke, are cast in pairs, with the valves operated off a single cam shaft, the inlets being situated in the cylinder heads and actuated by tappets. The carburettor is of a special automatic type with a multiple jet feeding in progression according to the requirements by the engine. The jet has three orifices, two in the form of slits in the sides, and a larger one in the apex. Around its base are two concentric annular air intakes. Above it and normally resting on the apex of the jet—and so closing the third source of petrol supply—is a baffle cone which forms part of the roof of a ported piston—the latter admitting the mixture to the cylinders. The lower end of the piston has an annular ring, which, when the third jet is closed, covers the outer annular air intake, so that, so long as the baffle cone rests on the apex of the petrol jet, only the inner air intake is open. This ported piston, however, is free to slide up and down in the walls of the mixing chamber,

circulation is maintained by a gear-driven pump and a special form of tubular radiator with fan: the spindle of the latter is supported in a bracket, which can be slid up or down, and the tension of the belt thereby adjusted. The clutch is of the leather-faced cone type, the spring being arranged somewhat different to the usual plan, it being in tension instead of compression. Four speeds and a reverse with direct drive on top speed are controlled by a "gate" lever. From the gear-box the power is transmitted to the live axle through a cardan shaft and bevel gear. A sleeve which surrounds the propeller shaft not only protects the latter but acts as a torque rod, two side radius rods being also provided. As in all modern high-grade cars, ball-bearings are used to all parts, even

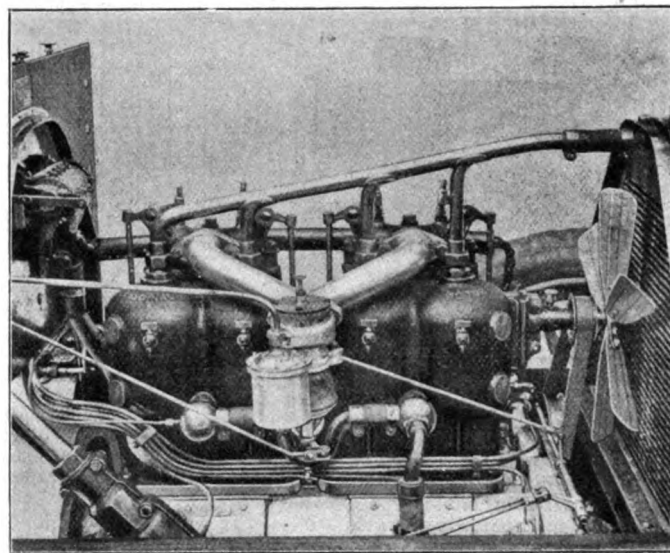


Fig. 35.—The Horch 35-40-h.p. Engine.

the crank and cam shafts of the engine being so provided. The Horch cars, which are built at Zwickau, in Saxony, are, as will be seen, on thoroughly up-to-date lines, a noticeable feature of the engine being its great flexibility and silent operation.

The Westinghouse Cars.

Messrs. A. GAAL AND CO., who, as we recently mentioned, have acquired the British agency for the cars made by the Westinghouse Company at Havre, had an interesting and instructive display of these high-grade productions. Two models are being made for the current year, the 35-40-h.p. chain-driven vehicle being supplemented by a 20-30-h.p. live axle car intended for town use. In the larger machine the engine comprises four cylinders, 120 mm. bore by 140 mm. stroke, cast in

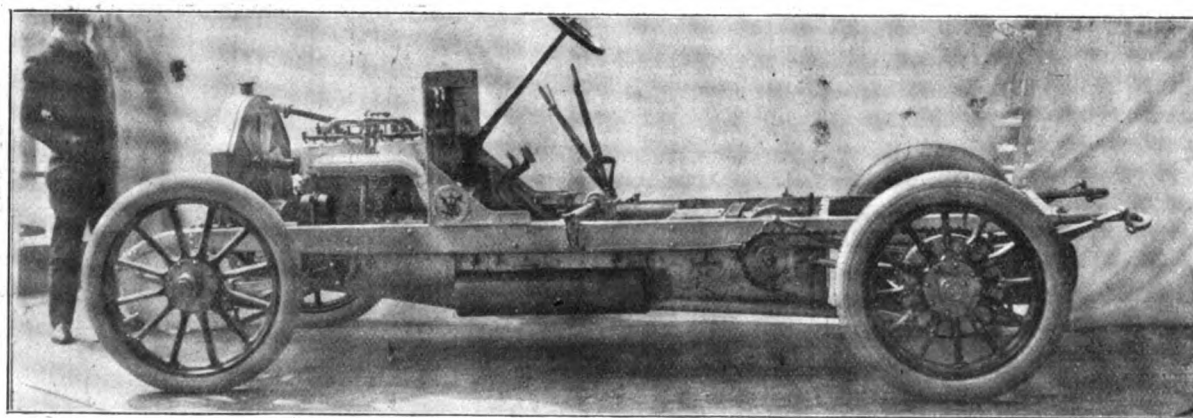


Fig. 36.—Chassis of Westinghouse 35-40-h.p. Car.

being controlled by a light spring. When the engine is running light, the single air feed and double jet satisfy its needs; but as soon as the speed increases the ported piston is drawn upward to simultaneously uncover the third petrol jet and the supplementary supply of heated air. A special valve, set beneath the air intake and operated from the dashboard, controls the amount of hot air admitted, while the usual throttle valve operated from the steering wheel controls the gas supply. The carburettor draws its petrol by gravity from a small tank on the dashboard, the latter being, however, pressure-fed from the main reservoir. A single switch of special design controls the dual ignition system provided—high tension magneto and coil and accumulators. The water

two pairs, with the valves mechanically actuated off separate cam shafts. The carburettor, low tension magneto, and pump are all mounted on the engine. The governor is enclosed in the crank chamber; it acts on a piston throttle regulating the admission of gas to the engine, an accelerator pedal being also provided. The clutch is of the metal-to-metal disc type, and is so arranged that it can be removed without interfering with the engine or the gear-box. The latter is adapted to give four speeds and a reverse, with direct drive on top speed. Two large diameter foot brakes are provided on the differential shaft, as also a hand brake acting on the hubs of the rear wheels. All the brakes are so arranged that they can be adjusted by hand. Except as regards the

transmission and the ignition, which is by high-tension magneto, the 20-30-h.p. vehicle is on similar lines to the 35-40-h.p. The hind road wheels run on the axle sleeve and receive the power from the live shafts through the hubs. The cars are fitted with a new shock damper, in which an oil-containing inverted cylinder is mounted on the rear axle, a piston rod, working in the same, being bolted rigidly to the side members of the frame. In addition to a polished chassis of each model, the exhibit comprised a magnificent 35-45-h.p. limousine, similar to that supplied to Prince Eitel of Prussia. Altogether the Westinghouse cars made a

interesting details. The engine comprises four separate cylinders 100 mm. bore by 120 mm. stroke, with the interchangeable m.o.v. valves arranged on opposite sides. The crank shaft, which is made of nickel steel, is provided with a bearing between each throw. Ignition is by Simms-Bosch high-tension magneto, and the mixture furnished by a special form of gravity-fed automatic carburettor for which great economy in petrol consumption is claimed. The water circulation is maintained by a rotary pump driven off the engine, and a neatly-designed tubular radiator, a current of air being drawn through the

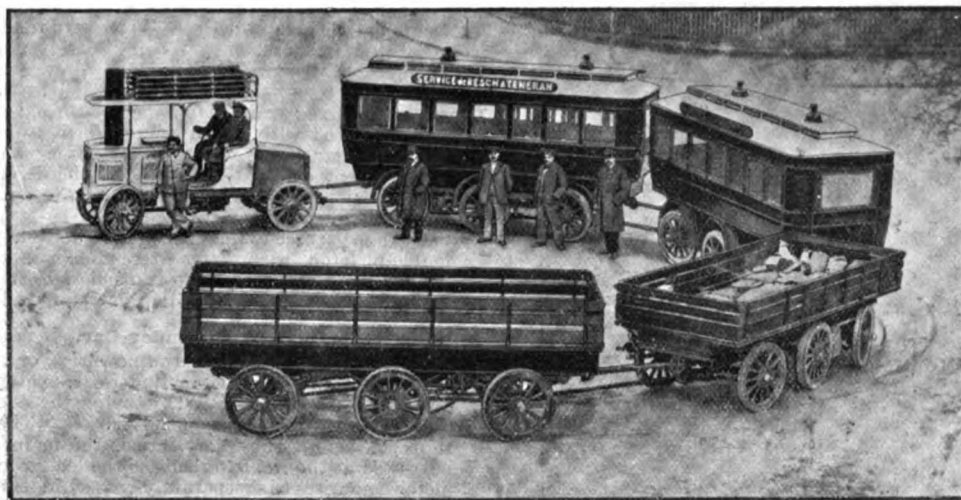


Fig. 37.—View of the Renard Road Train Showing its Capability of Negotiating Sharp Curves.

favourable impression, the workmanship well upholding the reputation of the company in other branches of engineering work.

The Renard Road Train.

The Renard road train demonstrations in the streets adjoining the Minor Hall were a source of public interest throughout the week. As we have recently shown, the system secures many advantages that render its adoption in rural districts an extremely desirable matter. Each vehicle forming the train has perfect steering by the driver, enabling the whole train to turn any corner—as has been amply proved in the trial trips of last week. The driving power is transmitted to each vehicle by means of a jointed rotating shaft running through the train, while the

latter by a fan formed in the flywheel. The lubrication of the engine is effected by a pump which forces oil to all the main bearings and connecting rods. The clutch is of the Hele-Shaw multiple disc type, and the gear-box, which is gate controlled, gives three speeds forward and a reverse, with direct drive on top through a cardan shaft and bevel gear to the rear live axle. The universal joints are of a special design and are provided with grease cups. A useful feature is seen in the fitting of lubricators to all the different joints. The steering gear is also on novel lines, it being so arranged that any wear can readily be taken up. The steering arms, gear-box, and back axle are all provided with ball-bearings. The car has a wheel base of 9 ft. 3 in., on which a roomy side-entrance double phaeton or landaulet body can be fitted.

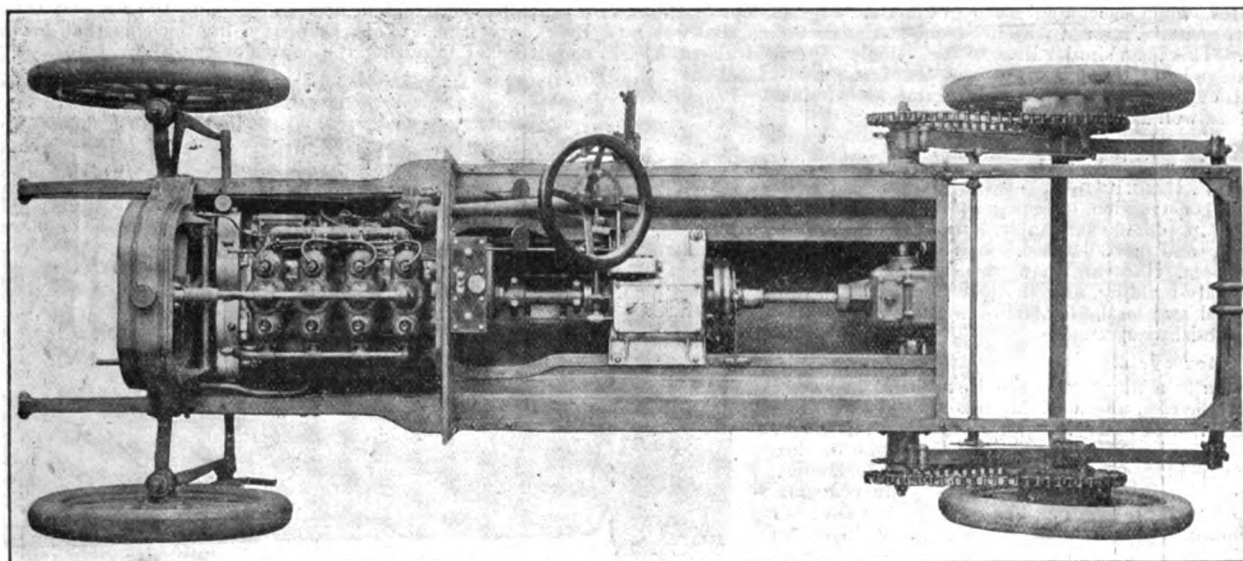


Fig. 38.—Plan of Chassis of Ader 16-20-h.p. Car.

compensating levers on each axle enable the vehicle to surmount obstacles and ensure equality of distribution in the load. The DAIMLER COMPANY have secured the manufacturing rights for all the world, with the exception of France, where the train originated, and we are likely to hear much of the idea during the next few months.

The Miesse Petrol Car.

A new Belgian-built petrol car is the Miesse, which made its first public appearance in this country on the stand of the MIESSE PETROL CAR SYNDICATE, LTD., of Pelham Street, South Kensington, S.W. It is of 20-24-h.p., and while following in general design the ordinary lines of live axle vehicles, an inspection showed that it comprised many

The Ader Car.

Messrs. J. C. LYELL AND Co. occupied two stands, that in the Great Hall being devoted to a chassis of the Ader 16-20-h.p. car, a French-built vehicle, which has not hitherto been prominent in England, although it has an excellent reputation across the Channel. The motor has the cylinders (92 mm. bore by 110 mm. stroke) all cast separately, a bearing being provided between each throw of the crank shaft. The base chamber is not furnished with arms in the usual way, but it is provided with a lip on each side, and extending the whole length of the motor, by means of which the latter is supported on the pressed steel frame. The lip also forms a platform on which the pump, magneto, carburettor, &c.,

are mounted. Both foot and hand control of the throttle is available, while in addition the clutch and brake pedals, as also the hand brake lever, are so coupled up that as the clutch is withdrawn or the brakes applied the speed of the engine is automatically cut down. Ignition is by high-tension magneto, with accumulators and coil as a reserve. Universally-jointed shafts connect the leather-faced cone clutch with the gear-box, and the latter with the differential shaft, this being placed well to the rear in order to give a short chain-drive.

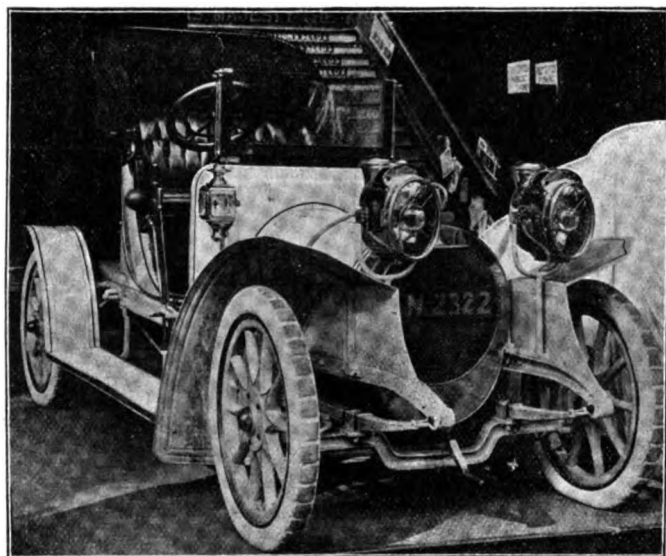


Fig. 39.—The New Leader Car with Special Front Mudguards.

The New Leader Cars.

The HIGH HOLBORN MOTOR AGENCY were present with a 10-12-h.p. New Leader car fitted with a neatly designed two-seated body. The motive power is supplied by an engine comprising four separate cylinders, 90 mm. bore by 90 mm. stroke; the valves are operated off a single cam shaft, and the water circulation is on the thermo-syphon system. The transmission is through a leather clutch, three-speed gear-box, cardan shaft and bevel gear to a live axle. The gear-box is provided with roller bearings and ball thrusts; the dashboard is of a special curved type, forming the petrol and oil tanks, and carrying the coil and sight feed lubricators; this arrangement insures a constant supply of petrol to the carburettor when ascending steep gradients. Fig. 39 depicts the 18-22-h.p. two-seated Victoria, with hood and front glass screen, that was also on view. This is on similar lines to the vehicle described above, a noticeable feature being the special form of the front mudguards, which extend vertically from the frame at the side of the wheels as well as over the latter.

Darracq Cars.

Several of the well-known Darracq cars were exhibited by Messrs. H. E. HALL AND CO., of Tonbridge, fitted with bodies of other construction. Among the vehicles on view were a 20-32-h.p. double landaulet, a double phaeton of similar power, and a 30-40-h.p. side-entrance double phaeton. Messrs. Hall are now devoting considerable attention to body-building, and, to show the quality of the work, displayed two landaulet bodies in the rough as well as one or two finished specimens.

The Rex Motor-cycle.

In addition to a number of the Rex single and twin cylinder motor-cycles, the REX MOTOR MANUFACTURING COMPANY, LTD., of Coventry, exhibited for the first time a new tri-car, to which they have given the name of Rex Lightette. This is fitted with a 6-h.p. two-cylinder motor, the water cooling being on the thermo-syphon principle, and the ignition by magneto. The power is transmitted by a Roc clutch, two-speed gear and a single chain to the rear wheel, which is of the Rex Company's twin-tyre type.

Motor-bus and Lorry Chassis.

Several chassis suitable for motor-buses or lorries were shown by the INTERNATIONAL MOTOR TRAFFIC SYNDICATE, these including a 3-ton vehicle fitted with a 36-h.p. four-cylinder engine, gate-controlled change-speed gear and chain drive; a 20-24-h.p. 2½-ton machine, and one of 2 tons capacity. The vehicles are of continental make and appear to be of sound construction.

The Clyde Cars.

Several examples of the Clyde cars, made by Mr. G. H. WAIT, of Leicester, were exhibited by the London agents, the CENTURY MOTOR COMPANY, LTD., Willesden Junction, among them being a 8-10-h.p. doctor's car with two-seated body. While the general design

is unaltered, several improvements have been made in the details with the view of keeping the vehicles well up-to-date and of giving them a pleasing appearance; thus we note that push pedals have been adopted as well as "gate" control, and that a Daimler type of curved dashboard is now fitted. The engine, which is a double-cylinder White and Poppe, is arranged with its crank shaft parallel to the axles, it being thus fixed at right angles to the usual position. The transmission on the Clyde cars is on novel lines, and that it is efficient is demonstrated by the success achieved in several hill-climbing competitions held last year. The change-speed gear is enclosed in a box, which also surrounds a differential on the rear live axle; it is adapted to give three speeds forward and a reverse. The pinions are always in mesh, one set being loosely mounted together with the dog clutches, by means of which they are made to transmit the power, on a short shaft carried parallel to the rear axle. The latter carries the fixed train of pinions, the usual gear-box side shaft being thus dispensed with. The connection between the engine at one end of the tubular frame and the gear-box at the other is by an enclosed Renold silent chain. The clutch, which is of the metal-to-metal type, is located within the chain wheel on the outer end of the gear-box. Other Clyde cars on view included a 12-14-h.p. vehicle with a White and Poppe three-cylinder engine, and a 20-24-h.p. side-entrance double-phaeton with Aster four-cylinder motor and both accumulator and magneto ignition. The transmission in both these machines is similar to that in the 8-10-h.p. vehicle alluded to above.

The "Malcolm" Six-cylinder Car.

What proved one of the novelties of the Show was the chassis of the Malcolm 18-h.p. six-cylinder car, exhibited by the Yukon Motor Company, of Balham, S.W., it being the cheapest vehicle of the kind that has so far been put on the market. The engine and gear-box are supported on a subsidiary frame, the main one being of pressed steel narrowed at the front to increase the lock of the steering wheels. The motor comprises six separately-cast cylinders 80 mm. bore by 110 mm. stroke with the valves arranged on opposite sides. A bearing is provided between each throw of the crank shaft, while the base chamber is built up in three parts, the lower one of which can be detached without in any way disturbing the bearings. The ignition is by a coil and accumulators with synchronised high tension distributor. The carburettor is of the firm's own design and it is provided with the Krebs automatic extra inlet and a piston throttle. The water circulation is maintained by a gear-driven pump located in an accessible position below the floor-board and a Mercedes type of radiator. A Hele-Shaw multiple disc clutch transmits the power to a three speed and reverse gear-box, the final drive from the differential shaft being by side chains. In conjunction with the clutch a clutch-stop which takes the form of two small metal cones is provided. Ball bearings are fitted to the shafts in the gear-box and to the road wheels. The wheel base is 9 ft. 3 in., which enables a roomy side entrance body to be fitted to the chassis. Notwithstanding its low price the vehicle, so far as can be judged from a cursory inspection, is soundly constructed, and, as showing the interest taken in it, Mr. Brookes, of the Yukon Company, informed us that he had over 600 enquiries for it during the course of the Show.

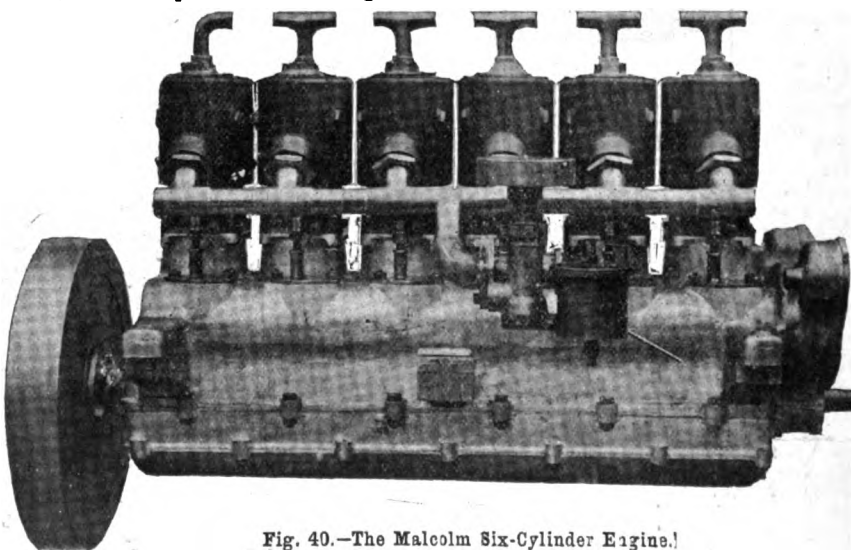


Fig. 40.—The Malcolm Six-Cylinder Engine.

The "Belmont" Non-Skid.

The "Belmont" non-skidding tyre protector was exhibited by the BELMONT TYRE PROTECTOR COMPANY. This consists of a band of a special fibrous material, fitted by a wire to the wheels and securing a firm grip on the road surface, preventing all danger of skidding. It is claimed that it will not fray or stretch, and that there is no risk of its creeping when in use. Lightness, durability and evenness of wear are among the advantages of this new type of non-skid, which attracted considerable notice from motorists during the last days of the Show.

MISCELLANEOUS EXHIBITS.

The Davis Paraffin Carburettor.

In view of the ever-increasing cost of petrol, special interest attaches to any new ideas with regard to carburetting or vaporising devices to enable paraffin to be successfully utilised as a fuel for internal combustion engines. We give herewith in Fig. 41 two sectional views of the carburettor which Mr. F. R. Davis, of Shawford, Winchester, has recently introduced, and which was shown on the stand of Messrs. MANN and OVERTONS, LTD., at the Cordingley show last week. Generally

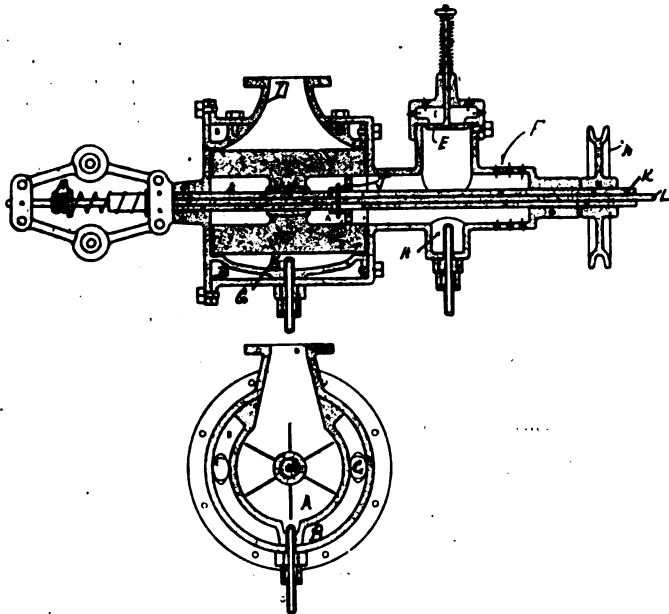


Fig. 41.—Sectional Views of Davis Paraffin Carburettor.

- | | |
|--|------------------------------------|
| A.A. Mixing Chamber. | I. Fan. |
| B.B. Jacket through which Exhaust | J. Sliding Throttle Valve. |
| Passes. | K. Hollow Spindle. |
| C.C. Connections for Exhaust Branches. | L. Governor Rod to which Throttle |
| D. Induction Pipe to Cylinders. | is keyed. |
| E. Automatic Air Valve. | M. Governor. |
| F.F. Ordinary Air Admission Holes. | N. Driving Pulley (or Gear Wheel). |
| G. Paraffin Jet. | O.O. Bearings of Spindle. |
| H. Petrol Jet. | |

speaking the device consists of a cylindrical mixing chamber enveloped by a heating jacket; within this chamber is a fan revolving at a high speed on a hollow spindle driven externally by a pulley or gear-wheel. To start the engine it is necessary to use a small amount of petrol, supplied from an auxiliary tank; only a very few moments are required for the mixing chamber to become heated, when the petrol supply can be cut off and paraffin substituted by means of a Bowden control from the dashboard. The heated jacket vapourises the paraffin, and the revolving fan completely atomises it and forces the charge into the cylinders. The heating of the jacket is claimed to be unusually efficient, as practically the whole of the exhaust from two cylinders alternately passes through it, consequently the heating is rapidly effected, and the amount of petrol required is infinitesimal. The revolving fan not only causes the atomisation of the paraffin, but also draws in a supply of air, and thoroughly mixes it with the vapour, and by its natural action forces the mixture into the cylinders. Consequently, as the supply of mixture to the explosion chamber does not depend on the suction of the engine, each cylinder is sure of receiving its full charge. The regulation of the supply of air is effected by a sliding throttle through a sensitive governor; it can also be regulated either by a hand or foot lever or both.

Body Work.

Some excellent examples of motor carriage work were to be seen at the stand of Mr. W. VINCENT. We first noticed a little two-seated coupé for a doctor's use, the steering wheel and levers being entirely under cover. Another interesting piece of work was seen in a seven-seated limousine, painted yellow with black mouldings, and upholstered in French grey cloth. Other exhibits which show the variety of Mr. Vincent's productions comprised a double landaulet, a single landaulet, and a three-quarter landaulet. Mr. Vincent is just completing a very large addition to his establishment at Castle Street, Reading, the new building, which comprises two floors with lift, having accommodation for close upon fifty cars.

The Stepney Spare Wheel.

During the last few seasons the Stepney Spare Motor Wheel has steadily gained in favour and more than 12,000 are now in service. It was shown at the Exhibition by the STEPNEY SPARE MOTOR WHEEL, LTD., who are in a position to give early delivery for the coming season—a point of interest to those whose motoring days are now beginning.

As is generally known, it is a device to forestall tyre troubles, and can be easily fixed on the iron flange or bead of the wheel when the tyre is disabled. By simply screwing up two fly-nuts the wheel is made secure and the motorist is thus enabled to continue his journey, the tyre being repaired at leisure on his return home. Delays on the road are consequently rendered a thing of the past by the adoption of the wheel, which is suitable for all artillery or wire wheels. When on the car the spare wheel is fastened to the side near the driver by means of ring carriers and brackets, being clamped to the ring in the same way that it is attached to the road wheel when in service. The Stepney Spare Wheel has attained such a degree of popularity that we may expect to see it fitted on a goodly number of cars on the roads this season.

The "Ideal" Motor Screen.

Mr. T. H. GILL devoted his space at the Exhibition to showing the Ideal wind screen—a well-made and finished addition to the car. This is constructed with one or more movable parts, and so arranged that the top and bottom halves can be set at any desired angle. Spiral springs inside the uprights keep the top frame in position and secure a practically tight joint between the bottom and top halves, in whatever position they happen to be. The screen is made of brass with grooved rubber for holding the glass in position, and the facility with which the device was operated at the show gave every assurance as to the ample protection it provides for wind, dust and rain. Mr. Gill has had considerable experience in motor body work and has designed some good types of landaulet and Roi des Belges bodies.

The Wicksteed Change-speed Gear.

Considerable interest was shown in the new change-speed gear, shown fitted to a 15-h.p. Humber car by Messrs. CHARLES WICKSTEED AND CO., LTD., Kettering, who have been at work at it for more than a year past. Some particulars of the arrangement have already been given in the *M.C.J.*, but it may be mentioned that the gear is of the type in which the various pinions are always in mesh, the requisite pair being made to drive by means of metal cone clutches. As will be seen from Fig. 42, the two shafts are not only parallel, but in the same horizontal plane. Running the whole length of one side of the gear-box is a miniature crank shaft to which small connecting rods are attached. The opposite ends of the latter are fixed to discs formed in one with the male portions of the clutches. These are carried in special screw-threaded supports, corresponding threads being formed on the body of the clutch. Only a slight movement is required to engage or disengage the clutches, this being obtained by the arms and the screw threads just referred to. The side shaft is only brought into use for the first, second, and reverse speeds, the top one being a direct-drive. The gear is controlled by a small hand wheel working above a dial plate on the top of a vertical column at the side of the steering pillar. The dial is lettered in the following order: Neutral, low, middle and fast speeds; and as the wheel can be turned in any direction or continuously one way, the gear can be changed with a minimum of trouble, without it being necessary to with

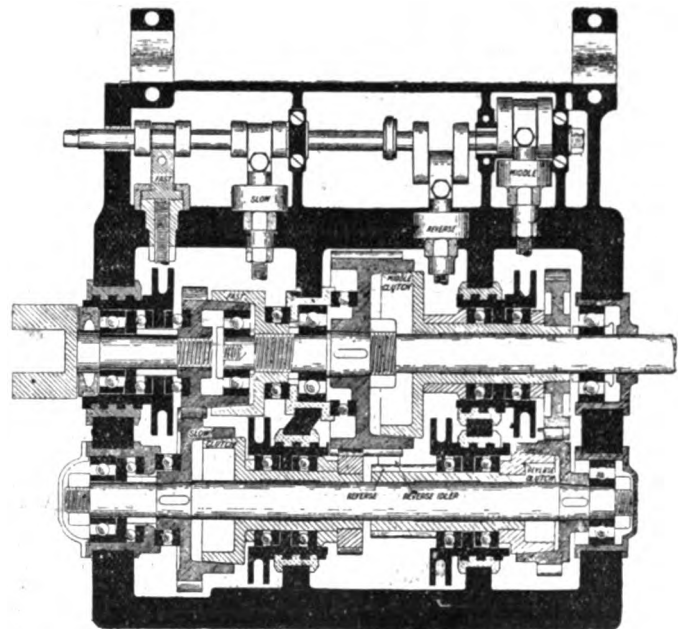


Fig. 42.—Sectional Plan View of the Wicksteed Change Speed Gear.

draw the main clutch. The reverse is operated by a separate small lever on the vertical column, the gear having first to be put in the neutral position. The gear runs very quietly, and is simply operated, the action being such that there is no danger of straining the engine or mechanism in changing speed, while the trouble of stripped gears is entirely obviated. We understand that it is being fitted to quite a number of pleasure cars, and that it is now being experimentally tried on one of the motor-buses in London.

The "Heron" Tyre Pump.

A thoroughly substantial device for automatically inflating motor-car tyres by utilising the power of the engine was shown on Mr. J. A. RYLEY's stand by the HERON MOTOR CO., LTD., of Birmingham. The makers point out that the "Heron" pump can be fitted to any car, and that it saves labour in pumping up tyres. It will pump up to 300 lbs. pressure, and the general arrangement will be evident from the accompanying illustration (Fig. 43). The pump is bolted to the frame of the car and is worked by a cardan propeller shaft connected with a friction wheel held in contact with the engine fly-wheel. The cardan shaft can, of course, be made of any length to be adaptable to any particular

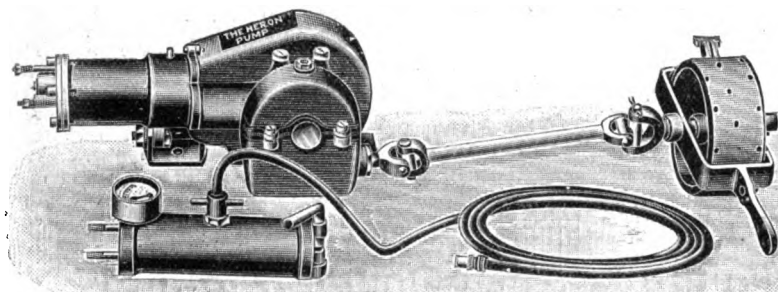


Fig. 43.—The Heron Tyre Pump.

vehicle. The necessary reduction in speed is obtained by a worm-driven wheel with ball thrust bearings mounted in the pump casing. The "Heron" patent piston compresses the air, and the oil is prevented from passing into the tyres by a very ingenious packing. The installation is completed by the air reservoir fitted with pressure gauge and a relief cock with the necessary length of flexible tubing to reach all the four tyres.

Screw-Making Machinery.

A new automatic screw-making machine formed the interesting exhibit of Herr GEORG WUTTIG, of Lobtau, Dresden, Germany, represented in this country by Messrs. Beckenbach and Company, Bradford. The tool, the special feature of which is the arrangement for cutting the threads without reversing, is capable of turning out up to eighteen screws per minute, or 8,000 per diem. Whilst in all former screw-making machines the movements of the working spindle and cutter had to be frequently reversed for the purpose of cutting threads, this is no longer necessary in the new machine, in which the spindle and cutter run uninterruptedly in the same direction. This new construction possesses a great advantage in that in cutting threads the movement of the working spindle need never be reversed nor arrested and in that the shaping steels can uninterruptedly work simultaneously to the cutter. The threads can thus be cut simultaneously to the making of the pivots or cutting off, without any necessity for this work to be done separately. The high efficiency resulting therefrom will be easily perceived.

Component Parts.

Some of the finest engineering work in the Gallery was to be seen on the stand of Messrs. H. and G. KINGSTONE AND CO., whose works in North London are well equipped for the provision of high-grade component parts for automobiles. Judging from the interest taken in the stand by experts, the firm should quickly reap the harvest of their enterprise in being represented at the Show. A good piece of work was the gear-box on the stand. This had three speeds forward, with direct drive on top speed, and one reverse, all actuated by one lever. The gear wheels are turned from the solid bar, and are case-hardened by Messrs. H. G. Kingstone and Co.'s special process, which prevents crystallisation from taking place, thus adding to the durability of the wheels. The shafts and counter shafts are of 4 per cent. nickel steel. The gear cases are despatched with sprag ratchet wheel and one pair of universal joints. We also noticed a good type of back axle designed for cars up to 35-h.p. In this the entire weight of the car is carried on the outer sleeve, which have four rows of ball bearings and four ball thrust bearings. Power is transmitted to the driving wheels by the live axle, which has no weight to carry. These back axles are fitted with specially constructed brake drums, with cooling space between the inner and outer friction surfaces, which thus permit the use of two brakes on the same drum, one brake being of the inside expansion type, and the other of the outside contraction type. Both brakes, as fitted, are double acting. The differential case is carried in two separate bearings, preventing any side strain on the driving axle. Various other component parts were shown by Messrs. Kingstone and Co., all of the same high grade of engineering work.

Bodies for Delivery.

Messrs. W. PARKYN AND SONS, LTD., whose reputation in the carriage-building industry extends over half a century, are paying special attention to the requirements of the automobile trade, and their exhibits were of considerable merit. The van bodies shown were designed for commercial vehicles, one being built to the order of Messrs. J. Shoolbred and Company, for parcels and furniture delivery, and the other intended for general trade purposes.

"Shock-shifter Hub."

The stand occupied by Messrs. JOHN MUIR AND SON was of particular concern to those associated with the heavy motor industry. Examples of their pigskin tyres were on view in both new and old condition, the comparison illustrating the good wearing qualities of this special material, in the tanning of which the firm's long experience is a valuable factor. The firm also exhibited a new hub to prevent road shocks reaching the axles. This is of simple construction and has excited the interest of those responsible for the conduct of public motor services in marked degree. This "Shock-Shifter Hub" is filled with steel balls, loosely packed, supporting the axle. The weight of the axle carrying the vehicle automatically forms a vacant space, which is constantly maintained whilst the wheel is in movement. Owing to the mobile condition of those balls, resting on one another, always in angular position, ever ready to slip over each other, and revolving on their own axes, an all but liquid bearing to the axle is given. Immediately, therefore, any road shock, however slight, takes place, the row beneath the axle, and to its full width of six or eight balls is immediately displaced. This row is forced across the vacant space, followed by the other balls, thus causing the shock to pass into the ball chamber in the backward moving half of the wheel, wherein the line of its transmission must be constantly broken up. The road shock is thus absorbed and prevented from ever reaching the axle. The movement of the car is said to be very steady, because there is no reactionary shock on this wheel.

Insurance.

The various schemes of motor-car insurance found ample explanation at stands occupied by some leading companies and by Col. D. A. Kinloch and Mr. Guy Gold, who were affording information with regard to Lloyd's insurance policies. The Car and General Insurance Corporation, Ltd., and the General Accident Assurance Corporation, Ltd., occupied stands in the Gallery, where information as to their policies could be obtained.

The Simplex Shock Absorber.

Fig. 44 depicts the new shock absorber which is being introduced by the SIMPLEX SHOCK ABSORBER SYNDICATE, LTD., and which was shown fitted to all four springs of a large four-cylinder car, which has recently been submitted to extensive trials. The device, which, as will be seen, is interposed between the axle and the carriage spring, consists of two metal boxes working one within the other, the spring being attached to the outer one and the axle to the inner. Between the two is held a pneumatic cushion, consisting of an oblong-shaped rubber bag enclosed in a canvas cover and fitted with an ordinary cycle tyre valve, enabling it to be pumped up to a pressure of 10 lbs. per square inch. Between the sides of the box are fixed steel friction rollers, which act as guides. Although there is little danger of the cushion becoming deflated, provision

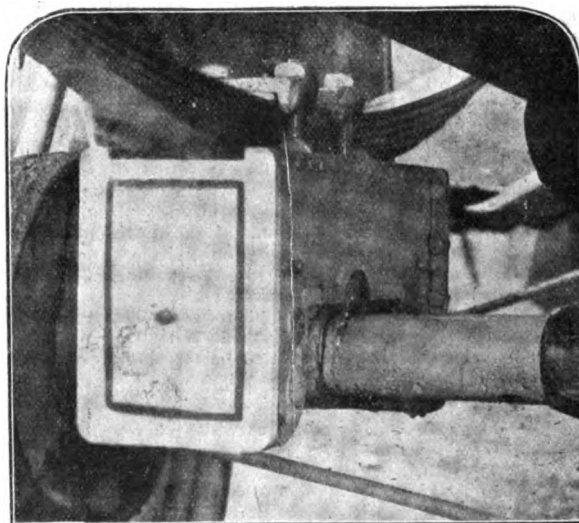


Fig. 44.—The Simplex Shock Absorber in position.

is made whereby it can easily be withdrawn and a new one inserted. In the trials that have been made, the device has been found not only to reduce the amount of vibration due to road shocks transmitted to the passengers, but also that it saves the engine and transmission mechanism from undue jolting. As will be seen, the absorbers slightly raise the height of the vehicle from the ground, but the inventor informs us that, rather than this being a drawback, he has found it a distinct advantage, inasmuch as it has distinctly reduced the dust-raising proclivities of the car. The arrangement is an interesting departure and one which is well worthy of attention.

Scott's Non-Skid.

On the stand of Sharpe's Patents Company, the TYRE REPAIRING COMPANY, 2, Wilmington Street, Margaret Street, Farringdon Road, E.C., showed a new non-skid, introduced by Mr. A. H. Scott. The feature of this is the alternation of rubber and metal studs forming a non-skidding surface while retaining the resiliency of the tyre. The idea seems a good one, and we await its appearance on a car with considerable interest. The rubber treads are somewhat deeper than those of metal, so that the rubber is always being compressed and the two materials secure a good grip on the road surface.

Electric Horns.

The new taximeter and motor-bus speed indicator introduced by Messrs. S. SMITH and SON, LTD., and recently mentioned in our columns, attracted attention to the stand occupied by this well-known firm of speedometer makers. Their speed indicator has been introduced into the United States and Canada with very gratifying results. Their milometers are recommended as reliable up to 10,000 miles and showing the running in miles and also in tenths of mile. Motor watches, communicators in various designs, roof lights, and various electrical fittings for vehicles and other specialities were shown, including the new "Grack" horn.

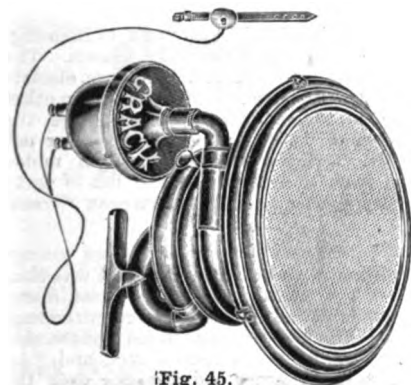


Fig. 45.

This can be used with four or eight volt accumulator, and emits a loud penetrating sound on the button being pressed. The push box is strapped on the steering wheel, and the simplicity of the horn should commend itself to those who are dispensing with the ordinary form of bulb horn.

The "Victoria" Spring Wheel.

Among the late comers at the Show was the VICTORIA SPRING WHEEL SYNDICATE, of Queen Anne's Chambers, Broadway, Westminster, S.W. Their special exhibit was a new resilient Shock Absorbing Spring Tyre, composed of a number of elements or units which are interchangeable and can thus be refitted, should any one of them get out of order, a condition which is extremely unlikely. The invention is somewhat difficult to explain without illustrations, but we look with interest to a practical test of the tyre, which can be fitted to any existing wheel and is said to run as silent as a pneumatic tyre, meeting the puncture difficulty and securing resiliency. The Victoria Tyre was a notable addition to the accessory department at the Show.

Hoods and Vulcanisers.

Messrs. GEORGE JOHNSTON AND CO. had a good show of covering material and waterproof cloth for motor-car bodies and hoods, including "Rhinohyd," a specially prepared fabric that has proved its serviceability for hoods and in similar situations. The particular hues in which it was shown seem well adapted to maintain a good appearance under the trying and variable conditions that befall the much-used car. The floor of the stand was covered with rubber matting to demonstrate another branch of the firm's business, while all around were beading, buttons and general brasswork for Cape cart hoods and the like, for which Messrs. George Johnston and Co. supply everything that is required. At this stand there was also exhibited the "Vul tyre" vulcaniser by means of which vulcanising repairs can be executed on the inner tubes of pneumatic tyres by the "dry heat" process. The operation is extremely simple. The tube surrounding the puncture is cleaned; the special solution spread over the cleaned surface; the prepared patch, which in itself contains the vulcanising chemicals, is placed over the puncture, and it is then ready for vulcanising. The iron block is heated and placed in position, when fifteen minutes completes the process, and the resultant repair is an amalgamation with the original tube. Cohesion of every part takes place, filling up the tear or puncture.

Lubricants.

Messrs. PRICE'S PATENT CANDLE COMPANY, LTD., had their usual good display of lubricants for motor-cars and the component parts of the same. These have so recently been referred to in our columns that extended reference is unnecessary on the present occasion, but we may recall the memory of our readers to "Belmoline" for gear boxes, "Cirogene" for chains, "Curroleum" for leather faced clutches, and "Manulav" for cleaning the hands of motorists, &c.

The Cave Rim and Albany Pump.

The Cave detachable rim was on exhibition at the 1906 show, since when it has been fitted on cars for the Queen, the Prince of Wales, the Duke of Portland and other eminent persons as well as enthusiastic motorists. Further testimony of its value is afforded by the fact that it will be fitted to the three Italian built Daimlers entered for the Targa Florio race on Sunday next. The ALBANY ENGINEERING COMPANY have now become the sole concessionaires for this "quick-change" rim, which

can be remounted in five minutes. The form of the rim has become well known, so that the briefest description will now suffice. A thin rolled steel bonding band is shrunk around the outer circumference of the felloes and a pressed steel flange is fixed on the car side of the wheel. The rim, of any standard make, is then taken and is slipped on to the bonding band laterally, tight up against the flange. A second flange is placed on the outer face of the felloes, and horizontal bolts, tightly screwed up, make the flanges grip the felloes and rim securely. In the security bolts lies the radical departure from the usual custom. The head of the bolt is detachable from the stem. The bolt stem is of the standard type, but is being made to be detached from the rubber covered head by means of a pneumatic joint which combines the strength of the screw with the ease of manipulation of a bayonet joint. Three of these security bolts, equally divided, are used in each tyre, entirely eliminating all possibility of tyre creeping. The well-known "Albany" motor-car circulating pump was the other speciality at this stand. This is an absolute force pump which can be bolted direct to the frame. It is positive in action and delivers a full stream. There are no valves, and, as only two working parts have to be considered, the wear is reduced to a minimum. Slips and leakage have been entirely eliminated by the introduction of groove cuts along the face and edges of the teeth, so that in rotating a body of water lodges in the grooves, forming an absolute sealed water-tight joint or cushion between the casing and the rotating rollers, thereby producing an efficient vacuum. Centrifugal force also adds to the efficiency of the pump.

The Gratz Specialities.

The GRATZ PATENTS AND ENGINEERING SYNDICATE, LTD., who have attained distinction in connection with the speed indicator here illustrated (Fig. 46) made an extensive display of electrical specialities, many of which were working in order to demonstrate their merits to visitors. Among the special instruments at the stand was the Gratz tyre pressure tester, by means of which tyres may be tested without the motorist having the trouble to fix his pump every time. The cap is simply screwed over the valve and on pressing the plunger the tyre pressure is indicated immediately. Should it then be found that the pressure is below what is necessary, it is only required to screw the end of the tube from the pump on to the nipple at the base of the gauge and pump up to the required pressure. Attention may also be drawn to the Gratz synchronised distributor, every part of which is open to inspection without the trouble of unscrewing covers, &c. The pressure on our space prevents a description of the apparatus being given in the present issue, but we may mention that it secures the same intensity of spark in each cylinder, thereby increasing the efficiency of the engine. The apparatus bears evidence of sound construction. Two inches of the

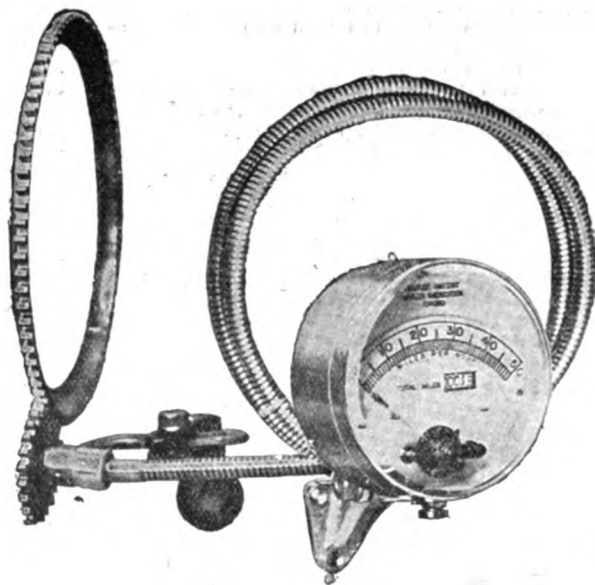


Fig. 46.—The Gratz Speed Indicator.

steel central spindle are left protruding to facilitate coupling, or, if required, special attachments can be supplied. An exhaust cut-out, a spark-detector for fitting to the dashboard, and an electric motor horn were among the other specialities on the stand. The Gratz horn is of exceedingly neat appearance, and it is only necessary to press the button of the switch to blow the instrument. The buzzer can be supplied separately and is screwed on to any existing trumpet. It is connected to one terminal of a 4-volt accumulator by the single wire; the other terminal is connected to the switch, so that on pressing the same the circuit is completed through the frame of the car—a saving of superfluous wiring. Gratz Patents, Ltd., first came into prominence with their speed indicator and mileage recorder, in which simplicity of construction and accuracy of operation are combined with a durability that has placed their instrument in the forefront of such devices.

The Durandal Non-skid.

Messrs. STUART MORRISON AND COMPANY showed the Durandal detachable non-skid and protector bands, which have long passed the experimental stage, having stood the test of five years' use in France and England. The accompanying illustrations (Figs. 47 and 48) give a good idea of the device, which can be fitted to worn covers as well as to new ones. To fit the band all that is necessary is to jack the wheel, deflate the tyre and insert the metal clips shown on the edge of the band in the rim. The clips should be placed so that they are equidistant from each other and the tyre inflated in the ordinary way. A point of interest in



Figs. 47 and 48.

connection with the band is that it can be repaired, relined and fitted with new treads, so that economy as well as efficiency has been amply provided for in the construction of the Durandal non-skid. The Durandal gaiters embody the same principle as the band, clipping into the rim and entirely obviating the use of wire or laces.

The "Eyre" Anti-skid.

Among the non-skids shown was that known as the "Eyre"—the production of Messrs. EYRE, of St. Leonards-on-Sea. This has distinct advantages in being always ready for use and capable of being put in or out of action in a few seconds. Without impairing the resiliency of the tyre, the non-skid is effective on all slippery surfaces, and its effectiveness in frosty weather has been as pronounced as at other times. The bands or loops constituting the device do not encircle the tyre, but are secured to the spokes of the wheel by clips. They travel in a parallel line with the course of the wheel, so that when a side-slip takes place, the wheel, having a lateral motion, slides on to or mounts one or more of the loops, as each loop, when at its lowest level, presses the ground close to the side of the tyre. The material used for the loops is twisted steel cable of considerable strength, and is covered with a spirally-wound casing of wire. Should this casing, after some use, show signs of wear at any part, sufficient to expose the steel cable, the portion affected may be removed and a new piece of wire bound on in its place. This repair can easily be effected in a few minutes. When in action the loops and spokes have very little strain to withstand, and experience has given proof of its efficiency. A new type of loop was also on view, this being made from Italian hemp cable, tarred and bound with an outer covering of galvanised wire, ensuring the durability of the device.

Optima Non-skid.

The OPTIMA TYRE COMPANY made a feature of their non-skid, the special claim on behalf of which consists of the quality of the leather employed in its production. In addition to being a non-skid, the Optima device is also a protector of the tyre. The leather is cowhide, and by a patent process the protection of the animal's hair is retained. Hardened steel studs are fitted in the tread, the leather intervening between the tread and the cover being indented so that the ends of the rivets fit securely and give rise to no friction. In addition to retaining its soft and pliable nature, the tread can be recommended on the ground of durability, and we may also mention that the OPTIMA TYRE COMPANY undertake the repair of tyres and are prepared to advise motorists on all matters concerned with tyres.

A Pneumatic and Rack Jack.

At the stand of the PARSON'S NON-SKID COMPANY Warren's pneumatic and rack jack was shown—an ingenious arrangement obviating many of the disadvantages associated with the ordinary form of jack, and possessing merits of its own. The jack consists of a cylinder with a rack, and is connected by tubing to a pump operated in the same way as an ordinary tyre pump. To jack up the car all that is necessary is to slide the spring to the top of the pawl and place the apparatus in position. The jack is then connected to the pump, which is worked in the ordinary way until the car is sufficiently raised. To lower the apparatus it is merely necessary to slide the spring to the bottom of the pawl and pump again till the pawl

automatically disengages. The pump can then be disconnected. The fact that it is essential to pump in order to lower the jack constitutes a safeguard against interference from unauthorised persons. The demonstration which took place at the stand convinced visitors of the excellence of the idea, while the fact that it can be operated from the upright position and at any distance from the object to be raised is a decided relief to those who have had experience of aching backs occasioned by the usual methods. The maker comes from Ipswich, his address being 95, London Road.

Body Work.

Among the exhibitors of bodies for motor-cars were Messrs. BAYLEY AND ELLIS, of Dalling Road, Hammersmith. Those on view comprised a side-entrance double phaeton and a landaulet; these are constructed throughout of wood, the special curves being a noteworthy feature of the design.

Motor Specialities.

A comprehensive exhibit was made by Mr. J. A. RYLEY, of Birmingham, whose electric specialities are well and favourably known. The display included accumulators, contact makers, H.T. distributors, electric indicators, jacks, sparking plugs, voltmeters, &c., as well as a dozen other accessories of importance to the motorist. Among these were the Sthenos carburettor and a new form of "Vita" plug intended for use with high tension magneto. Mr. Ryley's new catalogue of motor specialities for 1907 was issued from the stand—a neat list of forty pages, which will be sent on application to 23½, Martineau Street, Birmingham.

Goggles, etc.

One of the largest exhibits of lamps and other accessories was that made by the GOLDSCHMIDT MOTOR ACCESSORIES, LTD., whose many good agencies give them every opportunity for meeting the requirements of motorists of every degree. Their display included head lights, side lamps, tail lamps, &c., motor horns, plugs, voltmeters, &c., and "La Steno" goggle, which possesses many decided advantages over the ordinary form of goggle. Such accidents as that which recently befel Mr. Rothschild while motoring in the Midlands would be impossible by the universal use of "La Steno."

Wind Screen.

The Gordon double folding wind screen was on view on the stand of Messrs. Trier and Martin, Ltd. It is the production of the GORDON MOTOR BODY WORKS, and considerable thought has evidently been given to the design and construction of this screen, which can be folded at no less than six different angles. It gives absolute protection from the weather at any and every position, and in mist or rain can be so regulated as to permit a clear view in front and giving a clear view at the same time. This is a most important consideration, the value of



Fig. 49.—The "Gordon" Wind Shield.

which will be apparent to those who have had any knowledge of the accidents that may be caused by screens becoming obscured by rain. Our illustration shows the screen in use, with the top half folded inwards to minimise the wind resistance and give the driver the uninterrupted view ahead during rainy weather. The revolving upper portion always overhangs the lower half, securing the protection of the driver. The ingenious construction of the device is a feature that has secured its adoption by some of the leading motor-car makers, and the designers are to be congratulated on making such a creditable *début*.

Motor Tools.

Messrs. AVEY AND ROBERTS, LTD., had a collection of neat tools, including the Auto-adjustable Box Spanner already eulogised in our columns, and which is illustrated herewith. This can be instantly adjusted to fit a nut of any size or shape, taking the place of many tools, and so economising space. No damage is done to the nuts, as the jaws fit perfectly, and the handle being adjustable facilitates the use of the tool in inaccessible places. The Auto Nut-pliers, combining nut-pliers, wire cutter, and nippers, burner hole, and ordinary pliers and the Auto-vice were also shown. This is intended for roadside and garage repair work, and can be fixed to any gate, bar, or fence, leaving the hands free for work. The Auto valve remover and



Fig. 50.—The Auto-Adjustable Box Spanner.

spring terminals were also on view, while attention may well be drawn to the "Tourist's" tool kit, which has been devised by an expert, and contains all the tools usually required on the road, including all the special patent tools of Messrs. Avey and Roberts, Ltd. This has adjustable straps to fit tools of any size, and is made of the best hide.

Tank Filler.

In previous issues reference has been made to the excellent tank filler placed upon the market by PETTETT'S PATENT SAFETY FILLER COMPANY, LTD. This was again shown at the Exhibition, and its features are so well known that here it will suffice to briefly set forth its merits. The Combination Safety Motor Filler is adaptable to all motor spirit cans and prevents the waste of spirit while also reducing the possibilities of fire. Awkward tanks can easily be filled by its means without the use of a funnel. The spirit has to pass through a wire gauze of fine mesh, thus preventing the ingress of foreign matter into the tank to be filled. Another speciality is Pettett's patent combination funnel, can and filler, known as "the Dripless," the adoption of which enables the funnel to be dispensed with while securing the filling of any tank or metal container without the risk of overfilling.

Travelling Coat.

Mr. E. SMEE devoted his space to showing the patent motor and travelling coat that he has been popularising during the last few months. The position of Mr. Smees in the tailoring world may be regarded as a guarantee of the stylish appearance of the special garment associated with his name, while its wind and water resisting properties are easily seen. The coat gives warmth without weight, secures protection where most needed, and provides sportsmen with a serviceable garment for motoring, fishing, yachting, and other sporting purposes.

Selvyl.

For keeping in good appearance motor-cars and their accessories, the qualities of SELVYT are generally recognised, its peculiar texture giving it special merits in this connection. The polishing cloths are of a size adapted for general cleaning and polishing work. Selvyl is also utilised for gloves, aprons, lamp glass chimney sweeps, motor lamp covers, spare tyre covers, &c. One quality peculiar to this material is that after the car has been hosed and sponged, any grease that may remain will be absorbed by Selvyl, leaving a bright glistening surface on the paint work—in contrast to the action of many cloths that were employed before the general use of Selvyl.

Motor Lawn Mowers.

The motor lawn mowers introduced by Messrs. RANSOMES, SIMS AND JEFFRIES, LTD., continue to find favour, and a large number are in service in the Colonies as well as in the old country. At the Show the lawn mowers were shown in the three sizes, viz., 42 in., 30 in., and 24 in., the motors being of 8-h.p., 4-h.p., and 2½-h.p. respectively. Messrs. Ransomes are now building their own petrol engines, and had on view four sizes, 2½-h.p. air-cooled, 4½-h.p. and 8-h.p. single-cylinder, and 12-h.p. double-cylinder, the bore and stroke of the latter being 4½ in. by 5½ in. The valves are mechanically actuated off a single cam-shaft and the ignition is by high tension magneto.

The Automobile Association.

The Automobile Association were well to the fore at the Exhibition. At Stand No. 158 the Association's energetic secretary and some of the leading members of the staff were in attendance to answer inquiries. The well-known Automobile Association map, on which are displayed the whereabouts of agents, patrols and other important information, was on view, and the stall was easily recognised by means of a large model of the Automobile Association car badge. Members found it a convenience to have messages left and to make appointments at the stand; while the result of the enterprise has been a good accession to the ranks.

Fitted to the cars exhibited at the show were 234 Dunlop tyres, the remainder, we are informed by the company, being divided among tyres of twenty-two different makes.

MILLENNIUM LTD. had a collection of miscellaneous articles required by motorists, such as cotton waste, motor oil; grease and the B.S.T. carbide, as well as a number of other specialities familiar to our readers.

Messrs. J. J. LANE, LTD., of Cranbrook Street, Old Ford, E., showed the Eland pump, an invention for moving economically large bodies of water. It was shown in operation, and its remarkably silent running was a distinguishing feature.

Elastes was represented at the stand occupied by the company of that name, this, as our readers know, being a filling for tyres which secures their life while not reducing their resiliency. The preparation is calculated to overcome the puncture difficulty.

Messrs. F. B. HILL AND CO. had an assortment of their fire extinguishers, suitable for all purposes, as well as of fire grenades and buckets. The firm have made a close study of the subject of fire extinction, and have assured much success in this particular line of business.

The "Favourite" chemical fire extinguishers were shown by Messrs. SINCLAIR AND CO. These are made in various sizes from one to five gallons, and have already proved their value in extinguishing fires on cars and in garages. A collection of hand grenades was also on view.

The IMPERIAL MOTOR INDUSTRIES had an exhibition of their specialities on one of the stands. These included the Supremus plug tester, providing a simple means of cutting out any cylinder on the engine by merely pressing the insulated knob until the point is in contact with the "earth base" of the plug.

Messrs. WEINBRENNER AND CO. had a collection of chemically engraved name-plates for the motor-car trade. The firm have come into great distinction with their plates for footsteps, radiators, axle caps and dash-boards, as might be gleaned by the names of several leading manufacturers shown on their stand.

Messrs. SAMUEL BROS., LTD., showed motor clothing for motorists and liveries and uniforms for chauffeurs, &c. The feature of the display made by these well-known tailors was the Omne Tempus cloth—a rain-resisting cloth that is largely employed in the raincoats prepared by Messrs. Samuel Bros. for the use of ladies and gentlemen who motor.

A large selection of Graphite motor lubricants was shown by Mr. W. G. NIXEY, on whose stand were pure flake graphite, specially fine graphite, graphite gear and cup greases, graphite pipe joint grease, etc., as well as several good qualities of lubricant. Mr. Nixey makes a point of the essentially British character of his productions, all of which are prepared in London.

The "New Era" petrol fire-extinguisher for garages, motor-omnibuses and motor-vehicles has become familiar since its introduction by the VALOR COMPANY, LTD. This is made in several patterns and may be seen on many of the motor-buses now plying in London, while a convenient form is made for cars. It is a practical and powerful hand fire appliance.

Messrs. J. and R. OLDFIELD showed the "Dependence" Motor Lamps in various sizes and types. Lamps for garages, as well as for cars and heavy vehicles, were on view, and particular interest was taken in the electric head lamps, which are so devised as to concentrate a perfectly parallel beam of light directly in front and on the road without the objectionable dazzling glare. We give in Fig. 51 an exterior view of the lamp showing the light rays projected in a parallel beam. This light has a range of 100 yards and can be manipulated from the driver's seat without the inconvenience of dismounting. The "Dependence" electric headlight is well calculated to add to the comfort of night driving. Electric side lamps were also shown, and it should be noted that the bulb is

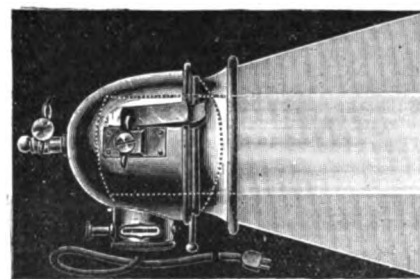


Fig. 51.

detachable from these lamps for the inspection of engine parts, &c. Attention may also be drawn to the electric side lamp with its segmental cone reflector so designed as to intensify the brilliancy of the light many times its normal candle-power, each segment acting as an independent reflector. Several types of tail-lamps were also shown, including one in which the electric fitting is interchangeable with a paraffin vessel, enabling either electricity or oil to be used as convenient. For burning paraffin many good designs were exhibited, a side-lamp which also gives a serviceable light for driving purposes being the Modele de Luxe, which is unaffected by vibration and gives a pure white light of great intensity, which is projected in the form of an arc. The oil reservoir is secured by the firm's patent spring locking device. We may add that Mr. C. Hooydonk, 6, Leather Lane, E.C., who is the London agent for the Dependence lamps, was in attendance throughout the week.

M. CHARLES VERMOT, for whom Mr. C. Fonteyn is the British agent, had a well-arranged stand for the display of axles and springs for motor-cars and heavy vehicles. These were of remarkably fine finish and secured the favourable notice of experts in the trade.

(To be continued.)

CORRESPONDENCE

[Letters to the Editor should be addressed to the office,
87-88, Charing Cross Road, W.C.]

MORE COMPARATIVE IGNITION TESTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have just finished some further tests relative to the b.h.p. of a six-cylinder Napier engine with synchronised ignition, and with Eisemann magneto ignition also, with the same types of ignition but with two plugs in each cylinder. The Eisemann magneto was used because it appeared to give the greatest amount of power. The accumulator and coil system was the standard Napier synchronised. The accumulator registered 4.2 volts, and during the whole period of the tests everything except the ignition remained the same, so that no outside conditions would be allowed to vary the result.

The result of these tests appears to further confirm the fact that, providing one has a correct spark, no further power is gained by additional heat in the spark or by having ignition occurring in more than one place in the cylinder at one time. The tests were taken as follows:—The engine was first run for some time to get all



The above illustration depicts the 40-h.p. Siddeley Car at present undergoing a long-distance trial at the point where it broke the previous record for a non-stop road run. The vehicle still continues its unbroken record, having now made a total, to Saturday the 13th inst., of 4,698 miles absolute non-stop, the total distance covered in the trial being 7,610 miles. As the picture indicates, the two drivers are very jubilant over their success, as their task has been a most difficult one owing to the heavy roads and bad weather experienced since the trial started on February 15th. A "Mascot" horseshoe is, it will be observed, attached to the rear spring hanger.

the conditions up to an average as regards temperature, &c., then two minute tests were taken:—

Napier Synchronised.		Eisemann Magneto.	
1 plug.	2 plugs.	1 plug.	2 plugs.
71.74 b.h.p.	69.15 b.h.p.	68.92 b.h.p.	68.74 b.h.p.

The net result of this was to show that the synchronised ignition gave on an average some 2 to 3-h.p. more than the magneto, although on an engine that can develop over 70-h.p. I do not attach very much importance to this. The great point that the results have shown is that there is apparently no b.h.p. gained with the magneto. The point of firing was found to be later with the magneto than with the synchronised ignition to give the best power. The magneto broke circuit with the piston one-fourth of an inch previous to reaching dead centre at top stroke. The synchronised ignition was advanced to $1\frac{1}{4}$ in. from top of stroke to get the best result. It seems, therefore, on the face of it, that increased heat in the spark merely enables one to delay the point of the ignition, but does not increase the power, and the table shown above also seems to make this definite and clear. It seems to me probable that when drivers have apparently got more power

from switching on to magneto the cause has been through their accumulator system either being in bad order or faulty design.—Yours truly,
S. F. EDGE.

MAKERS' DISTINGUISHING MARKS ON CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Up till a year or so ago a well-informed motorist had no trouble in telling the names of nearly all cars encountered on the roads. Most of them were radically different in appearance, and even those bearing a general resemblance possessed features that enabled one to identify them without difficulty. The coming, and finally the practically universal acceptance, of the four-cylinder vertical motor has changed all this, with the result that for three years, at least, cars have been getting more and more alike externally. Perhaps as a protest against this monotony of design, and in response to a demand for individuality in detail, there is very noticeable at present a trend toward distinctive features, especially about the front of the car. Of course this usually means the radiator. Hence the appearance of radiators in a wide variety of shapes—square, round, octagonal, oblong, oval, &c. Some of these radiators have been frankly designed solely to make the car to which they belong conspicuous. There is plenty of scope for originality and for departure from traditional lines. The expected result has occurred, for nearly all of the cars referred to can be told at a glance. Nevertheless, there are many makers who have held aloof from this movement. Other considerations than the mere evolving of a distinctive radiator or bonnet have actuated their designers, and for this reason it is still difficult to distinguish, from the front view alone, quite a number of cars. It is only when they get nearer, and the eye is able to trace peculiarities of body design or other features, that identification is possible.

It is this approach to uniformity in radiator and bonnet design that is largely responsible for the tendency, to which reference was made in the last issue of the *M.C.J.*, to place on the front of the radiator some symbol, whether it be an initial or the name in full, that tells the make of the car. It occurs to me, however, to ask whether motorists want their cars labelled in such a fashion as this? Some people want publicity of this character. They do not object even if the letter is large and gaudy. The better the name of the car, the more conspicuous do such owners desire it to be. But there are others, and probably a considerably larger number, who object to going about with their cars placarded, although they have no special objections to a neat and inconspicuous name plate which will enable any one interested to tell the name of the car.—Yours truly,

DEVONIAN.

IN PRAISE OF BATH.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—When touring the country and calling at different garages one is so often treated in an off-hand and casual sort of way, that I feel I should like to place on record the extreme courtesy which I received, when in trouble during the Easter holidays, from Mr. W. Whiting Milk Street, Bath.

I planned out a tour for the holiday, and on Sunday, when about a mile the other side of Bath, my car stopped, and on examination I found it was owing to a broken pin in the magneto. While I was trying to find out where the trouble lay, Mr. Whiting came past on a car, and immediately pulled up to see if he could be of any assistance. He then towed me into his garage, and not only placed his repair shop at myself and man's disposal, but himself personally assisted me in every way he possibly could.

Should any motorist require assistance of any kind when in Bath and district, I can confidently recommend him to go to Mr. Whiting, and he would be sure of receiving both courteous and careful attention. I may mention that I have no interest in Mr. Whiting's business, this being the first time that I have ever met him.—Yours truly,

H. H. STERNEY.

VARYING PETROL CONSUMPTION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was in hopes that my letter in your issue of the 6th inst. would evoke some information from several owners of cars. But only one, Mr. O. Carter, writes and gives the consumption of petrol for a single-cylinder 8-h.p. De Dion car at about thirty miles to the gallon. This works out at about the same relative consumption per h.p. as mine, but not nearly such a good result per h.p. as the 40-h.p. Napier car I quoted. I believe that the lower priced motor-cars are, as regards the carburettor, simply slung together, there being no attempt to obtain any real economy in petrol consumption. The makers of my car state they can run some 34½ miles to the gallon on an "official trial," but does anyone know how these "official" results are arrived at, and to what extent the cars are doctored as regards weights of individual parts, as they certainly used to be to the extent of substituting cardboard for metal in bonnets, boring holes in all parts made of metal where possible, and, in fact, artificially reducing weights in all kinds of ways. My car nominally weighs when empty about 12 cwt. In these days, when the price of petrol is so high, the smallness of its consumption is most important; and, as showing how badly cars may differ, a gentleman living near me tells me he finds his car, a single-cylinder 10-h.p., uses as

much sometimes as one gallon to sixteen to eighteen miles, and driven by a skilled driver. Is there any one form of carburettor which is more economical than another? Mine consists of a simple float feed single chamber, with one inlet from the tank, and two small apertures in the base of the float chamber leading to the two spraying chambers of the two cylinders, which are $3\frac{1}{2}$ in. diameter by $4\frac{1}{2}$ in. stroke.

I shall be glad of any suggestions which may throw light on the much smaller consumption of petrol in the Napier 40-h.p. car in proportion to its horse-power. What is the experience of anyone with a four-cylinder 14-h.p. Coventry Humber car? I mean an amateur driver.—Yours truly,

D 2804.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—For economy in fuel consumption I think the 8-h.p. De Dion engine thoroughly tuned up would be difficult to beat. I have used for pleasure only during the past three years an 8-h.p., two speeds and reverse, with tonneau and Cape hood, weight, with two children, wife and self and general sundries, 16 cwt. 3 qrs. Under ideal conditions I have driven forty-six miles to the gallon. My longest journeys have been Manchester to Scotland and back, several runs to London and back, and tours through Wales. On these runs I have regularly done forty-two miles to the gallon. These results are not dreams but actual solid fact, the tank, carburettor, and piping being drained before starting and the petrol carefully measured and mileage recorded. There is not a ball-bearing on my car, plain everywhere, so a good deal is absorbed in transmission, nevertheless I can jog along all day comfortably at eighteen miles an hour, and have never jibbed at any hill. I do not think the majority of single-cylinder owners pay sufficient attention to the condition of their valves, and compression, and the perfect tuning up of the engine with the carburettor.—Yours truly,

WM. COTSWORTH.
Assoc. M. Inst. E. E.

THE PREVENTION OF CARBON DEPOSIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be much obliged if you or any reader of the *M.C.J.* would tell me the best way to prevent carbon deposits from forming on the cylinder heads and pistons of the engine of my car? I am careful to use the proper mixture of gas, as well as good oil, and not too much of it, but the carbon forms just the same.—Yours truly,

BERGAMO.

[Since the only possible cause of the incrustation of combustion chamber and piston head can be due to the deposit of carbon, in consequence of the incomplete combustion of hydro-carbons introduced; and as the only hydro-carbons that enter are contained in the "mixture" and lubricating oil, it follows that, in spite of the care that "Bergamo" claims to exercise in this respect, an excess of one or the other must at times occur in his engine, seeing that he is troubled in this manner. Perhaps he is using a compound oil instead of one with a solely mineral base; there are several brands of oil which are mixtures, and which will not stand the great heat of a high speed internal combustion motor. Or perchance his system of lubrication is faulty, or the pistons let by too much of the oil, this latter especially if there is pressure in his crank-chamber. Changing from one oil to another is bad practice, and when necessary all the old oil should be thoroughly rinsed out from the engine, oil pipes and tank. Let "Bergamo" assure himself that he has a really first grade lubricant, guaranteed by a firm of repute as being pure mineral only, and also let him see that his crank-chamber has a free vent and his piston rings a good fit, and that he exercises sufficient care at no time to have an excess of lubrication or too rich a mixture; he will not, we think, be further troubled with incrustation.]

AN ACCUMULATOR CHARGING QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having been a reader of your valuable journal for a long period, and seeing you supply information on accumulator charging, I should be glad if you could assist me in the following matter. In addition to our works and garage, we have just acquired a show room in which the town's electricity is available. We do not intend to use it for lighting purposes, but what I want is to get the current adaptable for charging accumulators without using lamps or wire for resistance if this is possible. I should be glad if you could tell me if that can be arranged, and if so, in what way?—Yours truly,

H. PYLE.

[If the electricity supply is "continuous" current, our correspondent can instal a motor transformer, which is a machine to reduce the high voltage to a low one, suitable for charging accumulators. For instance, if the supply is 220 volts pressure, and a current of 1 amp. was being taken to charge a battery, through lamps, about one fifth of a unit per hour is being wasted, but the motor transformer reduces the high voltage to say 10 volts, and at 1 amp. the battery will only use one-hundredth part of a unit per hour. The motor transformer gives a much lower voltage, and a much higher current for the same power, for the same money. If, however, the electricity supply is not "continuous" but is an

"alternating" one, there will be more difficulty in obtaining a machine and it will cost more. The machine in this case will be called a motor generator, and consists of a dynamo driven by a motor worked by the supply current. That is to say, a 220 volt motor is driven by the current, which in its turn drives a dynamo which can be arranged to give the necessary pressure and current desired.

INVITING DISASTER.

TO THE EDITOR OF *The Motor-Car Journal*.

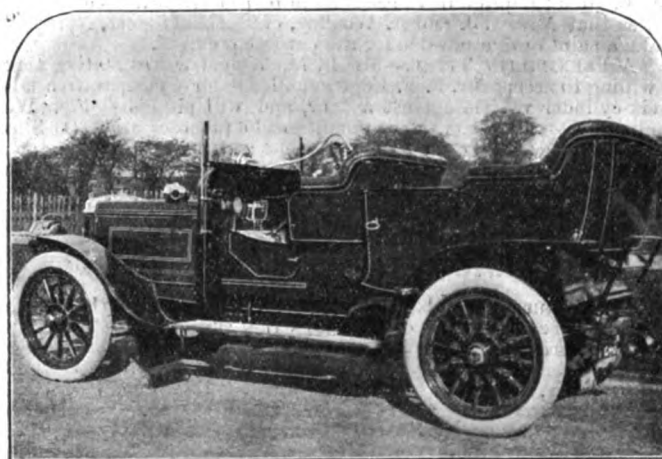
SIR,—Referring to Mr. A. W. White's letter in the *M.C.J.* of the 9th ult., re careless bus drivers, I, too, saw a gross piece of carelessness, fraught with considerable danger, a few days ago. A car was drawn up outside a tobacconist's shop near Waterloo Station, S.E. It was quite unattended and there was a perceptible smell of petrol in the air. An examination showed that the driver had fixed a two-gallon tin of petrol in such a way that it should have emptied itself into the tank of the car. Of course, the moment his back was turned, the can had slipped, and instead of the liquid passing into the tank, it was saturating the wood work of the car and dripping on to the ground. I made it my business to search out the driver and threatened to report him for his carelessness, for, had anyone chanced to throw down a match, the car would have instantly been in a mass of flames.—Yours truly,

W. C. J.

THE LICENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should like to know the experience of your readers with regard to the conduct of the police, so far as the licence of the driver is concerned. In the crowded streets of the metropolis I have been stopped in order that a constable might examine my licence, while a



The 28-h.p. Daimler Car recently supplied to Mr. Christopher Wade, of Kirk Ella Hall, Hull, by the Hull City Garage, Ltd.

gaping crowd assembles to enjoy themselves at my annoyance. Can a policeman really demand to see the licence and to take note of the declarations on the back? This, it seems to me, is manifestly unfair, for in the event of the licence being freely endorsed, the policeman might feel better able to get up a case against a victim. In the police court the convictions against a prisoner are not mentioned until he has been found guilty, but evidently a different rule prevails in the case of motorists. For obvious reasons I do not give my name for publication, but enclose my card.—Yours truly,

A. B. C.

[The police officer has no right to do other than look at the licence, and we have recollections of a case where the magistrate reprimanded a constable who thus exceeded his duty.]

LOSS OF POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Recently I purchased a double-cylinder 10-h.p. Pick car, three speeds forward and reverse, central chain drive and short chain to countershaft. I cannot get more than sixteen miles per hour on a flat road, and I shall be obliged if any of your readers can tell me if that is about the capabilities of the car. Any suggestion to increase the speed will be greatly appreciated.—Yours truly,

M.R.C.S.

[It is to be assumed that "M.R.C.S.," having only recently become possessed of it, has purchased his car second-hand, otherwise it would be more in the province of the maker to assign a reason for its poor performance. Considering the great number of causes that may conduce to the bad running of a car, it is only possible to hazard a guess in view of the lack of data furnished by our correspondent. If, for instance, the

car climbs hills fairly well and the engine races on the level, it would show that the gearing on top speed is too low. If it jibs at hills, then either the engine is not giving anything like the power that it should, or something in the running gear may be binding. If it is one of the old Pick cars with horizontal valves, the trouble is in all probability to be sought for there.]

SECRET COMMISSIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—Having heard there is a Corrupt Practices Act or "Secret Commission Bill" about to come into force, I would ask whether this Act will make a chauffeur liable to fine or imprisonment for accepting a secret commission, or would the giver of the commission or tip be the man liable to fine or imprisonment? When does this Act come into force? It is time there was a little more honesty and fair dealing connected with the running of motor-cars.—Yours truly,

COUNTRYMAN.

[The Prevention of Corruption Act is already in operation, and the first case under the same came before the courts last week. Both the giver and receiver of an illicit commission is liable to proceedings being taken against him.]

SERPOLINE OILS.—A correspondent asks for particulars of the Serpoline oils.

A MOTOR tyre on a Stepney wheel has been picked up near Newbury, and can be obtained on sending particulars as to size, &c., to Messrs. Stradling and Plenty.

THE ACME RUBBER AND TYRE COMPANY, 343, St. Vincent Street, Glasgow, inform us that by their process they can satisfactorily repair burst tyres and guarantee the same for at least 1,000 miles.

PAINT FOR RENOVATING CAPE CART HOODS.—Replying to "J. B. M.'s" inquiry in the last issue of the *M.C.J.*, a correspondent writes that Messrs. J. and A. Woolley, of Rutland Street, Nottingham, make a paint or dye suitable for the purpose required.

A FLEXIBILITY TRIAL.—Mr. D. M. Weigel writes stating that he is willing to accept Mr. S. F. Edge's challenge for a comparative trial of a six-cylinder vehicle against a four, and will pit his 40-h.p. Weigel against a 40-h.p. Napier. The conditions he proposes are:—(1) Slowest speed on top gear over one mile, 100 points; (2) fastest speed on top gear over one mile, 100 points; (3) Fastest up a hill to be chosen, 100 points; (4) Non-stop run to Brighton and back, every change of speed to be the loss of 100 points.

ADVICE WHICH SHOULD NOT BE FOLLOWED.

ONE of our readers has kindly written to inform us that up to the present he has missed in our columns that series of replies which are given to correspondents whose inquiries are not at the same time inserted. There is certainly, as he points out, a weird interest about such columns, somewhat like hearing a person at one end of a telephone when one is wondering what the other end is saying. For the benefit of the "Indian Motor News" our correspondent kindly forwarded a list of answers to several burning subjects—not necessarily for publication—but they are so good that we have decided to reprint them.

J. W. B.—No, we do not advocate lemonade as a substitute for acid.

A. H.—Use graphite for the hands and face when retiring to rest at night.

GARAGE.—Your mistake. The pit is not intended to store the car in.

MECHANIC.—Text Books say that you should go over every nut before taking your car out. The operation can be done in twelve hours.

PUZZLED.—The symptoms tend to show that you have applied treacle as a lubricant. It is not so suitable as coal tar.

FLYER.—Etiquette of the road suggests that you should inquire if you can assist. But this is only a form of courtesy, as you will be out of hearing when the answer is given. Therefore always do it.

B. M. C. C.—Price depends on the audacity of the seller. With such a variety of infirmities we can only give you one advice, sell it to a friend. Follow the U.S. system of swabbing all the machinery with aluminium paint, and if this does not suffice, gild the Cape cart hood.

DOLLY.—No, the colour of the body would not match her complexion.

GEORGE.—The 18 in. side entrance door is made to carry a coat of arms or monogram of that dimension. Not on the back panels as well; you might be mistaken for a circus.

ENQUIRER.—You can readily ascertain if the current is on by feeling the sparking plug.

MESSRS. CARR BROTHERS AND ASH, of Johannesburg, have just taken delivery of an Austin car.

THE Earl of Rothes has just taken delivery of his new car, a 20-25-h.p. Mercedes, supplied by the sole importers, Ducros Mercedes, Ltd.

MESSRS. SIMPSON AND COMPANY, of 38, Dover Street, W., have been appointed London agents for the cars and tri-cars of the Riley Cycle Company, Ltd., Coventry.

THE Continental Tyre Company states that at the Motor Exhibition at the Agricultural Hall, London, its pneumatic tyres were fitted to 35 per cent. of the cars.

CLUBS AND ASSOCIATIONS

ROYAL A.C.

THE following are the stewards of the Club, as elected at the meeting of the General Council held last week:—The Duke of Sutherland, K.G., Earl Russell, Lord Stanley, C.B., Sir David L. Salomons, Bart., Sir J. H. A. Macdonald, K.C.B. (Scottish A.C.), Sir W. G. D. Goff, Bart. (Irish A.C.), the Hon. Arthur Stanley, M.P., Col. H. C. L. Holden, R.A., F.R.S., Mr. C. D. Rose, M.P., Mr. E. H. Cozens-Hardy, Mr. Charles Hardy (Nottinghamshire A.C.) and Mr. Philip S. Foster (Midland A.C.)

CAMBS. AND ISLE OF ELY A.C.

THE Committee of this club in presenting the first annual report is glad to be able to record satisfactory progress. It has only been formed eight months, but already embraces a membership of 54, the members coming from all parts of Cambridgeshire and Isle of Ely.

It is a subject of warm congratulation to the committee of the club that Mr. C. D. Rose, M.P., one of the members, should have been elected to the chair of the Royal Automobile Club, and also of the Motor Union of Great Britain and Ireland.

Among the various questions which have engaged the earnest attention of the Committee the following may be briefly mentioned:—(1) The application for a speed limit for Newmarket, and for the purpose of obtaining information on this question the committee appointed a sub-committee, who went very fully into the matter, taking a census of all the traffic, and obtaining a plan of the road showing the dangerous points, and who recommended that, considering the extraordinary nature of the traffic using the roads in Newmarket, the application should not be opposed. (2) Another question looked into were the tolls charged at Hermitage Bridge, Earith, but while they appear high, being at the rate of 3d. per wheel, the committee hardly feel that they have any serious ground of complaint, as the charge is the same for all vehicles. (3) The repair of roads, especially the bridges over the Great Eastern Railway, is a matter which is being looked into, as these sections of road, which are, it appears, not under the authority of the county road officers, are much neglected, large heaps of sharp flints being shot on them, sometimes at the dry periods of the year, and, therefore, never having a chance of getting in. This nuisance is especially noticeable on the Suffolk side of Cambridgeshire, and the question is now being given the direct personal attention of the chairman of the company, Lord Claude Hamilton.

NOTTINGHAM A.C.

MEMBERS of the Nottingham A.C. arranged formally to inaugurate their summer programme on Saturday with a run to Ye Olde Bell Hotel, Barnby Moor, near Retford. Unfortunately the weather broke down for Saturday's event, and only two cars attempted the trip. The president of the club, Mr. Chas. Hardy, had intended to accompany Mr. and Mrs. P. L. Huskinson on a 28-h.p. Daimler limousine, but owing to the inclement conditions, put off the run. However, about half-past two o'clock the rain ceased, and, making a start, they had a good run, without the usual accompaniment of dust. Upon arriving they found Mr. and Mrs. Jesse Boot and their son on a 30-40-h.p. Daimler. They had also started in the hope that the weather would improve. This was not the case, however, for rain fell continuously all the time they were at Barnby. During their stay there the Siddeley long distance trial car, under the observance of the Royal A.C., turned up, expecting to meet Mr. Siddeley, who had arranged to drive to the meet from London. The Nottingham members have been circularised to the effect that another meet at Barnby Moor will take place to-day (Saturday), when it is to be hoped more favourable weather will be in evidence.

INSTITUTION OF AUTOMOBILE ENGINEERS.

THE Council of the Institution of Automobile Engineers have approved of a scheme to establish a Graduates Section, which will hold separate meetings to read and discuss papers. In addition to papers by the graduates themselves, the Council have arranged for a series of lectures to commence in October next, giving technical instruction on carburation, electricity as applied to ignition, gearing and materials of construction, by Mr. Leslie H. Hounsfield, to enable the graduates to get a sound knowledge of the subject. Prizes will be offered for the most deserving papers read by graduates during the session, and at the graduate meetings the chair will be taken by a member of the Council of the Institution.

The annual subscription for graduates is half a guinea. Gentlemen joining at the present time may do so on payment of the annual subscription, which covers membership of the Institution as a graduate until the end of 1908.

Graduates are to be persons between the ages of seventeen and twenty-six who are being trained as pupils to an automobile engineer.

or are studying engineering as applied to mechanical locomotion, or who otherwise satisfy the Council that there are special circumstances which, in the opinion of the Council, entitle them to admission.

THE AUTOMOBILE ASSOCIATION.

AN Executive Committee meeting was held on Tuesday, at which were present: Colonel Bosworth, Sir Archibald Macdonald, Mr. L. Schlentheim, Earl Russell, Mr. Walter Gibbons, Mr. Charles Jarrott, Mr. S. F. Edge, Mr. D'Arcy Baker, Captain Benett-Stanford and Mr. Charles Temperley.

Members to the number of 190 were elected, prominent among them being—the Earl of Dudley, Earl Cairns, Baron Wassenaer, Sir Henry Norman, M.P., Sir C. B. Lowther, Sir Ernest Cable, Lady G. St. Laurence, the Hon. Mrs. Hylton Philipson, Sir John Bell, Sir C. H. Elliott, Sir Ralph Gore, Major Burt, Captain Percy Balfour, Captain Waring, Major Collis Browne and Captain Guy Gaunt, R.N. It was pointed out that a large number of these was due to the Cordingley exhibition, at which space for a stand was kindly granted by the proprietor. A vote of thanks to Mr. Cordingley for his kindness was carried unanimously.

The secretary reported that the road manager had, on the previous

THE CRYSTAL PALACE A.C.

THE Crystal Palace A.C. has been granted a permit to hold a race meeting on the Bexhill track on Whit-Monday and Tuesday. The programme of events will include a handicap open to touring cars; a race limited to cars with engines and chassis of the dimensions similar to the Kaiserpreis; 100 yards, slow speed (on top gear); standing half-mile, any speed (on top gear); flying quarter-mile, any speed; competitors may take any of their speeds and term that the top speed, providing every speed above it is properly locked; scratch race for four-seated touring cars, chassis price up to £700; scratch race for four-seated touring cars, chassis price over £700; handicap for motor-cycles; scratch race for motor-cycles.

KENT A.C.

THE first meet of the season took place at the Royal Crown Hotel, Sevenoaks, on Saturday. About forty members and friends were present. Amongst these were Mr. C. J. Morgan, the chairman, and Mrs. Morgan, Dr. and Mrs. Firth, Mr. Owen Firth, Mr. and Mrs. Nash, Mr. and Mrs. Wyllie, Mr. A. Gurney Preston and Miss Preston, Mr. W. Willis, Col. Latter, Mr. and Mrs. R. Waddington, Mr. and



Part of the Fleet of Motor Vehicles belonging to the Austrian War Authorities lined up for the inspection of a Commission from Bulgaria. *(Allgemeine Automobil Zeitung.)*

Saturday, started on an inspection tour of the A.A.'s patrols, district managers, and local agents, which will extend over 2,000 miles.

The chairman referred to the fact that succeeding meetings will be held in the Association's new offices, Princes Buildings, Coventry Street, W., which are being prepared for immediate occupation.

THE COMMERCIAL MOTOR USERS' ASSOCIATION.

A MEETING of the executive committee was held at 1, Albemarle Street, Piccadilly, W., on the 10th inst. The officers of the Association were re-appointed as follows:—Chairman, Col. R. E. Crompton, C.B.; hon. treasurer, Mr. E. Shrapnell Smith; solicitor, Mr. T. W. Staplee Firth; secretary, Mr. Rees Jeffreys. The following were added to the committee:—Capt. Wilfred Dumbell (London General Omnibus Company, Ltd.), Messrs. W. M. Hodges (the City and Suburban Motor Cab Company, Ltd.), Iltid Witherington and E. G. Brewer.

The question as to the methods of increasing the membership and proposals re extending the Association's activities were considered. It was resolved to prepare a list of users of commercial vehicles, and members and others in a position to furnish names for the list are requested to send particulars to the secretary.

Mrs. Jones, Miss Pain, Mr. Cobham, Mr. and Mrs. F. Bailly, Mr. and Mrs. Batchelor, Mr. and Mrs. Neate, and the hon. secretary and Mrs. Kenyon.

LADIES' A.C.

THE Ladies' Automobile Club was invited by Mr. and Mrs. Charles Cordingley to visit the Automobile Exhibition at the Agricultural Hall, London, on the 10th inst. Quite a number of the club members and their friends were able to inspect the new models on view and the novel exhibition of model flying machines. After the various stands had been visited, the members were made welcome by Mrs. Cordingley in a cosy, quiet room, where tea was served. The Ladies' Pompadour Band, dressed in quaint, old-fashioned costumes, discoursed lively music.

Amongst those who accepted Mr. and Mrs. Cordingley's invitation were: Mrs. Auerbach, Miss Blaker, Miss B. C. Burns, Mrs. Buttener, Miss Jessie Cadman, Baroness Campbell von Laurentz, Lady Edward Spencer Churchill, Mrs. St. John Coventry, Miss Davies-Cooke, Mr. Ernest Esdaile, Mrs. Louis Fagan, the Hon. Mrs. Chas. Forester, Mrs. Foster, Mrs. Gordon, Mrs. Lesmoir Gordon, Mrs. C. Greenall, Mrs. Griffin, Mrs. Gunston, Mrs. Paul Hardy, Mrs. Russell Harper, Mrs. and

Miss d'Esterre-Hughes, Mrs. McBride Legh, Mrs. Sydney Leo, Mrs. Manville, Mrs. J. Biddulph Martin, Mrs. Moore-Brabazon, Mrs. P. Morel, the Marchioness of Ormonde, Miss Orpen, Mrs. Piggott, Miss Pilcher, Mrs. G. Pitman, Mrs. and the Misses Riley, Mrs. Chas. E. Shaw, Lady Katherine Somerset, Mrs. Benett Stanford, Miss V. Stubbs, Mrs. Wm. Whitaker and Miss Zula Woodhall.

HERTFORDSHIRE.

THE venue for the Hertfordshire County A.C. hill-climb was changed from Aldbury to Aston Hill on Saturday. The weather was fine, and the event passed off without accident of any kind, but the surface was in a rather loose condition, and care had to be exercised at the bends. The fastest time of the day was made by O. C. Godfrey on a twin-cylinder Rex, his time being 56½ sec. The machines were divided into five classes. The results on formula will be announced later.

THE ROADS IMPROVEMENT ASSOCIATION.

THE annual general meeting of the Roads Improvement Association (Incorporated) will be held at 1, Albemarle Street, Piccadilly, London, W., on Thursday, April 25th, at 5 p.m. As soon as the business of the general meeting has been disposed of an extraordinary general meeting will be held for the purpose of considering and, if thought fit, passing an alteration in the articles of association. A further extraordinary general meeting will be held to confirm this alteration on May 14th.

THE Kent A.C. will hold a touring car competition on the 25th prox.

THE annual meeting of the Automobile Club of North Wales will be held at the Waterloo Hotel, Bettws-y-Coed, on the 6th prox.

THE Northern Motor-Cycle Club is being formed, with Mr. J. B. Foster, Nevill's Cross, Durham, as hon. secretary *pro tem*.

MR. FRANK DEACON, 4, Fatherson Road, Reading, the hon. secretary of the Reading Motor-Cycle Club, is anxious to arrange inter-club runs with other southern organisations.

LORD HARLECH has been elected president of the Shropshire A.C.

THE Newcastle Motor Club will attend a Whitsuntide meet of clubs at Barnard Castle.

THIS year the British Motor Boat Club's opening Thames meet will take the form of a cruise and garden party. It will be held at Eel Pie Island, Twickenham, early in June.

AFTER the last meeting of the East Lancashire Motor Cycle Club, Mr. A. C. Beard, of Blackburn, gave an interesting talk on tyre repairing, exhibiting an instrument for repairing a tyre by vulcanisation.

BEFORE the Yorkshire A.C. Mr. F. Thoresby has been lecturing on the Evolution of the Motor-car.

THE fourth annual Reliability Trials for motor vessels, organised by the Motor Yacht Club, will take place at Southampton on July 30th and 31st.

WE regret to hear of the death of Mr. G. W. Blackaller, who was prominently associated with the Cardiff Motor Club.

SCOTTISH RELIABILITY TRIAL, 1907.

THE following firms have now entered cars:—John A. Peacock (Chenard and Walcker), Walter Gutman (Chenard and Walcker), Reo Motors, Ltd. (Reo), Albion Motor Car Company, Ltd. (Albion), New Arrol-Johnston Car Company, Ltd. (New Arrol-Johnston), John S. Napier (New Arrol-Johnston), T. C. Pullinger (Beeston Humber), Rolls Royce, Ltd. (Rolls Royce), Rennie and Prosser, Ltd. (Siddeley), W. Watson (Berliet), St. Vincent Motor and Cycle Company, Ltd. (St. Vincent), Frederic Eastmead (Sunbeam), Argyll Motors Ltd. (Argyll), Capt. F. Vernon Westworth (Daimler), Belsize Motors, Ltd. (Belsize), Mrs. Ed. A. Riley (Belsize), Thomas Shaw (Dundee), Ltd. (Siddeley), Western Motor Company, Ltd. (Argyll), Walter Phillips (Coventry Humber), Buchanan Shiell (Mercedes), Adams Manufacturing Company, Ltd. (Adams Hewitt), Thos. Shaw (Ariel), Frederic Coleman (White steam car), Horsfall and Bickham (Horbick), Buchanan Shiell (De Dion), J. E. Hutton, Ltd. (Berliet), De Dion-Bouton, Ltd. (De Dion), J. W. Stocks (De Dion). The entries, which now number 37, close on the 14th prox.

IN reply to correspondence re cost of tyres several correspondents have written recommending tyres of various makes; what the original inquirers apparently wished to know, however, was the cost of running, &c.

OWING to the development which has taken place during the last year in the motor department of the Vauxhall and West Hydraulic Engineering Company, Ltd., it has been found necessary to create a new company to cope with the increasing demand for Vauxhall cars. The new concern, Vauxhall Motors, Ltd., have taken over a large portion of the premises belonging to the old company, which stand upon ten acres of land at Luton, Beds. Every process connected with the manufacture of motor-cars is carried on there, from the making of a small bolt to the upholsterer's last tap of the hammer. Vauxhall Motors, Ltd., have appointed Mr. Tom Williams assistant manager and secretary. This gentleman was for some years with Messrs. Friswell, 1906, Ltd., as secretary, having resigned his position with that firm to take up the new post.

CASES UNDER THE MOTOR CAR ACT.

—♦— DANGEROUS DRIVING.

Lord Vernon, of Poynton Towers, Cheshire, has been summoned before Mr. J. M. Yates, K.C., at the Manchester County Police Court on three charges of driving a motor-car to the danger of the public at Levenshulme in March. Mr. John Crofton prosecuted for the police, and Lord Vernon was represented by Mr. J. G. Barclay.

Mr. Crofton said that on the afternoon of March 24, the defendant was driving a motor along Stockport Road, Levenshulme, in the direction of Manchester, at a speed estimated at from thirty to thirty-five miles an hour, and on the same day he returned along the road at a similar speed. On the following day he was driving along Wellington Road, Heaton Chapel, at a speed also estimated at from thirty to thirty-five miles an hour. At the times named the traffic on the road was fairly heavy, and important thoroughfares led on to Stockport Road, so that the speed was dangerous to the public. Mr. Barclay urged that Lord Vernon was not conscious that he was committing an offence. Mr. Yates said that a fine of 20s. and costs in each case, with a guinea extra costs, would be imposed. This altogether was £8 18s.

Two cases of alleged reckless driving came before the Uckfield justices one day last week, and, by a curious coincidence, the death of a dog figured in each. In the first Joseph Alfred Fisher, Steinhilme, Warlingham, was summoned for recklessly driving a car at Danehill on January 12th, and evidence was given to the effect that on that date a dog belonging to Elias Baker was run over by defendant's car and killed.

The owner of the animal and another witness, named Thomas Turner, who were on the road at the time, estimated the speed of the vehicle at from twenty-five to thirty miles an hour, and further alleged that the defendant did not stop. Afterwards, however, the defendant, whose absence abroad accounted for the delay in the proceedings, called on Baker and offered to recompense him for the loss of the dog. The defendant strongly denied the allegation of reckless driving and asserted that his attention was fixed on some children playing lower down the road rather than on the dog, and that the reason he did not pull up was because he neither knew that an accident had happened nor that anyone called out to him. In the end the Bench decided that the summons had not been proved, and dismissed the case.

In the second case a fox-terrier, belonging to a carman, fell a victim to a car driven by Henry Joseph Watts, chauffeur, of The Mount, Ifield, on the East Hoathly-road on March 20th. Giving evidence in support of the summons against Watts for driving at a speed dangerous to the public, Rogers and two other witnesses estimated that the vehicle was travelling at thirty miles an hour. They further stated that the defendant drove on after running over the dog. The Chairman said the Bench were of the opinion that the car was driven at a speed dangerous to the public, and the case was certainly made worse by the defendant driving away. He would be fined £5 and £1 5s. 10d. costs.

At Accrington, George Stevenson, of Burnley, has been fined 40s. and costs for driving a motor-car to the danger of the public. It was given in evidence that the defendant had run into a crowd of people, knocking several of them down.

EXCEEDING SPEED LIMIT.

On Saturday, at the Chichester County Bench, before the Duke of Richmond and Gordon and other magistrates, Chas. James Huxtable, Reading, was summoned for driving a motor-car at a speed exceeding twenty miles an hour, at Westhampnett on Good Friday, and fined £5 and costs. William Henry Keys, a driver, 14, Park Street, London, W., was also summoned, the speed alleged being twenty-five miles an hour, on Saturday, 30th March. He was fined £3 and costs. Claud Edward Woakes, 52, Harley Street, London, was similarly summoned for a speed of twenty-six miles an hour, and was fined £3.

AERONAUTICS.

THE race for the Harbord Cup, presented by the Hon. Mrs. Asheton Harbord, under the Aero Club's International Federation Rules, will take place at the Ranelagh Club, Barnes, S.W., weather permitting, on Saturday, May 25th, at 4 p.m. Members desiring to compete are requested to advise the secretary on or before Wednesday, May 22nd. The winner will be the competitor who lands nearest to a point designated, prior to the start, by the Organising Committee of the Aero Club on the ground. Balloons over 40,000 cubic feet must carry at least two persons in addition to the competitor. Balloons under 25,000 cubic feet need only carry the competitor.

LECTURING at the Royal Institution on "Wings and Aeroplanes," Professor G. H. Bryan has likened the butterfly in efficiency to the dirigible balloon. They only appeared in calm weather, and could make no headway against a strong wind. Another aspect of the problem of flight was that of the sailing birds. It would be no use for anyone to rely on obtaining any results of practical importance by means of imitating the gymnastic feats of sailing birds. These did sometimes go a long distance, but they had to go where the wind took them to a certain extent, and when they wished to go in a particular direction without reference to the wind they had to use their wings.

VAPOUR EMISSION COMPETITION, 1907.

THE Committee appointed to conduct this competition on behalf of the Royal A.C. have to report that the competitive experimental enquiry into the quantity, duration, and composition of the smoke and products of combustion discharged from the exhaust pipes of the engines of petrol motor vehicles was carried out on March 19th and 20th in accordance with the regulations issued by the Club, dated January 3rd, 1907, and the gases collected were analysed during the next succeeding days. The object of the enquiry was set forth as follows in the particulars and regulations covering the competition:—

"The competition has been inaugurated by the Club with the object of encouraging the improvement of the design of existing petrol-driven motor-cars, in order to diminish the nuisance caused by foul exhaust. The trouble generally arises from two causes:—First, from an improper mixture, giving an excess of poisonous carbonic oxide in the exhaust gases; secondly, from excessive lubrication, causing an emission of blue smoke, due to the lubricant finding its way into the upper parts of the cylinders."

Twelve cars out of the thirteen entered were presented for trial, as follows:—

- | | | |
|--------------------------------------|-----|-----------------------------|
| 1. Mr. Walter Gutmann | ... | 16-20-h.p. Chenard-Walcker |
| 2. Messrs. S. F. Edge, Ltd. | ... | 40-h.p. Napier |
| 3. Sturmeys Motors, Ltd. | ... | 30-35-h.p. Lotus |
| 4. De Dion Bouton, Ltd. | ... | 24-h.p. De Dion-Bouton |
| 5. The Pilgrims Way Motor Co., Ltd. | ... | 32-h.p. Pilgrim |
| 6. Mr. J. T. Newell | ... | 22-h.p. Clement (withdrawn) |
| 7. Ariel Motors (1906), Ltd. | ... | 35-45-h.p. Ariel |
| 8. The Albion Motor Car Co., Ltd. | ... | 16-h.p. Albion |
| 9. The Albion Motor Car Co., Ltd. | ... | 24-h.p. Albion |
| 10. The Austin Motor Co., Ltd. | ... | 18-24 h.p. Austin |
| 11. Messrs. Straker and Squire, Ltd. | ... | 25-h.p. Straker-Squire |
| 12. The Belsize London Agency, Ltd. | ... | 26 h.p. Belsize |
| 13. The Lanchester Motor Co., Ltd. | ... | 20-h.p. Lanchester |

The exhaust silencers of all these cars (except No. 6, which was not tested) were fitted with screw unions for the attachment thereto of a pipe for drawing off into a receiver a quantity of the discharged products. The receivers were specially made for this purpose of thin copper with the necessary pipes and cocks, each vessel being approximately of 900 cubic inches capacity.

The first part of the competition consisted in placing each car on an incline of one in seven both up and down grade and running the engines light during ten minutes, a portion of the exhaust being all this time passed into the receiver. The contents of these receivers were then transferred to the glass vessels of the analytical chemist for analysis.

The second part of the competition consisted in running the cars under ordinary conditions, but with an observer on each car, to Daventry and back, the receivers being again connected and the exhaust again collected during ten minutes while the cars ran from Barnet Hill bottom to a place about 3½ miles therefrom. During the runs to and from Daventry observations were also made as to the character of the exhaust of the several cars, i.e., if visible and objectionable.

The results of the analysis of the exhaust discharge and of the road and motor-house observations of smoke from the several cars have been carefully examined and considered, and have enabled the judges to place the cars in the following order of merit:—

- | | | | |
|------------|-----|----------------------------|-----------------------|
| 1. No. 5 | ... | 32-h.p. Pilgrim | } equal. First award. |
| No. 13 | ... | 20-h.p. Lanchester | |
| 3. No. 9 | ... | 24-h.p. Albion | Second award. |
| 4. No. 8 | ... | 16-h.p. Albion | |
| 5. No. 12 | ... | 26-h.p. Belsize | |
| 6. No. 1 | ... | 16-20-h.p. Chenard-Walcker | |
| 7. No. 2 | ... | 40-h.p. Napier | |
| 8. No. 10 | ... | 18-24-h.p. Austin | |
| 9. No. 7 | ... | 35-45-h.p. Ariel | |
| 10. No. 4 | ... | 24-h.p. De Dion Bouton | |
| 11. No. 11 | ... | 25-h.p. Straker-Squire | |
| 12. No. 3 | ... | 30-35-h.p. Lotus | |

The order of merit reflects the result of the analyses. From 33 per cent. of the cars the carbonic oxide discharged was, on the average of the trials of the two days, under 2 per cent. of the whole. The quantity discharged from the other cars was over 2 per cent., and in some cases was considered excessive.

As a result of the competition the judges recommend the following awards:—

- | | |
|---|-----------------------|
| Car No. 5, the Pilgrims Way Motor Co., Ltd. | } Equal. Gold Medals. |
| Car No. 13, the Lanchester Motor Co., Ltd. | |
| Car No. 9, the Albion Motor Car Co., Ltd. | |

MR. M. ORMONDE DARBY informs us that he has severed his connection with the firm of Reid, Darby and Company, and that his temporary address is Thames Ditton, Surrey.

FROM the Laystall Motor Engineering Works, Ltd., of 27 and 29, Laystall Street, Rosebery Avenue, London, E.C., comes an illustrated list giving particulars of their facilities for repair work. The company makes a speciality of this—in fact, they confine themselves to repairs. The works are adequately equipped for anything in this line, and country motorists are assured of prompt attention to instructions.

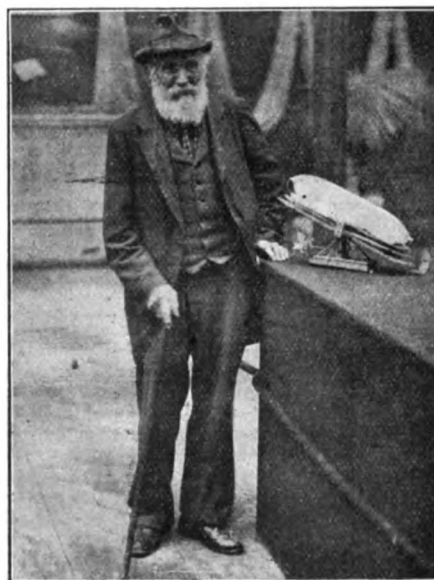
THE USE OF THE "DAIMLER" NAME.

THE Master of the Rolls, Sir Gorell Barnes, and Lord Justice Kennedy, in the case of the "Daimler Motor Company (1904) Limited v. the London Daimler Company, Limited," have heard an appeal by the plaintiff company against the refusal of Mr. Justice Buckley to grant an injunction to restrain the London Daimler Company, Limited, from using or carrying on business in a manner or way, name or style, which included the word "Daimler," or which so nearly resembled it as to be calculated to induce the public to believe that the business was the same as that carried on by the plaintiffs, or in connection with motors, chassis, motor-cars, or carriages, manufactured, sold, or offered for sale by the defendants.

The Master of the Rolls, in giving judgment, said that the learned judge had held that the name "Daimler" could be honestly used by the defendant company without suggesting that they were connected in business with the plaintiff company. On behalf of the plaintiff company, it was argued that this could not be, and, further, that the word "Daimler" had acquired a secondary meaning in this country, and now denoted cars manufactured only by the plaintiff company.

While he agreed with the decision of the learned judge as to the right of the defendants to use the word "Daimler" in the name under which they traded, he thought that the plaintiffs were entitled to succeed in this appeal as to the second part of the injunction, namely, the use of the word "Daimler" in connection with motors, chassis, motor-cars, or carriages manufactured or sold by the defendants. With this limitation the appeal would therefore be granted.

The other members of the court concurred, and the appeal was accordingly allowed.



Mr. John Hall, the old Civil Engineer who walked to the Cordingley Show from Eye, in Suffolk, with his model Aeroplane. Mr. Hall has been studying the question of aerial navigation for thirty years.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

GOLDSCHMIDT MOTOR ACCESSORIES.—£1,500. To adopt an agreement with Mr. G. Goldschmidt. First directors: Messrs. G. Goldschmidt and G. Grundy. £5. 61, Cleveland Street, W.

MORSE TAPE BALL BEARING COMPANY.—£2,000. To acquire and turn to account provisionally protected inventions for improvements in ball-bearing joints for levers and for improvements in similar joints for machinery of all kinds where usually a straight pin has been used, and to adopt an agreement with Mr. S. G. Mason, 6, Cherry Street, Birmingham.

F. H. SMITH MOTOR ACCESSORIES.—£25,000. To acquire from Messrs. F. H. Smith and H. Coates the benefit of certain inventions relating to carburettors for petrol motors. Mr. F. H. Smith is managing director. 5, Old Queen Street, S.W.

HIDE TYRE AND MOTOR SYNDICATE.—£2,000. To acquire and turn to account the patents known as the "Unpunck" tyre. Registered without articles.

VICI MOTORS (1907), LIMITED.—Capital, £60,000. To carry on the business of mechanical, electrical and general engineers, manufacturers of steam, electrical, oil, spirit and other motor-vehicles, and their parts and accessories. 64, Salisbury Road, West Kilburn, N.W.

BRITISH ELECTROMOBILE COMPANY.—£25,000. To acquire the business of electrical engineers and motor carriage makers carried on by the Carl Oppermann Electric Carriage Company, Limited, to acquire from Mr. C. T. J. Oppermann, and other certain inventions relating to electric appliances, &c. First directors: Messrs. R. Mickel, A. Kennedy,

D. Watson, C. T. J. Oppermann, and C. F. G. R. Schwerdt, 1, Queen Victoria Street, E.C.

A. B. C. CAR.—£100 (£1). Manufacturers of and dealers in motor and other cabs, &c. The first directors are: B. M. Goode and F. Goode, £5.

ROAD REPORTS.

WEYMOUTH.—The roads in the vicinity of Weymouth are in a very bad condition for motor traffic, and the Roads Improvement Association have made a formal complaint to the Weymouth Rural District Council on the matter.

DORSET.—A motorist in the locality informs us that the road between Wareham (Dorset) and Corfe Castle, Isle of Purbeck, is in a very loose condition—not because of motor-car traffic but apparently due to the heavy traction engines that use that road so freely.

WITTINGTON.—With a view of minimising the dust nuisance for motor-cars passing through Wittington, near Manchester, the Special District Committee of the Corporation has passed a resolution recommending that an application be made to the Local Government Board to draw up a regulation limiting the speed of the cars in the district.

NORTHUMBERLAND.—The County Surveyor of Northumberland says the reason why so many surveyors have failed in the use of tar-macadam is because they do not fully understand its manufacture. The quality of tar and the proportion of pitch are important factors in its success. The time the material is stacked and when laid upon the road are also of importance. It is almost impossible to succeed unless the material is laid upon a strong foundation composed of material equally as hard as the surface material.

YORKSHIRE.—The Eserick Rural District Council is laying down about three miles of road between Fulford and Eserick (high road from York to London) with tar macadam. It is expedient that as little traffic as possible should go over this road, and the Clerk to the Council asks motorists to avoid this road as far as possible. This they can do by changing their route, say from Selby, and approaching York through Naburn, or by coming to York on the west side of the river.

PUBLIC MOTOR SERVICES.

THE Great Western Railway motor-omnibus running from Slough Station to Beaconsfield and Windsor recently carried 1,500 passengers on one day.

A MOTOR char-a-banc service is to be established between Weston-super-Mare and Bristol by the Tramways and Carriage Company of the latter city.

MOTOR-BUSES are now running in public service between Whitchurch and Cardiff.

A STRIKE has occurred among the drivers of the cabs belonging to the United Motor Cab Company.

A MOTOR char-a-banc—one of the Albion Motor Car Company's latest types—is now plying between Ballachulish and Fort William in connection with the Mac Brayne service of steamers. The combination of land and water trips will be appreciated by visitors to the Highlands this season.

THE North Eastern Railway Company have been making experimental tests with a motor-bus in the Blyth district.

THE difficulties associated with the motor-bus section of the business has, according to the report of the company, operated adversely on the profits of Messrs. Thomas Tilling, Ltd., for the past year.

THE Town Clerk of Brighton has been asked to report to the Watch Committee with regard to a suggestion for the revision of bye-laws at an early date, with a view to giving the authorities greater power over the running of the motor-buses in the town, more particularly in the direction of regulating the time tables.

THE Merthyr Tydfil Borough Council is being asked to establish a service of public motor vehicles in the district.

THE motor passenger traffic between Folkestone and Hythe is assuming considerable proportions.

MOTOR-CAR ACCIDENTS.

A WORKMAN named Duddridge has been crushed to death on the premises of the British Motor-Body and Wheel Works, Limited, King's Cross. A motor-bus, intended for exhibition at the Agricultural Hall, was being lowered from the upper floor of the building to the chassis awaiting its reception on the ground floor when the pulley chain gave way. The omnibus crashed to the ground and was wrecked, and Duddridge was so terribly crushed that he died almost immediately.

WHILST a motor-car belonging to the Marquis of Salisbury, and in which Lady Selborne, Lord Howick, and Lord Wolmer were riding, was near Quaker's Lane, Potter's Bar, en route for Hatfield House, about midnight on Sunday, it knocked down a hackney carriage driver named Harding, living at Frampton Road, Little Heath. Dr. Jackson, police surgeon, was quickly called by the police to see the unfortunate man, whom he found dead.

AT Westminster, on Monday, Mr. John Troutbeck inquired into the cause of death of William Kirk, 52, employed by the Westminster City Council, and lately living at Pimlico, who, while working in Ebury Street the previous Thursday, was knocked down and killed by a motor-car

belonging to Mrs. Gilliot, of Upper Belgrave Street. The chauffeur has since been arrested and charged with manslaughter at the Westminster Police Court, and has been remanded for a week. Giving evidence on his own behalf, the driver said he tried to pass the deceased man on the right hand side, but the man moved back into the way of the car, which knocked him down, and the front wheels went over him. The jury returned a verdict of "Accidental death," and added that they considered there was a certain amount of negligence on the part of the chauffeur, but not sufficient to make it criminal.

POLICE TRAPS.

THE Southwick police trap is reported to be in thorough working order.

POLICE traps may soon be expected in and about Deal, the high rate of speed indulged in by some drivers passing through the town having caused local public men to direct police vigilance towards motorists.

THERE is a measured quarter of a mile on the Chichester and Arundel road at Westhampnett. Two policemen armed with stop-watches are in charge.

NEWS comes of the renewal of police-trapping enthusiasm in Buckden and Alconbury—two villages on the Great North Road, of which many motorists have unpleasantly expensive memories.

BUSINESS NEWS.

MESSRS. S. F. EDGE, LTD., have sent us a photograph of a small and convenient feature of the 18-h.p. Regent car, viz., a slide rail adjustment to the support of the radiator fan spindle, allowing of the instant adjustment of the belt by merely slackening one nut. This is a matter of convenience in actual use, as it very often happens that in cutting a belt too much is taken off, with the result that it has to be forced on, throwing excessive strain on the bearings.

THE ACETYLENE ILLUMINATING COMPANY, LTD., 268, South Lambeth Road, London, S.W., have taken on lease the adjoining premises, No. 270, South Lambeth Road, with the factory buildings in the rear. This large addition to their working space has been rendered necessary by the rapid growth of the business in motor-car lighting by dissolved acetylene, and in the repair of broken parts, such as gear cases, &c., by their welding process, and will enable them to give more prompt delivery than has sometimes been the case hitherto.

THE GRACILE MOTOR CAR COMPANY, LTD., 66 and 66A, Great Russell Street, London, W.C., inform us that by an agreement between the J.P. Motor Company, Ltd. and themselves, the two companies have amalgamated and will in future trade as the Gracile Motor Car Company, Ltd. They will continue to hold the sole agency for J.P. cars, as also for Gracile cars, and will use their premises at Great Russell Street for the purpose of showrooms, and those at 24, Mortimer Market, W., as a repair shop and garage. Messrs. E. Brun and A. D. Barton, of the J.P. Motor Company, Ltd., have joined the board of the company, and will take over the complete management of the wholesale, garage and repair business of the joint companies.

THE ORACLE MOTOR COMPANY, of 187, Gray's Inn Road, W.C., are taking over the castings and motor specialities of the London Autocar Company.

MESSRS. HUMBER, LTD., have just issued a new catalogue, which should be in the hands of all users and prospective owners of Humber cars, the production being one in every way worthy of these popular vehicles. A tribute to the excellent organisation and great output of the Humber factories is seen in the fact that they are well capable of coping with the demand for these cars, it being stated that prompt delivery can be given of any model to any part of the country. Full particulars are given of the different Beeston and Coventry Humber models, these being accompanied by drawings which should enable the novice to follow how every part of the machines works. The booklet concludes with a list of Humber successes in 1906, and a number of testimonials from satisfied users.

AMONG the recent purchasers of the "Windham" sliding detachable motor bodies are Sir Henry Norman, M.P., Vice-Chairman of the Royal Automobile Club, Major Ponsonby, C.B., C.V.O., Equerry to His Majesty the King, and Mr. Gerald W. Balfour.

FROM the Rennie Manufacturing Company, Brighton, comes a copy of their new catalogue, in which particulars are given of the four models of Rennie cars now being turned out—10-12-h.p., 12-15-h.p., 25-30-h.p., and 30-h.p. The first three are fitted with four-cylinder motors, while the large vehicle has a six-cylinder engine. The company had intended to show several of the cars at Cordingley's Exhibition, but were unable to do so at the last moment owing to a fire at their factory.

AS a result of a Daimler car climbing Cudham Churchill Hill, near Brasted, Mr. N. A. Sanderson has placed an order with the Daimler Company for a 30-h.p. vehicle.

ON the 9th inst. the Siddeley car now undergoing trial by the Royal A.C. equalled the record held by the Dennis car (4,007 miles) for these long distance trials. The total distance run to the night of the 10th inst. was 7,135 miles.

FROM the E. R. Thomas Motor Company, of Buffalo, New York, U.S.A., comes a very elaborate catalogue of the Thomas 60-h.p. and 40-h.p. cars, the details of which are described at length as well as illustrated by numerous photographs.

THE Motor-Car Journal.

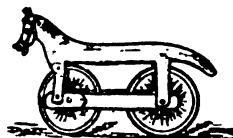
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COMMENTS.



ON Tuesday evening the Motor Club was inaugurated in its fine premises in Coventry Street, Leicester Square, London, W.C., with a dinner and concert typical of the social element which is to be the main feature of this latest entrant into the club life of the metropolis. Colonel W. J. Bosworth, who has rendered automobilism service as chairman of the Automobile Association, presided, being supported by Sir Archibald J. Macdonald, Mr. Harvey Du Cros, M.P., Mr. Sidney Straker, and a gathering which included the best known gentlemen in the motor trade. The Colonel, in the course of a pleasant speech of welcome, declared that the objects of the Motor Club were to provide a central, comfortable, and convenient place of meeting for all motorists. It was the intention of the committee to leave the politics of motoring and questions of automobile policy to existing institutions which had previously guarded our rights and privileges. Subsequently a tour of the extensive establishment was made by the guests, who were pleasantly surprised at the sumptuous character of the place. Numerous rooms for the entertainment of guests are luxuriously fitted, while the apartments generally could not have been better suited to their purposes had the place been specially designed. Prince's Building, in which the club is housed, has a fine appearance from the street, the internal arrangements being quite in keeping with the exterior. The affairs of the club will be administered by a committee, the members of which have already the confidence of the automobile world. The new institution should rapidly become a rendezvous for motorists generally. We wish long life and much prosperity to the Motor Club, which has certainly made an excellent start.

A New Competition.

It is intended to hold a competition (a hill climb) of a somewhat novel character, for which members of the Royal A.C. only will be eligible. The entrants will be kept in a state of pleasing uncertainty as to the locality of the hill on which they will be requested to display the hill-climbing capabilities of their cars. The hill chosen is exceptionally steep, and no one will be permitted to have a trial run. The maximum gradient will, however, be advertised and the entry fee will be limited to one guinea. On the day fixed the competitors will be invited to meet at a certain spot, and the cars will then travel in procession to their destination.

Unauthorised Restrictions.

Two or three instances have lately come under our notice where the police or local authorities have taken upon themselves the privilege of imposing restrictions upon motorists which are not only contrary to the intention of the Motor Car Act, but are also in some cases opposed to the expressed view of higher powers. In the course of an inquiry into an application by the County Council of Perthshire for regulations prohibiting and restricting motor-car traffic on certain roads, it has transpired that a road surveyor has been

setting up notices indicating the restriction of speed to ten miles an hour in places where he had no permission to do so. Two years ago a similar inquiry took place, when the Secretary for Scotland declined to prohibit traffic on the road where the local authorities now desire to limit the speed of vehicles. Apparently this has not deterred this road surveyor in the Eastern District of Perthshire from setting up these notice boards, and it will be interesting to know how far the practice has extended in Scotland. During the last Reliability Trial in Scotland scores of road signs were observed in certain localities, so freely placed as to occasion surprise and questioning as to whether they were really authorised. The matter is one into which the Scottish Automobile Club might make investigations, and we trust the Secretary for Scotland will show his disapproval of such methods.

Police Presumption.

IN some parts of England the police seem to be inclined to adopt the spirit of the Scottish authorities, carrying it out by methods peculiar to themselves. At Shipston-on-Stour a batch of motorists was brought before the magistrates a few days ago and charged with driving over a measured distance at a speed dangerous to the public. In the course of the evidence it transpired that, as is generally the case, no pedestrians were about, nor was traffic on the road impeded or endangered by the motor-cars. The police sergeant, however, in an unguarded moment mentioned that his merry men stopped all cars that were travelling at more than fifteen miles an hour, this being the limit of speed so far as his view was concerned. If the police are thus to set up their own standard as to the rate at which cars may be driven, there is no need for any supervision of the Local Government Board, and the farce of holding inquiries into the reasonableness of applications might be dispensed with. Such confessions as that of the Shipston sergeant should be noted for use when discussion takes place in the House of Commons.

The Taxes on Motor-Cars.

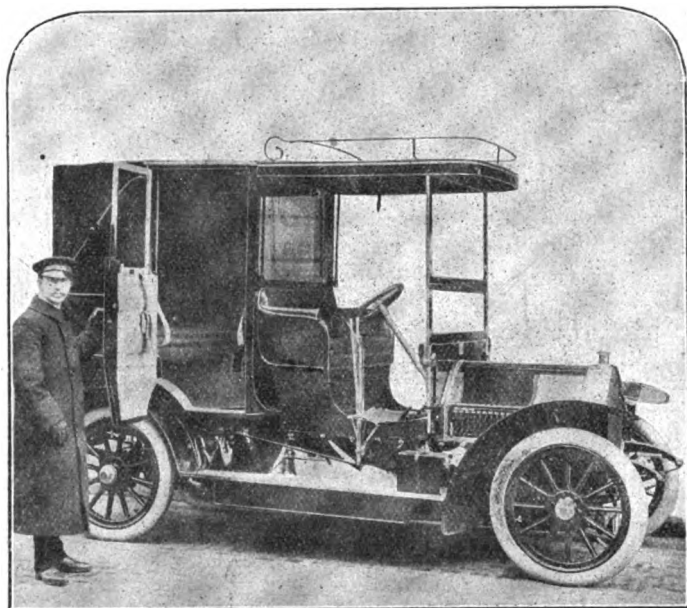
IN his Budget speech Mr. Asquith made a reference to the motor-car, and while he thought he ought to be disposed to raise the tax on automobiles, he refrained, as we have declared he would, from making such a suggestion. As a matter of fact, he showed the inconsistency of the present method of imposing a duty on automobiles, and brought forward a very good reason for making the maintenance of the highway a national charge, towards which some of the taxes now obtained from motorists should be devoted. We have often pointed out that motorists use the roads away from home as well as those in the counties in which they are registered, so that it may happen that the district which has the most wear and tear from motor-cars passing along its highways receives but a small amount from the registration and licensing fees paid by the owners and drivers of cars. As Mr. Asquith rightly said when introducing the Budget, "nothing could be more illogical or unjust than that distribution of the matter." His own dismissal of the proposal was emphatic. "I have been pressed very much," he said, "to alter and raise the duty on motor-cars. I

ought to be very much disposed to do so. I think a tax on motor-cars is almost an ideal tax, because it is a tax on a luxury which is apt to degenerate into a nuisance. But it is no good, as long as this system prevails, for me or anybody else to put an additional duty on motor-cars. Where does the duty go? It goes to the local authority, by whom these duties are collected, that is, as a rule, the local authority within whose area the person to whom the motor-car belongs resides. Suppose I pay, under a new addition to the motor duty, as I should do in London, an extra duty on my motor-car, the benefit of it goes entirely to the London County Council. It is not, however, the streets and roads of London to which my motor-car does any injury, but the rural districts of England and Scotland."

The Highways Bill.

Bill which will be re-introduced by the Hon. Arthur Stanley. This is supported by motorists on both sides of the House,

RECOGNISING the force that lies in the contention of the Chancellor of the Exchequer with regard to motorists and the roads, the Government should not be slow to give facilities for the passage through the Commons of the Highways



The 15-h.p. Coventry Humber Landauet built for the Hon. H. Gibbs. As will be seen, the body is luxuriously finished, the vehicle being a handsome specimen of modern British automobile production.

including Sir Alfred Hickman, Sir William Bull, Sir Henry Norman, and Mr. Tennant, and seeks to create a central department for the purpose of assisting the local highway authorities, at the same time increasing the highways powers of the county authorities. The measure also provides for the construction of new main roads through and out of the large urban districts, and would generally endeavour to secure an improvement with regard to the construction and maintenance of the great highways of the country.

The Conference on Roads.

ON Friday of last week an important conference of road makers and road users was held at the Building Exhibition in London, when various matters were discussed. Mr. A. Dryland, the County Surveyor of Wiltshire, advocated the use of tar in road construction; Mr. E. J. Lovegrove, the Borough Engineer of Hornsey, expressed himself favourable to the formation of a State Road Department similar to that in operation in France; Mr. H. T. Wakelam, the County Engineer of Middlesex, urged that street widening should be carried out on a systematic plan; Mr. Howard Humphreys set forth some points of the road bridge problem; Messrs. Douglas Mackenzie, and Shrapnell

Smith dealt with skidding on roads; Mr. Rees Jeffreys urged the formation of a central highway authority for the Metropolitan area; and Col. Crompton dealt with a subject of special interest to motorists—viz., the design of modern motor-vehicles in relation to the existing roads.

The Design of Vehicles.

IN the course of his paper Colonel Crompton said it was most desirable that constructors of road vehicles should endeavour to distribute both weight and driving strains over as large a number of wheels as possible, such as was being carried into practice in the Renard train which was shown at the recent exhibition. The Renard train not only distributes the weight over four vehicles instead of one, but it makes these vehicles six-wheeled, and uses the centre pair of wheels of each as driving wheels with compensating devices so arranged that about half the weight on each vehicle is brought on to the central pair of wheels, the front pair and the back pair only carrying the remaining half between them. Another point of importance to designers of road vehicles was the consideration of the steering gear, on which Col. Crompton said:—"So long as the steering gear was of the old traction engine type, where the leading axle is pivoted at its centre, the damage done to the road by the act of steering was practically nil, but since the general introduction of the Ackermann system of steering, the two front wheels being each of them attached by vertical pivots to the two ends of the front axle, it is evident that unless the vertical pivot is directly over the centre of the tread of its wheel considerable strains are brought on the road surface by the act of moving the wheels through an angle, and this is particularly the case with heavy motor wagons. With lighter vehicles also, if the steering wheels are out of adjustment so that the axis of both wheels when the vehicle is being driven straight forward are not truly in line, one or other of the steering wheels must be always slightly slipping sideways, with results disastrous to the rubber tyre, but also hurtful to the road. This side movement at high speed has the effect of stirring up an extra quantity of dust or the loose particles lying on the surface of the road, with the result that they are blown away by the great draught or air current which passes under the body of the vehicle when it is driven at any considerable speed or even at a very low speed when meeting a head wind."

Cars for the Cape.

ELSEWHERE we publish a letter from a correspondent in Cape Colony, who also sends a suggestion which we make public for the benefit of those members of the British trade who intend to cater for the colonial trade. Dr. Roger Chew says it is practically a universal error on the part of makers of automobiles to allow insufficient clearance for the rough and sandy roads of South Africa. This is not confined to English makers, but seems to be an oversight of Continental builders as well. The point is of considerable importance to those who go long journeys, and is one upon which Captain Cuttle will be found a true adviser. Makers should certainly "make a note" and carry the precept into practice.

Cars in Hyde Park.

IN our correspondence columns Sir Wroth Lethbridge, Bart., expresses the view that is generally held by motorists with regard to the prohibition of petrol vehicles from Hyde Park during the season. As he rightly suggests, there may have been reasons for not allowing such automobiles to make use of the Park a few years ago, but recent advances in the design and construction of the petrol car have secured it a place in Society. Should the authorities not see their way to granting the reasonable request that petrol cars should be placed in the same category as other vehicles using the Park, Sir Wroth Lethbridge proposes that the road from the Powder Magazine

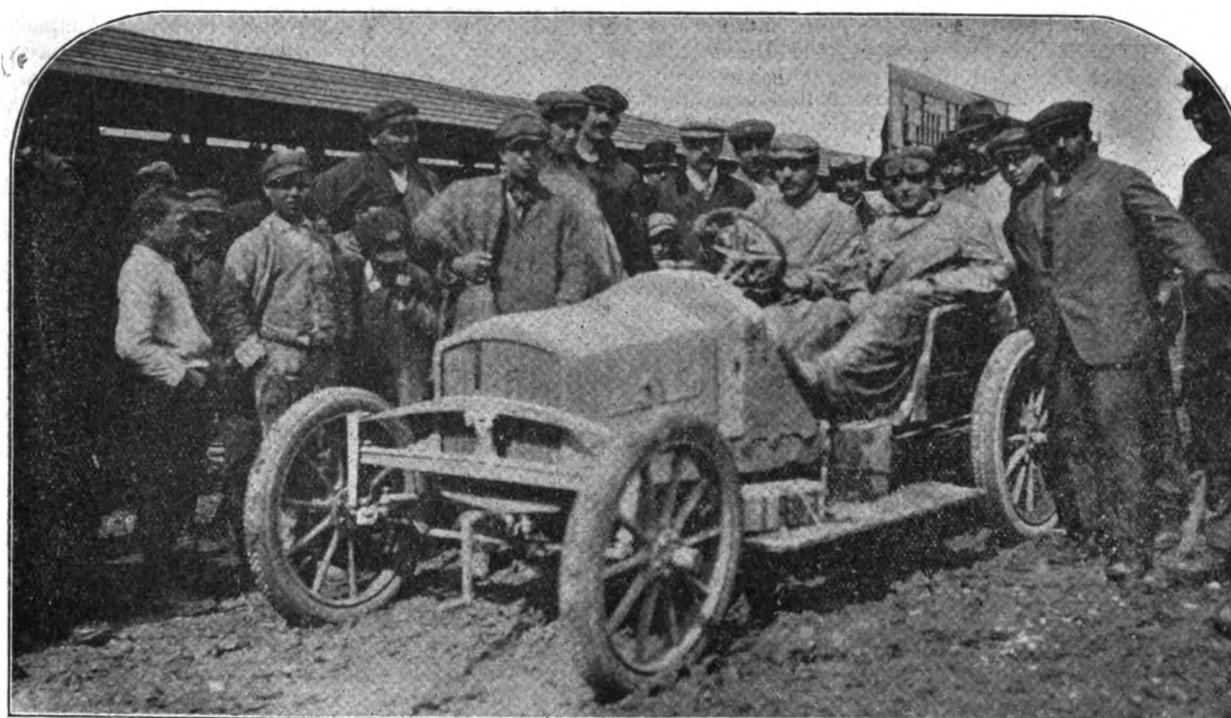
to Hyde Park Corner and that from Victoria Gate to Marble Arch might be taken from the present area of restriction. There is no doubt that the prohibition is a deterrent to many fashionable ladies who would otherwise adopt the petrol vehicle, but who cannot understand why such should be refused admission to Hyde Park. Now the matter has been so prominently brought forward we trust that Sir Wroth Lethbridge will continue the agitation, in which he will have the support of all who favour the free development of a movement which must secure its universal way in the long run.

A Speedy Premier.

THE automobile education of the Colonial Premiers is being conducted in the fullest fashion, and they are not exempt from prosecution at the instance of the police. The other day the Hon. F. R. Moor, Premier of Natal, was enjoying a run through Richmond Park. There were no other vehicles about at the time, and no one was in danger from the motor-car. Alas! for the unalloyed delights of

Speed at Slough.

AN instance of what may be regarded as a new departure on the part of the authorities in dealing with the regulation of motor-car traffic comes from Slough. It was reported at last week's meeting of the Automobile Association that attention had been drawn to the practice of driving motor-cars furiously through Slough, which has recently caused considerable annoyance to the residents. The secretary (Mr. Stenson Cooke) had at once investigated the matter, interviewed Superintendent Pearman, and also consulted with one or two prominent members of the Urban District Council, as a result of which two senior patrols were ordered on special point duty at either end of Slough for the purpose of regulating and, when necessary, restraining the speed of motor-cars through the town. The Clerk of the Council was informed of this, and the A.A. Committee's offer to erect warning notices at the expense of the Association has been received by the authorities. To that letter a reply had been received wherein the clerk tendered to the Automobile Association the thanks of the Council for the efforts



M. Naudin on the Sizaire-Naudin Car on which he won the Voiturette Race in Sicily. (See page 181.)

a Colonial statesman! Park-keeper Ballam was on duty and timed the motor-car over a measured quarter of a mile, from the White Lodge to a point on the middle road, discovering that the rate of progress was $20\frac{1}{2}$ miles per hour—rather more than double the regulation speed allowed in Royal parks. The result was the appearance of the driver at the Kingston County Court on Thursday of last week. Captain G. R. Richards, who said that he was present at the request of the Premier of Natal, pointed out to the Bench that no one was inconvenienced, and expressed regret for any offence that might have been committed by the defendant, who was a most careful driver, and had driven the Prime Minister of Natal since his arrival in England. The Chairman said that the Office of Works having issued the summons the Bench had no option but to treat the defendant in the same way as others summoned before them, and they could make no exception in his case. The defendant was then fined £3 and 8s. 6d. costs, but in the special circumstances his licence would not be endorsed. Probably the experience will convince the Hon. F. R. Moor that in some matters, at least, the Old Country might allow its people to go a little faster than is now permitted.

to reduce the speed of motor traffic through the town, adding that "The Council has noticed an improvement, which it is hoped may continue."

Bridge Tolls for Motor-cars.

WE are officially informed by the directors of the Widnes and Runcorn Bridge Company that the tolls for motor-cars have been reduced, and that they are now 8d. for the single journey, and one shilling for the return journey. The directors have thought it desirable to make no distinction between the size of the cars, but to carry all at a uniform rate—a suggestion that should be followed on the minimum basis. The bridge is open on week days from 5 a.m. to 10 p.m., and on Sundays from 9 a.m. to 10 p.m. It affords a great convenience of communication between the two counties of Lancashire and Cheshire, and the company trust that with this reduction of tolls it will be found attractive to motorists generally. How profitable bridge tolls are in some places may be ascertained from the experience at Sandwich during the Easter holidays. Three hundred motorists are reported to have

paid toll on this well-known bridge on the Dover-Margate coast road.

Speed Indicators on Motor-Buses.

WE entirely agree with the remarks of Mr. Lane, the magistrate at the West London Court, with reference to the case of a motor-bus driver which came before him last week. The driver in question was summoned for exceeding the legal limit at Shepherd's Bush, and in reply to the charge said he had no idea he was disobeying the law—neither, probably, did the policeman, but that did not prevent the case coming before the magistrate. Mr. Lane said it was putting a very serious burden on the drivers to expect them to judge what was the speed of their vehicles without the assistance of any indicator or other means, and he thought that the bus companies should consider the question of providing their buses with such instruments. The point is one which the organisers of public motor services should consider, as the expenditure of a few pounds in such a way may ultimately result in their saving fines amounting to considerably more than the cost of indicators.

Police Traps.

POLICE animosity towards motorists has broken out again in the Horsham district, as the police court has lately proved, and traps are in daily operation in the locality. Particularly would we issue a warning to motorists going through Cowfold, where the inhabitants have sent a petition to the authorities asking to be delivered from the motorists who travel hurriedly through the place. In Crawley, too, police activity has become very pronounced, and on both sides of the level crossing that runs across the main London road are quarter of a mile stretches which have been measured, and are now being watched by the police not only on Sundays and at the week end, but practically every day as well. We mention these instances, hoping that our readers in trap-infested areas will keep us informed of police devices and machinations, so that motorists may know where danger lies.

The Commercial Vehicle Trials.

It may now be taken for granted that the Commercial Motor Vehicle Trials, which have been promised and then postponed for three or four years past, are really to take place after all. The committee which will be responsible for their organisation is composed of representatives of the Royal A.C., the Society of Motor Manufacturers and Traders, and the Commercial Motor Users' Association. We understand that the vehicles will be tested over a course which will include the principal industrial centres of England and possibly of Scotland, so that the public will have an education as to the widespread use of commercial delivery vans such as they had in earlier days with regard to the motor-car as a pleasure or touring vehicle. Several makers have notified their intention of entering for the Trials, and as the regulations will be sufficiently comprehensive to include all motor vehicles, a valuable as well as an interesting competition should result.

The Dangers of Petrol.

THE fatal accident at a London motor establishment—to the proprietors of which no blame can in any way be attached—has brought strongly to the front the dangers of the improper use of petrol. A motor fitter was cleaning the floor of the depot, when a fire broke out, causing his death. At the inquest, on Tuesday, Mr. W. H. Allen, Inspector of Explosives for the L.C.C., stated that he was of opinion that the deceased had some petrol, and, knowing the properties of the spirit, he thought he would clean the floor quicker, and mixed the petrol with water. The danger would not only be in the room itself, but in the adjoining premises, and if he struck a

match an explosion would follow. The coroner said it was always found when there was a new industry that all dangers were not recognised at once, but had to be discovered by degrees. They had now heard of a new danger, and there could be no doubt that the trade would welcome any new regulation that would keep their men under control, which was one of the difficulties employers of labour had to meet. It was clearly laid down that petrol must be used only for the purpose of charging tanks, but in this case that had not been observed, and the deceased man, who was in charge, had paid a terrible price for his indiscretion. It was hoped that this case having occurred and exposed the dangers of the use of petrol for cleaning purposes, it might be useful to prevent accidents of this kind in future. He did not know that it was recognised that dreadful results might follow the improper use of petrol. The jury returned a verdict of accidental death, and added a rider to the effect that firms dealing in petrol should prohibit the carrying of matches and cigarettes by their employees.

In the Suez Canal.

THE fact that the directors of the Suez Canal have, on the representation of Sir Marcus Samuel, the chairman of the Shell Transport Company, withdrawn their prohibition of the passage of petrol in bulk along their waterway is a tribute to the growing power of Motorism and also a matter of congratulation to motorists generally. Hitherto, cargoes from the East have had to come via the Cape of Good Hope, involving a lengthening of the journey by twenty days and causing a reduction in the carrying capacity of the steamers engaged in the service. Some of the regulations which the Suez Canal directors are imposing seem somewhat conservative in view of the policy of France in allowing steamers to discharge in the Seine as far as Rouen; but the concession of passage through the canal is to be welcomed. Vessels carrying petrol in bulk are to have a sufficient dead weight on board of non-inflammable materials to enable them to be lightened by their discharge, in case of necessity, by a depth of 20 in. without touching the inflammable cargo. It is calculated that dues to the amount of £60,000 per annum will be paid by this traffic through the canal.

WE learn that Mr. W. T. Lord, who was until recently outside representative of Messrs. Argylls London, Ltd., has just been appointed by Messrs. Sidney Straker and Squire, Ltd., to the management of their light vehicle department. New show-rooms and offices have very lately been opened at 75, Shaftesbury Avenue, London, W.C., where the firm handle the French built "C.S.B." (Cornilleau and St. Beuve) car and the new Straker Squire all-British vehicle.

DURING the last few months, both abroad and at home, we have been riding about a good deal on our friends' six-cylinder Napier cars, and certainly have enjoyed the smoothness of running and also noticed the wonderful flexibility of the car on top speed. Our last ride was with Mr. Cecil Edge, and was to Acton Vale, to revisit the works where these cars are made. It is now nearly two years since our last visit, and the expansion of the works we found to be truly remarkable. Nearly three thousand men are employed, and the works' management showed, like the car, its smooth running.

A MEETING of the Council of the Society of Motor Manufacturers and Traders was held on Thursday of last week, Mr. Sidney Straker in the chair. There were also present Messrs. Burford, T. B. Browne, R. Burns, Clarkson, Coleman, Edge, Gascoine, Goodchild, H. Johnson, C. Johnson, Lanchester, E. Powell, Sturme, Swindley, Stocks, F. R. Simms, and W. G. Williams. The uniform scheme of decoration for the November exhibition, prepared by Mr. Collett, President of the British Architects' Institute, was approved, and it was resolved to call an extraordinary special meeting to alter the portion of the articles of association governing the method of election of President of the society.

THE VAGARIES OF MOTOR VEHICLES.

BY A. J. MCKINNEY.

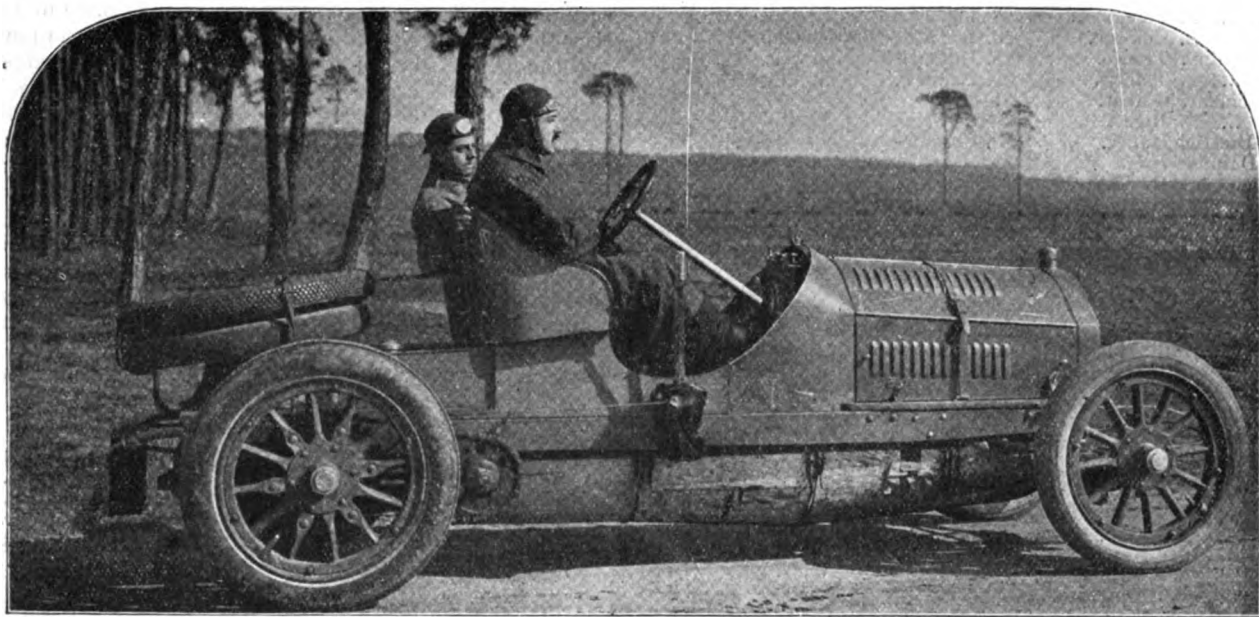
(Concluded from page 148.)

MUCH trouble was caused recently by the induction pipe becoming fractured just inside the flange where it is connected to the carburettor. The effect of the extra air taken in by this opening was not apparent until full gas was given or a high speed was reached. Then, owing probably to the increased amplitude or a certain synchronisation in the vibrations, the mixture would be disturbed and a series of gurgles and splutterings took place. This took over a week to discover, owing to the situation and nature of the crack. A friend removed his petrol tank from under the front seat to the back one, placing it at the same height above the frame as before. The first time he came to a hill of 1 in 9 the car stopped; the carburettor was empty, and yet there was a good supply in the tank. He was unable to fathom the mystery until it was pointed out to him that he had decreased the head of the liquid when the car was ascending an incline by this increase of the distance between the tank and the carburettor. Another friend, connected with a well-known Belgian car, was driving one up a hill in Surrey when the fuel

who had been compelled to spend three nights at a Sussex village because his machine would not fire in spite of all that could be done. I found that he had a De Dion coil, which was fixed to the frame of the machine. His mackintosh was strapped round it and was wet owing to a heavy storm through which he had ridden. This was the cause of the trouble, as the damp garment caused a short in the coil casing, and the flash could be seen from behind, while the rider vainly pedalled the machine on the stand.

An engineer recently asked one of his men to take down the live axle of his car for cleaning purposes. When re-assembling, the mechanic interchanged the two portions of it, so that the left hand portion was put on the right hand side, and *vice versa*. This gave three speeds backwards and only one forwards!

Owing to a leak appearing between the induction pipe and the carburettor, so that little gas could be drawn into the engine, a local man from a village in Kent was requisitioned to cut a new washer. He was very eager to help and most obliging, and worked like a Trojan for two days trying his very best to make the engine fire. But when the owner returned to drive his car home this man had to confess that he had not met with any success. The whole laborious operation was gone through again, until finally the induction pipe was disconnected from the carburettor,



The Duke of Bojano on the Benz Car he drove in the Targa Florio Race.

(See page 180.)

supply fell too low to enable it to reach the carburettor. He was a smart man, for he immediately turned the car round and went up triumphantly—backwards.

Further troubles are caused by the lubricating system. Sometimes a cock shakes open, or a leak is sprung, or the feed pipes become choked or refuse to pass the oil in cold weather. Nearly two years ago I carried about with me an envelope with a little grey dust in it, which I displayed to wondering friends. This represented the crank-shaft and big end bearings of a twin-cylinder engine, which had been reduced to this state either through some fault in the system adopted on that machine for its lubrication, or owing to the bad quality of the oil. Many a time, too, has the ardent motorist been delayed by the vagaries of the ignition system. It may be the hard-working magneto that strikes, or the coil that shorts, &c. One weak feature is the use of a chain for driving the magneto. If this breaks or jumps off, in most cases it is very difficult to replace exactly, owing to there being no indication of the correct timing given to meet such a case. A leak in the petrol tank washed some of the paraffin wax from the inside of a coil, which gave rise to weeks of trouble owing to the innocent appearance of this member. About seven years ago I came across a motor-cyclist

when the cause of the trouble was discovered. The local repairer had used a disc of soft copper for the washer, and had forgotten to cut the centre out!

There are numerous other troubles which occur when motor vehicles are used that are very familiar to most of us; yet, after all, they are simple enough to the man who understands his machine, especially when the cause is found out, but there is now little that is mysterious, as a knowledge of petrol engines is very widespread and enables us to laugh at what once was the source of great irritation and annoyance.

AN attractively illustrated booklet comes to hand from Mr. W. F. Peare, who has been identified with the motor movement in Ireland since 1899, when he commenced motor-car repair work at Waterford. In the following year he supervised the overhauling of a Panhard car for Sir William Goff, Bart., the present chairman of the Irish Automobile Club, and since then he has advised many of the Irish nobility in motor matters. The booklet contains some interesting photographs of motoring scenes about Waterford, and an account of Messrs. W. F. Peare and Co.'s establishment for the repair and storing of automobiles.

THE TARGA FLORIO RACE.

THE second race for the trophy known as the Targa Florio, presented by the Chevalier Vincenzo Florio, was run off on the Island of Sicily on Sunday last. The conditions under which the event was held provided for four-cylinder cars having a minimum cylinder bore of 120 mm. and a maximum of 130 mm., or for six-cylinder vehicles of minimum and maximum cylinder diameter of 85 mm. and 90 mm. The weight of the machines was in proportion to the bore, at the rate of 1,000 kilogs. for 120 mm. bore, with an additional 20 kilogs. for each mm. above this. For six-cylinder cars the weight was 1,000 kilogs. for 85 mm. cylinder diameter, and 40 kilogs. per mm. in excess. The contest was held over a 150 kilometre course, which, starting at Bonfornello, took in Cerda, Castelbuone, Petralia, Castellana, and Caltavuturo, this being covered three times to give the total distance of 450 kilometres. Much greater interest was taken in the event than last year, when there were only ten starters, for no less than fifty-four entries had been received, and of these the following forty-six actually started in the order named:—

No.	Car.	Driver.	No.	Car.	Driver.
1.	Pilain	Salvioni.	24.	Isotta-Fraschini	Minoia.
2.	Opel	Opel.	25.	Junior	Gremo.
3.	Darracq	Wagner.	26.	Bayard-Clement	Gauderman.
4.	Zust	Maggioni.	27.	Berliet	Porporato.
5.	Rapid	Ceirano.	28.	Lorraine-Dietrich	Gabriel.
6.	Isotta-Fraschini.	Trucco.	29.	De Luca-Daimler	Hemery.
7.	Junior	Tolotti.	30.	Radia	Marnier.
8.	Bayard-Clement.	Garcet.	31.	Suddeutsche.	
9.	Berliet	Rigal.		Fabrik	Hubel.
10.	Lorraine-Dietrich	Duray.	32.	Gobron	Faure.
11.	De Luca-Daimler	Ison.	33.	Fiat	Nazzaro.
12.	Diatto-Clement	Buzio.	34.	Itala	Fabry.
13.	Radia	Gaste.	35.	Benz	De Bojano.
14.	Suddeutsche.		36.	Zust	De Zara.
	Fabrik	Hieronimus.	37.	Rapid	Carliolano.
15.	Gobron	Dureste.	38.	Isotta-Fraschini	Sorel.
16.	Fiat	Lancia.	39.	Junior	De Martino.
17.	Itala	Cagno.	40.	Bayard-Clement	Collinet.
18.	Ajax	Caspar.	41.	De Luca-Daimler	Hubertot.
19.	Benz	Erle.	42.	Gobron	Douet.
20.	Pilain	Pizzagalli.	43.	Fiat	Weillschott.
21.	Darracq	Hanriot.	44.	Benz	Spamann.
22.	Zust	Conti.	45.	Zust	Capuggi.
23.	Rapid	Gallina.	46.	Isotta-Fraschini	Tamagni.

The start took place at 5.40 a.m., a little later than at first arranged, owing to the light not being good, but as the day wore on the weather improved considerably. The cars were sent away at intervals of three minutes, the last man being off at 7.55, just 2 hrs. 15 min. after Salvioni on the Pilain, who was first away. Tamagni had only just left when the approach of a competitor was heralded; it proved to be Opel, who had started second, with Wagner close on his heels. Nine cars broke down in the first round, among them being Hieronymus (Suddeutsche Fabrik car) with three broken wheels; Porporato (Berliet), broken axle; Rigal (Berliet), who had been a strong favourite before the race, with a damaged wheel; Hubel (Suddeutsche); and Salvioni (Pilain); the latter abandoning owing to running into a ditch. The times for the second round gave Trucco (Isotta-Fraschini) first, with Lancia (Fiat), Cagno (Itala) and Nazzaro close up in the order named, the first French car—the Darracq driven by Wagner, being sixth. The latter was, however, travelling well, and was the first to complete the second round, although he was still, on time, about three minutes behind Nazzaro, who had run into the premier position, with Lancia third and Duray fourth, the latter having advanced from twelfth place at the end of the first lap. The last circuit unfortunately saw the retirement of Wagner and several other competitors. Duray (Lorraine Dietrich), who had started eleventh, was the first to actually complete the race, he being followed by Lancia, Garcet (Bayard-Clement) and Nazzaro, the final classification, however, having regard to the starting and finishing times, being as shown in the appended table:—

No.	Driver and Car.	Time.
1.	Nazzaro (F.I.A.T.)	8 17 36
2.	Lancia (F.I.A.T.)	8 29 29

No.	Driver and Car.	Time.
3.	Fabry (Itala)	8 32 40
4.	Duray (Lorraine-Dietrich)	8 39 7
5.	Cagno (Itala)	8 39 16
6.	Gabriel (Lorraine-Dietrich)	8 39 46
7.	Tamagni (Isotta-Fraschini)	8 41 45
8.	Weillschott (F.I.A.T.)	8 42 52
9.	Sorel (Isotta-Fraschini)	8 52 52
10.	Garcet (Bayard A. Clement)	8 53 14
11.	Minoia (Isotta-Fraschini)	8 53 19
12.	Maggioni (Zust)	9 0 7
13.	Ison (De Luca-Daimler)	9 1 22
14.	Dureste (Gobron)	9 10 24
15.	Erle (Benz)	9 11 15
16.	Gremo (Junior)	9 13 38
17.	Spamann (Benz)	9 15 56
18.	Buzio (Diatto-Clement)	9 20 5
19.	Gauderman (Bayard-Clement)	9 29 4
20.	Hubertot (De Luca-Daimler)	9 32 20
21.	Collinet (Bayard-Clement)	9 38 25
22.	Gallina (Rapid)	9 50 10
23.	De Bojano (Benz)	9 52 40
24.	Hemery (De Luca-Daimler)	10 16 20
25.	Capuggi (Züst)	10 32 30
26.	Gaste (Radia)	10 33 25
27.	Faure (Gobron)	11 17 25
28.	Pizzagalli (Pilain)	11 21 53

Nazzaro, whose time works out at 33½ miles per hour, secures the Targa Florio, as also a money prize of £600; the second man receives £320; the third, £160; the fourth, £80; and the fifth, £40; while all who finished will receive a replica in silver of the Targa as a souvenir of the race. The subjoined table shows the number of cars of each nationality that started, as also those that finished, from which it will be seen that the contest was a keen struggle for supremacy between France and Italy, the result of the race being, however, a distinct victory for the Italian vehicles, which secured four of the first five places, the honour of the first two falling to the credit of the Fiat Company. The performance of the De Luca-Daimler cars, which were built in Coventry, and run by the De Luca-Daimler concern, which is preparing to build the Daimler vehicles in Italy, is also noteworthy, especially when it is remembered that the machines were practically 30-h.p. touring car models equipped with racing bodies.

AN ANALYSIS OF THE RESULTS.

Car.	Number Started.	Number Finished.
Fiat	3	3
Itala	2	2
Isotta-Fraschini	4	3
Zust	4	2
Rapid	3	1
Junior	3	1
Diatto-Clement	1	1
Total Italian cars	20	13
Pilain	2	1
Darracq	2	—
Bayard-Clement	3	3
Berliet	2	—
Lorraine-Dietrich	2	2
Radia	2	1
Gobron	3	2
Total French cars	16	9
Opel	1	—
Suddeutsche Fabrik	2	—
Benz	3	3
Total German cars	6	3
De Luca Daimler	3	—
Total British cars	3	3
Ajax	1	—
Total Swiss cars	1	—

UP to the 17th inst. the 40-h.p. Siddeley car now under observation by the Royal A.C. had travelled 8,069 miles, of which 5,155 miles had been run without an involuntary stop.

CONTINENTAL NOTES.

A Voiturette Race in Sicily.

The automobile meeting in Sicily opened on Thursday last week with a race for voiturettes having single-cylinder engines of from 85 to 120 mm. bore, or two-cylinders between 70 and 90 mm. bore. The contest was held over the Targa Florio course, two laps being made to give a total distance of 300 kilometres (187½ miles). Twenty-two entries had been received, but of these only fourteen started, viz., eight De Dions, three Lion-Peugeots, two Sizaire-Naudins, and a Florentia. The event proved a victory for one of the Sizaire-Naudins, which, driven by M. Naudin, covered the distance in 7 h. 47 min., equal to an average speed of twenty-four miles per hour. The second, third, and fourth places were all taken by De Dion vehicles driven by Count Vincenzo Florio, M. Stabile, and M. Mollica, the times being respectively 8 h. 2 min., 9 h. 10 min., and 11 h. 31 min. Out of the fourteen starters, only four succeeded in making the two rounds.

A Spring and Elastic Wheel Competition.

The annual spring and elastic wheel competition organised by the "Auto" commenced on Monday last, and will extend

The A.C.F. Grand Prix Race.

The ballot for the order of starting in the Grand Prix race on July 2nd next took place last week, with the result as shown in the appended table. It was also decided by the Sporting Commission of the A.C.F. that the vehicles shall bear a distinctive sign on the day of the race in order that they may be readily recognised, this being given in the fourth column.

Order of Starting.	Car.	Driver.	Distinctive Sign.
1	Fiat	Lancia	F-1
2	Corre	D'Hespel	C-1
3	Darracq	Wagner	D-1
4	Lorraine-Dietrich	Duray	L-1
5	Porthos	Stricker	P-1
6	Dufaux-Marchand	F. Dufaux	DM-1
7	Bayard-Clement	A. Clement	BC-1
8	Motobloc	X.	MB-1
9	Renault	Sisz	R-1
10	Germain	Degrais	GE-1
11	Panhard-Levassor	Le Blon	PL-1
12	Walter Christie	Christie	WC-1
13	Mercedes	Jenatzy	M-1
14	Weigel	Lee Guinness	W-1
15	Gobron-Brillie	X	GB-1
16	Aquila-Italiana	Richat	A-1
17	Brasier	Barillier	B-1



Nazzaro, the winner of the Targa Florio Race, on his Fiat Car.

until the 25th inst., during which time the cars to which the arrangements are fitted will be driven from Paris to Nice and back, a total distance of 2,080 kilometres. Altogether thirteen entries were received as follows:—

No.	Tyre or Wheel.	Car on which same are fitted.
1.	Soleil wheel	Rochet-Schneider.
2.	Ducable tyre	24-h.p. De Dion.
3.	Sider tyre	Mors.
4.	Elastes tyre	Berliet.
5.	E L wheel	Gobron.
6.	Securitas tyre	Radia.
7.	Cosset wheel	Panhard
8.	Ducable tyre	Mors.
9.	Elastes tyre	Cornilleau Ste. Beuve.
10.	E L wheel	Delaunay-Belleville.
11.	Ducable tyre	8 h.p. De Dion.
12.	Elastes tyre	Motobloc.
13.	Elastes tyre	Demester.

Each car is carrying an observer, who is required to keep a record of all stops and breakdowns. Nice was safely reached by eleven of the competitors on Thursday, the 18th inst., who were given two days' rest, the cars meanwhile being placed on exhibition. The return journey was commenced on Sunday, and by the time these lines are in print the vehicles will be safely back in Paris.

18	Fiat	Nazzaro	F-2
19	Darracq	Hanriot	D-2
20	Lorraine-Dietrich	Rougier	L-2
21	Bayard-Clement	Garcet	BC-2
22	Motobloc	X.	MB-2
23	Renault	Edmond	R-2
24	Germain	Roch-Brault fils	GE-2
25	Panhard-Levassor	Heath	PL-2
26	Mercedes	Werner	M-2
27	Weigel	Weigel	W-2
28	Brasier	Baras	B-2
29	Fiat	Weillschott	F-3
30	Darracq	Demegoot	D-3
31	Lorraine-Dietrich	Gabriel	L-3
32	Bayard-Clement	Gauderman	BC-3
33	Motobloc	X.	MB-3
34	Renault	Riches	R-3
35	Germain	Perpere	GE-3
36	Panhard-Levassor	Dutemple	PL-3
37	Mercedes	W. Poegge	M-3
38	Brasier	Bablot	B-3

The first car will be sent off at 6 a.m., the others following at minute intervals. The vehicles which the Brasier Company are building for the contest will be fitted with four-cylinder engines, 165 mm. bore by 140 mm. stroke. The cars are nominally rated at 110-h.p., and will be fitted with low-tension.

magneto ignition, three speeds and reverse and side chain transmission.

Imprisonment for Emitting Smoke.

The police authorities in Paris are taking energetic measures to put a stop to the unpleasant emission of smoke by motor-cars owing to careless lubrication, and quite recently M. Fallot, a director of the Peugeot Co., has been sentenced to a day's imprisonment for causing a nuisance of this kind. As M. Fallot was not driving the car and was not responsible for the smoking, the matter has been brought before the French Chambre Syndicale d'Automobile, which has adopted a resolution protesting against "such abusive extension of employers' responsibility," and has decided to take the necessary steps to bring the injustice before the notice of the authorities.

A Calais-Boulogne Automobile Meeting.

In conjunction with the Belgian Criterium International, which is to be held in July next, the Automobile Club du Nord de la France is organising a series of motor events, which will take place near Calais and Boulogne. During the course of the run from Ostend on July 17th there will be a flying kilometre trial on the level at Gravelines, and a hill-climbing competition over the same distance for the Hector Franchomme Cup. On the following day a touring contest for the Caramain-

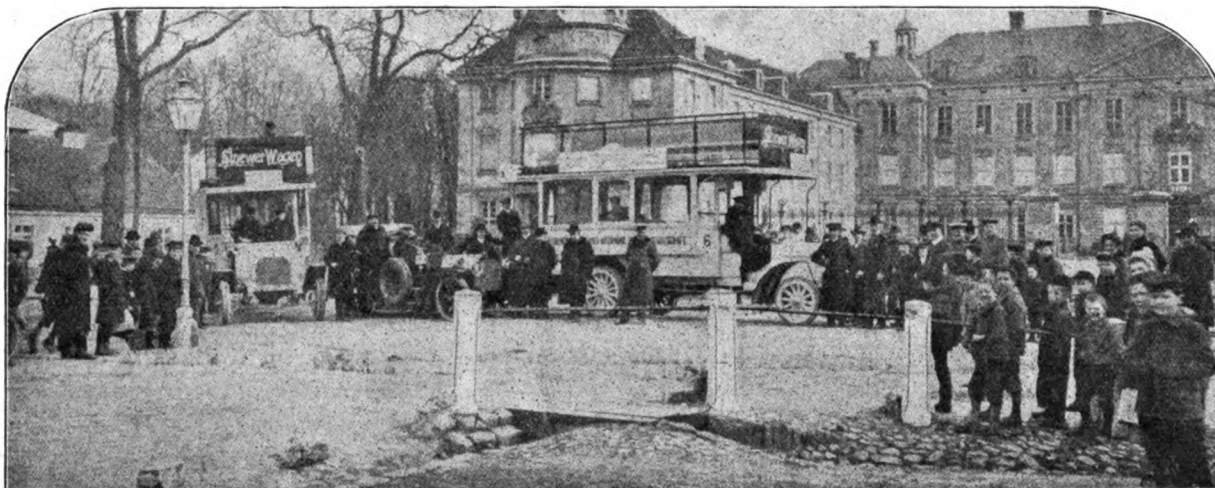
A Swiss Hill-Climbing Competition.

The Swiss Automobile Club is organising a hill-climbing competition for motor-cars and cycles for the Monod Cup for May 28th. The course is from Allstatten to the Ruppenhohe, the distance being $8\frac{1}{2}$ kilometres, and the average gradient 6.7 per cent. The rules provide that single and double-cylinder cars must carry two persons, and those having engines with more than two cylinders four persons. The classification will be

made on the formula, $M = \frac{T \times C}{P}$ where T is the time in seconds occupied in making the ascent, C the total cylinder capacity in litres, and P the total weight of the car in running order and including passengers. The first place in each category will be awarded to the vehicle which shows the lowest value for M.

Motor Car Regulations in Madrid.

Some new regulations with regard to motor-car traffic have just come into force in the Spanish capital. They provide, among other things, that all drivers of motor vehicles must procure a licence, that the speed in crowded thoroughfares must not exceed 10 kilometres ($6\frac{1}{4}$ miles) per hour, and that the pace must be slowed down when any frightened horses are encountered. The use of glaring headlights and noisy sirens is prohibited.



The Two Motor-Buses recently supplied by Messrs. Stoewer Gebrüder, of Stettin, Germany, to the Allgemeine Potsdamer Automobil Omnibus Gesellschaft. The vehicles made the journey from Stettin to Potsdam, near Berlin, by road, the photo from which the above illustration is reproduced being taken en route.

Chimay Cup will be run off near Boulogne, and on July 19th there will be a hill climb at Tuigny and a run to Calais.

Belgian Motor-Car Imports and Exports.

The value of the motor-cars and parts exported from Belgium during the first quarter of the current year only amounted to £78,640, as contrasted with £91,452 in the corresponding period of last year. There has also been a falling off in the imports of foreign automobiles and components into Belgium from £40,880 in the first three months of 1906 to £37,456 in the quarter recently ended.

A German Light Car Touring Competition.

The German Motor Union is organising an international touring competition for light cars for the 6th, 7th and 8th May. The competing vehicles, which must be in touring trim, will be divided into three classes, as follows:—(1) Cars listed up to £150; (2) cars listed from £150 to £225; and (3) cars listed from £225 to £300. The first day's run is from Dresden to Nauen (Berlin) 270 kilometres; the second from Nauen to Kiel, 285 kilometres; and the third from Kiel to Hanover, 240 kilometres. We may add that the entry list closes on the 30th inst., and that full particulars of the competition can be obtained from the Deutschen Motorfahrer Vereinigung, 2 Viktoriastrasse, Munich 23.

Public Services in Germany.

A concession has been granted to run a motor-omnibus service between Karlsbad and Pirckenhammer. A company is also being formed to establish a similar service between Bremerhaven and Geestemünde.

Miscellaneous Items.

A syndicate has been formed at Castelnau-Magnoni (Hautes Pyrenees) to establish a public motor-car service between that town and Auch.—A Werner 7-h.p. two-cylinder car is at present engaged on a tour of France. So far it has covered 1,500 miles without trouble of any kind.—L'Association Amicale des Automobilistes Militaires du Gouvernement Militaire de Paris is the name of a new society which has just been formed in the French capital, the membership being confined to those motorists and motor-car drivers who are on the French territorial army reserve list.—It has been decided that the start of the race for the Kaiser's Prize on June 14th shall take place at 6 a.m., so that the contest can be finished not later than 3.30 p.m.—The Municipal Council of Paris has appointed a special commission to visit England to inquire into the various types of motor-omnibuses in service in London, and the cost of operation of the same.—The marriage took place at Neuilly on Friday last week of M. F. Charron, of the C.G.V. Company, to Mlle. Jeanne Clement, the daughter of Mr. A. Clement, the builder of the well-known Clement-Bayard cars.

ON Monday a 30-h.p. six-cylinder Brooke car started on a thousand miles Long Distance Trial under the observation of the Royal A.C.

A NEW company, on the directorate of which are Messrs. J. C. Shannon and A. J. Llewellyn, of Walsall, has been formed with a capital of £60,000, to introduce the motor industry into the town of Walsall.

THE Fiat Company have just made delivery of a six cylinder car to King Alfonso of Spain.

THE public library authorities of Chicago have placed their fifth motor-van in service for the distribution of books to the sub-stations.

A VISIT to four of the leading coach-builders just before Easter showed that they had on their premises 130 motor chassis awaiting delivery.

LORD PLUNKET, the Governor of New Zealand, and the Attorney-General, the Hon. Dr. Finlay, both own Argyll cars, the former generally driving himself.

MR. J. C. BEADLE, of Dartford and Foot's Cray, has a spacious garage, with inspection pits and repair works, in Lowfield Street, in the former town.

THE six-cylinder Hotchkiss car which has made a 10,000 kilometre journey through France will shortly undertake a long-distance tour in this country under official observation.

THE Lancashire Steam Motor Company have just supplied two steam wagons to the British Admiralty for use in connection with the conveyance of sailors' kits to the railway stations at Portsmouth.

THE City Tyre Company, of Brooke Street, Holborn, E.C., are agents for the Avon motor tyres, and are also undertaking the repair of tyres of all makes—work for which they have excellent facilities.

THE value of the motor-cars and parts exported from France during the first two months of the current year amounted to £908,960, an increase of £9,600 over the corresponding period of 1906.

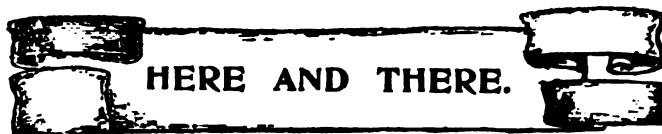
MR. J. ORDE, the Secretary of the Royal Automobile Club, in company with Mr. Wylie, the Traffic Superintendent of the London and Brighton Railway, on Sunday last visited the course, near Dieppe, on which the race for the A.C.F. Grand Prix is to be held.

MESSRS. BROWN BROS., LTD., have despatched four of their Brown 20-22-h.p. cars to Ireland for the use of the Royal Commission on Congestion, which cars, with the members of the Commission, were at Sligo up to April 24th, and will be at Carrick-on-Shannon up to April 29th.

THE value of the motor-cars and parts exported from the United States of America during February last is returned at £88,740, as against £66,542 in the corresponding month of last year. The United Kingdom heads the list as being America's best customer, this country being responsible for £20,012 of the total.

AMONG the sales recently effected by the Kellow Motor Company, of Melbourne, were the following:—A 10-12-h.p. Talbot, to Mr. Beddome, of Tasmania; and three 10-12-h.p. Coventry-Humbers, to respectively Dr. Wolfhagen, of Tasmania, Dr. Horne, of Broken Hill, and Professor Lyell, of the Melbourne University.

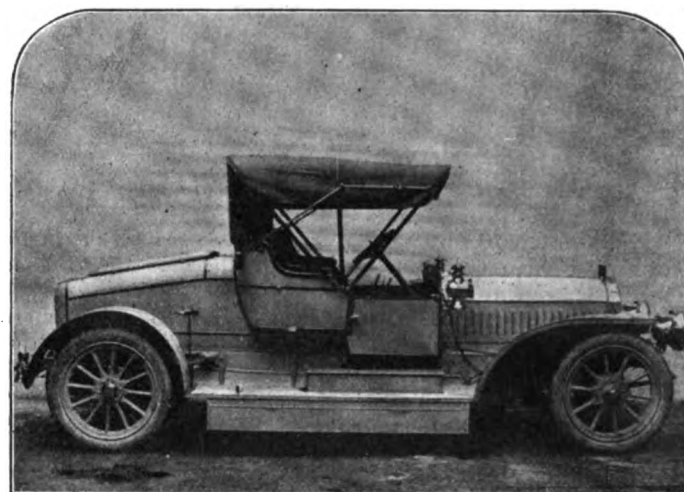
FOR the third time within the last eighteen months the New Motor and General Rubber Company, Ltd., of 374, Euston Road, London, N.W., have taken larger premises, and in their factory at Harpenden will manufacture a special tyre as well as the Rub Metal Non-Skid with which they have been so favourably identified. Here the company have an experimental room under the supervision of an expert, whose services will be at the disposal of the trade in connection with the development of new ideas. The works are complete throughout, and, in fact, it may be said that the New Motor and General Rubber Company, Ltd., do everything for the tyre with the exception of growing the rubber.



THE recent increase in the price of petrol in this country is being reproduced in India, and a further rise is, we learn, not unlikely.

CONVENIENTLY situated for visitors, being opposite the Post Office at Canterbury, the new garage of the Canterbury Motor Company will doubtless be appreciated by many visitors to the Cathedral city.

THERE are few who are more devoted to motoring or who make more use of their motor-cars than the Rt. Hon. Lord Battersea, who, owing to the satisfaction derived whilst making many extended tours through Europe, during the last two years, in his six-cylinder Napier, which is fitted with a comfortable five-seated touring body, recently ordered and has just taken delivery of one of the latest type 40-h.p. six-cylinder chassis of the same make. The vehicle is, as will be seen from the accompanying illustration, fitted with a luxurious two-seated body, which was specially designed by the owner for touring on the Continent, and gives evidence of the latest type of touring car coming into vogue, for those who are really keen on motoring for the enjoyment and sport they obtain from driving.



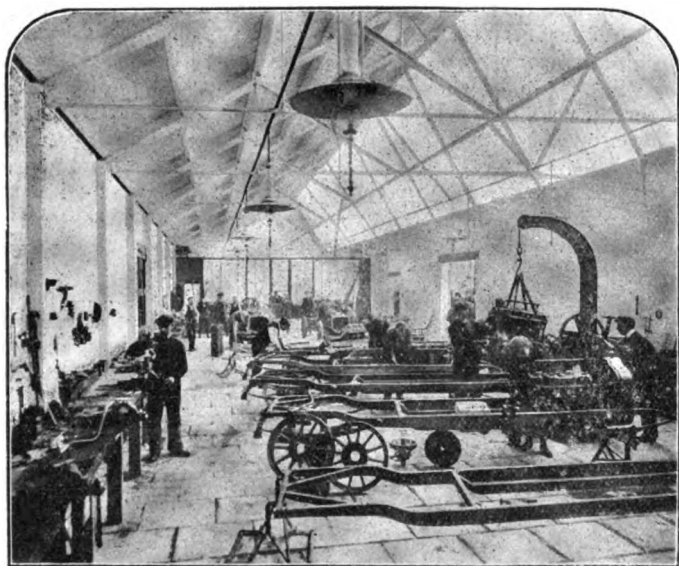
It seems likely that we may in the near future see a larger number of this type of simple touring carriage in use amongst the ever-increasing number of motorists who have discovered the delight and freedom to be obtained from travelling about from place to place and seeing to the best advantage the many beauties of different countries by means of their touring motor-carriage. It will be noticed that the back portion of Lord Battersea's car provides ample closed-in space for personal luggage, and that it is built on graceful lines. The vehicle is painted in a shade of light grey, relieved by dark lines and mouldings, and the light canvas hood can be so arranged by the addition of side-curtains as to entirely protect the occupants from the weather when required.

THAT there are many things which may happen to a car without putting it out of commission, if a little ingenuity be exercised, was, states the "Automobile," of New York, well proved by a rural motorist in Michigan during one of the cold snaps of the past winter. He was located eight miles from the nearest repair shop, and one night the radiator of his car froze solid. He wished to use the vehicle the next morning, but did not care to run the risk of increasing the damage, so he rigged up a home-made cooling system. A cider keg full of water was placed on one of the front seats and a piece of garden hose led from it to the cold water intake of the cylinder jackets. The drain cocks of the latter were opened sufficiently to let the water drip out of them fast enough to keep the engine cool, so that the trip was made successfully, and another "useful hint" added to the breviary of the automobilist.

MR. ALBERT HOUSE held his monthly motor-car auction at the Oak Lane Garage, Bradford, on Tuesday last.

EVERY event of the Hertfordshire Motor Cycle Club's Hill Climb at Aston Hill, near Tring, was won on Dunlop tyres.

MESSRS. J. THOMSON AND SON, of the Castle Works, Lady Lawson Street, Edinburgh, are the Scottish agents for the Harvey Frost vulcanisers and vulcanising materials.



A View of Messrs. West's, Ltd., Erecting Shop. (See page 185.)

MR. CHARLES CORDINGLEY has been elected to the Board of Messrs. Wyman and Sons, Ltd., the well-known Government publishers and printers.

THE East Indian Railway Company have arranged to import a considerable number of petrol lorries for use in connection with their line.

THE Palmer tyres fitted to the 40-60-h.p. Gobron-Brillie car used on the London-Paris motor service behaved excellently on the inaugural run.

H.H. THE MAHARAJAH SCINDIA has recently placed an order for two more cars, the first being a 14-16-h.p. Fiat with a special landaulet body, and the second a new Siddeley car.

MOTOR-CARS are no respecters of persons. The other day the Bishop of Ely was motoring to officiate at a wedding when the car broke down and prevented his arrival at the church in time for the ceremony.

A MOTOR fire engine belonging to the London Fire Brigade was shown by Messrs. H. Simonis and Co., in the yard of the Manchester chief fire station. It consisted of an ordinary horse engine converted into a motor-vehicle.

THE hill out of Llangollen on the direct road to Glyn Cerriog is said by Mr. W. P. Cook, of Liverpool, to have not yet been surmounted by a motor-car. The distance is three miles, roughly divided into one mile climb, one mile level, and one mile descent, and the hill is very steep (about 1 in 4), with two awkward corners to add to the difficulty.

FROM Messrs. Archibald Ford, Ltd., 109, Bold Street, Liverpool, come interesting pamphlets concerning their British School of Motoring, their tyre accessory department and Darracq agency. Each department is under the direction of an expert, with Mr. Archibald Ford generally supervising the whole concern, which has also a branch at 292, Deansgate, Manchester.

THE Touring Club of Italy is issuing a series of sectional maps of the country, which can be well recommended to any motorist contemplating a tour in Italy. Each of the maps is accompanied by an alphabetical index to the towns, with an indication to facilitate reference to the same. The maps we have received are those referring to the districts surrounding Genoa, Turin, Milan, and Venice.

THE second automobile show in Montreal, under the auspices of the Automobile Club of Canada, was held last month.

CONGRATULATIONS to Mr. T. Overton on his marriage with Miss Hills, at the Parish Church, Sutton, on Wednesday of last week.

IT is reported that the Kaiser has placed an order with the German Daimler Company for a Mercedes six-cylinder car, which is to be fitted with a landaulet body.

MESSRS. ASHFORD AND PITT have opened the Central Marylebone Garage at 300, 302 and 304, Marylebone Road, London, W. This establishment is near the Great Central Hotel, and will accommodate nearly fifty cars. Messrs. Ashford and Pitt inform us that they will devote special attention to repair work, and have been appointed by the patentees to fit the Gillett-Lehmann carburettor controller.

WE mentioned in a recent issue that as a result of the increasing demand for the Iris cars made by Messrs. Legros and Knowles, Ltd., of Cumberland Park, Willesden Junction, a new company, with the title Iris Cars, Ltd., had been formed to establish a depot in London, where the sales department of the business will in future be conducted. After some delay extensive premises were secured in Bird Street, Oxford Street, W., and these, after having been specially fitted out as motor showrooms, were officially inaugurated on Monday last. The new depot, of which we give an illustration herewith, is situated at the corner of Bird Street and Barrett Street, and is in the same building as the "Times" Book Club. It comprises a spacious showroom capable of taking half a dozen cars. An 18-foot lift has been installed, this being on somewhat novel lines, the central portion being built in the form of a turn-table, thus facilitating the handling of cars. The lift space is independent of the showroom, and has a separate entrance for the cars. On the same floor is a well-appointed board room, the secretary's private office, and a correspondence department. Below is a large basement capable of storing over a dozen cars. A washing space is provided, also a large storeroom and a foreman's office. While the more important class of repairs will still be carried out



at the works at Willesden Junction, plant for effecting small adjustments and replacements is being installed at the new depot, which is well lighted by powerful arc lamps. We may add that the chairman of Iris Cars, Ltd., is Mr. Arthur Dugdale, of Castle Hill, Tutbury, Staffs., a well-known Lancashire cotton-spinner. Mr. Arthur E. Perman, who has been associated with the Iris vehicles since their introduction, is the managing director, while Mr. A. Colbourne has been appointed sales manager.

THE WEST-ASTER CARS.

ESTABLISHED some years, under the works management of Mr. E. J. West, whose connection with the automobile industry extends back to the early days of the modern movement, Messrs. West, Ltd., have already built a large number of vehicles, as well as a considerable quantity of axles, gears, &c., of which they have made a speciality. Hitherto, however, the business has mainly been done with what we may term trade buyers, who have themselves chosen the

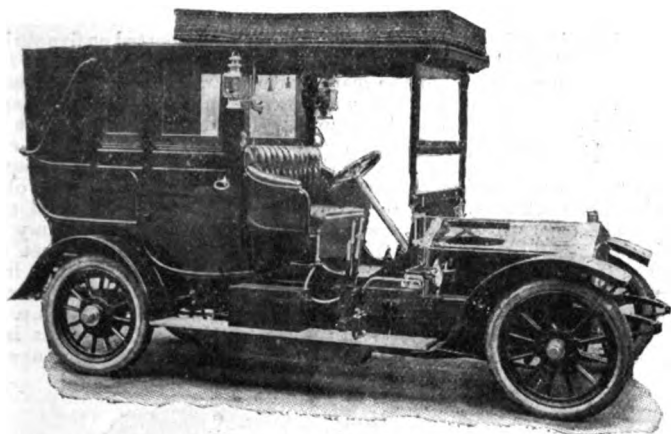


Fig. 1.—The West 20-22-h.p. Landulet recently supplied to General Davies, of Elmley Castle, Worcestershire.

names for the cars, with the result that the excellent reputation they have earned for reliability has not, perhaps, made itself so well known with the general public as it has in business circles. The directors have, however, recently decided upon a new policy—that of appealing more directly to private motorists—and, with the view of demonstrating the leading features of the West-Aster cars, and the facilities available for the construction of the same, we were, in company with a number of Press representatives, afforded an opportunity on Thursday, last week, of inspecting, under the guidance of Col. Jopp (one of the directors) and Mr. P. Lamb (the sales manager), the works of the company, which are situated in Foleshill Road, Coventry. Although as yet they cannot compare in size with other important factories in the Midlands we have lately visited, we found a conveniently arranged single-storey building, divided into a number of departments, including a large machine shop well equipped with electrically-driven tools of the latest type, forge, erecting shop, repairs department, stores, &c. The chassis erecting section, of which we give an illustration on page 184, is the latest addition to the works, and at the time of our visit close upon a dozen vehicles were in course of completion.

For the current year four sizes of touring and town vehicles are being turned out—10-12-h.p. two-cylinder and 15-h.p., 20-22-h.p., and 24-30-h.p. four-cylinder. The name West-Aster, by which the cars are known, is derived from the fact that the company have adopted the well-known Aster engines as their standard, although at the same time they are willing to fit an engine of any desired make according to the requirement of clients, evidence of this being found in the fact that one of the vehicles in hand at the time of our visit was being furnished with a White and Poppe motor. Without going on the present occasion into the exact details of the different models, we may state briefly that they are all of the live-axle type, the engine and change-speed gear being carried on a sub-frame suspended from the main frame, which is of the usual pressed steel form. The lubrication of the engine is effected by a small plunger pump, this being located in a small tank fixed on the side of the engine. The pump, which is driven off one of the cam shafts, forces the oil to a neatly-arranged sight feeder on the dashboard, whence it flows to the different parts of the motor. The clutch is of the leather-faced cone type, with cork inserts

the latter, which consists of sections of cork of about the size of a halfpenny piece let in the leather, are claimed to allow the clutch to take up the load gradually and without shock of any kind. The gear-box, the shafts of which run on ball bearings, is adapted to give three speeds forward and a reverse, with direct drive on top speed, through a cardan shaft and bevel gear, to the live axle. The various speeds are controlled by a lever working in a "gate," and connected up to a special gear "selecting" box, which is so arranged that all the bars except the one in operation are locked in position.

The cardan shaft is enclosed in a sleeve which, in conjunction with the anchored springs, acts as a torque rod. It is provided at its forward end with a special form of universal joint, as also a sliding one; the former is illustrated in Fig. 2; a noteworthy feature being the provision for lubrication, which greatly adds to its useful life; an oil well is formed in the centre of the four pivots, which have a small hole in their centre down which the lubricant passes to the bearing surfaces. As the oil is prevented from leaking by means of neatly-arranged cups, it is claimed that one filling of the small well will suffice for about 2,000 miles running. The cardan sleeve is built up with the differential case, and ball bearings are provided at both ends so that the driving pinion is rigidly held up to its work. The cardan sleeve is provided with an arrangement which, acting as a shock absorber, considerably reduces the strains ordinarily thrown on this part of the casing. It consists of a stirrup attached at its lower end to the upper side and centre of the sleeve, and connected at the other with a spring bracket supported in one of the cross members of the frame. The axle itself is a well designed and constructed piece of work; it has only the driving strain to withstand, it being surrounded by a casing on which the road wheels run on ball bearings, the power being transmitted from the axle to the wheels by means of dog clutches in the hubs. The casing is built up in two halves of weldless steel tubing, each half being in one piece with its flange. Other features of interest, and which also show the attention paid to details in the West factory, include the provision of ball joints to the radius rods, and the strong and substantial method of supporting the shoes of the foot-brake.

In addition to pleasure cars, the company are also devoting attention to commercial vehicles, and hope to have their first machine on the road within a few weeks' time. Provided with

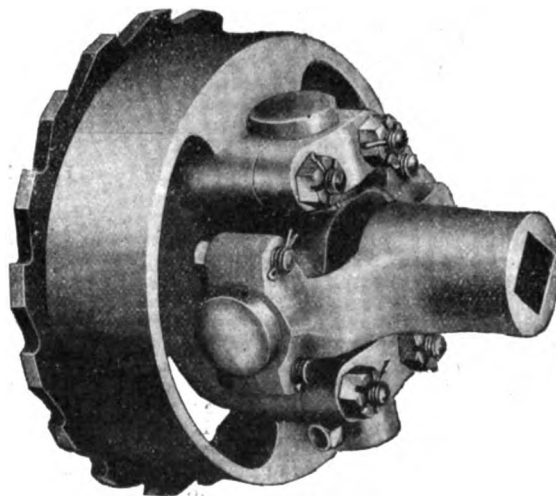


Fig. 2.—The West Universal Joint, Brake Drum and Ratchet Surag.

an engine of 15-h.p., and designed for loads up to 30 cwt., it will vary from the touring vehicles in that a worm drive to the rear axle is being adopted.

From the foregoing it will be seen that not only are the West-Aster cars built on modern lines, but that they possess many interesting features of their own, which have only been adopted after exhaustive trial; and now that efforts are being made to bring them directly before the notice of the motoring public, we doubt not that the merits of the West-Aster vehicles will quickly be appreciated.

The Cordingley Show.

(Continued from page 167.)

HEREWITH we nearly complete, with the exception of the petrol-electric vehicles, and other novelties reserved for our next issue, our report of the Cordingley Show of 1907—from the business point of view as successful as ever and full of encouragement to those firms that have already booked spaces for the 1908 display, which will be held from March 21st to 28th, at the same place as all previous exhibitions of this series of pioneer motor shows.

PETROL VEHICLES.

The Riley Cars.

A new comer to the Cordingley Show was the RILEY CYCLE COMPANY, LTD., Coventry, who had on view two interesting vehicles of respectively 9-h.p. and 12-h.p. We give a view of the chassis of the latter in Fig. 52, from which it will be seen that the engine, which is

carried by the axle sleeve. The frame, which is supported on five springs is of pressed steel, the side members being parallel throughout their entire length and raised at the rear to give clearance for the differential casing. The engine and gear-box are carried on a sub-frame of channel steel. A simple but useful feature is found in the fact that the supports for the side steps of the car do not consist of brackets attached to the side members of the frame in the usual way, but of bars which extend from one side of the chassis to the other. The petrol tank is built up to form a dashboard of the curved type. The wheel base of the chassis is such as to permit of a roomy side entrance body being fitted. The car is being put on the market at a moderate price, and is claimed to be not only exceedingly quiet in its operation but also free from vibration, so that it is deserving of close attention. The Riley Company also exhibited one of their 5-h.p. tri-cars, and an attractive two-seated vehicle of 9-h.p. The latter is an interesting production, the tubular frame being supported on inverted

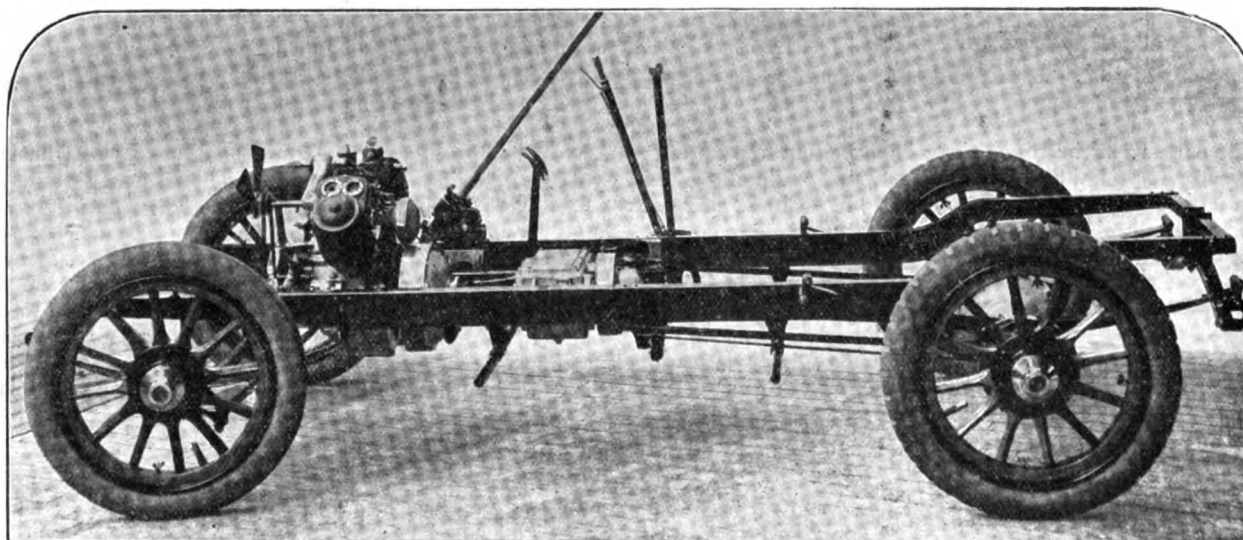


Fig. 52.—Chassis of Riley 12-h.p. Car.

located under the bonnet in the usual way, comprises two cylinders, 4 in. bore by 5 in. stroke, set V shape, that is, at an angle of 90 deg. to each other. The valves are all m.o.v. and are interchangeable; the ignition is by coil and accumulators, and the water circulation on the thermosyphon principle, no pump being employed. The lubrication of the engine is maintained by the pump drive off one of the cam shafts, which forces the oil to a distributor. A single lever on the steering wheel controls both the ignition and throttle, the latter being also automatically acted upon by an automatic governor. The normal speed of the engine is 900 revolutions per minute, so that there is ample margin for acceleration. The clutch, which is of the expanding metal-to-metal type, is connected by a jointed shaft to the gear-box, which is adapted to give three speeds and a reverse, with direct drive on top speed. The gear is of the type in which the various pinions are always in mesh, the various pair being made to transmit the power by means of jaw clutches. The design is exceedingly neat and appears to be both effective and fool proof, as the lever can be passed from notch to notch in the quadrant without any trouble and without fear of stripping the gears. The clutches are actuated by spiral springs, and are held out of work by a sliding bar with notches in its side. As this bar is drawn along by the hand lever one or another notch comes opposite a projecting pin, which under the action of the spring is immediately forced into the notch, the engagement of the desired clutch taking place at the same time. From the gear-box, the shafts of which run on ball bearings, the power is transmitted through a cardan shaft and bevel gear to a live axle, which runs on ball bearings and which transmits its power to the road wheels through dog clutches in the hubs, the weight of the car being

and slightly shortened semi-elliptic springs, somewhat on the lines of the Lanchester vehicles. The engine, which is of the V-shaped twin-cylinder type, is located about the centre of the frame, under the body, which is hinged so that it may be tilted up to give access to the mechanism. The motor is set with its crank shaft parallel to the axle. On an extension of the shaft is mounted a leather-faced cone clutch and a three speed and reverse gear-box of the type above outlined, and a sprocket which, by a single chain, transmits the power to the rear live axle. The whole frame and body are carried within the wheel base, giving a low centre of gravity. The arrangement of the dashboard is somewhat novel; it extends at a sharp angle from the radiator to the steering wheel, the space below it being utilised for the oil reservoir and petrol tank. Altogether this little car is an interesting production and should meet the requirements of a large section of the motoring public.

The Universal Motor.

Prominent in the exhibit of Mr. JOHN GOODE, of Alderman's House, E.C., was a thirty-five-seated double-deck 'bus body built by the British Motor Body and Wheel Works, Ltd., of King's Cross, N., and intended to be fixed on a new chassis built by the All British Car Company, Ltd., which unfortunately met with a serious accident at the works a few days before the Show. One of its principal features is that the transmission gear is outside the frame, thus enabling the 'bus to be fixed considerably lower than usual, as the well of the vehicle occupies the space inside the frame usually taken up by the driving mechanism, thus lowering the height of the 'bus. This necessarily

lowers the centre of gravity, reduces the tendency to overturn, and increases the stability. Mr. Goode also displayed one of Sanderson's "Universal Motors," which is especially intended for use in rural districts, for ploughing, and driving all kinds of farm machinery. The machine is mounted on three steel wheels, the leading pair acting as drivers, provision being also made for the third wheel to be driven when necessary. Three speeds forward, of 2½, 3½, and 7 m.p.h., and reverse, are provided. A small flat platform is fitted to the machine,

so arranged that each may be taken out independently of the others. The carburettor is of a new design, the additional air supply for the mixture being regulated automatically by means of a small conical valve. The apparatus is much smaller and lighter than the one used on the 1906 cars, and is claimed to give more power, greater flexibility, and increased economy of fuel. On the smaller model thermo-syphon water circulation is employed; the larger car, however, has a centrifugal pump. The leather-faced cone type of clutch is retained

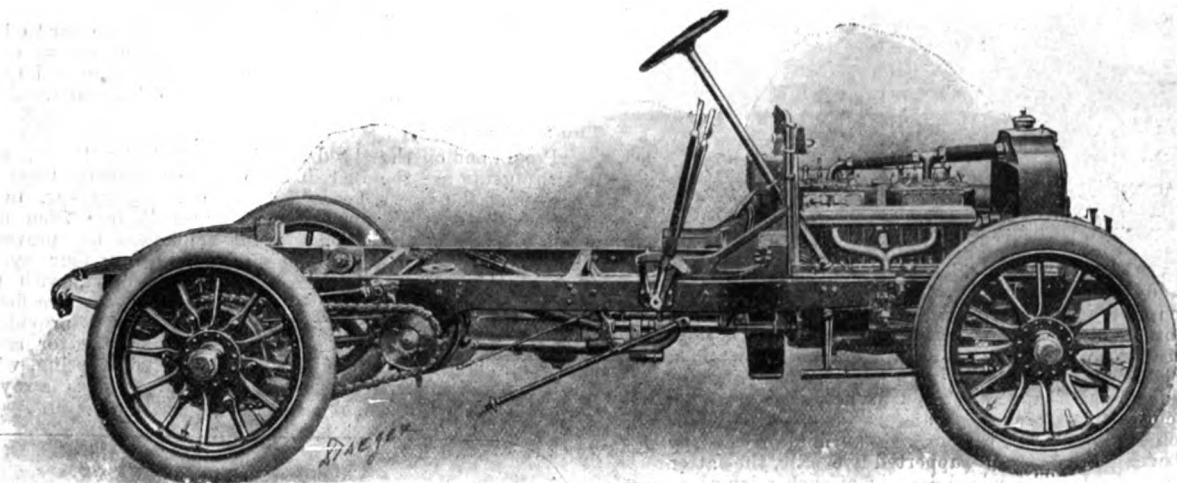


Fig. 53.—Chassis of Brasier 25-36-h.p. Car.

on which heavy goods may be carried. A variety of sizes are made, ranging in power from 15 to 50-h.p., the engines being fitted with a carburettor designed to use paraffin as fuel, petrol being employed for starting purposes. At this stand was also to be seen a universal gear, suitable for steering, lifting or hoisting machinery for ship or land purposes, and also for application to machine tools of all kinds. By this gear an indefinite range of speeds can be obtained, either direct or reverse, and the motion can be reversed while the gear is running.

The Brasier and Unic Cars.

The display of Messrs. MANN AND OVERTONS, LTD., included examples of the latest types of the well-known Brasier and Unic cars, for which they are British agents. Of the first-named vehicles those on view comprised a 16-26-h.p. chassis, a 25-36-h.p. landaulet, and a 25-36-h.p. landaulet limousine. A sub-frame of tubular construction is still employed to carry the engine and gear-box; the main frame is,

a double-jointed shaft connecting the clutch with the gear-box. The latter is adapted to give four speeds forward and a reverse, with single operating lever working in a "gate." On the top speed the drive is direct to the differential shaft, from which the power is conveyed to the rear road wheels by side-chains. The steering gear has been strengthened, and the steering column increased in diameter. Ball bearings are fitted to all parts except the engine. Each car is made in two lengths of chassis, so that any type of carriage body may be fitted. Turning now to the Unic cars, those exhibited included a 10-12-h.p. double phaeton with hood, and a 10-12-h.p. motor-cab, the latter being a duplicate of those now in service in London. The vehicle has already been described in the *M.C.J.*, so it will suffice to mention that the engine comprises two cylinders 102 mm. bore by 110 mm. stroke, and that the transmission is through a leather clutch, a ball-bearing gear-box giving three speeds and a reverse, and a direct drive on the top through a cardan shaft and bevel gear to the rear live axle.

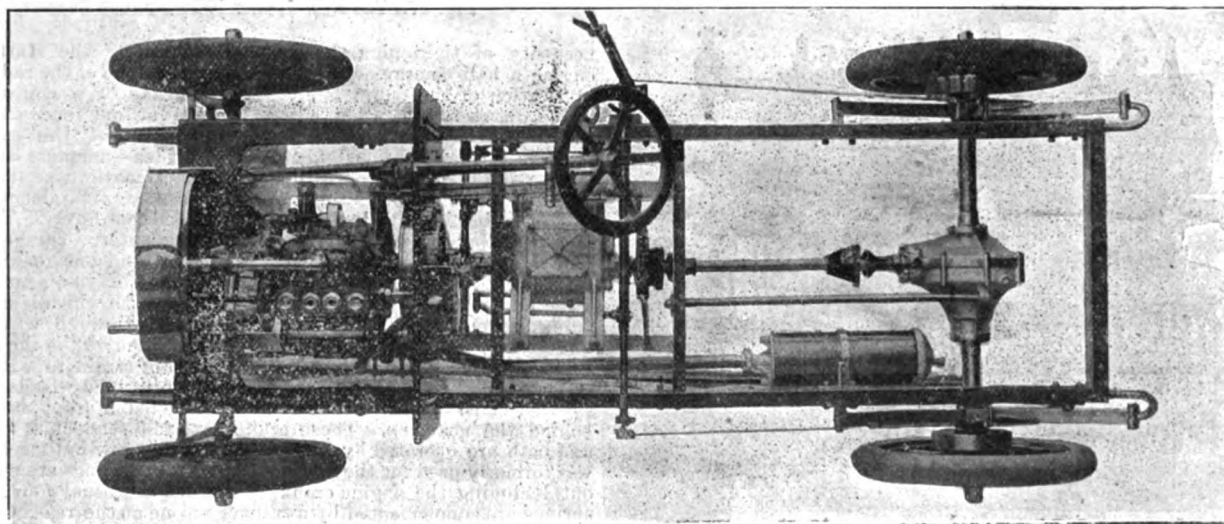


Fig. 54.—Plan of Chassis of Royal Starling Car.

however, of pressed steel narrowed in front to increase the lock of the steering-wheels. The cylinders are cast in pairs, with the valves all arranged on one side; the dimensions of the 16-26-h.p. engine are 90 mm. bore by 120 mm., and of the 25-36-h.p. 112 mm. by 130 mm. stroke. The crank shaft is *desaxé*, that is to say, it is slightly out of line with the centre of the cylinders. Ignition is by low tension magneto, the operating shaft being located overhead with the strikers

The Starling and Royal Starling Cars.

The STAR CYCLE COMPANY, LTD., Wolverhampton, had on view a couple of examples of the Starling cars, which, in view of their relatively low price, have become a very popular type. The motive power is supplied by a 6-h.p. single-cylinder engine, driving through a three speed and reverse gear-box and a single chain to a live axle. With artillery wheels and a neat two-seated body, and sloping tool box

it forms a useful vehicle for the man of moderate means. The great feature of interest, however, was the new Royal Starling (Fig. 54) which has just been put on the market, and which throughout follows the lines of large touring cars. The engine comprises two vertical cylinders, $3\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke, the valves being all mechanically actuated off a single cam shaft. The arrangement of the inlet pipe on is

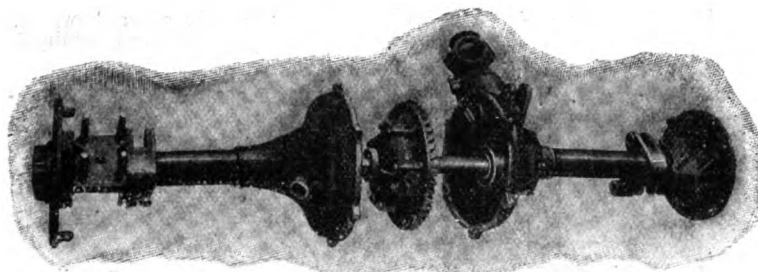


Fig. 55.—The Back Axle of the Cadogan 16-20-h.p. Car.

somewhat novel lines; the carburettor is located on the right-hand side of the motor and the gas is conveyed therefrom by an oblong-section pipe between the two cylinders, and thence by a short vertical round pipe to the inlet valves. The latter are provided with a variable lift, by means of which the speed of the engine is controlled, this being obtained by a wedge piece which can be slid in and out between the cams and the valve tappets. The transmission is through a leather-faced cone clutch to a three speed and reverse gear-box, the shaft of which runs on Hoffmann ball bearings. The final drive is by a cardan shaft and bevel gear to a well-supported live axle, the latter also running on ball bearings. The wheel base is of such a length as to permit a comfortable four-seated body to be fitted, access to the rear being through a swinging front seat. Altogether the Royal Starling is an interesting addition to the list of moderate price cars.

The Cadogan Cars.

The CADOGAN GARAGE AND MOTOR COMPANY, LTD., of Sydney Street, Chelsea, had an interesting display of three models of the Cadogan cars they have lately put on the market, viz., 14-16-h.p. twin-cylinder, and 16-20-h.p. and 28-32-h.p. four-cylinder, the bore and stroke being respectively 110 mm. by 130 mm., 100 mm. by 100 mm., and 110 mm. by 130 mm. As apart from the engines the general arrangement of the three cars is on similar lines, the following description of the 16-20-h.p. car may be taken as applying to all. The cylinders, as will be seen from Fig. 56, are cast in pairs, with the valves all mechanically actuated off a single cam shaft. Two systems of high tension ignition are provided—Simms-Bosch magneto and coil and accumulators—a separate set of plugs being provided for each. The water circulation is maintained by a pump driven by friction off the flywheel and a honeycomb radiator with fan. The carburettor is of a special automatic type, the hand lever which operates the throttle at the same time varying the amount of petrol allowed to pass through the jet and also the quantity of additional

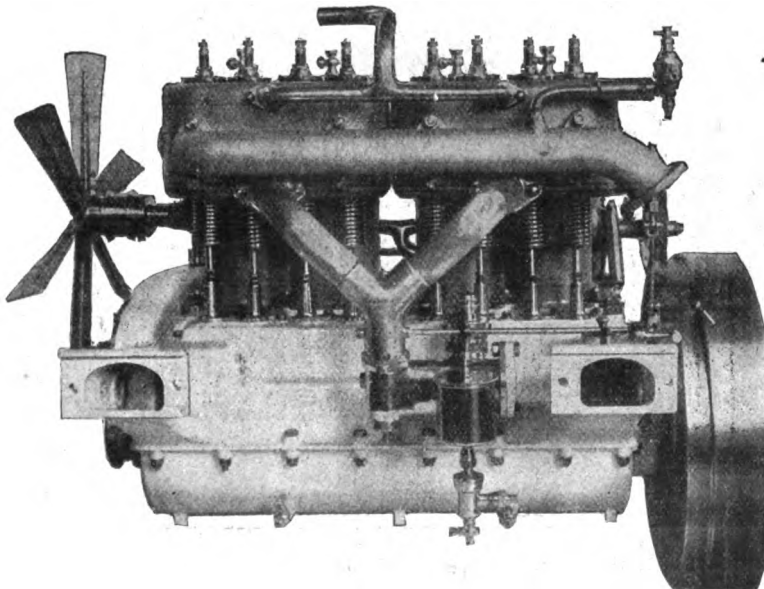


Fig. 56.—View of Inlet Side of Cadogan 16-20-h.p. Engine.

air admitted. A novel feature is found in utilising one of the engine supporting arms as the air inlet to the carburettor. It may be added that the clutch pedal is so connected with the throttle that as the clutch is withdrawn the speed of the engine is automatically cut down. The cylinders are, we noted, provided with a gun finish, which we are informed is a standard practice in the Cadogan cars. A feature of

the leather-faced cone clutch is that the metal portion of the male part consists of a steel stamping in which slits are made to cause it to spring slightly, and so permit of a progressive engagement. A jointed shaft connects the clutch with the ball-bearing gear-box, which is adapted to give three speeds and a reverse, with direct drive on the top speed through the cardan shaft and bevel gear to the rear live axle, which latter (Fig. 55) has only the driving strain to withstand, the road wheels running on the axle casing. The frame of the 14-h.p. two-cylinder car is of special design, being dropped in the centre to give a low side entrance to the carriage and raised at the rear to give clearance for the differential casing. The back springs, too, of this vehicle are of the double elliptic variety. Taken altogether, the Cadogan vehicles appear to be built on sound lines, and should prove quiet and speedy as well as reliable cars. Needless to say, the chassis can be fitted with any desired type of body, a noticeable one at the show being a 28-32-h.p. landaulet.

The Spyker Cars.

Prominent on the stand of Messrs. SPYKER BROS., whose head British agents are the British Automobile Commercial Syndicate, was a chassis of the latest type of 30-42-h.p. Spyker car, in which an effort has been made not only to render it free from dust-raising proclivities, but also of making it smokeless by preventing any chance of over-lubrication. The engine comprises four cylinders, 130 mm. bore by 130 mm. stroke, cast in two pairs, with the valves arranged on opposite sides. Large inspection doors are fitted to the base chamber. The circular honeycomb radiator is provided with an air-inducing fan mounted on a vertical pillar, fixed or screwed into the crank chamber; around the pillar is fitted a spring, which keeps the belt tight enough to drive the fan, and so does away with the

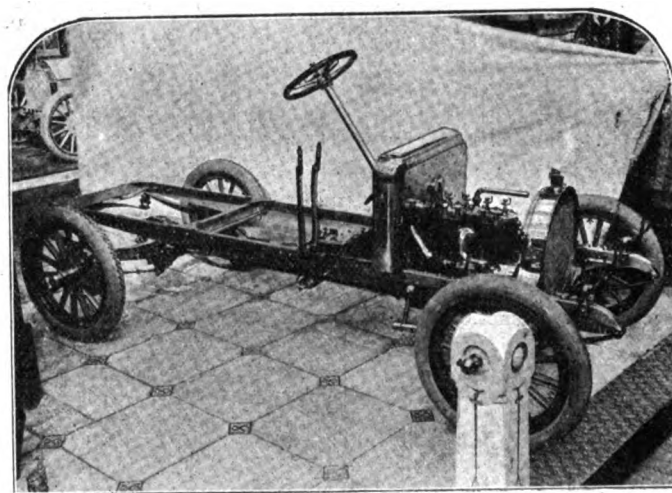


Fig. 57.—The New Spyker 10-15-h.p. Cab Chassis.

necessity of tightening the belt. To facilitate the starting of the engine a half compression lever is fitted in front of the radiator. The lubrication of the motor is effected by means of a cog wheel pump which draws the oil from a well formed at one end of the crank chamber and sprays it on the moving parts of the engine. Two systems of high tension ignition are provided—magneto and accumulators; the carburettor, which is of the automatic type, has been improved by the addition of a hand-controlled air inlet. The speed of the engine is controlled both by hand and foot levers. The clutch is of the leather-faced cone type, of large diameter. The gear-box is of new design, and gives three speeds forward and one reverse, operated by a lever working in a "gate." A feature of the gear-box is the large and instantaneously detachable cover with which it is fitted. The transmission is to a well-supported live axle through a cardan shaft and bevel gear; the weight of the car is carried on the axle-casing, the live shafts within having only the driving strain to withstand, and transmitting the power to the hubs of the rear road wheels through the squared ends. A foot-brake is now also fitted in front as well as just behind the gear-box. These brakes are independent of one another, and both are operated by the same type of screw-nut mechanism that was formerly used for the single brake. Ball bearings are used throughout, including the engine crank shaft, and the usual four longitudinal springs are supplemented by a transverse one at the rear. Other Spyker cars on view included a 10-15-h.p. side entrance double phaeton, a landaulet of similar power, a 15-20-h.p. chassis, and a useful 20-h.p. delivery van for loads up to 20 cwt. The principal novelty at the Spyker stand was, however, the chassis of the new 10-15-h.p. cab built to pass the requirements of the Scotland Yard authorities, and to which reference was made in a recent issue of the *M.C.J.* We give a view of the vehicle in Fig. 57, and may say that all the well-known Spyker features are retained in this model, the main new departure being the casting of all the four cylinders of the engine in one piece. The bore and stroke is respectively 90 mm. by 90 mm. The gear-box, with gears of the sliding type, provides for three speeds forward and one reverse, which are all operated by one lever working in a "gate."

The "Horse Shoe" Cars.

Among the exhibits of moderate price cars were the "Horse Shoe," shown by the STRAND MOTOR COMPANY, LTD. The vehicles, which are of French construction, can be readily recognised, the radiator casing having been made in the shape of a horseshoe. Two models were shown, 8-h.p. two-seater and 12-h.p. side entrance double phaeton. The smaller vehicle is fitted with an 8-h.p. single-cylinder engine, $4\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke, having a mechanically-operated inlet valve, coil ignition, and Longuemare carburettor. The speed of the engine is controlled by means of a variable lift to the inlet valves. The transmission is through a leather-faced cone clutch, three speed and reverse gear-box, cardan shaft and bevel gear to a live axle, which on the top speed is driven direct. Springs are inserted between the cone and the leather of the

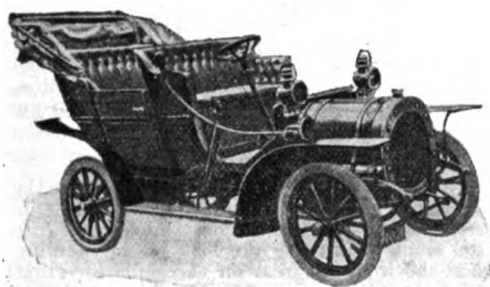


Fig. 58.—The 12-h.p. "Horse Shoe" Car.

clutch with the object of insuring smooth and gradual contact of the cone with the internal face of the flywheel. The 12-h.p. car (Fig. 58) is also of the live axle variety; the engine comprises two separate cylinders, 4 in. bore by $4\frac{1}{2}$ in. stroke; in other respects the details are the same as in the 8-h.p. vehicle.

The Orion Vehicle.

Messrs. MOSS AND WOODD, of Cricklewood, exhibited two of the well-known Orion motor-lorries, practically identical as to the chassis, one, however, being intended for loads up to three tons, and the other for four tons. These chassis are made by the Orion Gesellschaft, of Zurich, and the 20-22-h.p. engine is of the horizontal opposed type, with two cylinders, 160 mm. diameter by 180 mm. stroke. A change has been made in the inlet valves since last year, the suction type having been adopted in place of those mechanically operated. The whole of the engine is under the body, allowing a large platform area to be utilised for the transport of goods. The carburettor is at the extreme front of the chassis, with gravity feed from a tank which forms the dashboard. The ignition is by high-tension magneto. The cylinders are arranged fore and aft, with the crank-shaft parallel to the axle; a leather-faced cone clutch in the flywheel transmits the power through a Renold silent chain to the gear-box. The gear provides four forward

which time it has covered no less than 57,200 miles. The various parts of the engine and gear had been dismantled to show their excellent condition after such a lengthy service.

The "Little Wonder" Car.

Messrs. SHIPPEY BROS., of King Street, London, E.C., had taken space for a new two-seated car of American construction known as the "Little Wonder," but, unfortunately, it did not arrive in time. As, however, several of the vehicles are now available and can be inspected by application to Messrs. Shippey, we give an illustration of the same in Fig. 59. The motive power is supplied by an 8-h.p. single-cylinder

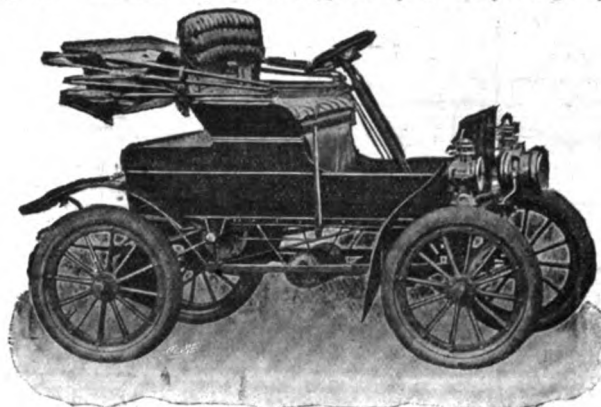


Fig. 59.—The "Little Wonder" 8-h.p. Car.

horizontal engine of the two-cycle type, with accumulator ignition and water circulation by pump. The change-speed gear is of the epicyclic or planetary type, giving two speeds forward and a reverse, the final drive being by a single chain to a rear live axle. The vehicle is being supplied in several styles at moderate prices, and, with a hood, forms a neat car for doctors' use. Messrs. Shippey also exhibited a range of motor-car accessories, including the Paragon compound "Safety" tyre pump, which is provided with a double barrel and a safety device by means of which the tyres cannot be inflated to a greater pressure than that previously determined. Samples of the new 300 and 600 ampere-hours Gordon battery generators, specially designed for recharging four and six-volt accumulators, were also on view, as well as a pair of Smith-Parfrey's artillery wood wheels, fitted with Clincher rims and Swinchart "Concave" solid tyres, and sections of tyres suitable for heavy char-a-bancs.

Gnome and Mira Cars.

GNOME, LTD., were present with a 10-12-h.p. Gnome car, which appears to combine simplicity of design with sound construction. The vehicle has a pressed steel frame and a four-cylinder engine with

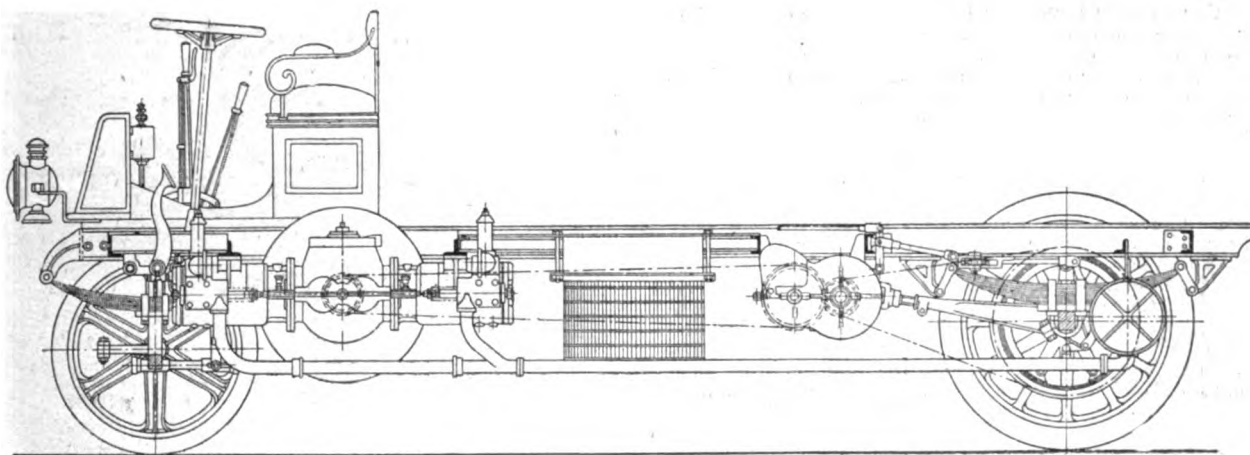


Fig. 60.—Elevation of Chassis of Orion Motor Lorry.

speeds, operated by a hand-lever at the side of the driver, and the reverse is applied by a pedal, when the forward gears are out. The final drive is by roller chains to sprockets on the rear road wheels. A tubular radiator is fitted under the centre of the body, and the water is circulated by a centrifugal pump, gear driven off the crank shaft. The driver is given separate control of the ignition, air and throttle, and the engine can be slowed down to run at a remarkably low speed. The steering is by rack and pinion, and the road wheels are of the artillery type, and are fitted with Polack solid rubber tyres. On a separate stand Messrs. Moss and Woodd had on view an Orion thirty-four seated double-deck omnibus belonging to the Victoria Omnibus Company, Ltd., which has been in service since August 23rd, 1905, at

mechanically-actuated valves. The transmission is through a leather-faced cone clutch to a gear-box giving respectively three forward speeds in addition to the reverse, with direct drive on top speed. Thence the power is conveyed by a cardan shaft and bevel gear to a live axle, squares on the end of the latter driving the rear road wheels. At this stand Milano Motors, Ltd., of Gloucester Road, South Kensington, W., also exhibited a moderate-priced French built car, known as the Mira. The engine, which is of 15-h.p., comprises four cylinders, having the suction type of inlet valves and two forms of high-tension ignition—magneto and accumulators. The transmission is by a cardan shaft and bevel gear to a live axle, the gear-box giving three speeds forward and a reverse with direct drive on the top.

The Churchill Vehicles.

One of the attractions of the show was the huge motor char-a-banc exhibited by Messrs. DURHAM, CHURCHILL AND Co., of Sheffield. The vehicle (Fig. 61) is intended for public service work, and represents a type of which the firm are now making a speciality, and of which a large number are in operation in various parts of the country. It has seating accommodation for twenty-six passengers, the rows of seats being arranged gallery fashion, so that everyone can have a clear view ahead. The motive power is supplied by a 24-30-h.p. Aster four-

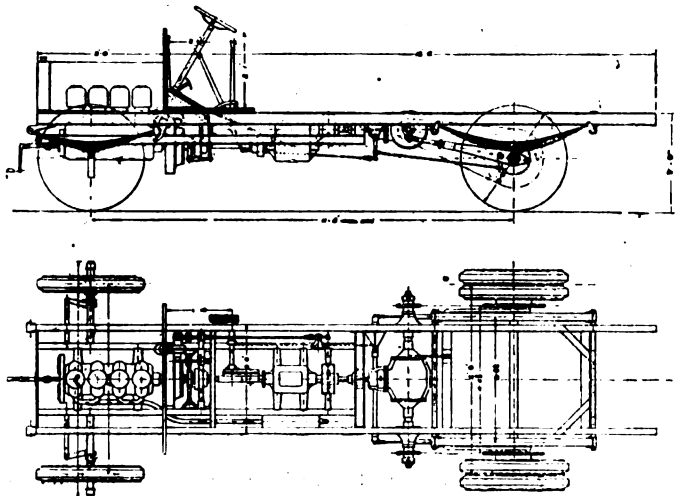


Fig. 61.—Elevation and Plan of Churchill Char-a-banc.

cylinder engine with two systems of ignition—high tension magneto and coil and accumulator. The transmission gear consists of a "Champion" friction clutch having metal-to-metal surfaces and a patent change-speed gear. From the gear-box, the shafts of which run on ball bearings, $\frac{3}{4}$ in. balls being used, the power is conveyed by a universally jointed shaft to a differential countershaft, the latter carrying chain pinions which convey the power to sprockets fitted to the hubs and spokes of the rear road wheels by means of roller chains which run in a gear case. The "Champion" gear referred to above is an entirely novel mechanism, giving four speeds and reverse, all changes being obtained by means of one lever. This gear is so constructed that the teeth of all the wheels are always in mesh and it is practically an impossibility for an inefficient or careless driver to damage the wheels in changing from one speed to another, a much-desired feature in the change-speed gear of any public service or commercial vehicle, where absence of repairs means increased earning power. The chain sprockets have very long bosses, which are bushed with phosphor bronze sleeves so arranged as to form oil reservoirs. The steering gear is of considerable strength, and special attention has been paid to the brake power, there being three different sets—a 4 in. wide contracting brake on the differential shaft, internally expanding brakes, 18 in. diameter, working in drums attached to the rear wheel hubs, and emergency shoe-brakes on the back wheel tyres. A special feature of the char-a-banc is the seats, which are made in accordance with Lee's patent, for which Messrs. Durham, Churchill and Co. are the sole licensees. The framing of these seats is rigid, but every passenger enjoys a separate hammock seat, which gives perfect freedom from vibration and road shock, while the back rest is carried by spring steel rods, the whole forming a most restful seat, which goes a long way towards the enjoyment of a long motor coach tour. A 20-h.p. delivery-van for loads up to 2½ tons; this is built on similar lines to the char-a-banc above described. A careful inspection of these "Churchill" vehicles shows that the firm have spared no pains to produce a machine which shall be fully capable of withstanding the difficult work they are called upon to perform. The question of accessibility has not been overlooked, while, as showing the attention paid to the details, we may mention that even the spring shackles are provided with oil holes—a small point in itself, but one which is frequently overlooked. On a separate stand Messrs. Durham, Churchill and Co. also exhibited one of their 12-14-h.p. Hallamshire cars fitted with an Aster engine of the latest type, and with a side-entrance double phaeton body. The clutch is of the champion metal-to-metal type, and three forward speeds and a reverse, with a direct drive on top speed, are available, the power being transmitted through a cardan shaft and bevel gear to a live axle. The latter has only the driving effort to withstand, the weight of the car being taken by the sleeve, the power being transmitted to the road wheels through dog clutches in the hubs. Examples of the Churchill steering and change-speed gears for cars and reversing gears for motor-boats were also on view.

The Halley Commercial Motor Vehicles.

HALLEY'S INDUSTRIAL MOTORS, LTD., of Yoker, Glasgow, confined their exhibit to the chassis of a 20-h.p. vehicle, suitable for us

as a delivery van or lorry for loads of from 30 cwt. to 2 tons. The engine is of the twin-cylinder vertical type, 5 in. bore by $5\frac{1}{2}$ in. stroke, the normal speed being 850 revs. per minute. The valves are all mechanically-operated and are arranged on opposite sides. A governor is provided, this acting automatically on the throttle, which can also be controlled by hand ignition or by low-tension magneto. The lubrication of the engine is effected by a pump, while a feature of the radiator, which is of the framed ribbed-tube type, is that it is hinged, and can be lifted clear of the engine to give free access to all parts of the latter for the purpose. The power is transmitted through a leather-faced clutch and a long universally-jointed shaft to the gear-box, which is adapted to give three speeds forward and a reverse, the various pinions being always in mesh. The different speeds are controlled by a lever working in a "gate"; a safety stop being provided to prevent the reverse being engaged by mistake. From the differential shaft the power is transmitted to the rear road wheels by side chains. The Halley vehicles appear to be well suited for the hard work they are intended to perform; the dimensions of the various working parts are liberal, and we notice that the crank chamber and gear-box are made of gun metal in place of the usual aluminium.

The Porthos Car.

A vehicle which attracted considerable attention was the 24-30-h.p. Porthos car (Fig. 62), exhibited by Messrs. COLIN DEFRIES, LTD., on the stand of Messrs. Windover. The frame, which is of pressed steel, narrowed at the front to increase the lock of the steering wheels, is supported both at the front and rear on three-quarter elliptic springs. The engine comprises four separate cylinders, 110 mm. bore by 130 mm. stroke, with the valves arranged on opposite sides. The ignition is by high-tension magneto, while the carburettor is of a special automatic type, the extra air valve being opened by means of a leather diaphragm, on which the suction of the engine acts. Another feature of the carburettor is that the vaporising and mixing-chambers are separate; the petrol is supplied by pressure to a small reservoir on the dashboard, which contains an ordinary float chamber through which the petrol must pass before reaching the carburettor, thus preventing pressure in the latter. A tap is fitted for shutting off the flow of spirit, and at the same time the pressure. The lubrication of the engine is effected by a small pump built in connection with and operated by one of the exhaust valve tappets. The transmission is through a leather-faced cone clutch, four speeds and reverse gear-box, with direct drive on top, cardan shaft and bevel gear to a live axle. The latter forms a somewhat novel departure from the ordinary practice, the usual design being practically reversed—that is to say, the power is transmitted to the road wheels through hollow sleeves, which, instead of being fixed as usual, rotate in ball bearings. The weight of the car is carried by a solid shaft which extends in one continuous piece from wheel to wheel, and which also rotates with the wheels. The

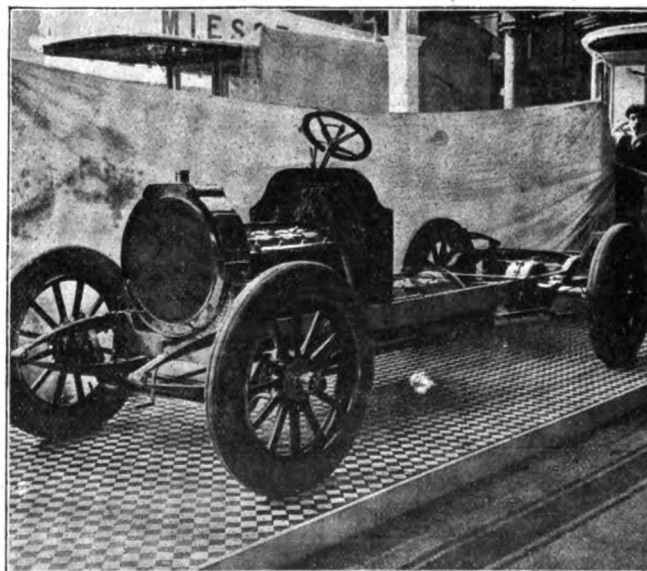


Fig. 62.—Chassis of Porthos 24-30-h.p. Car.

differential is of the parallel-pinion type, and the intermediate pinions have been made much longer than usual, so that the driving gear is, to a certain degree, free to move laterally on the driving sleeves and so adjust itself to any strains which might otherwise tend to disturb the correct meshing of the bevel gears. This "floating" action is facilitated by the absence of torque rods, the natural tendency to turn being resisted by the casing provided around the cardan shaft. From the foregoing it will be seen that the Porthos cars, which are of French construction, comprise a number of special points, the behaviour of which, in practice, will be watched with interest.

MISCELLANEOUS EXHIBITS.

Sawyer Non-skid Bands.

The Motor Stores was showing the well-known "Sawyer" bands; the inventor, however, is still identified with his non-skid. These devices are made in three styles: (a) leather vulcanised band; (b) leather detachable band; (c) "combination" leather and rubber vulcanised band. The first of these is a chrome leather outer cover, vulcanised over the outside of any pneumatic tyre, which is completely enveloped, thus being afforded complete protection. The suppleness and strength of the leather combine to give the band durability and also enable it to withstand any sudden violent strains to which motor-car tyres are constantly subjected. The detachable band is of the same character as the vulcanised type, but can be taken on or off when desired with ease. The tread of the band is fitted with clips, so that it can be easily attached. Firstly, the tyre should be deflated, and the clips then inserted under the wheel rim. The re-inflation of the tyre will do the rest. In the Sawyer "combination" leather and rubber vulcanised band we have, as the name implies, a band in which leather and rubber are both employed. The tread which has to encounter the road surface is of stout chrome leather, and carries the hardened steel studs. This is attached to a heavy rubber crescent-shaped band, beneath which an intermediate band of leather is provided to which the shanks or rivets are attached. The chafing of the tyre by these is prevented by another leather band being vulcanised on the rubber tyre. The Sawyer non-skid bands are maintaining their reputation despite competition.

The Coventry Simplex Petrol Motors.

THE COVENTRY SIMPLEX MOTORS, LTD., a new comer to the Show, had an interesting display in the Gallery of the four and six-cylinder petrol engines they have lately introduced. As we gave an illustrated description in a recent issue of the *M.C.J.*, we need only mention that two sizes are made, 16-h.p. four-cylinder, and 25-h.p. six-cylinder, the bore and stroke of both being 3½ in. by 3½ in. Special care has been taken in the selection of the material for the various parts, the crank-shaft being made from a solid steel forging, while, in addition to it running on ball-bearings, a separate compound ball thrust bearing is provided. A special form of automatic carburettor is being supplied for use in these motors, the extra air-valve being provided with a dashpot. The jet and other parts of the device, too, are so fitted that they can be readily taken apart for cleaning purposes.

The Cave Tyre and Non-Skid.

Among those particularly interested in tyres, the new type shown by the CAVE PNEUMATIC TYRE PATENTS was of considerable interest in the fact that, dispensing with rubber in the outer cover, it suggests an economy in the running of automobiles which naturally appeals to all owners of cars. The tyre is made of a fabric and is formed of layers of material which is rot-proof. It has a wired edge and locks into the rim, being maintained in position without the use of security bolts. Although the cover has no rubber, it is remarkably resilient and should prove durable in use. The Cave removable non-skid tread was another novelty at this stand. This consists of a row of studs embedded in leather or rubber, and placed on each side of the tread, so that the non-skid only comes into use when actually wanted. The "Nolevah" section rim was also on view. It is adjustable to any wheel and is suitable for all descriptions of tyres. A section of the rim is removable practically instantaneously, and the tyre can then be taken off without the assistance of a lever in a few minutes—a saving of labour and time that will be appreciated when motoring.

"Necessaries."

Under such a designation Messrs. F. S. NICKELLS AND CO. showed several useful novelties for motorists of all degrees, including patent electrical nuts and fasteners, universal valve connectors, the Eclair connector and combined tyre meter, a patent tell-tale lamp, &c. The ingenious valve connector was favourably commented upon in the *M.C.J.* in October last, and mention may now be made of the firm's connector and combined tyre meter, a very simple and satisfactory device. With the system adopted by Messrs. Nickells and Co. all likelihood of shock to the gauge is avoided, while at the same time there is a free passage to the gauge from the inner tube. The tell-tale lamp on the stand was another notable exhibit, being both dust and soot proof. In this there is a slightly concave plate in the dome of the lamp, the concavity in which is increased by the heat from the flame, thus breaking contact with an insulated set screw in the dome. Upon the lamp going out contact is made and warning is given to the driver by a small glow-lamp fixed in any convenient position in the front, and worked from the accumulator in use. If preferred, an electric bell can be fitted under the seat, and also worked from a dry cell. By the aid of Messrs. Nickells and Co.'s patent terminals the device is instantly detached for lighting in windy weather.

Mobiloids.

THE VACUUM OIL COMPANY, LTD., has become a familiar name to motorists by reason of the Vacuum mobiloids for water and air cooled engines, gears, &c., for motor-cars as well as chain lubricants and oils for all types of commercial vehicles. Vacuum A mobiloid is for cylinder and crank case lubrication; Vacuum C mobiloid is a high-grade oil for gears perfectly free from foreign matter, and with no tendency to corrode or "gum up," the oil leads to the bearings. Special oils were also shown as prepared for steam and electric cars, while the Vacuum graphite

grease and the Vacuum mobilubricant are of recognised merit. The latter is for use in pressure cups for all purposes where grease or solidified oil is required. A speciality of the VACUUM OIL COMPANY is an oil for leather-lined clutches which will keep the leather pliable and protect it from the hardening influence of moisture as well as prevent both "slipping" and "fierceness."

Parsons' Non-Skids.

THE PARSONS NON-SKID COMPANY had a good representation of their Grippa non-skids, sparklet inflators and other specialities. The "Parsons Grippa" detachable non-skid is a very efficient and convenient device, and has the further advantage of economy in cost. The Parsons Non-Skid with wire side hoops and zig-zag cross chains was one of the earliest attempts to preserve motorists from the serious dangers of side-slip. The principal feature of the new type is the substitution of chain for wire in the side hoops. After careful experiment it has been found that the chain can be relied upon for strength. Indeed, it has the advantage over wire in this respect, as it is not affected and weakened by rust. The adoption of chain hoops has made the non-skids much easier to attach. It has also overcome a difficulty with regard to fitting, as it is easy to shorten the chains should the Non-Skid be too large, and the company are purposely sending them out when new with the hoop chains a little too long, to meet the case of re-treaded or extra size tyres. With the chain hoops the non-skids collapse into a much smaller space, and can be carried in the car in a small canvas bag, which can be conveniently stowed in the tool box or under the seat.

Clothing.

MESSRS. CHARLES BAKER AND COMPANY'S STORES, LTD., have come well to the front in connection with motor clothing for ladies and gentlemen, and their selection of raiment for summer and winter motoring was conspicuously complete and stylish. A glance at the articles disposed on their stand gave evidence of the great advance that



Fig. 63.—Baker and Co's Motor Coats for Ladies.

this department of motoring has made in recent years, and in overcoats, ulsters, waterproofs, and similar garments for both ladies and gentlemen, the firm have paid regard to appearance as well as utility. Their selection of gloves, aprons, caps, rugs, leggings, puttees, &c., was as extensive as their range of tailoring materials, and their presence at the exhibition will doubtless result in their further recognition as tailors conversant with the needs of motoring as well as familiar with the arts of the cutter.

The Beresford Rim.

Since its introduction at the last Stanley Show, the Beresford Patent Motor Rim has made considerable advance in public favour. This motor rim overcomes many of the disadvantages which attend the satisfactory attachment and detachment of tyres, saving labour and time. It has no complicated mechanical details, so that it is not only free from liability to get out of order but is able to be manufactured at a price which cannot fail to prove a factor in its adoption. The detachable flange is sprung over the rim in such a way that the inflation of the tyre locks it into the outer edge or flange of the rim itself. To get at the tube all that is necessary to do is to deflate the tyre, spring the flange over the rim, and slide the tube and cover off, reversing the operation to replace. This is the work of a few seconds, and, requiring no great muscular effort, constitutes one of the great claims made by the BERESFORD RIM COMPANY, LTD., who are introducing the device.

Flooring for Garages.

THE CORK ASPHALT, LTD., had some specimens of their pavement on view. This pavement has the quality of non-absorption, and evidence of its value on this account can be furnished in the courtyards of many of the royal palaces as well as at several important railway stations. It is a compound of bitumen and other materials, including cork; and being durable, elastic and non-absorbent to moisture, is hygienic and sanitary in use. It is of a non-slippery nature, so that the necessity of sprinkling the surface with sand is obviated—a decided advantage in the case of motor garages and similar establishments.

The Windham Detachable Bodies.

The WINDHAM SLIDING DETACHABLE MOTOR BODY COMPANY, of Clapham Junction, S.W., had on view several examples of their detachable and interchangeable bodies as built for Daimler, Renault and Star, and, in fact, for any modern type of car. Apart from the advantage of the detachable body in giving access to the differential shaft of chain-driven cars and to the live axle of gear-driven vehicles, and the brake mechanism of both, its main feature is, of course, the facility it affords of converting a car to different purposes. Thus, with one chassis a motorist may have on hand a side entrance double phaeton, landaulet for town use, or shooting brake body, any one of which can be placed in position in less than a minute, or a luggage-carrier can be fitted converting the vehicle into a two-seated touring car. Again, for tradesmen's use, the pleasure body, either closed or open, may be readily replaced by a delivery van, the spare bodies all being stored on their own legs, the height of which is so adjusted that the lower edges of the bodies are on a level with the sitch-plate guides on the chassis. It may be remembered that we gave an illustrated notice of the system in the *M.C.J.* of November 18th, 1905; as, however, since that time various improvements have been effected on it, the following description may be of interest:—Briefly, the system consists in fitting to the side members of the frame of the chassis a small and light steel sitch plate. When in position this forms an L-shaped guide, the vertical and horizontal surfaces of which measure only about an inch. The lower edges of the sides of the body, which are provided with a long brass strip, are made of corresponding shape, so that the latter may slide into position from the rear. The guide plate is at intervals slightly countersunk, to receive rollers, which facilitate the sliding action of the body. The fit is so accurate that it is impossible to detect that the body is of the detachable type; the extreme forward portion of the bottom part of the body is cut aslant, and abuts closely to the rear ends of the woodwork of the front seats. When quite "home" the body automatically locks

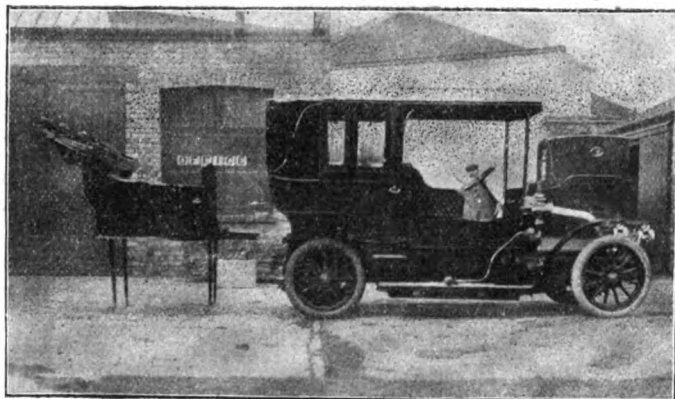


Fig. 64.—A Limousine and a Side-Entrance Body, both made detachable on the Windham system, for a Renault Car.

itself in place by means of two special catches, in such a way that there is no danger of its becoming accidentally detached. To ensure additional rigidity of the body, and to prevent any tendency to rattle, the rear ends of the guide plates are formed with V grooves in which fit corresponding projections on the rear of the body in such a way that their existence is hardly noticeable. Another recent improvement is a safety catch in connection with the side doors, which prevents the body being slid back unless these are locked, so that there is consequently now no danger of the varnish of the door panel or the mudguards being inadvertently damaged. Another important factor of the Windham system is the provision of wooden legs with rubber-tyred castor wheels; these are intended to be kept in the garage, but can, if desired, be so arranged that, as the body is drawn from the chassis along the guides, the rear pair of legs shall fall automatically into position, thus enabling the body to be withdrawn by one man, and without the use of any lifting tackle. The forward pair of legs can be fixed in place ere the body is entirely clear of the chassis, after which it may be wheeled away to its place of storage. The illustration given herewith (Fig. 64) depicts a Renault car which has recently been provided with two detachable bodies on the Windham system. While it is impossible to detect where the rear part is joined up with the forward fixed section, by simply opening the tool chest at the rear and lifting the safety catches it is possible to pull the detachable portion to the end of the guides in a few seconds, this without the use of any tools. Altogether the Windham arrangement is a step forward in motor-body construction, and one that has already met with recognition at the hands of carriage builders, it having been adopted amongst others by such well-known firms as Messrs. Holmes, Mulliner, Alford and Alder and Holland and Holland. We may add that it is applicable to all sizes and types of chassis, and that existing bodies can be adapted to the sliding detachable principle.

Motors.

Mr. F. C. BLAKE occupied a stand with his 6-h.p. double-cylinder marine motor set, 25-h.p. four-cylinder marine motor sets, and other well-designed exhibits of special interest to those concerned with the development of the motor-boat. One of his specialities is a 12-h.p. four-cylinder engine designed for use in launches up to 35 ft. The cylinders are cast in pairs with water jackets in one piece, eliminating head joints. This motor is fitted with high tension electrical ignition, Blake's patent high speed trembler coil and distributor and Longuemare carburettor. All the parts are automatically lubricated by splash lubrication and the doors fitted to the crank chamber are commendably large.

Cape Cart Hoods.

MESSRS. S. SWAN AND CO. had a good display of cars and accessories, the latter including Cape cart hoods, wind screens, lubricators, &c. Special attention may be drawn to the firm's Cape cart hoods and glass screens made in their own factory and possessing many points of distinction. A special type of fitting was that arranged for side-entrance cars made with brass fittings complete with the side and back curtains. There is a mica window at the back. The necessary straps and irons for fitting are supplied, making the whole device a very complete addition to the car. Folding glass screens in walnut and mahogany were also on view. Tyres, valves, electric buzzers, accumulators, horns, lamps, axles, &c., were included in the comprehensive exhibit of Messrs. Swan and Co.

The O.S. Speed Indicator.

Mr. W. S. SEARLE limited his exhibit to a couple of really notable specialities, one being the Schulze manograph, which is coming largely into service in British as well as foreign motor-car works, the other the O. S. speedometer, a reliable and durable instrument that is attracting considerable attention. This is simple in construction and accurate and reliable, and won the first prize in the trials of the French Automobile Club last year. Accuracy is gained by the use of the magnet system, the magnet turning in a closed circuit to give an immediate indication and prevent demagnetising. The system of transmission in the O. S. speedometer is a departure from the ordinary method, and all the working parts are hidden under the body of the car. We propose to describe the ingenious apparatus in an early issue.

The Validus Non-Skid.

An effective display was made by the "VALIDUS" NON-SKID MOTOR TYRE COMPANY, whose specialities have been well thought out before being placed on the market. Among the exhibits we noticed a new feature in retreading, viz., the Validus rubber retread, canvas studded. This is particularly designed for front wheels and secures a much firmer grip on the road than does the ordinary rubber retread, and acts practically as a non-skid. The Validus rubber combination non-skid is composed of a rubber and canvas band with a leather studded tread on the surface. The speciality of the company is fitted with a renewable tread—a point in favour of the economy of the device which should not be overlooked.

Cort's Non-Skid.

The detachable non-skid motor tyre band introduced by Mr. W. S. CORT, of Market Harborough, has been successful in preventing skidding, while, at the same time, preserving the tyre from punctures. Should it ever become loose on the tyre it can be quickly tightened by a nut specially provided for the purpose. In attaching or detaching no screwing is required, as the band is fitted with clips which fit into the rim. In the case of tyres without bead, the clips are made to fit round the spoke, so that provision is made for the adoption of Mr. Cort's non-skid on any type of tyre.

The Vulcan Specialities.

MESSRS. GEIPEL AND LANGE drew special attention to their speed indicators and odometers known as the Vulcan. The former are simple in construction and reliable in operation. They are electrically-operated, the apparatus consisting of a small magneto dynamo driven from the car's front wheel, connected to a dial which is actually a voltmeter, the needle of which follows the variations in current generated by the magneto in proportion to the varying speeds of the road wheel. An entirely new feature is introduced this year in fitting a phosphorescent dial, which allows of the indicator being read at night time. The dial is extremely luminous and requires but a short exposure to daylight to render its surface active. The Vulcan Odometer is a hub-cap mileage recorder. The odometer is arranged to be fitted to the hub-cap of the "off" front wheel as to become an integral portion of the same. Messrs. Geipel and Lange also had a collection of voltmeters, auto-tremblers, &c., as well as the Vulcan positive-stop lever, which affords a positive stop action for the ordinary type of "straight through" change speed lever. The Vulcan lever ensures that the centre of the gear cannot possibly be passed without a definite looking action. It is impossible for any gear to be passed over without the driver being well aware of the fact and having made a voluntary movement to pass on.

Bent Timber.

MESSRS. BEAVAN, HOGG AND CO. showed a good assortment of their productions in bent timber as supplied for motor-cars, motor-buses, and all descriptions of automobiles. Motor-bus wings and bends, Cape cart hoodsticks, panels for the seats of cars, rails and wings, and, in fact, every description of bent timber for the car, was to be seen on their stand.

Motor Bodies.

Some excellent specimens of modern motor body building work were shown by Messrs. CHARLES S. WINDOVER AND CO., LTD., including a seven-seated limousine. The interior is upholstered in drab cord, has plate glass windows, electric lights, and is fitted with every convenience for the comfort of the most exigent motorist. A neatly designed side-entrance double-phaeton was also shown.

The Prested Battery.

In our issue of February 16th we described and illustrated some of the Prested electrical specialties which attracted interest to the stand of the PRESTED MINERS' LAMP CO., LTD. Among these was the Prested coil fitted with a new patent trembler and cut-out in many types, ranging from that supplied for the 250-h.p. Westinghouse gas engine to the small trembler coil required for a motor-bicycle. The success of the Prested battery has been most marked, and in many competitions it has assisted motorists to distinction. Attention may be drawn to the battery W. T. L., which presents an excellent workman-like appearance. The case is made by special machinery from one solid piece of teak, so that no leaks are possible. By a chemical process the wood is made acid-proof and non-conducting. The plates are seven in number, separated by perforated



Fig. 65.

and corrugated celluloid, making short circuits impossible. After being placed in the cell a composition in a molten state is run along the edges, holding the sections rigidly in their places. The plates and cell consequently form a solid block, which no amount of vibration can possibly affect. The battery is furnished with vents $\frac{3}{4}$ in. in diameter, allowing the plates to be viewed from the top. The Prested Company also showed the neat form of test lamp illustrated in Fig. 65.

T. and M. Accessories.

Messrs. TRIER AND MARTIN, LTD., had some good specimens of high-grade mechanical work on their stand, including the T. and M. lubricator, a tyre-tester, and the T. and M. patent multiple-jet carburettor, which we described and illustrated on page 150 of last week's issue. The lubricator shown on the stand had a smart appearance and works by pressure from the exhaust. Each of the drip tubes are separately removable for cleaning purposes by simply slackening the lock nut and cup, and the filling hole is of a diameter large enough to insure rapid filling with no spilling or waste of oil. In the new tyre tester brought out by Messrs. Trier and Martin, Ltd., the motorist is provided with a ready means of testing his tyres in a minimum of time, and with an instrument both accurate and durable.

"Eclair" Pump Connection.

Mr. H. J. HARDING made a special feature of the "Eclair" instantaneous pump connections for motor-cars and motor-cycles, which have previously been described in the *M.C.J.* This is automatic in action and will fit all types of valves, thus dispensing with the necessity for special adapters. As a simple, durable and airtight connection the "Eclair" has points of advantage which were evidently appreciated by many visitors to the Motor Car Show.

Tyre Repairs.

The DEFIANT NON-SKID AND TYRE ACCESSORIES COMPANY had a selection of their detachable non-skid bands and "Gnaviter" steel studded leather and rubber treads for renewing non-skid covers, as well as a selection of specimens of tyre and tube repairs. The "Gnaviter" tyre gauge was also on view, this being an excellent device, inasmuch as it is impossible to exceed a determined pressure in the tyre. The Defiant Company is specialising on tyre work, and its bands have features of a distinctive character.

The Gare Wheels.

The "Gare" tangent wheels attracted attention to the stand of the TANGENT WHEELS, LTD. The novelty of this system of building the wheel consists in the line of each spoke passing to one side of the axle, or tangentially to it and to the hub. Every spoke is of full width at the nave and at the felloe, the ends being wedge-shaped instead of being made with shoulders or butt ends. Steel plates are employed to strengthen and secure the spoke ends and the several felloe sections. The plan adopted gives strength and assists the resilience of the wheel—two important considerations that will appeal to every motorist of experience. Tangent wheels of the open spoked type can be made of any ordinary size, and for any usual load, and suited for either horse-drawn or motor-propelled vehicles. They can also be made to take any ordinary form of solid or pneumatic rubber tyre.

New Lubricator.

An interesting type of pressure feed lubricator was shown for the first time by Messrs. W. D. FAIR AND CO., of Knightsbridge, S.W., in which some distinctly good points were incorporated. The appearance of the device is not far dissimilar from the ordinary pattern of lubricator. The oil tank has a gauge into which air is pumped, forcing the oil upwards through the sight feeds, which are filled with water to a point within $\frac{1}{2}$ in. of the top. Thence the oil issues through perforated brass discs lifting celluloid discs resting on these and flowing into holes leading into the lubrication pipes, from whence it is communicated to

the working parts. The device is simple and effective, and provided an undoubted attraction to the display of Messrs. W. D. Fair and Co.

The ADVANCE MANUFACTURING COMPANY, LTD., showed a range of 3 to 9-h.p. engines, and also their cycles fitted with these motors. The company have attained a large measure of success in connection with this branch of motorism, and their machines are constructed on thoroughly up-to-date lines and with good workmanship evidenced on their part.

Mr. H. W. SOUTHALL, jun., showed the Gibson Power Indicator, by means of which both the compression and explosion pressures developed in each cylinder under the actual working condition on the road can be ascertained. The Southall tyre gauge was also shown—an accurate and reliable instrument, the good points of which have already been made known to readers of the *M.C.J.*

Messrs. KOSSUTH AND CO., the famous Parisian art printers, gave English visitors some idea of the excellence of their work by the display of a series of coloured posters suitable for drawing attention to motor-cars, &c. Some notion of the excellence of their work has been obtainable on the hoardings of late, the posters of the Cordingley Show having been executed by this firm from the special design of a leading French artist.

The ZENITH MOTOR ENGINEERING COMPANY showed their new Zenith tri-car fitted with a 6-h.p. twin-cylinder J. A. P. engine and Longemare carburettor. This is built on the double frame spring suspension principle, a system of construction which the makers claim to obviate all vibration and risk of side-slip. The new Zenith bi-car, with a 34-h.p. Fafnir engine, is constructed on the same principle, the frame absorbing all vibration before it can be conducted to the lower frame, on which the entire weight of the rider and the engine is carried.

The patent seamless serrated copper, brass, and steel oil cans, petrol squirt cans and other specialties exhibited by Messrs. JOSEPH KAYES AND SONS, LTD., occupied a conspicuous position in the Arcade. The firm also showed their patent forced feed lubricating oil cans as well as their oil economiser for lubricating oils for motor-cars. Strength and durability as well as good features of construction characterise the productions of this firm, which is catering with considerable success for the requirements of motor garages as well as of private owners of motor-vehicles.

A large collection of motor trunks, motor clocks, &c., were shown by Messrs. FINNIGANS, LTD., whose specialties include several trunks adapted for the use of motorists going on tour. We particularly noticed two or three types shaped for fixing on the grid at the rear of vehicles, these being obtainable in colours to match the other parts of the car to which they are attached.

Messrs. DAY AND CO. had a selection of two-cycle motor marine engines ranging in power from 14-h.p. to 25-h.p., as well as a motor-launch built by Messrs. Sommers and Payne of Southampton. This was fitted with a 34-h.p. engine and attracted considerable attention, as did also the working model of the Gies reverse gear. This consists of a gripping device, two machine-cut pinions, and a short drive by a steel sprocket chain.

Motor Accessories.

The FRENCH MOTOR ACCESSORIES CO., LTD., had a comprehensive display of electrical fittings for motor-carriages, these being of excellent design and finish. They also showed the head,

side and rear lamps of Ouvrard and Co., of Paris, for whom they are the agents, and with the Clerget non-skids, Fulmen accumulators, and A.V. plugs, made up a really interesting exhibit. Of these we illustrate (Fig. 66) the A.V. plug, the central electrode of which, for magneto ignition, can be expanded to allow for wear of the external electrode. The plug can be obtained for coil ignition or double ignition by coil and magneto. Among the literature distributed at the stand was a splendid catalogue for the 1907 season, extending to more than seventy foolscap pages, and containing reference to nearly 200 accessories stocked by the French Motor Accessories Co., Ltd.

The specialty of FASTNUT, LTD., has been so frequently referred to in connection with exhibitions that it will now suffice to say that it is a guaranteed device for holding nuts, securing them under any amount of vibration.

The LYXAVON COMPANY had on view their grease removing soap—a preparation of interest to the many motorists who have had difficulty in removing the dirt which seems inseparable from motoring.

Baseley's lubricating oils were shown on the stand of Mr. F. C. BLAKE, in the gallery, and secured much attention from expert visitors.

The Desclee patent non-skid and gaiter, as well as other good types of devices for the prevention of punctures, were shown by Messrs. DESCLEE AND CO.

Plugs and igniters were conspicuous on the stand of Messrs. LEO RIPAUT AND CO., which was occupied by a selection of high-class accessories, &c. These included accumulators, synchronised coils, non-skid bands, &c., and the various specialties of La Societe Oleo, for which the firm are the British agents.

(To be concluded.)



Fig. 66.

CORRESPONDENCE

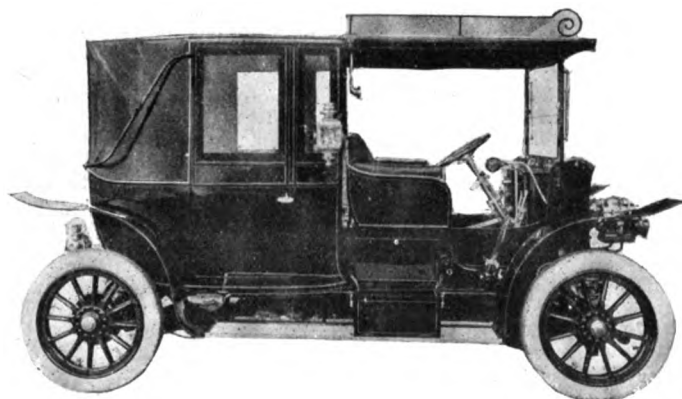
[Letters to the Editor should be addressed to the office,
87-88, Charing Cross Road, W.C.]

SIX CYLINDERS v. FOUR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The subject of six v. four cylinders is sufficiently important as a technical measure of engine capability to invite examination. The points at issue appear to arrange themselves in the following order, namely, first cost, efficiency, comfort, and flexibility. In the first case, the question is not so much a comparison of existing cars, in which six or four cylinders are involved, as it is whether the cost of the one is greater than the other. As engines, power for power, it is undoubtedly impossible to make a six-cylinder engine as cheaply as a four-cylinder, because, with a correct design, the weight of four cylinders will be less than the weight of six smaller ones of the same power and stroke, and all engineers will recognise this as an ordinary condition, that the incidental machining of six small cylinders will take a longer time than the machining of four a little larger. The difference in the machining speed rates would be very little, but the setting and handling of six cylinders would take just about one-third more time than for the four.

Six sets of valves and the necessary gearing would cost more than four sets for the four cylinders. The weights and different quantities of surface to be machined are practically negligible; therefore the cost



The Double Landulet recently supplied by the New Engine Company to the Marquis of Ripon.

Attention may be drawn to the great depth of the front seats, together with the excellent accommodation for four passengers in the back part of the body. Despite this, and although the wheel base is only 10 ft. 2½ in., the back seat is still well in front of the back axle. It will be seen, too, that side doors have been fitted to the forward portion of the vehicle, adequately protecting the feet of the passengers on the front seats.

again is one-third more for the six. The crank shaft for the six-cylinder would be of lighter section, but longer; and six cranks would take longer to machine than four. Therefore, again, the 6-throw crank would be roughly one-third dearer than for four. Six complete sets of connecting rods, brasses, bolts, &c., would again represent about one-third more cost, because the difference in the weight of the material may be nearly equal, but the cost of machining and fitting is six times in one case to four of the other. Six complete sets of pipe fittings and connections will cost a great deal more than four sets. Extra length of crank case is a necessary condition, meaning extra expense, in spite of the fact that a little weight might be saved sectionally, because of the more equal distribution of the power effect.

As a general conditional workshop measure a six-cylinder engine, power for power, is likely to cost at least 25 per cent. more than a four-cylinder. The flywheel is purposely left out for further reference, and it may be presumed that the difference in size and weight of chassis need not vary much for the two different engine conditions, because, however the power may be distributed at the crank shaft, the fact remains that each revolution, presuming the same strokes to be equal, carries the same amount of power to the driving wheels. It is assumed that in a correct design the speed of revolution of the six and four-cylinder engines are alike. Therefore, the function of the flywheel is an attempt to equilibrate inaccurate movement and unequal forces by storing surplus energy at one period and giving it out at another, and it is obvious that, where the spaces are divided on the flywheel into six parts for the six-cylinder and four parts for the four-cylinder, the weight of the rim in one case can be lighter than that of the other, because there is less surplus energy to store between the intervals. Whatever opinions exist in regard to flywheel weight, it is nevertheless a fact that weight of flywheel represents in some way something more than mere weight or mass resistance

measured at the rim, and this Mr. Dunlop appears to appreciate. Now, it is quite evident that the nearer the impulses are together there must be less variation of speed, and, consequently, smoother running, even for equal powers.

What may be termed the unbalanced thrust of the six-cylinder engine must be less in proportion to the overlap of the six-crank action. Now, the total thrust horizontally of both the six and four-cylinder are equal as to magnitude, but less as to detail. Therefore, the tipping moment of the six-cylinder must be less than that of the four, because the forces are applied six times in one case and four in the other. The advantage for the six-cylinder, in regard to this influence, is, therefore, as 2 is to 3, but there is an overlap in the six-cylinder, which is a part balance for the opposite thrust. Thereby the tilting moment is still further reduced.

The flywheel action and effect is to lift the wheels off the ground on one side, and to push the frame over on the other, the general tendency being to tilt the car to the side to which the top of the wheel is running. It is an obvious conclusion that the heavier the rim the greater the tilting effort, which is proportional to the weight. Now, a flywheel for a six-cylinder engine, diameter and speed being alike, need only have two-thirds of the weight of the rim of the four-cylinder wheel. This may represent 30lb. to 40lb. weight of metal, and the centrifugal force is in proportion. There seems a self-evident fact that the non-necessity of keeping up this centrifugal force gives greater freedom to engine revolution, because there is a less actual resistance, and under a less resistance the speed of the engine can be correspondingly reduced. Efficiency should, therefore, be augmented, unless other conditions intervene to prevent it, such as the increased surface area of cylinder exposed to the same quantity of hot gas, but this does not alter the fact that a lower turning moment means the possibility for a lower speed.

Generally, the above observations include comfort and flexibility, and apparently these receive a decided advantage from the use of six cylinders as against four, whilst the question of efficiency may be equal for both in regard to heat, but in regard to mechanical efficiency it would seem that the six-cylinder is again advantageous. How much these advantages count against first cost, upkeep, and more parts to look after, besides six instead of four sparking periods, are matters users and owners have to decide.

Very many things occur in actual work which are more or less incidental to human care on the one hand or lax inattention on the other, but the previous deductions are, more or less, purely conditional to engineering principles. Frictional resistances present doubtful issues, meaning that increase of surface sometimes means increased loss, whereas increase of surface for equal pressures may mean reduced aggregate resistance, and, looking at the conditions from a practical standpoint, the frictional resistance for six and four cylinders for equal power seems to be a case of six of one and half a dozen of the other.—Yours truly,

JOHN BATEY.

THE SCOTTISH RELIABILITY TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been looking through the rules governing the Scottish Automobile Club's Reliability Trials and the Frome's Hill Climb. The standpoint from which I have been considering them is that of the Ford Junior Car, which is a four-cylinder, two-seated car. The bore of the engine is 3½ in. and the stroke 3½ in. Rule No. 7 of the Scottish Automobile Club's regulations provides as follows:—"Any car showing more than 15-h.p. on the basis of the following formula shall have a seating capacity of not less than four:—

Cylinder diameter in inches $2 \times$ number of cylinders.

25

This formula, as you will observe, takes no account of the stroke of the piston, therefore a car fitted with an engine having a short stroke and comparatively wide bore is unfairly handicapped. For engineering purposes, the utility of which is thoroughly acknowledged by all competent designers, the stroke of the Ford engine is less than the bore of the cylinder, therefore, although we only rate the engine of the vehicle at 15-h.p. according to the above-mentioned formula, it works out as follows:—

$$\frac{15}{4} \times \frac{15}{4} \times 4 \times \frac{2}{5} = 22\frac{1}{2} \text{ h.p.}$$

The Scottish Club hold their trials presumably that the public may ascertain what is the most reliable car in each class, the class being ascertained upon a basis of price, but they consider it necessary to stipulate that when cylinder capacity exceeds their given formula the car must carry four persons, irrespective of price. I already understand that it is necessary to prevent, say, a 60-h.p. Napier car, the chassis of which costs £1,000, competing as a two-seater, and also that the clubs concerned desire to avoid the fiasco as shown under Tourist Trophy conditions, where cars have been specially built for that competition and priced irrespective of their sale value; but what possible object is there in handicapping a manufacturer out of giving the public ample power in a two-seated car, provided that such vehicle is being sold to the general public in hundreds at the same price as a two-seated car equipped with only one or two-cylinder engine?

My point of complaint is that I am prohibited from entering a Ford Junior Car, which is designed to carry only two persons, in either the Scottish Trials or Frome's Hill Climb, in consequence of the authorities

having tacitly admitted that the car is in a class to itself and has no competitors. Now, if the Scottish and Herefordshire Clubs would make an actual instead of the tacit admission, I would be well content; and for the guidance of those persons who pay attention to the awards of the Scottish and Herefordshire Clubs in Class 1 of their competitions, I beg to state that I hereby offer to submit the Ford Junior car to any test, for general reliability, average speed within the legal limit, hill-climbing and economy, based upon a handicap of price.

I contend that price is the real handicap, as in fact the Scottish Club themselves admit by classifying their competition under six heads defined according to price of chassis. There is, in my opinion, nothing more calculative to restrict proper enterprise in the automobile business than for a manufacturer to be handicapped out of giving ample power at a moderate price, and I shall be much obliged if you will publish my views as above expressed upon this matter.—Yours truly,

PERCIVAL L. D. PERRY.

SIX WHEELS OR FOUR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a motorist I have been much interested in the recent Automobile Club Side-Slip and Skid Prevention Competition, and the verdict of the judges appears to be so much at variance with the result of the trials that it is difficult to understand. It was obvious to all who were present at the trials at the Clement-Talbot works that the only device which succeeded in obviating the side-slip was a six-wheeled device entered by Mr. H. B. Molesworth. To quote from one of the subsequent newspaper reports, "With the exception of the three pairs of wheels the efforts of the others might, without exaggeration, be described as floundering."

An extract from another report states that, "Only one device, known as the Molesworth, succeeded in the trials imposed. The roadway used had been smeared with an attractive mixture of Thames mud, soft-soap and other emollients, applied to a thickness of some inches, and as it originally had a very steep camber, was about the thing one negotiates in nightmares. The vehicles contesting had to perform various hair-raising evolutions on this track, with the result that most of them were saved from utter demolition only by grace on the part of the observant angels and the dexterous use of sacks of shavings, applied in fender fashion. The 'bus fitted with the Molesworth device dashed down the course at a good fifteen miles per hour, braked suddenly and continued its course in a perfectly straight line! It waded in and out in a snake-like manner in the steering test, always travelling on its longitudinal axis. In short, it proved that the skidding problem has been solved." In the face of these statements it is difficult to understand how the judges could possibly have arrived at their decision. I enclose my card, and remain—Yours truly,

MOTORIST.

LOSS OF POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to "M. R. C. S.'s" query in the last issue of the *M.C.J.*, the speed of this car depends entirely upon the ratio of gears, if, of course, the ratio is only sufficient to give the speed mentioned, with the engine running at its maximum speed. The only remedy would be to raise the gear. This should only be done slightly, as I very much doubt if, with the h.p. mentioned, any great increase could be obtained.—Yours truly,

H. J. T.

CARS IN HYDE PARK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am glad you are taking interest in the movement I initiated in the hope of getting our motorist friends to be able to use Hyde Park during the season.

Many people have sold their horses this year and depend entirely on their cars for carriage exercise, and it seems a very harsh measure to prevent them from driving in a park which they have used for years with their horses.

Some years ago, when the automobiles were not as perfect as they are to-day, there might have been some ground for such a prohibition, but to-day a well-kept car should be absolutely noiseless, and there is no reason why it should emit any obnoxious smell or vapour. In fact, a good petrol car should be practically just as unobjectionable as an electric car.

Under these circumstances, would it not be possible for cars to be admitted in Hyde Park, during the season, just the same as ordinary horse carriages? But, in any case, if the conservative methods are too strong for these radical changes, could we not arrange for a certain part of the park to be reserved to a certain extent to motor-car owners? For instance, the road leading from the powder magazine to Hyde Park Corner, which was very much used during the bicycle craze for cyclists, would make a very nice show ground for the latest motor equipages, which probably will be the feature of the coming season. Again, the road from Victoria Gate to Marble Arch might be allowed to be used for the same purpose.

Such a permission would mean a great deal of pleasure to the private owners, and, at the same time, would also be very important to the automobile industry generally, and there is no doubt that many ladies object to buying motor-cars for the very reason that they are not

allowed to use them in the park where they have been in the habit of driving.

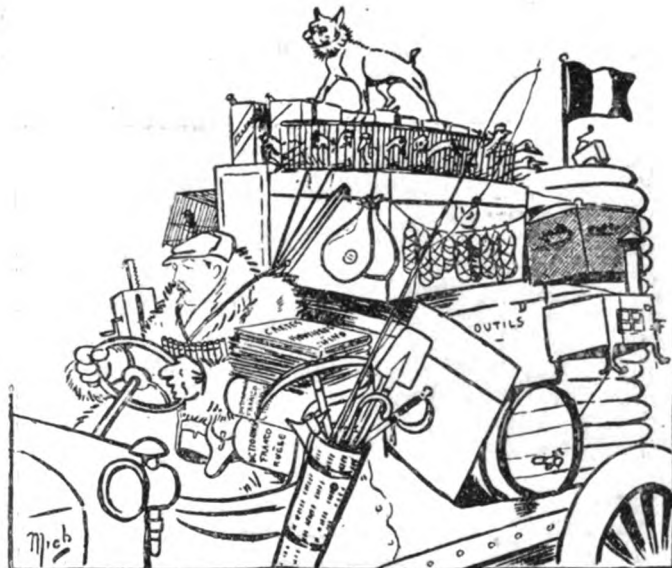
I feel quite sure that, if you will lend your support to this movement others will follow, and, public opinion being on our side, this regrettable by-law will be removed.—Yours truly,

WROTH P. C. LETHBRIDGE.

A CAR AT THE CAPE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is now three years since my 10-12-h.p. Argyll car arrived in South Africa. She came tuned up and ready for the road. Within three hours of her arrival I unpacked the crate, filled up with oil and petrol, and ran out into the country! Since then she has continued to give every satisfaction, and has been not only useful, but, thanks to her steady running, a source of great pleasure, and has made many motor converts. During this period she has covered a distance of 13,447 miles. I have used her in all weathers, and for the past six months and more, have discarded my horses, using her constantly. Only twice has she failed me; the first time we dashed into a sand pit and damaged the differential gear, new pinions were made locally, but as they were out in cast steel, they were too brittle and did not last long. No blame can attach to the car for this accident. The second time, one of the governor weights broke its moorings and cracked the front of the aluminium casing, interfering with the 2 to 1 gear. Had the governor not been enclosed, I should not have needed help to bring the car home.



A Pekin-Paris Competitor and his outfit. [From a Caricature by "Mich"]

[In the "Auto."]

With these two exceptions, my repair bill has been practically nil, as I do all minor adjustments myself, and most of my "spares," some sent out with the car and others ordered at the suggestion of friends, remain untouched.

I have but one fault to find with the car, one shared by every British and Continental car I have come across so far, and that is, for our rough and sandy roads there might be more clearance.—Yours truly,

W. ROGER CHEW.

M.B. & C.M.Ed.

THE SIDE-SLIP COMPETITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Many of your readers were doubtless interested in the Royal Automobile Club Side-slip Trial Competition, the result of which has been made public.

To those who have followed the fortunes of the various devices through the severe and protracted tests imposed, the report and recommendations of the judges must appear incomprehensible, and quite at variance with the actual results and independent reports of the daily press and trade journals, almost without exception.

The report entirely ignores the results of the preliminary tests at Ladbroke Grove; it was universally acknowledged, and the 1,000 miles trials subsequently proved it to be the only test, so far as actual side-slip was concerned.

It was just as universally acknowledged that the only 'bus that would not side-slip was the Molesworth six-wheel device.

The last clause of the report contains an apologetic reference to this device, in which it says it was presented in a condition that did not do itself justice.

As responsible for the running of the 'bus during the trials, I had the authority of the Club secretary, after the test, that it had conformed in every respect to the requirements of the judges. Again, after the

1,000 miles test no effort was made by the Club to ascertain the merits or otherwise on the points mentioned in paragraph, 13 of the regulations.

To my knowledge not one of the judges even boarded the 'bus during the trials to test its efficiency and effectiveness. There was no official examination of the tyres either before or after the trial, and yet the recommendation specially mentions "the effect on the road and tyres." As regards the brake efficiency of the device, they were not even examined by the official observers, as running events proved. I repeatedly asked that the device be subjected to a separate brake and driving efficiency test without result.

Space forbids going into the other tests mentioned in this report. It is more a matter of regret that the Automobile Club should signalise its royal title by the report of a competition which, instead of discovering a device to prevent side-slip, will effectually prevent any further competition of the kind under its auspices.—Yours truly,

G. SIMPSON TAYLOR.

THE DUST NUISANCE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Is any of the dust raised by an automobile caused by disturbed atmosphere, and, if so, about what percentage; or is it entirely due to the action of the wheels on the road?—Yours truly,

A. C. M.

Messrs. H. M. HOBSON, LTD., ask us to warn all concerned in the motor trade against a man apparently between 25 and 30 years of age, medium height, clean shaven, and speaking with a foreign accent, who commences with a telephone communication to the effect that his principal is hung up in some country place, and that he requires some



The Motor Club.—A View of the Theatre.

tyres and also a space reserved for garage. A few hours later this person puts in an appearance, mentions some well-known name, saying he is disabled with a burst tyre and has been despatched for the purpose of obtaining a new one, and as soon as he gets the tyre fitted will bring the car in to garage on the following morning. Should he succeed in getting the tyre, nothing more is heard of him.

FROME'S HILL CLIMB.—Mr. D. M. Weigel writes that he has not entered a car in the Frome's Hill climb owing to the difficulty of comprehending the value of the formula given in connection with the event.

A CORRESPONDENT writes giving his favourable experience of the Imperial's Company's tyres fitted to the driving wheels of his 8-11-h.p. Peugeot.

THE Cadogan Garage and Motor Company, Ltd., inform us that Mr. Oswald L. Lister, their late managing director, has resigned his position, and has now completely severed his connection with the company. Mr. Frederick W. Moore, late of the Lancaster Motor Garage, has been elected to fill the vacant position.

So many are the sizes and so varied are the styles of finish of the well-known Bowden wire mechanism that it would probably puzzle the average buyer to remember the catalogue numbers pertaining to each without some aid to memory being provided him. This has been provided by the makers, the E. M. Bowden's Patents Syndicate, Ltd., by an ingenious system of numbering in series, the units 1, 2, 3, &c., representing the successive sizes of the mechanism, while the addition of the tens, 21, 22, 31, 32, and so on, describe variations in the style of finish. The system, which is fully tabulated in the firm's catalogue, should prove very handy when ordering.

CLUBS AND ASSOCIATIONS.

THE MOTOR CLUB.

THE Motor Club, which has just been established in premises at Prince's Buildings, Coventry Street, near Piccadilly Circus, London, W., has for chairman Col. W. J. Bosworth, with Sir Archibald J. Macdonald, Bart., as vice-chairman. The executive committee consists of Messrs. D'Arcy Baker, L. G. Dalzell, Harvey du Cros, jun., S. F. Edge, Walter Gibbons, Charles Jarrott, Maurice Jenks, Walter Jenks, J. Amery Parkes, S. Schlenheim, and Charles Temperley. The club has been formed by a number of influential motorists who have recognised the absence of a centrally-situated club house. Although the Automobile Association will have no definite interest in the club, the affairs will be administered in conformity with the spirit of that organisation, viz., "sportsmen working for sportsmen." One side of the building faces Coventry Street, the other Whitcomb Street, a broad side thoroughfare which will be of convenience for members arriving and departing in their cars. Among the attractions of the new club building is a theatre with sitting accommodation for 250 persons, and this will be utilised for entertainments and lectures on subjects of interest to motorists, while "the politics of motoring will be left to those institutions which already exist for dealing with them."

Adjoining the premises are the offices of the Automobile Association, and special arrangements have been made by which the cars of members will be stored, and, if desired, taken charge of at the door by the Club engineer. The terms of subscription to the Motor Club will be, town members five guineas, country members three guineas, foreign and colonial members one guinea. For members of the Automobile Association, the subscription to that organisation and the town membership of the Motor Club will be six guineas, and for country members four guineas for the joint subscription.

THE MOTOR UNION.

At the April meeting of the General Committee of the Motor Union there was a large attendance. Twenty-two automobile clubs in various parts of the country, in addition to the Royal A.C., the Commercial Motor Users' Association, the Auto-Cycle Club, and the individual members were represented.

Mr. C. D. Rose, M.P., Chairman of the Union, presided. It was reported that thirteen essays had been received for the competition on the subject of "Motor Legislation: Preparation for the Forthcoming Parliamentary Struggle."

Forty applications for legal advice and assistance on motoring matters and motoring questions were dealt with.

Mr. Rose stated that the Hon. Arthur Stanley, M.P., and himself had been added to the Standing Committee on Law to which the Lights on Vehicles Bill had been referred, and he expected that the Bill would come before the Committee next week.

A report was presented dealing with various private Parliamentary Bills, and in connection with the Ports-town and Hornsea Light Railway it was decided to oppose the order before the Board of Trade if necessary. It was also decided to approach the local club with regard to the provisions of the Sunderland Corporation Bill, in which it is proposed to inflict a penalty where any person drives any vehicle across any footway.

The Union decided to take fresh action in the matter of the Hayling Island Bridge tolls, information having been received that the lessee had re-imposed the charge of 1s. for motor-cars crossing the bridge.

The membership of the Union was reported to be upwards of 15,000.

YORKSHIRE A.C.

THE Yorkshire Automobile Club held their opening meet at Harrogate on Saturday; 200 members and friends were present and thoroughly enjoyed a very pleasant meeting. The club made the Hotel Majestic its headquarters, where the chairman, Mr. E. H. Hepper, and Mrs. Hepper entertained those present to afternoon tea, the guests including Mr. F. Braine, Dr. and Mrs. Hughes (Halifax), Dr. and Mrs. Williams (Halifax), Mr. and Mrs. J. W. Whitehead, Mr. and Mrs. Cooper (Ilkley), Mr. and Mrs. Comfort, Mr. Levich, Mr. Fred Shaw, Mr. and Mrs. A. W. Woodhead, Mr. and Mrs. J. M. Woodhead, Mr. and Mrs. T. Lea, Miss Shaw, Mr. H. Wood, Mr. Constantine and Mr. Constantine, jun., Mr. Scriven (Bradford), Mr. Waring, Mr. Palmer, Mr. and Mrs. A. Farnell (Bradford), Mr. and Mrs. Scott, Mr. and Mrs. Albert Braithwaite (Leeds), Mr. and Mrs. Walker (Bradford), Mr. Kent (Bradford), Mr. C. J. Tonstall, Mr. and Mrs. Bingham, Mr. and Mrs. J. W. Watson, Mr. and Mrs. Clough, Mr. and Mrs. Maugh (Bradford), Mr. J. E. Rhodes, Mr. Collinson, Mr. Sagar, (Halifax), Mr. Scoby Smith (Middlesbrough), Mr. E. A. Barker, Mr. J. F. Reddel, Superintendent Quest, and Mr. W. H. Hanson (Barnsley), Mr. and Mrs. L. Hey (Leeds), Mr. W. H. Arnold Forster, Mr. H.

Wyles, Mr. Robertshaw (Leeds), Mr. A. Towler (Ilkley), Mr. and Mrs. S. S. Dixon (Bradford), Mr. and Mrs. Pilling (Bradford), Mr. L. A. Whaley (Harrogate), Mr. J. A. Fawcett, Mr. H. Pickles (Leeds), Mr. W. J. Slingsby (Bradford), Mr. W. Tempest (Leeds), Mr. and Mrs. Rhodes, Mr. S. McFarlane and party, Mr. and Mrs. G. W. Blackburn (Harrogate), Mr. and Mrs. Robert Crossley, Mr. and Mrs. T. M. Cloughton, Mr. and Mrs. W. Penrose-Green (Leeds), Mr. G. Barrett (Leeds), Dr. S. and Mrs. Rumbell (Leeds), Mr. and Mrs. J. H. Pickford, Mr. and Mrs. W. Armitage, Mr. A. S. Russell, Mrs. Russell, Mr. and Mrs. R. Winn (Leeds), Mr. and Mrs. E. Faiers (Bradford), Mr. and Mrs. A. W. McLeod (Leeds), Mr. T. A. Hall (Leeds), Mr. H. D. Leather, Mr. R. Hepper, Mr. and Mrs. H. A. Jones (Bradford), Mr. Pickering, Mr. Campbell, Mr. and Mrs. Dunnington, Mr. H. Dunnington, Miss E. Dunnington, Dr. Hargreaves, Dr. Solly, and others.

MOTOR CYCLING CLUB.

A LARGE number of spectators witnessed the open hill climb of the Motor Cycling Club, at Sharpenhoe Hill, near Luton, on Saturday. The timekeepers were Messrs. F. Straight and F. T. Bidlake, and Messrs. Robert Todd, S. H. Fry, and A. G. Reynolds were the judges. The best times in each class were made as follows:—

MOTOR BICYCLES.

Class I. (3 starters).—Scales, $3\frac{1}{2}$ -h.p. Ryto, 1 min. 1 1-5 sec.; Legrand, 2 $\frac{1}{2}$ -h.p. Matchless, 1 min. 1 3-5 sec.; Gainsford, 3-h.p. Advance, 2 min. 3 1-5 sec.

Class II. (13 starters).—Brice, $3\frac{1}{2}$ -h.p. Brown, 46 3-5 sec.; Brodie, 5-h.p. Noble, 49 1-5 sec.; Webb, $3\frac{1}{2}$ -h.p. Quadrant, 54 sec.

Class III. (10 starters).—Genn, $4\frac{1}{2}$ -h.p. Minerva, 41 3-5 sec.; Wells, 5-h.p. Vindec, 45 sec.; Sale, 5-h.p. Vindec, 46 1-5 sec.

Class IV. (4 starters).—Collier, 6-h.p. Matchless, 41 3-5 sec.; Wells, 5-h.p. Vindec, 44 2-5 sec.; Sale, 5-h.p. Vindec, 45 2-5 sec.

PASSENGER CLASSES.

Class V.—Ilsey, 5-h.p. Phoenix, 2 min. 11 1-5 sec.

Class VI.—Montgomery, 5-h.p. Montgomery sidecar, 1 min. 56 3-5 sec.; Osborne, 5-h.p. Rex sidecar, 2 min. 14 3-5 sec.

Class VII.—Montgomery, 5-h.p. Montgomery sidecar, 1 min. 58 4-5 sec.

THE AUTO-CYCLE CLUB.

ENTRIES for the meet in the grounds of Mr. F. S. Philipson-Stowe, at Blackdown House, Fernhurst, on Saturday, May 11th, will be classified as follows:—

BICYCLES.

Class 1.—For machines not exceeding 110 lb. in weight, and with engines having a cylinder capacity not exceeding 300 cubic centimetres. Variable gears allowed. Class 2.—For machines with engines not exceeding 80 by 80, or 402 cubic centimetres. Class 3.—For machines with engines not exceeding 85 by 85, or 482 cubic centimetres. Class 4.—For machines with multi-cylinder engines. Each cylinder not to exceed 500 cubic centimetres. Class 5.—For machines with any size engine eligible in the above classes.

PASSENGER MOTOR-CYCLES.

Class 6.—Re-starting test.—In this competition machines will be sent off in the ordinary way and re-started on a steep portion of the hill. The medals to be awarded to the riders making the best time from the re-start to the finish. Class 7.—For machines not exceeding 100 by 100, or 780 cubic centimetres each cylinder.

In Classes 2 and 3 a silver medal to be awarded to the machine fitted with a variable gear which accomplishes the best performance. Silver and bronze medals will be awarded in each class, a gold medal being awarded for the most meritorious performance of the day.

BERKSHIRE.

THE annual meeting of the Berkshire A.C. was held at the Great Western Hotel, Reading, on Saturday, when Major E. R. Portal presided. It was reported that the membership had reached 120, and the balance in hand was £420. As an indication of the amount of business transacted it was mentioned that the hon. secretary's outward correspondence had amounted to no less than 444 letters, apart from notices of meetings, invitations for club meets, telegrams and other incidental communications, and it had been largely supplemented by that of the hon. treasurer.

The Chairman announced that only three nominations had been received for the three vacancies on the committee, these being in favour of Mr. Chas. H. Dodd, Mr. R. H. C. Harrison, and Dr. Norman H. Joy, whom he declared to be duly elected. It was decided to admit ladies to membership. A lengthy discussion took place on the question of the tar-spraying competition, and disappointment was expressed that the Roads Improvement Association had not seen its way to accept the invitation of the club to conduct these tests in Berkshire. The Chairman, in reply to Mr. J. Fredk. Hawkins, informed the meeting that no effort had been spared, both by offers of financial help and general co-operation, to bring these trials into the county; but the committee of the Roads Improvement Association had been reluctantly compelled, from a variety of considerations, to select a stretch of road outside the club's area. The debate was continued by most of those present, and the following resolution was ultimately adopted unanimously:—"That a sum not exceeding

£100 be spent at the discretion of the club committee in connection with the forthcoming tar-spraying trials of the Roads Improvement Association, provided that the section of the tests upon gravel roads can be held in the neighbourhood of Ascot." It was decided to make arrangements for the holding of a club luncheon, and that this should be on a Saturday about the end of May, if possible. The business concluded with votes of thanks to the honorary officers of the club.

VICTORIA.

THE Automobile Club of Victoria (Melbourne, Australia), held their annual meeting at the club rooms, Collins Street, on March 15th. The annual report and balance-sheet was adopted, and the following officers appointed or elected:—Patron, His Excellency the Governor of Victoria, Sir Reginald Talbot; president, Sir John Madden, Chief Justice and Lieut.-Governor of Victoria; vice-presidents, Hon. Frank Stuart, Dr. Weigall, and Mr. Harry Maddox; treasurer, Mr. E. C. Holmes; auditors, Mr. F. G. Wilson, F.I.A.A., and Mr. Thos. Rollason; committee (in addition to those whose term has not expired), Dr. Vance, Messrs. W. R. Grimwade, J. Beswicke, G. Corlett, and J. Brockelbank. Several important matters were dealt with, including the question of removing to other club premises. The club held a reception the following evening at the club rooms to welcome their president, who has just returned from a lengthy tour round the world.

SOUTHERN MOTOR CLUB.

THIS club will hold an open hill climb on June 22nd under the auspices of the Royal A.C. There will be seven classes for various sized cars, and gold medals and certificates will be awarded in each. A



The Motor Cycling Club's Sharpenhoe Hill Climb on Saturday.

Photo by]

[E. W. Ashworth.

silver medal will be given to the car doing the best performance of the day. One specially interesting class will be that for cars ridden in the Tourist Trophy Race without alteration to the engine or gears used. The novelty of this fixture will be the class for lady drivers only. Entries can now be received by the Sports Secretary, Mr. S. W. Phillpott, 18, Gosberton Road, Balham.

IRISH MOTOR YACHT CLUB.

THE new Irish Motor Yacht Club, which is to be affiliated to the Motor Yacht Club, is rapidly growing in numbers, and is commencing work in a vigorous fashion. A very attractive programme, of which particulars will be published shortly, has been sketched out for the coming season. A fortnight's meeting on the Shannon is proposed, which should attract marine motorists from every part of Ireland, and, doubtless, not a few from this country as well.

ESSEX.

THE season's opening meet of the Essex Automobile Club was held at Braintree. After luncheon a competition followed for the cleanest engine and mechanical parts after running thirty miles. Mr. H. M. Fletcher, of Loughton, offered a silver and bronze medal as prizes, and Messrs. T. Clarkson, Chelmsford, and G. C. Tjou, Woodford, acted as judges. The awards were as follow:—1, Mr. Burnett Tabrum, J.P.; 2, Mr. Gurney Fowler.

THE first meet of the Liverpool A.C. for the season will be held to-day (Saturday), between 3 and 5 p.m., at the Brine Baths Hotel, Nantwich, by the invitation of Mr. Wm. Becket Hill (chairman o

the club) and Mrs. William Becket Hill, who are entertaining members and their friends to tea.

THE Junior A.C. will hold a speed judging test on the 11th prox.

THE Limerick A.C. have inaugurated their season with a speed judging competition.

A CLUB is being formed among the motor-cyclists of Acton, Chiswick, Hanwell, and Southall.

TO-DAY (Saturday) the Leicester, Derby, Nottinghamshire and Wolverhampton A.C.'s will hold their inter-club meet at Ashby-de-la-Zouch.

THE members of the Motor Cycling Club will hold their annual London to Edinburgh run on the 17th prox. This event is open only to members of the club.

THE Sackville Hotel, at Bexhill, will be the headquarters of the Crystal Palace Automobile Club during the races to be held on the Bexhill track at Whitsuntide.

THE Bohemian Motor Club, of which Mr. F. J. Ellis, 40, Genesta Road, Plumstead, S.E., is secretary, will hold a motor-cycle meeting on the Canning Town Track on the 4th prox.

AT a meeting of the Wirral and District Automobile Club held last week, the name was changed to the Cheshire Automobile Club. Mr. J. Alfred S. Hassal, 6, Lord Street, Liverpool, is the hon. sec.

THE fixture list of the Leicestershire A.C. for the season is conveniently arranged for the pocket, and in addition to the usual information contains a suggestion that members should continue to drive with care and consideration for other users of the road.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING THE TEN MILES LIMIT.

The Kingston-on-Thames borough justices have imposed fines of £3 and 12s. costs on three motorists for exceeding the ten miles an hour speed limit which is in force in the principal streets of the borough, while a motor-cyclist, for a similar offence, was ordered to pay £1 and costs. The Bench dismissed a summons against Herbert Otto, of 125, Evering Road, Stoke Newington, for exceeding the ten mile speed limit with a motor-car, for, although the police, who timed him with a stop-watch alleged that his pace was twenty-five miles and 1,515 yards an hour, defendant said that he kept close behind one of the electric tramcars, which the conductor stated was travelling at about twelve miles an hour.

CASES AT LEEDS.

At Leeds Police Court, Oscar Martin, of Edgerton, Huddersfield, has been fined £5 and costs for driving a motor-car to the public danger, and Harold Chambers, chauffeur, was ordered to pay 20s. and costs for failing to produce his licence. Sergeant Brook stated that on the day in question the car was driven up Briggate at a furious pace—some seventeen miles an hour. Several pedestrians had to hurriedly get out of the way. The car turned round into Upperhead Row. The police afterwards learned that it had gone into Lands Lane, and it was found unattended at the top of the arcade.

NO LIGHT.

J. William Fowler, engineer, Twywell, was summoned at the Thrapston Police Court for being the driver of a motor-car not having a lighted lamp at the rear of the same, at Ringstead, on March 26th. —Defendant said it was quite by accident that the lamp was out. It was a very light night, and it was impossible to detect that the lamp was out. It was re-lighted and burnt quite brightly. He had driven a motor for six or seven years, and had been very careful as regards the regulations. The constable in his evidence said that as soon as he blew his whistle Mr. Fowler stopped the car. The licence was promptly shown and the lamp relit; but that did not prevent a fine of 1s. and 6s. costs—one of those irritating circumstances to which motorists have to submit with as good a grace as they can.

DAINGEROUS DRIVING.

Lord Vernon (a minor) has been convicted by the Bakewell magistrates for driving a motor-car to the danger of the public. Mr. William Nixon, who presided over the Bench, asked the defending solicitor how it was that an admitted previous conviction at Manchester was not endorsed on the licence, and was assured that it was not the practice of the stipendiary to do this unless he considered the case of such seriousness as to warrant it. Mr. Nixon replied that his interpretation of the law was that it gave them no option but to endorse the licence in the case of every conviction, and at Bakewell they could not follow the Manchester stipendiary's example. In imposing a fine of 40s. and endorsing the licence, Mr. Nixon expressed the hope that Lord Vernon would see the propriety of paying greater respect to other people's safety.

William Hicks has been summoned at Brighton Bench for driving a motor-car in a manner dangerous to the public, having regard to all the circumstances of the case, on Grand Junction Road on March 31st. The chief constable (Mr. W. B. Gentle), in his opening statement, mentioned that, in trying to pass another motor-car, defendant drove his car so that, although the constable on point duty jumped out of the way, the wing of the car caught him and "bowed him over like a ninepin." After some deliberation the magistrates imposed a fine of 50s. and costs, or a month's imprisonment.

EXCEEDING LEGAL LIMIT.

Seven defendants were fined sums varying from £3 to £5 each at the Horsham Court last week for exceeding the legal speed. Before the

cases were heard, the clerk read a memorial from the inhabitants of Cowfold on the subject of the dangers of excessive speed, and begging that action should be taken in the matter.

A batch of motorists, stopped in the Arundel district during Easter for exceeding the limit, have been summoned at the Arundel County Bench. Fines of 30s., £4, and £5 were imposed. Ernest Herbert Renton, of Clapham Road, S.W., pleaded guilty to driving a motor-car on March 31st at the rate of 27 miles and 480 yards per hour, at Walberton. P.C. Alce stated that when defendant was stopped another car drove up and the occupant remarked that their scout was at the back and signalled the road "all clear." Defendant submitted that it was hardly fair to place a trap on such a steep incline. He had his brake on going down the hill, perfectly well knowing that in Arundel they regarded the question of the speed limit rather strongly. He had no wish to offend or get into trouble, and he was endeavouring to keep his car down to the limit. When he was stopped a passing tramp remarked that it was a shame. Defendant was ordered to pay a fine of £4 and 9s. costs.

DE DIETRICH DEVELOPMENTS.

ALTHOUGH various rumours have been in circulation during the past month or so with regard to impending developments of the De Dietrich business in this country, we have refrained from referring to the same until the various negotiations had been completed and we were in a position to give accurate and official information. This being now available, we hasten to give publicity to the facts, for which we are indebted to Mr. W. M. Letts. At one time the firm of De Dietrich and Company, of Luneville, was simply known as manufacturers of railway rolling stock, it not being until ten or eleven years ago that they commenced the construction of motor-cars, with Baron de Turckheim at the head of affairs. It was then all one concern, but two or three years ago the railway branch was separated from the motor business, the later being given the title of La Société Lorraine des Anciens Etablissements de Dietrich et Cie, de Luneville, with a capital, we believe, of £200,000. Last year, owing to the development of their business, the capital was raised to £300,000, and just recently, owing to a further and larger increase in demand, and to further contemplated extension in the direction of establishing factories in different parts, their capital has been increased to no less than £600,000, which amount has been very largely over-subscribed, there being consequently no intention of asking the public to subscribe to any of their various enterprises. One of the rumours that have been current has had reference to the Isotta-Fraschini factory at Milan. What has really happened in connection with this is that the De Dietrich concern, wishing to find another factory, as Luneville was not capable of turning out as many cars as they wanted, started negotiations with the Isotta-Fraschini Company, and eventually secured a large interest in that undertaking. The cars which will be manufactured in Italy will all be designed from the central office, the same as those to be built in England, and will bear the name De Dietrich, and carry the Lorraine cross, the trade mark of the Société Lorraine. With respect to England, Messrs. Jarrott and Letts some two years ago secured the manufacturing rights for De Dietrich for this country, but the Société Lorraine, wishing to come themselves and manufacture over here, opened up negotiations with these gentlemen, with the result that they sold the rights back again to the Société Lorraine, and that a company called "Lorraine Dietrich, Ltd.," controlled by the Société Lorraine, of Luneville, has been formed. The capital of £100,000 has all been taken up, so that there will be no flotation here. The following comprise the board of Lorraine Dietrich, Ltd.:— Lord Ribblesdale (chairman), Sir West Ridgeway, Richard de Neuville, Prince d'Arenberg, Baron de Turckheim, M. Ernest Carnot (son of late President of the French Republic), M. Estier (vice-president of the Société Lorraine des A. E. de Dietrich and Company, de Luneville), M. Leon Turcat, and W. M. Letts. The company has purchased the Ariel factory at Birmingham, taking it over with all its machinery, plant, and freehold land adjoining, and the manufacture of De Dietrich cars will be commenced there almost immediately under the direction of Mr. Charles Sangter. Finally we may mention that the general idea of the De Dietrich policy is that the various models which will be manufactured in the different factories will be settled by the different boards, who will all meet either in Paris, London or Milan, as may be necessary, to decide.

THE Rushmore motor lamps are being used in connection with the Entente Cordiale motor service between London and Paris.

AN attractive show card has been issued by Messrs. J. and R. Oldfield, of Birmingham, the makers of the Dependence lamp, a new catalogue of which has just been issued.

THE Electric and Ordnance Accessories Company, Ltd., Stellite Works, Cheston Road, Aston, Birmingham, inform us that they have special machinery for manufacturing high grade springs for motor-cars, and are also well equipped with automatic gear cutting machinery for spur, spiral and bevel wheels.

MR. ARTHUR HOARE, the managing director of the Bombay Motor Car Company, Ltd., is shortly coming to England on a few months' leave. As Mr. Hoare contemplates arranging fresh agencies and otherwise expanding the business of his company in India, it may be useful to mention that British manufacturers can get into communication with him c/o. Messrs. John Birch and Company, Ltd., 3, London Wall Buildings, London, E.C.

ROAD REPORTS.

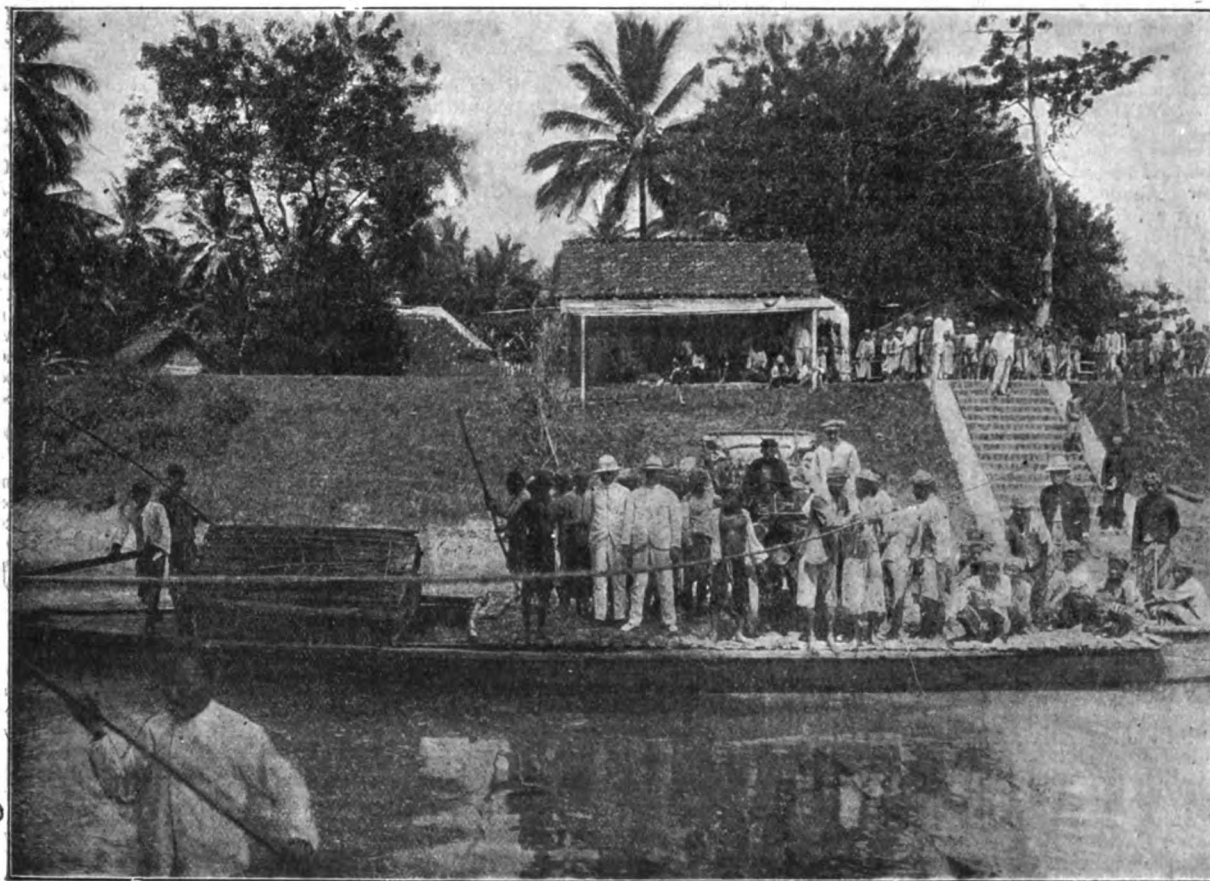
THE Surrey County Council and the Rural District Council of Reigate have just entered into an arrangement to tar long stretches of the main road before the Whitsun traffic.

THORNS ON THE ROADS.—The Turriff District Committee of the Aberdeen County Council had before them last week a communication with reference to thorns and glass strewn on the highways. The sanitary inspector stated that the nuisance that road users complained of, as well as the scattering of pieces of barbed wire about the roads, cost him on an average twenty shillings per annum for repairs to the tyres of his cycle. It was eventually agreed to instruct the road surveyor to call the attention of people who might lay down the things complained of to the danger they entailed.

OXFORD.—Addressing a recent meeting of the County Council, Viscount Valentia, M.P., the chairman, pointed out that the mileage of main roads in Oxfordshire was 486. The average cost for three years of rural roads was £55 per mile; that of urban roads £130. The total cost of the roads for the past year was £29,731. The Motor Car Act, 1903, which has been extended for another year, imposed considerable administrative work on the council in registering cars and

Council, and the surveyors of the various Rural District Councils in West Sussex. The tar was sprayed on the road under an air pressure of 350 lb. to the square inch. The sprayer has very much the appearance of a water-cart, and consisted of a motor-trolley with a tank attached and an appliance which evenly distributes ordinary coal gas tar over the road, forcing it on to the surface at such a pressure as to drive it well into the macadam. Granite responds most readily to the treatment as it provides a clean surface. The tar is heated as the steam motor is propelled over the road, and the distribution is effected through six nozzles, the nozzles being about one foot from the ground and surrounded by a tarpaulin sheet to prevent the sprayed tar from being spread upon anything but the road. A width of about 7 ft. 6 in. was covered in one operation, and a mile of roadway, one width, can be covered in an hour. The roads were quite dry, and had been prepared by the County Surveyor (Mr. McIntosh) for the purpose of the demonstration.

KENT.—The main road through the village of Dunton Green, in Kent, has been much improved by the application of tar for the purpose of allaying the dust nuisance. Last summer the question of doing this work was raised by members of the Otford Parish Council, who approached the Royal A.C. and the Motor Union with the view that



Motoring in Java.—Crossing a River by the Ferry near Soerabaija.

[De Auto.

cycles and granting and renewing drivers' licences. The total fees for three years amounted to £817 3s., and these fees go to the County Fund.

HARROW.—At Harrow Weald, Sir W. J. Crump, J.P., and Messrs. Gore and Lush propose to treat the highways near their premises with a special preparation to allay the dust.

CAMBERLEY.—At Camberley, through which about three miles of the main road from London to Basingstoke, Southampton, and the south-west of England runs, the effect of motor traffic has been pretty considerable. During one day of the Easter holidays over 500 motor-driven vehicles were counted passing through. The local district council, under contract with the Surrey County Council, maintain five miles and seven furlongs of main roads at a cost of £1,000 a year, which works out at a rate of 4d. in the pound. Before the introduction of motor traffic these roads were maintained at a cost of £5 per mile per year. Now the cost is said to be £200 per mile per year.

HORSHAM.—At Horsham last week a demonstration was made with a Tarspra machine. The experiment took place on about a mile of roadway at Roffey, and was closely watched by many members of the West Sussex County Council, including the chairman, Earl Winterton, Lord Leonfield, and General Godman, officials of the

motorists might assist by contributing towards the expense. The total cost was £80. The Kent County Council agreed to contribute one half and the parishioners undertook to raise £15. The Royal A.C. and the Motor Union then decided to contribute the remaining £15. One coat of tar has already been applied with beneficial results, and the second coating is expected to be completed very shortly. The efforts made have been much appreciated by the villagers, and Mr. A. E. Partridge, hon. secretary of the Parochial Committee in charge of the matter, states in a letter just received that the committee are very grateful for the help of the motoring organisations.

YORKSHIRE.—With reference to the laying of three miles of roadway between Fullord and Escrick with tar macadam, reported last week, we are informed by Mr. F. A. Camidge, the solicitor to the Escrick Rural District Council, that it would be well if all motor traffic were diverted from the road in question for about six weeks.

MOTOR JOBMASTERS, LTD., of Westminster, are furnishing liveried chauffeurs with their motor-cars on hire.

MESSRS. ALFRED HERBERT, LTD., have issued a new edition of their catalogue, Section E., containing full descriptions of their capstan lathes.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

THE BORDER MOTOR AND CYCLE COMPANY.—Registered with a capital of £1,500, and office at Galashiels.

PREMIER ACCUMULATOR COMPANY.—£40,000. To acquire the business of electrical engineers carried on by Messrs. A. Schanschieff and H. Stephens at Northampton, as the Premier Accumulator Company. First directors, Messrs. Stephens and A. Schanschieff. Cattle Market Road, Northampton.

RENARD ROAD AND RAIL TRANSPORT CORPORATION.—£250,000. To adopt an agreement with Edward Surcouf et Compagnie, Renard Syndicate, Limited, and Seymour and Gordon, Limited, and to carry on the business of manufacturers, buyers, sellers, and letters to hire of motor-cars and other conveyances, &c. The signatories include Lord Ribblesdale, Messrs. E. Manville, P. Dawson, Claude G. Hay, M.P., and Major-General J. C. Ardagh, R.E.

THE AUTO-CYCLE CLUB'S TRIAL.

THE Auto-Cycle Club's quarterly trial was held over the usual 125 miles course, starting and finishing at Uxbridge, on the 18th inst. There were nineteen starters, three passenger machines and four motor-bicycles being entered in the new light-weight class. None of the latter made non-stop runs. One of them, the 1½-h.p. F.N., ridden by W. Leamaar, had only one stop, but the other three retired.

The fastest times up Dashwood Hill were made by the following:—M. Geiger, 6-h.p. N.S.U., 1 min. 11 3-5 sec., 1; O. C. Godfrey, 5-h.p. Rex, 1 min. 12 sec., 2; F. W. Applebee, 3½-h.p. Rex, 1 min. 45 1-5 sec., 3. The fastest machine in the passenger class was M. W. Randle's 10-h.p. Lagonda, 2 min. 10 3-5 sec.

Non-stops were made by:—Motor Bicycles: R. Stote Fox, 4½-h.p. F.N.; O. C. Godfrey, 5-h.p. Rex; J. D. Hamilton, 3½-h.p. N.S.U.; S. Foreman, 3-h.p. G.B.; W. G. McMinnies, 5-h.p. Vindec Special; and F. W. Applebee, 3½-h.p. Rex.

Passenger Machines.—M. W. Randle, 10-h.p. Lagonda; G. Aldington, 5-h.p. Kerry Abingdon; C. A. Ringwood, 9-h.p. Riley.

DRIVING ACROSS THE FOOTPATH AT BLACKPOOL.

THE Blackpool magistrates have had before them seventeen summonses against a number of employees of Motors (Blackpool), Ltd., the proprietors of a motor garage on Central Beach, for driving motor-cars across the footpath. Mr. Hodgson, who defended, stated that in view of the decision in favour of the Corporation in the test case taken to Quarter Sessions, it had been agreed to pay a penalty in one case, the others to be withdrawn on payment of costs, which were heavy. The learned chairman of the Quarter Sessions had agreed to state a case, and, without prejudice, in the event of its being carried further, the defendant in the first case pleaded guilty. The Bench imposed a fine of 2s. 6d. and costs in the first case, and costs only in the remainder.

PUBLIC MOTOR SERVICES.

MR. GIBBON BROOKS is making application to the Watch Committee of Cardiff for licences for six motor-cabs, which he proposes to place upon the streets of the town for hire at fares similar to those in vogue in the metropolis.

A PROPOSAL to licence motor vehicles for service in Ramsgate has been placed before the local authorities.

THE Hon. Walter Guinness, L.C.C., speaking at the annual meeting of the Hackney Carriage Proprietors' Provident Institution, said the results attending the introduction of taximeter motor-cabs in Paris showed that such vehicles were not going to have things all their own way. Although they were paying very well in London at present it was doubtful whether they would be so profitable when competition became keener.

THE Lancashire and Yorkshire Railway Company have made a beginning with their motor-'bus services in the County Palatine.

MOTOR-'BUS ACCIDENT.

A REMARKABLE scene was witnessed on Saturday night in Fulham Road. Thirty-seven members of the cyclist company of the 4th Volunteer Battalion Royal Fusiliers were riding in a narrow part of the road, when a motor-omnibus, in order to avoid a stationary cart, deviated to the right and struck one of the cyclists, who was thrown to the ground, one of the wheels of the omnibus passing over his right arm. Thirty-five of the Volunteers, who were riding at the rate of about ten miles an hour, came on, and one after the other were thrown to the ground. Many sustained slight injuries and numerous machines were damaged.

POLICE TRAPS.

IN St. George's Road, Southwark, the police have measured a furlong along which the drivers of motor-'buses are timed.

THE Kingston police trap is now in full working order, to the discomfort of motorists going that way.

SUSPICIONS of a police trap along Briggate, Leeds, have been aroused in the minds of local motorists, owing to the activity of the police against drivers in that thoroughfare during the last few days.

SEVERAL police traps are in operation on the road from Kendal to Windermere, and motorists in the Lake District should take heed of this warning.

INDIGNATION is being freely expressed locally at Henley-on-Thames at the action of the police in trapping motorists on the Fair Mile. It is thought that if the present official attitude is continued it may do injury to the place during the coming boating season.

LATE in the evening the police are amusing themselves by trapping motorists over a measured furlong in Portland Place, Regent's Park.

TIMES have been taken on Hillingdon Hill, near Uxbridge, during the last few days.

BUSINESS NEWS.

DUNLOP tyres were fitted to the Napier car on which Mr. E. A. Paul made his record run to Monto Carlo.

A NEW list of the Sawyer Non-Skid bands has just been issued and can be obtained from the Motor Stores, 315, Euston Road, N.W., where a complete selection of the three styles in which these well-known non-skids are made can be seen.

WE learn that the Bowden Auxiliary Air Inlet, described in our columns towards the end of last year, has been remodelled for 1907. The pattern of the air holes has also been modified to allow of a more minute gradation of the amount of air admitted.

MESSRS. HARVEY FROST AND COMPANY, LTD., 39, Great Eastern Street, E.C., have issued a useful little book on the subject of repairing motor tubes. It is likely to be of service to all motorists, and Messrs. Harvey Frost will be pleased to send copies to readers of the *M.C.J.*

WRITING to the *British Medical Journal*, Dr. A. Howard Pirie states that he began his motoring career as an absolute novice with a Speedwell car a year and seven months ago, and that his expenses for repairs have so far amounted to 17s. 6d. "I drive myself, and have a lad to clean the car. I have the car out almost every day, and have been to Land's End and back with it, and had it with me on two other holiday tours. For reliability and freedom from repairs I think it will be difficult to beat the record of this car. It climbed into and out of Lynmouth last year, and anyone who knows these hills knows how often a horse is required to help a car there. It has never failed to climb a hill or any road so far."

VIEO, LTD., 14, New Burlington Street, London, W., have sent us a photograph of a Hall motor lorry fitted with Vieo wheels, which has now been subjected to the severe test of 9,500 miles, and, according to the users, the wheels have saved them considerable expense, as, when compared with other lorries that they have had in use doing similar work fitted with ordinary wheels, the latter have had to be rebuilt at least three times during the same time in which the pair of Vieo wheels have been running. The lorry weighs three tons unladen, and has been carrying an average daily weight of two-and-a-half tons, at speeds from seven or eight miles per hour, so that they have been used for fairly heavy work. The only repairs which have been effected to the Vieo wheels during the whole of their running are the replacement of the iron tyre on the floating rims owing to their cracking, apparently at the weld, because they were too light in the first instance, some of the rubber rollers have also been renewed, but the wheels now appear quite as fit for their work as they did at first.

THE VULCAN MOTOR AND ENGINEERING COMPANY (1906), LTD., Southport, inform us that their 14-h.p. car which performed in the flexibility trials was of their standard type, supplied to the London and Parisian Motor Company, Ltd., last November, and has run some thousands of miles in various parts of the country since. The car can be inspected at the London agent's garage, Burwood Mews, Burwood Place, London, W.

MR. HORACE WALKER, of Bristol, has written to the Deasy Company stating that his 24-h.p. Deasy car has done 1,500 miles since leaving the works, and that he has had no trouble, nothing having been touched since the first 100 miles, when a few minor adjustments were made.

THE body of the new Leader car illustrated in our last week's issue was, we learn, built by the Waterloo Motor Works, of Chicheley Street, York Road, S.E., and turned out complete within three weeks from the date of order. Since this company's coach-building department was started six months ago the staff in this department has been increased from two to twelve men, orders being at present in hand for ten bodies and several Cape hoods and wind screens.

MESSRS. HUMBER, LTD., will be pleased to send the address of their nearest depot or agent to prospective purchasers of their cars. They ask us to state that their guarantee only applies to cars which are obtained direct from themselves or their duly appointed agents.

THE BARON DE TURCKHEIM, head of the Societe Lorraine des Anciens Etablissements de Dietrich and Cie, of Luneville, has just been appointed a Knight of the Legion of Honour, this distinction being bestowed upon him by the French Government in recognition of his having so largely developed the industrial movement in the east of France. It is also interesting to note that up to eleven years ago the De Dietrich Company was only known in connection with the building of railway rolling stock, and that the Baron Turckheim was instrumental in persuading them to enter the motor industry, since when this branch has developed to an enormous extent.

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COMMENTS.



OWING to the fact that the entries for the International Heavy Touring Car Race are not sufficiently numerous to justify the setting apart of a separate day for that race, it has been arranged that it shall take place at the same time as the International Tourist Trophy Race. Instead of the formerly announced dates of these races (the last Tuesday and Thursday of May), Wednesday, May 29th, has been chosen for the double event. The "Graphic" Trophy Race is set down for Thursday, the 30th, and it is possible that the Auto-Cycle Club's big race will also be held on the Thursday. This event will immediately follow the Irish Reliability Trials announced for May 22-25, and which have attracted an entry list of nearly a hundred. Evidently the summer months are to be a busy time for motorists generally.

The Commercial Vehicle Trials.

THE supplementary regulations of the Commercial Vehicle Trials to be held in September next—commencing on the 9th of the month and continuing for about four weeks—have now been issued. As we mentioned last week, the test will take the form of a tour passing through the chief commercial centres of England and possibly Scotland, and will be conducted on the lines of the famous 1,000 Miles Trial of 1900. Entries should be sent in by July 13th, and after August 10th no further entries will be accepted. The classification will be as follows:—Class A, for vehicles carrying net loads of 10 cwt.; B, 20 cwt.; C, 30 cwt.; D, 40 cwt.; E, 60 cwt.; F, 100 cwt.; G, 120 cwt. The approximate mileage per day for each class will range from seventy to thirty, and all the vehicles entered must comply with the Acts of Parliament and Statutory Orders relating to such motor-vehicles. In making the awards the judges will take into consideration the selling price and the performance of the vehicle in regard to: accessibility; adequacy of platform area and convenience for loading; adhesion; ease of manipulation; finish and workmanship; freedom from nuisance to the public, e.g., smoke; general appearance; brakes; condition after trial; cost of carriage per net ton-mile; cleanliness; hill-climbing; manoeuvring; quiet running; repairs and replacements; springs and steering gear.

Frome's Hill.

THE Frome's Hill climb of the Herefordshire A.C. has become an event of considerable importance in the motor-world, and this year's competition, taking place on Friday, the 3rd inst., has attracted 110 competitors with cars and a couple of motor-cycle entrants. The cars range from the 6-h.p. Rover to the 40-50-h.p. Gracile which Mr. C. H. Saunders will drive, and the 40-50-h.p. Richard-Brasier entered by Mrs. A. M. Foster. Count Kolowrat (Laurin and Klement), Viscount Ingestre (Clement-Talbot), Capt. G. L. Hinde-Howell (Iris), Capt. W. E. Owen (Junior), Capt. Hughes Morgan (Daimler), Messrs. C. Jarrott (Sizaire-Naudin), E. Lisle, jun. (Royal Starling), F. Eason (Buick), T. Rimner (Vulcan), H. W. Cranham (Horbiok), H. Luff Smith (Siddeley), W. M. Letts (Sizaire-Naudin), C. Friswell (Standard), J. E. Hutton (Berliet), P.

Brodthmann (Daimler), Cecil Edge (Napier), F. F. Wellington (Spyker), and G. O. Thompson (Straker-Squire) are among the entrants, and, given a day of decent weather, a very enjoyable as well as interesting time should be spent under the auspices of the Herefordshire Club.

Trials at Saltburn.

THE Yorkshire A.C., which, by the way, held the second meet of the season at Boroughbridge on Saturday, has decided to hold some important speed trials at Saltburn on Saturday, the 22nd prox. There will be thirteen events, ten of which will be for touring cars, the remainder for racing vehicles. Several valuable trophies will be competed for, and the Marquis of Zetland, as well as the local Urban District Council, is lending support, while adequate policing arrangements will be made by Major Bower, the Chief Constable of the North Riding of Yorkshire. Intending competitors can obtain further details with regard to this interesting meet from Mr. C. P. Wilson, the hon. secretary of the Yorkshire A.C., Town Hall Chambers, Victoria Square, Leeds.

An Australian Club.

THE annual report of the Automobile Club of Victoria just to hand has many features in common with the yearly reviews which come to us from motoring organisations here at home. The committee found it necessary last year to form a Motor Defence Fund with objects somewhat similar to those of the Motor Union, and its value has been seen in the withdrawal of several threatened actions by the police. The mere existence of such an organisation has had a good effect. The club is fostering an agitation in support of the main roads becoming a national care, and is urging upon local authorities the importance of maintaining the highways in a useable state. Lectures, debates, tours and runs, petrol consumption tests, speed trials, and similar events made up the year's programme of this Australian organisation, which, by the way, has appointed as its official organ the colonial "Punch."

MR. A. W. GAMAGE is so well known to the motor world—both in connection with the popularisation of the sport, as witness the contests he has incited between the North London and the Southern clubs, and as one who provides them with everything they want—that the coming of age of his eldest son is a matter of general interest. So far as Mr. Eric Muir Gamage is concerned he was feted and honoured at a dinner at the Holborn Restaurant, when over 800 guests assembled to offer their congratulations to father and son. It was a happy gathering, with heads of departments and employees genially clinking glasses in honour of the event, and genuinely demonstrating their esteem for the house they serve. The speechmaking was hearty and unconventional, and the way in which Mr. A. W. Gamage testified to the good work done by all about him revealed a touch of that appreciation of the efforts of others which is one of the healthiest factors in business generally.

"Gamage, Holborn."

and has proved of vital value in the development of the great establishment in Holborn. At the festive gathering Messrs. J. Dunn, W. A. Vincent, and J. S. Carter were vice-chairmen, with Mr. A. W. Gamage at the head of the table.

Great Expectations of the Amir.

WE have all heard the story of the man who, apparently "of great possessions," wandered round an exhibition eagerly scrutinised by the attendants and courteously informed by all with cars to sell, ultimately disappointing everybody by buying just nothing at all. Great expectations seem to have been indulged in by the attendants at the various stands at the Calcutta Motor Car Exhibition when the Amir of Afghanistan visited that display during his memorable trip to India. His Majesty decided to devote a morning to inspecting the exhibits, and frock coats and top hats were duly donned for the occasion. "Show polish" was plentiful about the show, and all were craning their necks and smiling their sweetest to beguile the ruler of Afghanistan their way. His questioning at the various stalls was suggestive of great things to come, and he



H.M. the Amir of Afghanistan alighting from the Siddeley Car which he used during his recent stay in Bombay.
His Majesty expressed the greatest satisfaction with the quietness and smooth running of this vehicle, and, as a mark of his pleasure, specially appointed the Wolseley Company's agents in Bombay to his service.

went into the minutest details with regard to the merits of most of the cars. So great was the Amir's interest in the exhibition that the spirits of motor-car dealers waxed high, while one sage attached to the Amir's staff thought it probable that the Amir would purchase the entire exhibition. Such, however, was not His Majesty's intention, for after visiting every stall, sitting in the cars, blowing the horns, and turning on the lubricators, His Majesty announced his choice, and forthwith purchased one acetylene lamp!

'Ware the Whistle.

Not so very long ago motorists were inclined to scrutinise the feet of loungers on the highway, the presence of big boots generally being regarded as indicative of the presence of policemen in disguise. When we had become expert in that point of view the methods of the foemen changed somewhat, and the big boots were secluded behind hedgerows, while handkerchiefs waving in the breeze supplied the motorists with a clue as to the presence of blue officialdom. Again methods have veered, and heed must now be paid to any whistling that seems

to come from the hedgerows. Mr. Max Pemberton, who writes stories as well as drives cars, was found in a police trap at Henley, and duly appeared in the police court. The superintendent acknowledged that the Fair Mile was, as we have recently informed readers, the centre of local police operations. He said he had the distance measured for a trap, and about ten yards was added to the 440 yards to allow a "run in." Then the police constable came forward and told the Bench that he was at the end of the trap, and started his watch the moment the car entered the measured distance on receiving the signal from his brother officer. He had to stand in a barrow in order to see the starting signal. When the car got out of the distance he whistled to another constable to stop the car. Cross-examined, he said he had had experience of timing with Inspector Jarrett, so that he knew the method very well. But after Mr. Pemberton had testified to his knowledge of the existence of the trap and to the presence of a speedometer on the car registering 15 miles an hour when the police stopped him, the magistrates dismissed the case. Not even the whistle of the policeman trained by Inspector Jarrett could secure a conviction.

Motor Cabs in London.

LONDON will soon see a great development in the motor-cab business, which has already done something to improve the aspect of the city. The appearance of the stylish vehicles with their open or closed tops, according to the vagaries of the weather, has certainly made a good impression on visitors to as well as residents in the Metropolis, and that this has sound financial basis was proved by the speech of the chairman of the United Motor Cab Company in London on Monday. He mentioned that the average earnings of the General Motor Cab Company by the taximeter in the first four weeks had been £2 1s. 3d. per cab per day; last week the average rose to £2 3s. per cab per day. Mr. Davison Dalziel says his company has ordered 500 motor-cabs for London, delivery of which will commence early next month, and by the end of the autumn the mechanical "growler" will prove a popular rival to the numerical strength of the London hansom.

Freedom of Choice.

THE output of cars at the leading British works continues to show no diminution; in fact, it grows every month and shows no sign of an early slackening. Judging from the number of entries in the Madrid exhibition, a goodly number of English firms are looking to other markets to take their production; they must also take care they do not close the opportunities of sale in their own country. Every chance of the sale of cars will have to be secured, and in view of the keen rivalry that is certain to come upon the trade before very long new firms in the industry will be well advised in keeping themselves from entangling engagements calculated to limit their choice of trading methods and means of publicity.

Lights on Vehicles.

CAPTAIN RENTON'S Lights on Vehicles Bill has just come before the Standing Committee on Law of the House of Commons, when it was discovered that considerable opposition to the measure had been received from Liverpool and Manchester and very little from the agricultural districts, which it was thought would have been the principal opponents to the proposed legislation. The Liverpool Dock Board and similar bodies had called the attention of the Government to the danger of fire in their warehouses in the event of the provisions of the Bill being stringently enforced; and Mr. George Harwood and Mr. Harmood Banner, representing northern constituencies, described the measure as a "monstrous interference" with business places like Liverpool and Manchester, and moved to omit from the obligation to carry lights on vehicles in all well-lighted areas, a proposal which, although finally rejected,

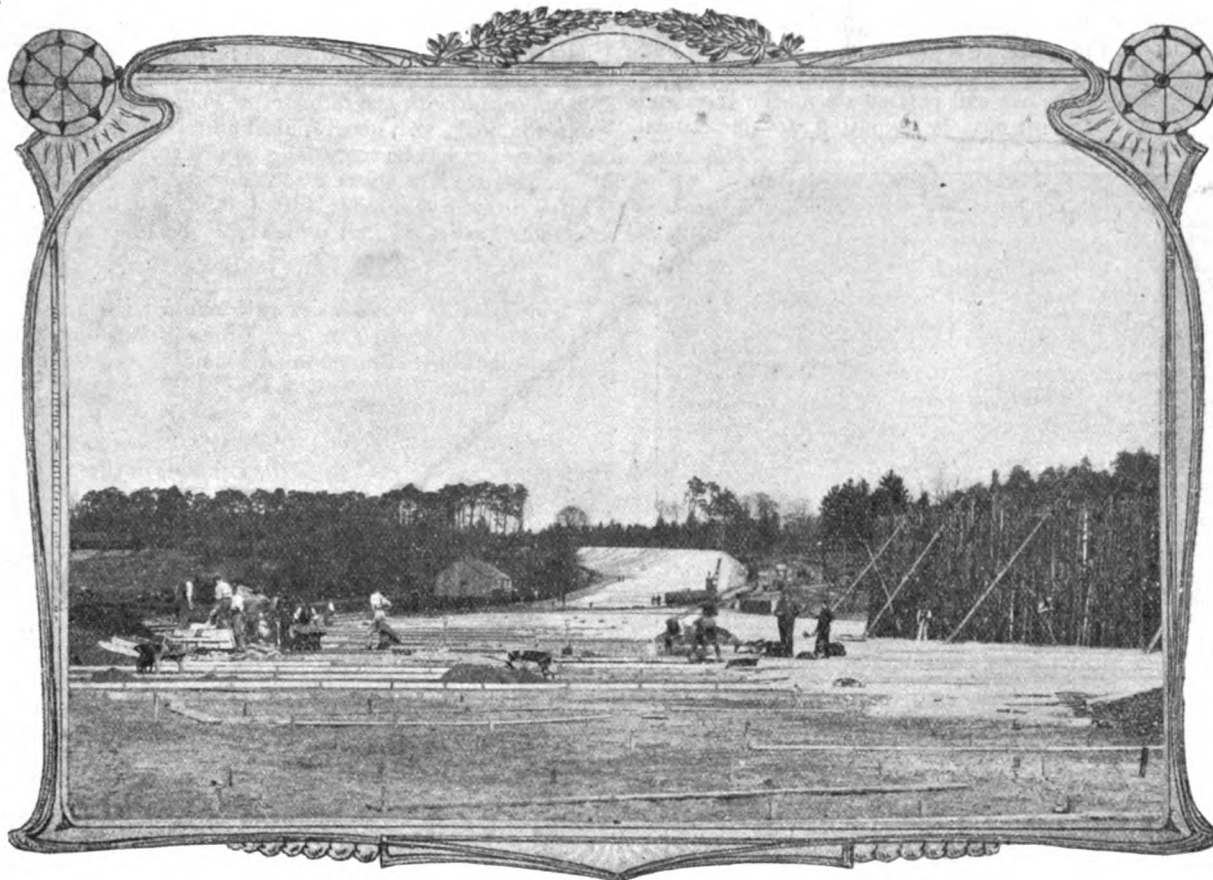
obtained a considerable measure of support. Ultimately Mr. Herbert Samuel agreed to meet the wishes of Liverpool opponents, with the result that the measure was carried a step further.

The Bedfordshire A.C.

STEADILY the number of county automobile organisations is increasing, and we are glad to hear of the steps being taken for the formation of an automobile club for Bedfordshire. A meeting will be held within the next few days, when the matter will be fully considered, the idea being to found a strong organisation to provide facilities for meetings of Bedfordshire motorists, fostering the interchange of ideas and experience, and discouraging any reckless and inconsiderate driving that may be reported, and generally to extend the influence of the movement in the county. Lord Amptill, Mr.

A Preposterous Proposition.

LORD BRASSEY, addressing the Burnley Chamber of Commerce in his capacity of President of the Associated Chamber of Commerce, announced a few days ago that further taxation on motor-cars would doubtless come next year, and that the annual charge of £10 for vehicles used for pleasure would not be thought excessive, nor would £5 for those employed for professional or business purposes be considered beyond the motorists' ability of payment. We do not know what authority his lordship has for this supposition, but can at once inform him that the amounts mentioned would inflict hardship upon the industry, and bring into opposition to the Chancellor of the Exchequer the fully organised forces of motorists throughout the country. It would be well if public men, when considering means of revenue, would pay some regard to the wider aspects of the question. The man who



The Brooklands Motor Track, Weybridge.—Laying the Asphalte.

Percy Barlow, M.P., Mr. Guy Pym, D.L., Mr. Howard Howard, Mr. Arthur Brown, of Luton, and other prominent motorists are interested in the new club, and Mr. Gregory J. M. Whyley, of Dame Alice Street, Bedford, is acting as hon. sec. *pro tem*.

Vapour Emission Competition.

THE Expert and Technical Committee has agreed to recommend to the committee of the Royal A.C. that the Vapour Emission Competition shall not be held in May, as originally suggested, but shall be postponed until the autumn, when it might be held in conjunction with a town motor carriage competition. The two competitions would, however, be quite separate. A further suggestion is that heavy vehicles shall, if possible, be allowed in the Vapour Emission Competition. The technical committee will shortly publish a statement as to the manner in which the Vapour Emission Competition will be conducted, with suggestions as to the best methods for preventing an excess of carbonic oxide gas being given off at the exhaust.

motors contributes considerably towards various industries without having to be taxed because he sees in a motor-car the means of economy in time and labour. Many subsidiary industries have benefited from the development of Motorism during the last ten years, and those engaged therein, in common with actual motorists, would deplore anything calculated to harass or impede the progress of an industry which, as our export returns have lately shown, promises to become a great factor in the commercial activity of the country.

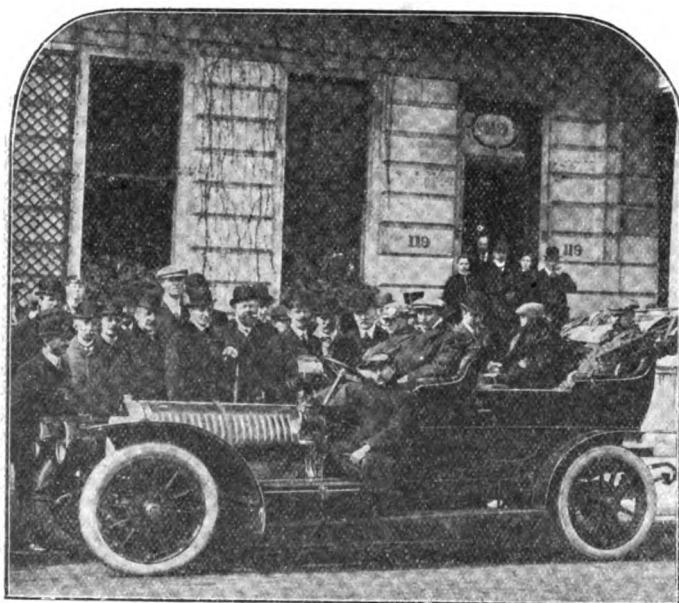
Scottish Reliability Trial.

DURING the past week the Right Honourable Sir J. H. A. Macdonald, Lord Justice-Clerk of Scotland, President of the Club, drove Mr. R. J. Smith on his Daimler over about 500 miles of the trial route. The roads, which on the upper parts are now free from snow, were found to be generally in very fair order, and the secretary notes that there is a satisfactory advance in the condition of these roads evidenced from

year to year. The arrangements for the trial in outlying parts are now in an advanced stage, and considerable interest is being evinced throughout the route on the subject. The extension of the trial to five days, and the inclusion of Inverness in the itinerary, will lend new interest and give increased work to the competitors. Entries close on the 14th inst.

**The Six-Cylinder
Hotchkiss Tour
of
Great Britain.**

It is only a week or so since we chronicled the successful completion by M. Van Marcke of a 10,000 kilometre tour of France on a 45-h.p. six-cylinder Hotchkiss car. The identical vehicle has now been brought over to this country, and on Monday last started on a much more notable undertaking—a 10,000-mile trial in Great Britain under the observation of the Royal Automobile Club. From the map which has been prepared we find that in the course of its long journey the vehicle will visit all the principal towns, with the notable exception of Birmingham, in England and Scotland, from Land's End in the south to Inverness in the north, and from Yarmouth on the east coast to Holyhead on the west. The trial, during which the car will participate in the Irish and Scottish reliability competitions, is expected to last until



The Hotchkiss Six-cylinder Car Starting from the R.A.C. on its 10,000-mile Trial. (Argent Archer.)

July 13th, the daily distance averaging just under 140 miles. So far as possible the vehicle will be driven over different roads, only 2 per cent. of the running being over routes that have previously been traversed. Previous to the start, which took place from the Club house in Piccadilly, W., at 2.30 p.m., on Monday last, Capt. Corbet, of the London and Parisian Motor Company, entertained a number of friends to luncheon, among them being Mr. J. J. Mann, of the Hotchkiss Company, who explained the object of the trial. Our photo depicts the car leaving for Newark, the first day's destination, with Mr. C. P. Harrison, who will be the driver for the initial part of the trial, at the wheel. We may add that Mr. A. H. Binyon is acting as the observer on behalf of the R.A.C., and that the destination on Tuesday was Nottingham, a run to Burton and back to the lace city being made on Wednesday.

**Soldiers as
Motorists.**

WE understand that Mr. Haldane, as Secretary for War, has entered into an arrangement with the Technical College, Glasgow, for providing a series of demonstrations on the mechanism of motor-cars to the soldiers in Maryhill Garrison. This further recognition of the necessity of acquainting the military with a knowledge of motoring may be regarded as

going to prove the important part that mechanical vehicles will play in the operations of the Army in the future. From Portsmouth to Glasgow is a far cry, and the fact that at both extremities instruction in automobilism is being given under military auspices is gratifying to men like Lt.-Col. Mayhew and others who have urged, in season and out, the necessity of this country pioneering the movement in military motorism. Having provided a supply of drivers, Mr. Haldane will next have to make provision for the necessary vehicles for them to steer.

**A Motor Trade
Directory.**

THE new edition of the Motor and Cycle Trades Directory of Great Britain and Ireland, with which is incorporated Porter's Cycle and Motor Trades Directory, has just been issued by the Lancashire Publishing Company, Ltd., 10, South Street, Finsbury Pavement, E.C. This is now in its eleventh year, and there are nearly three thousand more names in this edition than in the previous issues. At the same time care has been taken to eliminate firms which have ceased their connection with the industry. There are two distinct divisions in the book, viz., geographical and trades, and apparently every endeavour has been made to secure accuracy, while the arrangement is well calculated to facilitate reference. In addition to the directory of the United Kingdom there is a Continental motor trades' section, which will be of considerable service to all engaged in the automobile business. The volume extends to over a thousand pages, and, compared with earlier editions, demonstrates in an emphatic manner the great growth of the motor industry. The Lancashire Publishing Company, Ltd., are to be congratulated upon their enterprise as well as upon the manner of its execution.

**Fun on an
Airship.**

"PUNCH" was at the Agricultural Hall, London, in the early days of April, for he refers to the aeroplanes at the Cordingley Motor Show, and secured an idea thereat. Now he proposes to hold an Aeroplane Competition in the vacant building plot between Aldwych and the Strand, his "Priceless Esteem" being offered as encouragement to the most successful inventor, and, probably—though he does not say so—to all the competitors generally. The suggested classification is as follows:—A, air skidders of not less than 1-goose power; B, Aeroboomerangs: to create hilarity by recoiling on the exhibitor's head; C, Turtleplanes: diffusing joy by flapping vigorously with their wings and flopping to the ground in an inverted position; D, Daisy-cutters: to raise a laugh by travelling along the surface among the L.C.C. brickbats in search of spring wild-flowers; E, Set-pieces: to please the junior members of the company by a firework display—will not be expected to budge from the starting-point. There will be, in addition, a miscellaneous class for models constructed of sardine tins and bits of newspaper and string, for giant tip-cats, for colossal grasshoppers, for man-lifting fleas, and for all other risible aids to aviation. Designers and inventors will accordingly please walk up—they are not called upon as yet to fly, but only to add to the gaiety of London.

AMONGST recent purchasers of Daimler cars is Lord Gerard, who has bought a 28-Daimler chassis of 10½-ft. wheelbase.

HIS GRACE THE DUKE OF SUTHERLAND, who last year acquired a 16-h.p. De Dietrich, has just ordered a 40-h.p. car of the same make from Messrs. Jarrott and Letts, Ltd.

MESSRS. WEST, LTD., have entered two cars for the forthcoming Tourist Trophy race which will comprise a number of special points. An Aster engine of 16–20-h.p. will supply the motive power, while the gear-box is being arranged to give four speeds and a reverse, with the direct drive not on the top but on the third speed. Wire road wheels of the Rudge-Whitworth detachable type are being fitted to the cars, which will have a wheel base of 9 ft. 6 in. and a track of 4 ft. 7½ in.

THE PROGRESS OF AUTOMOBILISM IN SOUTH AFRICA.

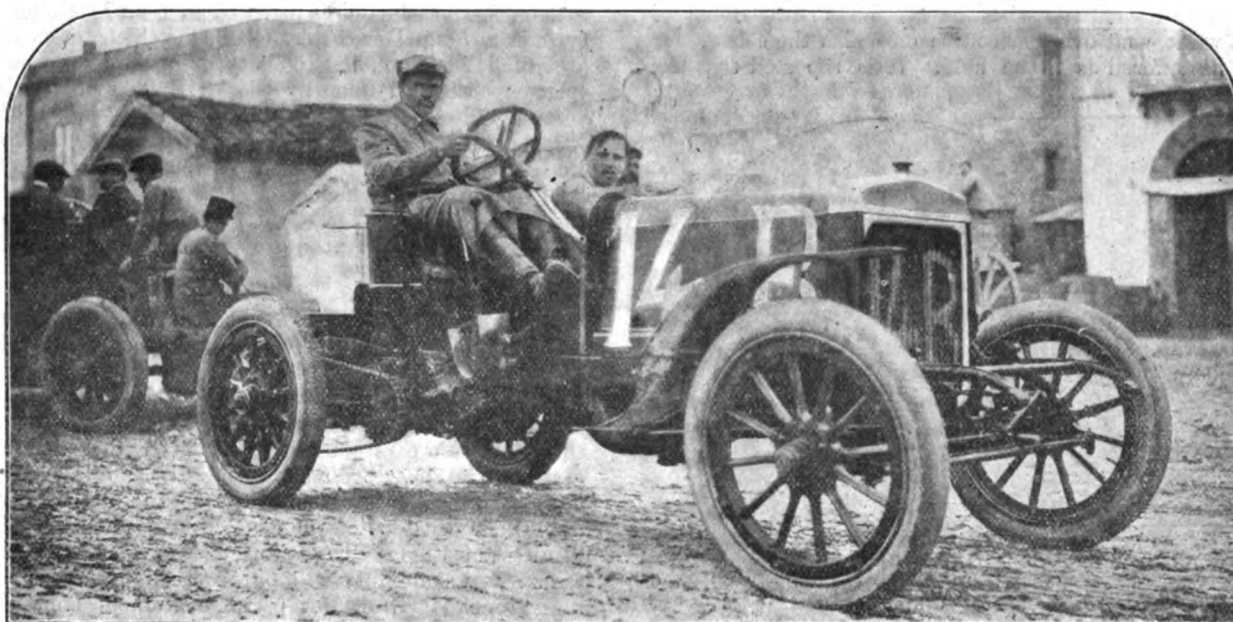
By C. R. BRADFORD, Hon. Secretary of the Natal Automobile Club.

THE motor-vehicle in South Africa, both for pleasure and commercial purposes, is at present only in its infancy, but to those acquainted with the industry it must be apparent that the next few years will see an enormous growth in the use of self-propelled vehicles. At the present time there are approximately between 200 and 300 cars in Cape Colony, between 600 and 700 in the Orange River Colony and the Transvaal, and about 150 in Natal. The majority of these machines are used for town purposes, only a very small proportion of them being kept in the country. The great drawback to the advance of the motor movement may be summed up under three heads:—(1) The roads outside the larger towns are, on the whole, in a very bad condition, no thought ever having been given to the proper construction and grading, and a large number of rivers which in the rainy season have a considerable body of water in them are unbridged and without ferry, and in some places only an apology

and to bring before the general public the enormous future in this land of vast distances of the mechanically-propelled vehicle, either steam or petrol.

As regards speed limit, we are fortunately not worried with restrictions other than in one or two of the larger towns, such as Capetown, Johannesburg, Bloemfontein and Durban, and even these restrictions have not, so far, been harshly imposed. The various town councils have, when approached, always taken a very lenient view of the matter, and have recognized the necessity of a fair margin being given, and that the automobile must needs be permitted an advantage over the horse vehicle as regards speed. The rough nature of the main roads of the colonies in itself acts as a speed regulator—long, straight, level surfaces are practically unknown, and in touring if an average speed of 16 to 20 miles per hour is maintained it is as much as can be expected from the best constructed car.

Garages are few and far between, barely half a dozen towns being able to boast of this luxury; Capetown, Johannesburg and Durban are fairly well supplied in this respect, but, in the majority of the other towns one is compelled to resort to the local cycle agent, whose knowledge of up-to-date cars is very meagre. The requirements of Durban motorists are met by two



Hemery on the De Luca-Daimler Car which he drove in the Targa Florio Race.

or a drift; (2) Until quite recently it was practically impossible to rely on a supply of petrol, and in making a tour any distance from the railway arrangements had to be made for forwarding supplies to different points *en route* by bullock wagon; (3) There is no car up to the present that has been built especially to suit the requirements of tourists in the South African colonies. Several long trips have been undertaken by one or two of the more enthusiastic motorists, and these experimental runs have been of great service in bringing to light the many defects from which both the European and American-built automobiles suffer, and have also dispelled the prevailing idea that South African roads, although rough, are impossible for motor traffic, either for pleasure or commercial purposes.

The trip from Capetown to Johannesburg has been accomplished on several occasions, both on European and American machines, from 6-h.p. upward. The run from Durban to Maritzburg, a distance of only sixty miles, which was considered quite a task owing to the bad surface of the road and its heavy grades, has now become a favourite trip for the more venture-some of our motorists, and has been accomplished by fully a dozen in the last few months in a little over three hours. There is not the slightest doubt that the formation of automobile clubs in the chief centres is doing a great deal to further the industry

companies, the South African Motor Company and the Natal Motor Garage, Ltd. New premises are in course of construction for these two companies, and arrangements are being made to equip them with a complete up-to-date repairing and charging plant. One of the most grievous mistakes made by manufacturers has been in granting sole agencies for the whole of South Africa to firms who have only a place of business in one town. These firms in turn appoint sub-agents, the purchaser consequently having to pay so large a price for his car by the time it reaches him that many are debarred from the pleasures of motoring, owing to this unbusinesslike arrangement. To this cause may be assigned the fact that a number of purchasers of cars have placed their orders direct through a buying house, either in Europe or America. Manufacturers would be wise before granting sole agencies to make inquiry regarding the district covered by firms requesting them, and, unless they have branches of their own business throughout South Africa, control should only be given in the district in which they are directly represented.

(To be concluded.)

THE Royal A.C. will treat thirty-one miles of the race track in the Isle of Man with Akonia dust preventor.

CONTINENTAL NOTES.

The Herkomer Touring Trophy Contest.

The entries for the 1907 contest for the Herkomer Touring Trophy have reached a total of no less than 176, of which the majority (108) are German vehicles. The foreign element forms quite a small proportion, the Italians being most largely represented with twenty-two entries, the French coming next with thirteen cars of various makes. The English contingent consists of two Napiers, two 45-h.p. six-cylinder Siddeleys, a Belsize, and a 40-h.p. Argyll entered by Mr. Robertson Grant, who, it will be remembered, drove a 16-20-h.p. Argyll in last year's contest.

A Danish Touring Car Trial.

The Danish Automobile Club is organising a trial of touring cars to be held on the island of Seeland on the 26th prox. The event is open to all fully-equipped touring cars belonging to members of the D.A.C. or any affiliated club; the total distance to be covered being 300 kilometres. Each vehicle will be allotted 300 marks, from which points will be deducted for all stoppages.

The Kaiser's Prize Race.

The Kaiser, in company with his brother Prince Henry of Prussia, last week went over the course on which the contest for the prize he has offered is to be held. It is reported that the



A View of the Course on which the Contest for the Kaiser's Prize will be held.—A right-angle turn at Oberursel.
(Allgemeine Automobil Zeitung.)

Government authorities will require one or two parts of the course to be neutralised, and also a restriction in the number of competitors.

A Hill Climbing Competition in Spain.

A hill climbing competition is to be held in Spain on May 22nd. It will take place at Puerto del Guadarrama, and classes will be provided for (1) two-seated cars up to 600 kilog.; (2) touring cars; (3) commercial vehicles for loads up to two tons, and (4) public service machines having accommodation for at least fourteen persons.

Motor-Cars for Military Purposes.

The French military authorities are devoting considerable attention to the utilisation of motor vehicles in time of war, and again last week called upon a number of automobilists on the reserve list to present their cars at Vincennes for inspection and trial. Sixty-two vehicles put in an appearance, and afterwards they were subjected to a stiff cross-country run, in which both the hill-climbing capabilities and the brakes were thoroughly tested.

An "Economical Wheel" Trial.

The Automobile Club de Seine-et-Oise is organising a trial of "economical wheels" for motor-cars—that is, some system

interposed between the axles and the road which shall serve as a less costly substitute for pneumatic tyres, while retaining the easy riding qualities of the latter. The cars to which the arrangements are fitted will be required to cover a distance of 3,500 kilometres, and the awards will have regard to the first cost of the wheels on a total weight—1,000 kilometre basis, and to the cost of up-keep. The five successful competitors will be eligible to continue the trial for a further 1,500 kilometres for the Mirand-Devos cup, which is being offered in connection with the event. Particulars of the trial, the entry list for which closes on the 6th inst., can be obtained from the Technical Commission of the A.C.S.O., 10, Avenue Debasseux, Versailles.

The Elastic Wheel Competition.

Of the thirteen cars which started in the trial of elastic and spring wheels from Paris to Nice and back, a total of 2,080 kilometres, eight succeeded in covering the whole distance; of these three vehicles were fitted with Ducasble tyres, three with Elastex tyres, one with Cosset spring wheels, and one with the E. L. wheels. The jury met on Friday last week to examine the condition of the wheels and tyres after the long journey, and have since made the following awards:—Class I., cars having engines of a total piston area of not more than 127 sq. centimetres, 1, Ducasble tyres fitted to an 8-h.p. De Dion; 2, Elastex tyres on an 8-h.p. Demeester. Class II., vehicles of maximum piston area of 347 sq. cm., 1, Elastex tyres on Motobloc car; 2, Cosset spring wheels on Panhard. Class III., cars of maximum piston area of 472 sq. cm., 1, Ducasble tyres on 24-h.p. De Dion, and 2, Elastex tyres on Cornilleau Ste. Beuve car. On Thursday the Elastex Company entertained their fellow competitors in the trial to a banquet, when a suggestion was made that makers of spring and elastic wheels and tyres should form a society with the idea of developing the use of the same on automobiles.

Miscellaneous Items.

A company has been formed in Prague, Austria, to introduce a service of motor-cabs into the town.—A motor-car exhibition was opened in Stockholm on Tuesday last, the 30th ult.—A motor-car race from Moscow to St. Petersburg, a distance of 425 miles, is to be held on the 7th prox.—The three German cars entered for the Grand Prix are not special racing cars, but ordinary standard Chainless cars, specially lightened, in view of the fact that they have only to carry a light racing instead of the usual touring body.—The French Minister of Finance has informed the Touring Club of France that in future no duty will be exacted from automobilists entering French territory for petrol contained, bona fide, in their reservoirs. This privilege extends only to the subjects of other nations who accord a similar favour to French citizens, such as England, Belgium, Switzerland, and Germany. Temporary permission to this effect had been already given during the past year, and the Minister of Finance has now made it a permanent rule.

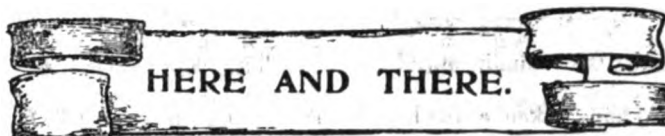
THE Swift Company have entered two cars for the Irish Trials and two for the Scottish Trials. For the former they are sending their latest twin-cylinder vehicle, and a new production, an 18-24-h.p. model. Both cars are fitted with engines of the Swift Company's own design and manufacture. Of the machines for the Scottish Trials one is another entirely new model, 15-18-h.p. four-cylinder, and the other a twin-cylinder vehicle.

THE Master of the King's Household, the Right Hon. Lord Farquhar, has just taken delivery of a new 60-h.p. six-cylinder Napier limousine, on which he has started for a tour in Spain. The body of the car seats five in the interior—three on the main rear seat and two on additional seats—so arranged that they enable the passengers to face forward, and yet, when not required, they fold close against the sides of the body. A speaking-tube, folding tables, electric lights, and other refinements that make for utility and comfort, are also embodied in this luxuriously designed carriage. The interior is upholstered in green ribbed cloth, and the painting is in alternate stripes of dark green and black.

THERE are thirty-one entries for the International Tourist Trophy Race, and sixteen for the International Heavy Touring Car Race.

HIS ROYAL HIGHNESS THE DUKE LUDWIG OF BAVARIA has bought a Metallurgique car, which he intends to drive in the Herkomer Touring Trophy contest.

MR. HAMPTON, South Quay, Douglas, will supply competitors in the Manxland races with a petroleum spirit having a specific gravity of 0.715 to 0.725 at 60 deg. Fahr., as required by the Royal A.C.



MESSRS. W. J. PECKHAM, LTD., have a garage for sixty cars in the Osborne Road, Southsea, which is open by night as well as by day.

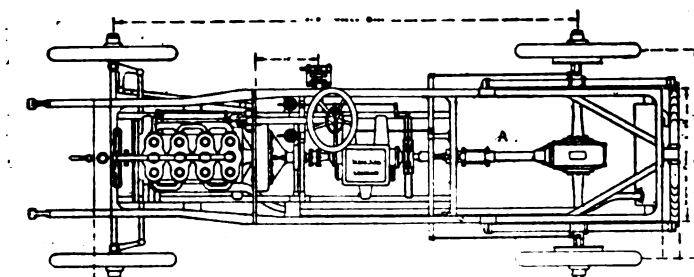
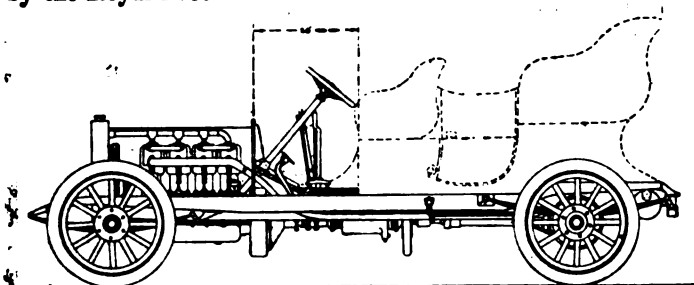
WE learn that the Fiat Company are building 500 motor-cabs for service in London. They will be of 12-h.p., and will be fitted with four-cylinder engines.

MESSRS. HALL, CAPRIS AND CO., LTD., inform us that the Isotta-Fraschini cars which competed in the Targa Florio contest last week were, so far as the chassis was concerned, standard patterns taken from stock. Their times were very uniform, only twelve minutes separating the three vehicles which finished the run of 450 kilometres, and which secured the seventh, ninth, and eleventh positions. In the first round of the course the fastest time was made by the vehicle driven by Trucco.

MESSRS. BRANSOM, KENT AND CO., LTD., have issued from 40, Great Eastern Street, E.C., a catalogue of tools and machinery required in the motor trade, which will doubtless be in good request from owners of garages throughout the country as well as from private motorists who see to things themselves. Braziers and forges, chucks, drilling machines, grinding tools, lathes, pipe bending tools, screwing machines, stocks and dies, &c., vulcanisers, &c., find illustration and description in this list.

A "NEW contract system" is being introduced by the Automobile Contract Company, Ltd., of 51, Conduit Street, W., who are willing to supply any reputable make of car on this plan. The customer selects the car, which is purchased by the Automobile Contract Company, by whom it is supplied to the client on hire with right of purchase. One third of the value is paid down, and the remainder can be settled at any time within twelve months. The hiring can be terminated within that period on terms which are fully explained in a new leaflet just issued by the company.

WE illustrate herewith a novel type of body of doctor's coupé recently designed and built by Mr. Wm. Vincent, of Reading. The idea of the design is to obtain the advantages of a limousine body with a side entrance, within the limits of a short chassis, which admits of a moderate-priced car being supplied. There is ample room for two adults in the back, and



Elevation and Plan of Chassis of West 20-22-h.p. Car, showing at A the new Shock-absorbing Device referred to in the last issue of the "M.C.J."

Two Daimler cars are entered by amateurs for the Frome's Hill Climb. The Daimler Company is not officially represented, and these cars are only of the 1906 pattern, which was so successful in hill climbing during the past season.

THE Bexhill magistrates have dealt with due severity with four lads who threw an orange at the car of a motorist, breaking the glass of his screen, and causing injury as well as annoyance. All such cases should be reported to the police.

THE chairman of the British Moss Litter Company, Ltd., has told his shareholders that the sales of moss litter last year were within £900 of the previous year—"thus showing that the motor industry has not materially affected the moss litter trade."

MR. R. TINGEY, of the Parade, Leamington Spa, sends a waistcoat-booklet relating to the Regent Hotel garage in that pleasant town. At the hotel a 20-h.p. car is kept for hire by visitors, and accommodation is provided in the garage for forty automobiles.

MR. C. R. BRADFORD, the hon. sec. of the Natal Automobile Club, has recently contributed a series of articles on "The Progress of Automobilmism in South Africa" to the "Horseless Age," some interesting extracts from which are reproduced elsewhere in the present issue.

THE Riley Cycle Co. inform us that in view of the demand for their different models, and especially for their 9-h.p. car, they looked forward to doing good business at the Cordingley Show, but they did even better than they expected. The 9-h.p. went well, but the other models, especially the 12-h.p., were in good demand, the volume of trade being better than at any previous show at which they had exhibited. They consider that the percentage of visitors really interested in cars was very high at Cordingley's.—"The Motor Trader."



with the door closed a good space for luggage is formed on the floor boards. The body is built of mahogany panels on ash framing and is upholstered in cloth, with wide and comfortable cushions and upholstery. There is, of course, no reason why this type should not be mounted on a larger chassis, but the primary object is, as mentioned above, to get a small limousine on a short wheel-base car.

MESSRS. S. F. EDGE and E. Powell have been giving evidence before the meeting of the departmental committee appointed by the Board of Trade to inquire and report with reference to the participation of this country in the great international exhibitions.

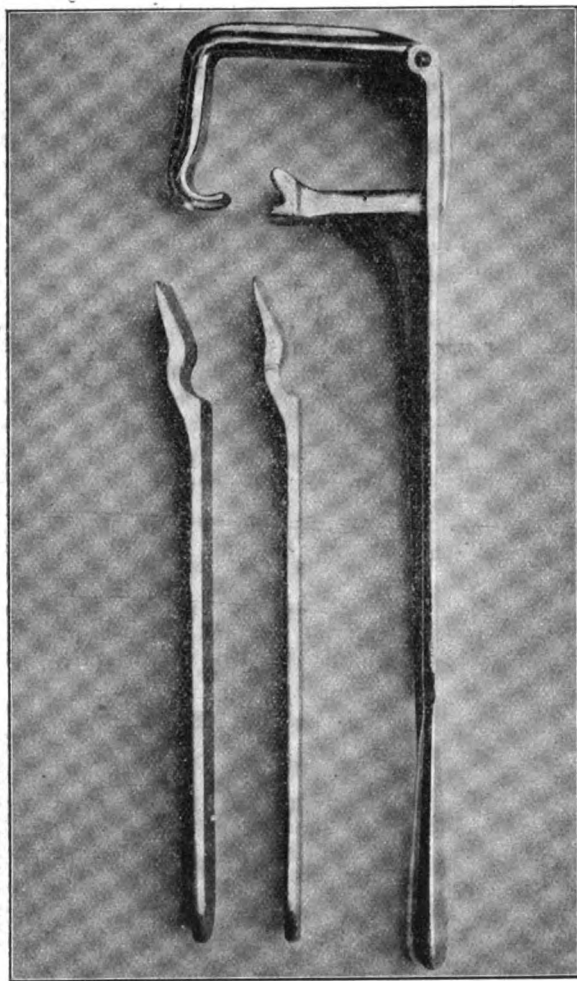
A BRANCH garage has been opened by Mr. John Hoyle, of Brighthouse, in Weymouth Street, Halifax.

JUDGE SIR WILLIAM SELFE has asked the conundrum, "Is a motor-omnibus a lady because it wears a bonnet?"

MESSRS. MOORE, of Brighton, Ltd., have taken a further block of property in Regency Mews, Brighton, for the extension of their garage.

THE Manchester Motor Garage Company, of Hardman Street, Deansgate, Manchester, has been appointed the official Motor House of the Manchester A.C.

THE Argyll Motor School in Newman Street, London, W., is proving increasingly popular and attracting a large number of people for whom situations are likely to be found, as well as private owners of cars.



The Complete Set of "Rapeasy" Tools for Mounting or Dismounting Tyres.
(See page 214.)

WE understand that both Mr. Frederic Coleman and Mr. Claud Johnson are having a preliminary run next week over the Scottish Reliability Trial course—under the official observation of the Royal A.C.—but their cars will not be in competition with each other in any way. Readers will, therefore, not confuse this event with the trial resulting from the White steam car challenge, and which will be held later.

THE Motoring Annual and Motorist's Year Book for 1907 comes to hand in its usual excellent form, extending to 500 pages, and forming an encyclopædia of the year's automobilism. In addition to the "Who's Who" of motoring, the section relating to clubs and motoring organisations is extending to great dimensions, and the editors are to be congratulated on the growth of the volume. Its earlier publication in the year is the only suggestion for improvement we would offer our confreres.

GOGGLES are to be supplied to the motormen employed on the tramway system of the Ilford District Council.

THE Motor Drivers' Employment Agency, 199, Piccadilly, W., has received an application from a lady who wants a situation as motor-driver.

AMONG last week's deliveries of engines from the Ailsa Craig Motor Company's Works at Chiswick was a 20-30-h.p. Ailsa Craig petrol motor for Messrs. John Wilesmith and Company's new hydroplane.

MR. H. GARNER, the well-known motor factor of Nantwich, is making a feature of the sale of Humber cars, giving clients a choice of styles and models from a large stock ready for delivery.

LORD JUSTICE ROMER has been a sportsman for the whole of his career, and is now quite as enthusiastic over motoring as he was over cricket and rowing in his younger days. His Lordship drives a 30-h.p. Beeston Humber.

THE first automobile built, about 1893-4, by the Haynes Automobile Company, of Kokomo, Ind., has been acquired by the Smithsonian Institution at Washington, U.S.A., in whose museum it will be kept as one of the first petrol motor-cars constructed in America.

MESSRS. BROWN AND HUGHES, of Netherwood Road, West Kensington Park, W., have sent us a sample of "Taylor's Oriental Veneering Cream," for which they have secured the British agency, and which will be found, as judged by the samples of work exhibited at the recent Cordingley Show, an excellent means of maintaining the polish of all the varnished portions of motor-car bodies.

FROM Messrs. Perry, Thornton, and Schreiber, Ltd., Long Acre, W.C., who have acquired the British agency for the Ford cars, comes a copy of the latest catalogue of these vehicles. Two models are made, viz., 15-h.p. four-cylinder and 40-h.p. six-cylinder, full particulars of which are given in the list. We may add that examples of both types are now on view at the firm's depot, where they may be inspected and tested.

MESSRS. JARROTT AND LETTS, LTD., have sent us an interesting photograph, which unfortunately does not lend itself to reproduction. We may state, however, that it depicts Herr Hegel, of Copenhagen, putting his 60-h.p. De Dietrich to a novel use during the heavy snows of the past winter—that of hauling a sleigh. Herr Hegel writes that he has had as many as twenty-five people on board the sleigh, and that he has easily attained a speed of 40 to 50 kilometres per hour. Non-skids are, of course, of no use in the snow, so big ropes were twined round the driving wheels, these being found to answer perfectly.

CALLING at the works at Alexandria the other morning to take delivery of a new 26-30-h.p. Argyll, Mr. Hamilton, of Argylls Liverpool, Ltd., accompanied by Mr. Charles McIver, the well-known yachtsman and member of the Royal Clyde Yacht Club, drove this car from Glasgow to Liverpool without a gear change, a distance of 214 miles, in good time, making an absolutely non-stop run. This run is particularly interesting in that it demonstrates the extreme effectiveness of the new throttle valve and control fitted to these cars, and by means of which any Argyll car can be driven at a speed varying from four miles an hour to forty on the top speed alone.

A NEW nut and bolt lock washer has been put before the motor industry by the Gripper Company, Ltd., of 2, Bream's Buildings, Chancery Lane, E.C. The principle of construction makes it impossible for the nut to slack back whether screwed down tightly on the work or not, while no strain is placed on the thread. In the centre of the washer is a D-shaped aperture for the bolt, three spring fingers being placed on the outer circumference. In the locking ring are teeth to engage and lock with the spring fingers in the washer, the aperture between being the shape of the nut, hexagon or square, with the sides slightly raised to prevent the rotation of the nut. When fitted it is impossible to move the nut, even with a spanner, without first removing the locking ring. The "Gripper" nut and bolt lock washer is especially adapted for the bolts on the engine and shaft bearings, and the device can be made of any metal, the principle of action not depending upon the adoption of any particular material.

SOME USEFUL NOTES.

ONE should always be on the look-out for "squeaks," for any such unusual noise is evidence of lack of lubrication and generally foretells a breakdown unless heeded at once.

IN taking down gears and other parts of the mechanism of a motor-car, care should be taken to see that all the parts are so marked that no mistake can be made when the re-assembling is done. Special precautions must be taken with the ignition and valve timing, as the least error in resetting these may be attended with disastrous results.

THERE is a cause of misfiring which is not usually discovered very quickly; in some cases there is an intermediate wheel between the exhaust and inlet and crank-shaft gear wheels, this being frequently made of fibre, and after considerable usage it wears very thin on the teeth, with the result that the timing is not at all accurate, and misfiring occurs at high speeds. By fitting a new wheel the trouble will vanish.

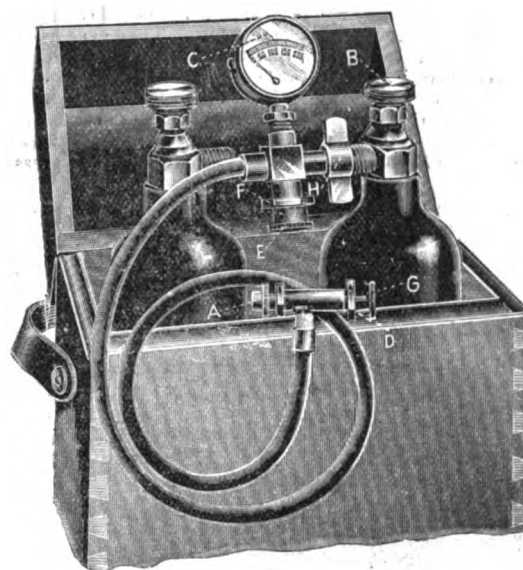
THE perfect curing or vulcanisation of a tyre repair is best tested by the thumb nail. Should the part vulcanised leave an impression after being indented by the thumb nail, it is a sure sign that it is under-cured or under-vulcanised, and should again be applied to the vulcaniser for a short time. On the other hand, as Messrs. Harvey, Frost and Co., Ltd., point out in their Instruction Book on tyre repairing, should it feel hard, brittle, and entirely irresponsive to the touch, it is a sign that it is over-cured, and this latter should at all costs be avoided, as it is at all times preferable to under-cure rather than over-cure. It should be quite possible to be able to impress the part which is vulcanised; at the same time it should be responsive and not in any way retain the impression made.

It frequently happens that when a motorist has run up to, and come to rest at a point at which he desires to stop, on top speed, a little difficulty will be found in returning the change-speed lever to the neutral notch in the quadrant or gate. This is due to the fact that the teeth of the toothed pinions on the sliding sleeve on the gear-box do not at the moment exactly coincide with the spaces between the toothed wheels on the gear-shaft, and the pinions will not pass each other. Of course, the clutch can be let in slightly, which would alter their position with regard to each other, but not infrequently the teeth still foul. The depression of the brake pedal, however, and the consequent grip of the brake bands on the drum, will, by reason of the slight play in the driving shaft, cause the gear shaft to move just enough to permit the passage of the wheels on the sliding sleeve through their fellows, and allow the neutral notch to be at once attained.

THE condition of the tyres is a matter about which motorists should frequently take notice. A deflated rear tyre, especially if there be much weight towards the rear of the car, often gives a peculiar "feel" to the steering, as if the vehicle were travelling over a greasy road. The rear of the car swings about abnormally, as if there were a slight skidding tendency. When a driver feels this sensation, when running on a good dry road, he should immediately think of his rear tyres. Of course, a deflated tyre causes unusually sharp jars to be transmitted to the portion of the car over it, and the mud-guard and other attachments in its vicinity shake and rattle more than usual when the wheel is running on its rim with the tyre deflated. These signs may, however, pass unnoticed when a car is proceeding at a moderate pace over perfect roads. A deflated front tyre will usually make itself known by the excessive jar which is transmitted to the car body, and by the difference in the steering which it causes. The car tends to swerve to the side upon which the injured tyre is located. Signs of tyre trouble should be instantly heeded, as there is not only the certainty of damaging the inner tube and cover beyond repair, but the danger of serious loss of control of the car if high speeds are indulged in.

THE SICO MOTOR TYRE INFLATOR.

WE illustrate a new tyre inflator designed to obviate the use of the ordinary pump and the hard work associated therewith, which has just been put on the market by the Scotch and Irish Oxygen Company, Ltd., of the Rosehill Works, Polmadie, Glasgow. As will be seen from the illustration, the arrangement consists of a neat wooden box in which are fitted two seamless steel cylinders containing carbonic acid gas (CO_2), and equipped with the necessary tubing, pressure gauge, &c. A spring safety valve is provided at E; this can be adjusted to blow off at any desired pressure, so that there is no risk of over-inflation and consequent damage to the tyres. Even without the safety valve, there need be no risk of over-inflation, as the gas can immediately be shut off when the proper pressure is recorded on the gauge, but the safety valve provides against possible defective working of the gauge or inattention of the operator. By means of a special fitting the tyre valve is kept open while the gas enters and the correct tyre pressure is recorded on the gauge. The cylinders are made of solid-drawn mild steel, in accordance with Board of Trade requirements, and are annealed and tested



to a pressure of 3,360 lbs. per square inch without permanent stretch. As the pressure of the gas in the cylinders (at say 85° Fahr.) is only about 1,100 lbs., it will be seen that there is a good margin of safety. The makers also inform us that no apprehension need be felt as to danger of explosion in the event of the cylinders receiving a shock or fall, as, on account of the special quality of steel from which they are made, they will stand a tremendous amount of hard usage without risk. The inflators are made in various sizes and in two capacities—1 and 2 lbs. of CO_2 —1 lb. of the gas, which is claimed to have no harmful effect on the rubber of the tyres, being sufficient to fully inflate an 870 by 90 mm. tyre five times. Arrangements are being made to supply fully charged cylinders for discharged ones promptly and at moderate rates.

FROM Messrs. Morgan and Co., Ltd., of Long Acre, W.C., who have just taken up the British agency for the Adler cars, comes a copy of the catalogue they have issued of these vehicles. This is one of the most complete booklets of the kind that we have so far received; it extends to sixty-two pages and comprises an elaborate description of all the principal details of the Adler cars, the text being elucidated by very clear drawings and photographs. As showing the exhaustive character of the work, it may be stated that there are altogether no less than thirty-two illustrations, the majority of these each occupying a full page.

The Cordingley Show.

(Concluded from page 193.)

PETROL VEHICLES

The Star Cars.

The exhibit of the STAR ENGINEERING COMPANY was one of much interest, not merely because of the 30-h.p. six-cylinder car that was on view, but also because of the improvements embodied in the older models. Dealing first with the "six," this is throughout on modern lines. The cylinders, which are cast in pairs, are $4\frac{1}{2}$ in. bore by 5 in. stroke. The engine is fitted with magneto ignition and the carburettor is of a special automatic type ensuring slow and quiet running; the lubrication is also automatic, and worked by a small plunger pump operated by an eccentric on the cam shaft; the supply of oil is drawn through a filter from a reservoir underneath the crank chamber, the pump forcing it through all the bearings, whence it returns through a filter to the reservoir. The gear is of the firm's usual type, giving three speeds and a reverse, with a direct drive on the top speed, the shafts in the gear-box being fitted with Hoffmann ball bearings. The transmission from the differential shaft to the road wheels is by side chains on to sprockets formed solid with the large internal brake drums on the rear wheels. Two foot brakes are also provided on the differential shaft. The frame is of pressed steel of

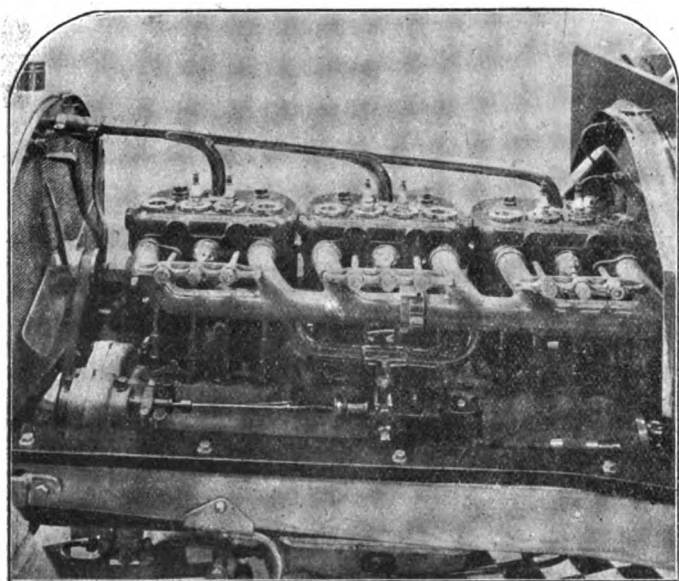


Fig. 67.—The Engine of the Star Six-Cylinder Car.

deep section. The throttle and ignition levers are fitted on the centre of the steering wheel, and there is also a foot accelerator. The cooling is by a gear-driven pump and a radiator of the honeycomb type. The next car was a standard 18-h.p. "Star" of the Tourist Trophy type, fitted with a side entrance double phaeton body. The engine comprises four cylinders, $4\frac{1}{2}$ in. bore by 5 in. stroke, fitted with high-tension magneto ignition. Four speeds forward and a reverse, with direct drive on the fourth, are provided, the change-speed lever working in a "gate." The gear-box is fitted with ball bearings, and is built on the same lines as that of the six-cylinder referred to above, the top portion being so arranged that it can be removed without disturbing any other portion or the gear shafts, or taking the box from the frame. An attractive side-entrance double phaeton of the 18-h.p. four-cylinder type was also on view; the cylinder dimensions in this case are $3\frac{1}{2}$ in. bore by 5 in. stroke. Motorists of moderate means looking for a four-cylinder car within their limits may inquire with advantage into the merits of the 10-h.p. car, of which a chassis, a side-entrance double phaeton, and a landaulet were shown. The cylinders are $3\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke, the vehicle being fitted with mechanical lubrication, three speeds and reverse, with direct drive on top speed. This car is being supplied either with a side chain drive or with a live axle. The frame, which is of pressed steel, is

supported on long springs, ample length behind the dashboard being available for a roomy and comfortable body. In view of its relatively low price the Star Company are experiencing quite a brisk demand, or this model, on which the engine control levers are now mounted on the steering wheel. A 7-h.p. Star car was also to be seen at the stand. Among the changes which have been made in this popular model are a honeycomb radiator in place of the usual gilled type, an H section stamped steel front axle instead of the tubular one of last year, and push pedals for the clutch and brake. Reference should not be omitted to the display of parts of the 14-h.p. car supplied to the Royal Automobile Club about a year ago, the excellent performance of which was alluded to in a recent issue.

The Gracile and J.P. Cars.

The recently amalgamated concerns, the GRACILE MOTOR CAR COMPANY, LTD., and the J. P. MOTOR COMPANY, had a joint stand, on which some excellently finished cars were shown. Reference may first be made to a 24-30-h.p. Gracile. This is provided with a four-cylinder engine 110 mm. bore by 130 mm. stroke, with both high-tension magneto and accumulator ignition. The lubrication is maintained by a gear-driven oil pump which draws oil from a large sump in the engine base

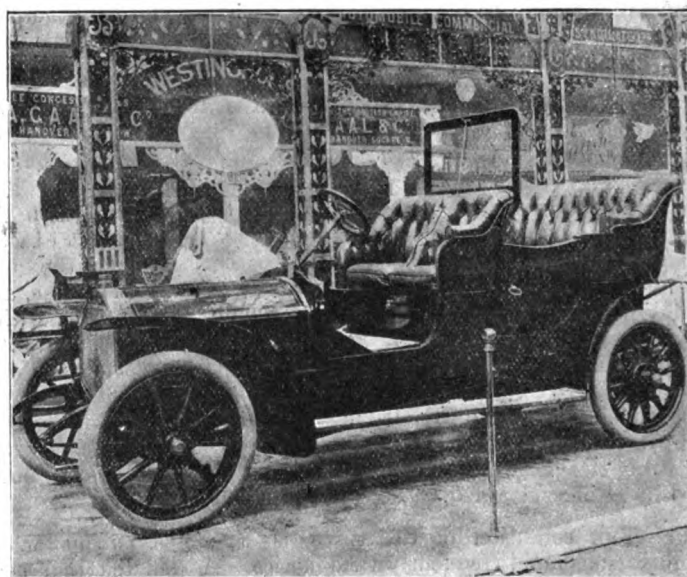


Fig. 68.—The J.P. 18-24-h.p. Four-cylinder Car.

chamber, and forces it into a tank on the dashboard, from which it flows by gravity to the engine bearings. The clutch is of the leather-cone type, a universal joint being provided on the shaft which connects it with the ball-bearing gear-box. The latter is adapted to give four speeds and a reverse, with "gate" control, the final drive being by side chains. The rear springs, which are of three-quarter elliptic type, are of a special pattern, the lowest leaves being curled round at the ends, so as to form a shock damper. Of the J. P. cars two sizes were on view—10-12-h.p. two-cylinder and 18-24-h.p. four-cylinder, both being live-axle vehicles, which, while comprising no startling deviations from modern practice, appear to be of sound construction, while their moderate price should recommend them to many motorists. The 18-24-h.p. car (Fig 68) is provided with a Gnome four cylinder engine set in the fore part of a pressed steel frame. The valves are all mechanically actuated and the ignition is by high-tension magneto, and also by accumulators and coil, the latter being fitted as a reserve. The clutch is of the leather-faced cone type of large diameter. Three speeds and a reverse are provided, with direct drive on top speed through the cardan shaft and bevel gear to the live axle, the latter being of exceptionally strong construction. The weight of the car is carried by the sleeves, the drive to the road wheels being

through squares on the ends of the internal shafts. The vehicle is well sprung, a transverse spring at the rear supplementing the usual longitudinal ones. Ball bearings are provided throughout except on the engine.

The Avon Cars.

The AVON MOTOR MANUFACTURING COMPANY, of Keynsham, Bristol, who are devoting themselves to the manufacture of cars for the man of moderate means, showed the Avon two-seated trimobile, a three-wheel machine, the body of which is arranged so that the passengers can



Fig. 69.—The Avon 7-8-h.p. Light Car.

sit side by side instead of tandem fashion, as in the usual tri-car. The engine is a single-cylinder of 5½-6-h.p. with coil ignition and Longuemare carburettor. The motor is located under the seat and drives through a leather cone clutch, three speeds and reverse gear-box, and single chain to a live axle. Fig. 69 depicts the Avon light car; which is provided with a 7-8-h.p. single-cylinder motor, which, like the 5½-6-h.p., is fitted with a novel arrangement of governor. The latter is of the spring type, and is placed on the same shaft as the circulating pump, both being driven direct from the engine flywheel by a leather-faced friction wheel. The governor acts on the throttle of the carburettor through a lever, but hand control from the steering wheel is also available. The transmission is on the same lines as the tri-mobile, the gear giving three forward speeds and a reverse with a direct drive on the top. Of interest to tradespeople was the Avon 7-8-h.p. light delivery van; this is practically built on the same chassis as the vehicle illustrated, but is fitted with a special body divided into two separate receptacles, so that more than one class of goods can be carried. The Avon Company are also supplying their 5½-6-h.p. engines and gear-cases separately to tri-car and motor-boat builders, the former being furnished complete with water circulating pump, governor, exhaust valve lifter, &c., the excellent finish combined with moderate price rendering them well worthy of attention.

The Motor House.

A large stand was occupied by the MOTOR HOUSE, who took occasion to illustrate the business done in the Euston Road with regard to the sale of cars. A good collection of new vehicles was on view, fitted with various types of bodies, wind screens and hoods, &c. Among the cars shown was a 12-16-h.p. Peugeot with brougham body and a canopy extension over the driver's seat. Several other vehicles were on view, and the complete selection should do much to extend a knowledge of the ability of the Motor House to dispose of cars of any type.

Clarendon Motor Cycles.

The Clarendon motor-bicycles were shown by Messrs. HAMMON AND SMITH, LTD., who have built their machines with a view of overcoming vibration and jerkiness on the road, no matter at what speed the engine may be running. The machines shown were of 3-h.p., and visitors could not fail to notice the strength of the frame, the method of construction being such as to do away with all risk of a fracture of this vital part of the machine. The cylinder of the engine is cast in one piece and the radiating flanges are arranged to combine neatness in appearance with efficiency in results. The cylinder is 77 mm. by 81 mm. and fitted with mechanical inlet valve. Four bolts secure the attachment of the motor to the frame, support being also given by a loop tube in a vertical position. The Clarendon motor-bicycles certainly attracted much attention in that department of the Show.

Wooden Wheels.

A large display of wooden wheels for all classes of motor vehicles, including lorries and buses, was made by the AUTOMOBILE WHEEL COMPANY (1907, Ltd.), whose original twin-spoke artillery wheel has been specially designed to withstand severe side strains. The company

have good facilities at their works in Peckham to construct any types of wheels from designs prepared for them, and also undertake repairs of every description in connection with wheels.

Ignition Specialities.

The GLOBE AUTOMOBILE EXPORTERS, for whom Mr. J. H. Shaffir, of Coventry, is the English agent, had a large collection of motor accessories and ignition apparatus, included in the range of the latter being "Vestale" coils, sparking plugs, distributors, contact breakers, switches, &c. In The "Vestale" coil either two, three, four or six wooden-cased coils are provided, fitted either with the "Vestate" rapid trembler or with the J. Carpentier trembler as required. The coils are effectively separated from each other, the double thickness of the wood of each coil-case ensuring that no induction shall take place between one coil and another. If it becomes necessary to remove or adjust any of the coils, owing to the wear of the platinum, or from any other cause, the single screw which maintains the coil in its case in the coil-box is loosened, and the particular coil can be removed for examination or adjustment. The coil can be removed and replaced in a few moments. A complete selection of accessories was shown at this stand, which attracted considerable notice during the progress of the Exhibition.

The Logan Cars.

Two novel cars of American construction were shown by the LOGAN MOTOR CAR AGENCY, of Fenchurch House, E.C., one taking the form of a light delivery van for butchers or provision dealers' use, and the other a ten-seated char-a-banc suitable for use in conveying pleasure parties at seaside resorts. The vehicles as regards the chassis are identical, so that the following particulars may be taken as applying to both. The 10-h.p. engine comprises two horizontal opposed cylinders, 4½ in. bore by 4 in. stroke, set in the fore part of the frame, with its crank shaft at right angles to the axles. The engine is air-cooled, both externally and internally, this being effected by using an open crank case, allowing the air to pass in an out like a bellows at every stroke of the pistons, the explosion driving the hot air out and the return sucking the cool air in. The insides of the pistons are provided with radiating spikes to carry the heat of the pistons through the crank ends instead of making it necessary to conduct it through the cylinder walls. The outside radiation is secured by the mounting of copper flanges on the cylinder, each resting over the other in such a way that it insures a positive contact at all times. The valves are of the vertical type and all mechanically operated. The ignition is by coil and accumulators, while the lubrication is effected by a special form of mechanical oiler which is operated by the engine, and which forces the oil to the various bearings. The power of the engine is transmitted through a contracting band clutch to a sliding pinion type of change-speed gear giving two speeds and reverse, operated by one lever and so constructed as to give a direct drive on the top speed. From the gear-box the power is transmitted to

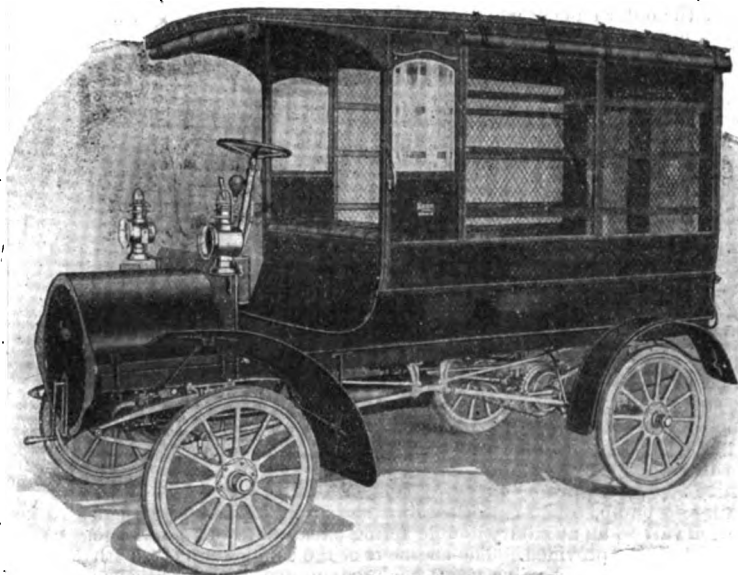


Fig. 70.—The Logan Delivery Van.

a short countershaft through a cardan shaft and bevel gear, the final drive being by a single chain to a live axle. Roller bearings with ball end thrusts are used on the various shafts. The body is supported on a specially-designed trussed frame carried on double elliptic springs both at the front and rear, an arrangement which is claimed to reduce vibration to a minimum, and to permit of the employment of Swinehart concave 3 in. solid rubber tyres. We understand that orders have been placed for several of the light char-a-bancs for a projected pleasure service in the Isle of Wight.

HEAVY STEAM VEHICLES.

The Robey Steam Wagon and Tractor.

Messrs. ROBEY AND CO., LTD., of Lincoln, made their debut at the Cordingley Shows with two excellently finished machines, a five-ton steam wagon and a tractor, some particulars of which are given below. The wagon (Fig. 71) which is suitable for loads of five tons and for hauling an additional two tons on a trailer, is fitted with a vertical boiler of the submerged fire tube type, having a welded firebox with an ordinary fire grate. The outer top casing of the boiler is enlarged for

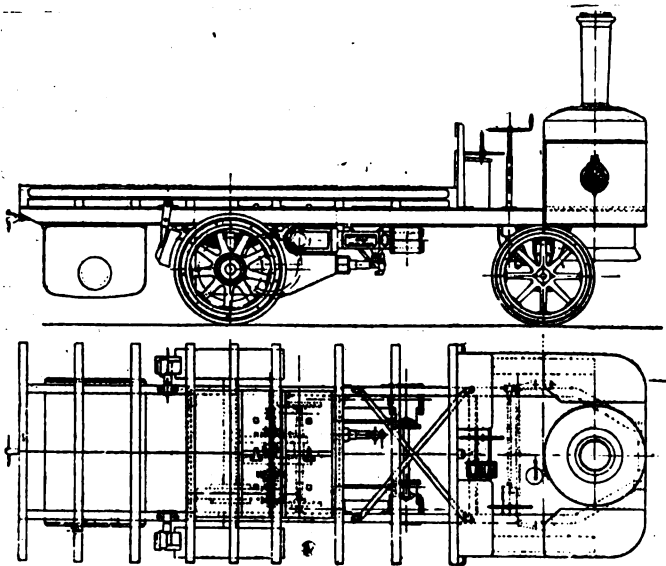


Fig. 71.—Elevation and Plan of Robey Steam Wagon.

the purpose of securing increased water surface and steam space, and also with the object of enabling the top to be removed by breaking two bolted joints, when it is necessary to clean and scale the inside of the boiler. The engine, which is of the compound type, is fixed close up underneath the frame. The drive from the crankshaft to the axle is by gearing throughout, the accurate meshing of the driving pinion on the second motion shaft and the spur wheel on the axle being secured by a patent universal coupling and swivel. The engine work, gearing and hind axle are enclosed in a dust-proof and oil-tight casing, and run in an oil bath. The road wheels are built up with cast steel centres and spokes, on the outer ends of which are secured hard wood felloes. The tyres are of nickel steel, the inner periphery being bored out with a slight taper; into the tyres the centres, together with the wood felloes, are forced under a very heavy hydraulic pressure, the result being a very strong and almost entirely silent wheel. The tractor, which is built in accordance with the requirements of the Heavy Motor Car Order (1904), is provided with a locomotive type of boiler, so constructed that a large number of $1\frac{1}{2}$ -inch tubes can be employed. The engine is of the compound type, with cylinders $4\frac{1}{2}$ in. and $7\frac{1}{2}$ in., by 9 in. stroke. Link motion of the usual type is employed, and an auxiliary valve, to admit live steam to the low-pressure cylinder, is fitted. The tractor is supported on a patented system, which requires the use of only one laminated spring. A useful feature of this machine, which is provided with a driven feed-pump, injector, water lifter, slip winding drum, and thirty yards of steel wire rope, is that the gearing, road wheels, hind axle, &c., can be removed without driving a single key.

The Savage Steam Wagon.

The exhibit of Messrs. SAVAGE BROS., LTD., King's Lynn, comprised one of their latest type steam wagons, designed for loads of six tons and to haul a further four tons on a trailer, the machine being capable of taking this load up gradients of one in twelve. The boiler is of the water-tube type, the working pressure being 210 lbs. per square inch. The main feed pump, which is worked from the second motion shaft, has two suction valves, an auxiliary double acting steam feed pump of large capacity being also provided. The engine is of the compound type, with improved single eccentric valve gear, enclosed in one casing with the transmission gearing, the whole running in oil. The cylinders are $4\frac{1}{2}$ in. and $7\frac{1}{2}$ in. diameter respectively by 6 in. stroke, the normal speed being 450 revolutions per minute. All the moving parts are lubricated automatically by the splash, and all main bearings are fed with oil under pressure by a pump worked from the feed pump eccentric. The amount of oil delivered can be regulated by means of a cock on the side of the main casing. Two speeds are provided, the drive from the differential shaft to the road wheels being by extra strong roller chains. The main frame is of channel section steel, braced by five cross members. The rear axle is a solid steel forging of rectangular section, and the front one

of girder section steel, the wagon throughout being built on substantial lines.

The "Little Giant" Tractor.

Messrs. TASKER AND SONS, of the Waterloo Iron Works, Andover, who were among the first to take up the construction of tractors, exhibited one of their "Little Giant" B 2 type machines, fitted with a patent spring gear which allows perfect freedom to the axle to adapt itself to any inequalities of road surface, while the driving gear revolves on fixed centres and drives the axle through the medium of a floating ring. The boiler is well stayed throughout and built for a working pressure of 160 lb. per square inch. The cylinders of the compound engine are 5 in. and $7\frac{1}{2}$ in. diameter by 8 in. stroke. The travelling wheels are, front 3 ft. 4 in. diameter with 5 in. tyres and hind 4 ft. 6 in. diameter with 9 in. tyres, but can be made of any width to suit purchaser. A loose winding drum with forty yards of best steel wire rope is provided. The travelling speeds are six and three miles per hour, and the tractor will haul a load of five to eight tons, according to the road.

The "Sentinel" Steam Wagon.

There are many features of interest in the "Sentinel" six-ton steam wagon (ten tons with a trailer) exhibited by Messrs. ALLEY AND MACLELLAN, LTD., Glasgow, who are represented in London by Messrs. E. W. Rudd and Co., Page Street, Westminster. The outstanding feature of the vehicle is its simplicity, which enables a comparative novice to drive the wagon with ease, and to acquire a knowledge of its mechanism in a very short time. The boiler, which is built for a working pressure of 230 lbs. per square inch, has 61.3 square feet of heating surface and 3.6 square feet grate area. It is of the vertical type with cross water tubes, and centrally fired from the top. For cleaning purposes the fire box may be dropped through the outer shell without disturbing any connections on the latter. The water level is above the tube ends, and is such that the steepest gradients may be climbed without exposing the crown. The draught is regulated by a water ashpan controlled from the cab, and the fire grate is arranged to tilt on trunnions for clinking. A superheater sufficient to superheat the steam about 100 deg. F. is provided. The engine is of the horizontal type, having two cylinders $6\frac{1}{2}$ in. diameter by 10 in. stroke; it is secured to the frame in such a manner that any twisting of the latter due to uneven roads or loading cannot cause binding of the crank shaft bearings. At five miles per hour the engine makes only 174 revolutions per minute. The valve gear is similar in principle to that of a petrol engine, as a cam shaft passes underneath the cylinders and operates mushroom poppet valves, separate valves being used for admission and for exhaust, and, by moving the cam shaft axially, the cut off can be varied to give different degrees of expansion. The whole of the motion work and the cam shaft run in oil, in a dust-proof casing. The unusual dimensions of the engine have enabled the makers to dispense with a second-speed gear, as all varia-

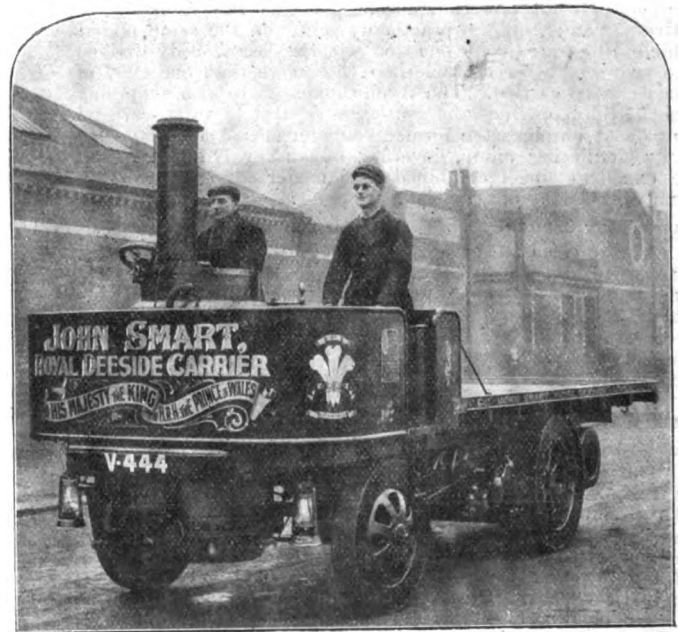


Fig. 72.—The Sentinel Steam Wagon.

tions of power and speed can be obtained by the throttle valve. The latter again is quite novel, the main regulation of the steam being by a stop valve, for, on turning the handle at the top, the valve is raised off its seat, but the orifice through which the steam passes can be instantly closed by a foot lever. In practice the driver regulates the pace and power of the wagon by the hand stop valve, but any slow down or stoppage for traffic purposes is effected by depressing the

pedal without taking his hands off the steering wheel. The drive is transmitted from the crank shaft to the differential on the live back axle by an extra strong roller chain. The driving road wheels may be instantly locked together when necessary by engaging a pawl pivoted to the off-wheel hub, with a notched disc keyed to the axle. The road wheels are of the firm's patented cushioned adjustable form, and are such that should the tyres stretch or the felloes shrink they may be adjusted in a few minutes by means of the conical felloe rings. The centres are of cast steel, the felloes of oak, and the tyres of mild steel. The latter with their felloes may be bodily removed in a very short time and winter timber tyres substituted, or the tyres when worn out may be easily renewed. The front wheels are pivoted to the axle on the centre line of the wheel treads, and are turned in the pivots through a screw and lever gear operated by a large hand wheel. With this arrangement there is no tendency to turn when the wheel strikes an obstacle. The steering is operated by a screw and nut working in an oil bath. Throughout the wagon special material has been used, and great care exercised that the proportions are ample. The wagon on view in (Fig. 72) was a repeat order from Mr. John Smart, Royal Deeside Carrier, Aberdeen, and, as will be seen, is fitted with a flat lorry platform.

MISCELLANEOUS EXHIBITS.

Motor Body Work.

A splendid display of motor body work was made by Messrs. SAYERS AND CO., whose *debut* at the last show was regarded with much interest. Prominent on the stand was a limousine body, fitted to a 30-40-h.p. Fiat chassis. This was a duplicate in design and finish of a vehicle which Messrs. Sayers and Co. recently sent to India for the use of the Amir of Afghanistan during his tour. It also attained distinction in winning the Gold Cup presented by the Maharajah of Gooch for the best appearance car in the Bombay Motor Show. A grand limousine trimmed in granite cloth, a touring phaeton with special "Sayerico" double extension hood and storm curtains, and a limousine-landaulet

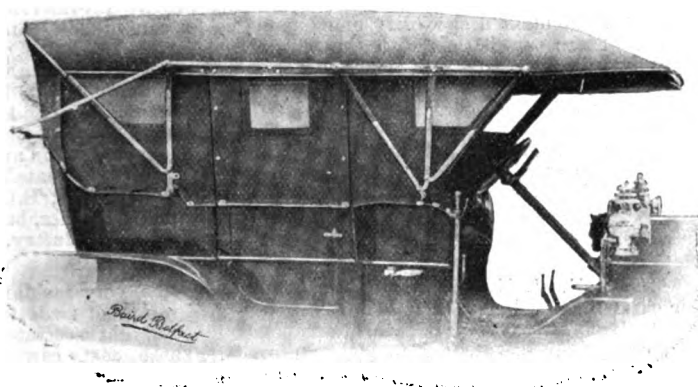


Fig. 73.—The "Sayerico" Hood.

were also exhibited. This latter makes a complete open or closed car without the necessity of removing the top, all parts being made to fold. In addition to their motor bodies Messrs. Sayers and Co. had a good display of accessories, such as wind screens and the ironmongery connected therewith. The "Sayerico" has become well known, and the collapsible ladder for reaching the top of covered vehicles in connection with the carriage of luggage was also shown. All the productions of the firm are characterised by grace of outline and general effect as well as by good sound principles of workmanship.

The Cowey Speed Indicator.

Specialities in the way of speed indicators and speed recorders were shown by the COWEY ENGINEERING COMPANY, LTD., whose accurate and reliable instruments have long had the confidence of the leading motorists in the country. The firm's patent speed indicator is a well-designed device with a drive—off one of the front wheels—composed of bevel gearing and a flexible chain, securing a sound mechanical and positive method of transmission. The indicator is steady and accurate under all conditions of vibration, and requires no attention, adjustment, or oiling. It may be described as being mainly composed of three essentials, viz., a heavy balance wheel, a spring, and a propelling device. The spring is connected up to the balance wheel by means of a small chain in such a manner that it tends continuously to draw the balance wheel in one direction (the direction of zero on the indicator), while the propelling device gives a series of intermittent impulses to the wheel which tend to draw it in the opposite direction. The faster the vehicle travels the more numerous will be the impulses given to the balance wheel by the propelling device, and the spring having more work to do in overcoming the effect of these impulses will be deflected and allow the balance wheel to be angularly displaced to a greater or less extent. The balance wheel in its turn operates the indicating pointer and moves it into a position which repre-

sents the speed at which the vehicle is travelling. By the adoption of this novel principle the indicator is enabled to do its work effectively under any conditions, and is also unaffected by frictional differences in the adjustment of its various parts. The indicating pointer is in consequence absolutely steady at all points of its dial, from five to sixty or 120 miles per hour as the case may be, and is entirely free from any quivering or shaking, no matter what speed the car is travelling at, or how great is the vibration. The Cowey recording speed indicator was also shown on this stand.

Motor-Car Accessories.

In the Arcade a comprehensive display of motor-car accessories, &c., was made by Messrs. J. C. LYELL AND COMPANY, LTD., whose specialities include several novelties for which they are prepared to appoint agents in different parts of the country. Among these is the "Ursus" non-skid, in which the usual rivet form of stud is replaced by a metal strip about one inch by a quarter of an inch, and firmly secured in the tread. The behaviour of this new form of non-skid will doubtless be watched with interest by motorists. The "Clair" silencer for motor-cars and motor-cycles was also on view, and distinguished by the absence of complicated parts, being a succession of chambers with outlets allowing of the complete suppression of noise without reducing the power of the motor. The escape of the gas is made direct, and there is no chamber where unconsumed gas can accumulate. Efficiency as well as simplicity secured for the "Clair" silencer first award in the trials of the Auto Club de France. Another novelty was the "Rearguard" safety device, which is actuated by a "Bowden" wire operated by a pedal or lever, so that when the driver intends to slow down or turn a corner the lid of the little apparatus is automatically raised, revealing the word "Stop" so warning any oncoming cyclist or driver as to possible danger. It can be so arranged that the disc is illuminated for night travelling. Messrs. Lyell and Co. also showed the "Vic" lamps, which are demountable in every part, and in which a steady light is secured by means of a valve which automatically regulates the generation of the gas. The "Suchanek" cartographie was to be found on this stand, and, as it is now being adapted to English purposes, it becomes a matter of considerable interest. This is a combination of a map, mileage recorder, chronograph, and alarm disc, so that the motorist has the map of the road constantly before him, with dangerous corners, steep hills, and—aided by a study of the *M.C.J.*—police traps marked in a very distinctive fashion. The route map unrolls itself mile by mile proportionately to the speed of the car, and the motorist can thus ascertain his exact location at any point of his journey. When the English road maps are complete we may make further reference to an ingenious device which should become familiar on our roads during the coming season. Motor jacks, charging batteries, plugs, voltmeters, &c., made up a very interesting display.

Electrical Specialities.

Messrs. HARRY W. COX, LTD., showed their ignition coils and also the C.M. accumulator. In the latter a special feature is made of the design of the grid securing the efficiency as well as the durability of the device. The bars of the grid being on either side allow the active material to form a complete block, and it is held in by the wedges which are situated at opposite angles of the cells. No part of the frame is in the compound, consequently the latter does not crack and fall out when the lead expands. The separators are placed in channels on either side of the plates. On the bottom of the two outside plates of the section are placed four feet, two on each side. Across these is fixed a bridge of celluloid. This serves a double purpose. It keeps the section well off the bottom of the cell, and at the same time holds it securely together and prevents the separators from moving. Messrs. H. W. Cox, Ltd., issue a capital catalogue, prefaced by some useful instructions for charging accumulators and containing descriptions of many interesting specialities.

Petrol and Lubricants.

The name of Messrs. CARLESS, CAPEL AND LEONARD is so well known to the motorist that its mention will conjure up visions of petrol as a fuel for motor-cars. In addition to the standard grades used in this country the firm showed samples of petrol especially suitable for tropical countries. They also had on view samples of various oils suitable for lighting or fuel purposes, and they made a large display of lubricating oils, particularly of those specially prepared for motor-car service. The special Carline lubricating oil is suitable for motors of moderate h.p. and for the bearings and cylinders another lubricating oil has been introduced. Lubricating grease, graphite greases, "S" lubricating oil made up a representative collection of lubricants. The patent Benzine safety lamp shown at the 1906 Show was also on view. This should be adopted in all garages where it is desired to reduce the fire risks to a minimum.

Motor Oils, &c.

Messrs. GRINDLEY AND CO. showed a collection of their motor oils and greases similar to those they have supplied to the leading motor-omnibus companies of London. These are of excellent purity and specially prepared in various grades for different parts of automobiles. They are distinguished as the "Pioneer" brand, and special attention may be directed to the oils for the lubrication of motor cylinders and bearings which Messrs. Grindley and Co. guarantee to retain their lubricating properties at high temperature. Graphite grease, white solidified oils and other preparations completed an essentially utilitarian display.

Motor Components.

Messrs. FRANK MORRIS, LTD., of the Commercial Motor Works, King's Lynn, were well to the front with a good display of their various useful components for motor builders and repairers, and especially to owners of Daimler, Panhard, and commercial vehicles generally. For ten years past this firm have made a feature of supplying component parts for the building of a complete car, or spare or renewal parts for owners and users generally at a reasonable figure. The various specialities exhibited include the well-known "Morris" gear sleeve, with detachable first, second, third and fourth speeds all most easily renewable, for Daimler, Panhard and Panhard-type cars. Samples of old sleeves converted and fitted with the "Morris" renewable speeds were also shown. Other exhibits included motor gearing of all kinds, cylinders for increasing the power of old pattern engines, together with a special cam gear set for converting old-type automatic-valve engines into m.o.v. A combined ball-bearing and spring drive clutch for all types of commercial and touring cars, whereby all shock of starting is eliminated on the gearing and shafts, was also displayed, as well as differential ball-bearing thrusts for old Daimler and Panhard type cars, &c. The commercial section of Messrs. Morris' exhibit also included two useful types of two and four-cylinder engines having a bore of 110 mm. by 150 mm. stroke, every working part being contained on the motor itself, enabling it to be dropped into position and coupled direct to the clutch with a minimum of trouble. Other parts included wheel steering sets fitted with hand and foot accelerator gear, wheel and countershaft brakes, radius rods with internal rubber buffer for absorbing shock of stopping and starting, and a well-designed, strong and efficient type of aluminium radiator suitable for omnibus or lorry work and for pleasure cars.

The "Rapeasy" Tyre Lever.

From the way in which Messrs. PATTERSON'S ENGINEERING AND MOTOR CAR WORKS received orders as well as inquiries for their "Rapeasy" tyre lever it would appear that they have an invention of attractiveness to the motorist who has experience of the road. The labour of mounting and dismounting motor tyres is no light undertaking, especially to novices, and it is to facilitate this work that the company have introduced the tyre lever illustrated on page 208. In fact with the aid of such a tool a lady may mount a tyre without any great effort. Easy of manipulation, it is also simple and safe, while the operations on the stand during the Show proved that no strength was required to effect the purpose. Without the aid of the other illustrations with which Patterson's Engineering Works embellish their catalogue it is difficult to set forth the method of working the lever. It may be pointed out, however, that there is no danger of nipping the inner tube or distorting the bead, while the largest tyres can be mounted or dismounted in a minimum of time. The firm also had on view a new detachable rim flange—a simple and reliable arrangement in which the bolts and nuts are dispensed with. This is done by the provision of beaded studs in the felloe of the wheel which pass through wedge slots in the flange. A twist of the latter and a swing bolt locks the flange in position.

Welded Tanks.

There is no need to dwell upon the importance of securing the proper construction of tanks, barrels and other containers of inflammable spirit. This is recognised by all familiar with motor work, and has been taken advantage of by the STEEL BARREL COMPANY, LTD., to recommend the petrol tanks made with the help of their system of electric welding. By this means leakage is prevented, while the strength of the joints, which in other types meet, is immeasurably strengthened, for in this case the edges of the adjacent sides are welded to become integral with each other. The advantages of welded steel tanks are, that the joints are permanent and durable and not subject to cracking and leakage. Many motor-buses, cars, &c., have been damaged in consequence of leaky tanks, in which the solder or brazing has given way through the results of vibration, which might have been prevented by the adoption of tanks made by the Steel Barrel Company, Ltd.

The Vivian Non-Skid.

The Vivian Non-skid tyre was shown by the company of that name, and it is interesting as marking a new departure in connection with devices to withstand skidding. In place of the usual band and studs the tyre is constructed of alternate layers of dark and light rubber, which vary in resiliency as the tyre revolves and reaches the point of resistance at the ground. The light portion of the rubber takes such a form against the darker sections that it is said to provide a fulcrum preventing dragging and actually assisting the speed of the vehicle to which it is fitted. It is said that the Vivian Non-skid tyre throws less dust than ordinary tyres, and certainly it has an advantage so far as appearance is concerned. We hope to have opportunity for personal experience of this non-skid before long.

Chrome Leathers.

Time was when it was assumed that the only chrome leather suitable for non-skids was that obtained from France; now such a view has been changed by the enterprise of firms like Messrs. WM. WALKER AND SONS, LTD., an examination of whose exhibit proved useful to all interested in leather work. Here was to be found a selection of chrome butts specially prepared for non-skid bands both vulcanised and detachable. These are characterised by suppleness, lightness in specific weight and freedom from stretch; they are made in three grades, viz., with a firm finish to take the rivets or studs of the treads, a mellow finish for the outer covers, which are shaped and vulcanised to the tyre, and with a

thin mellow finish for the inner strips which are fitted to protect the tyre from being chafed by the backs of the studs or rivets. In addition to chrome leather Messrs. WALKER AND SON had a show of clutch leathers and machine belts. Supplementary to the ordinary degreased leathers the firm are making a speciality of clutch leathers cut from curried or greased, the employment of which renders unnecessary the use of any lubricant or dressing.

Motor-Car Accessories.

Messrs. MONNET, PLASSE AND CO., who are the sole agents in this country for Messrs. Mestre and Blatge, had a comprehensive display of accessories, including lamps, horns, watches, speedometers, plugs, coils, &c. On their stand we noticed a good selection of jacks, notable among these being the new "Universal" type. Spare parts for De Dion, Panhard, Darracq and Clement cars were also shown on the stand.

The Autoclipse.

Messrs. GEORGE W. HOUK, LTD., made a bold show of their Autoclipse motor lamps, which have previously been described in our columns. These lamps give a powerful light, and with the prompt aid of a small disc, the glaring effect on the road can be suppressed by the driver with the help of a Bowden wire from the dashboard. The "Accurate" speedometers were also shown, as well as the brackets, &c., for the lamp, which certainly secures a desirable result in a very reliable way.

A New Radiator Fan.

A new design of air-inducing fan for use in conjunction with the radiators of petrol cars was displayed by the ELECTRIC AND ORDNANCE ACCESSORIES COMPANY, LTD., Aston, Birmingham, who claim it to be capable of performing double the duty of the ordinary pattern. Other exhibits on view included flexible wire shafting, a spherical toggle joint for shafts and a direct tubular-spoked voiturette road wheel. In the latter the spokes are threaded directly into sleeve bosses of a cast metal hub, the outer or rim end being internally threaded and locked to the rim by a snap-headed screw.

Name Plates.

Excellent work was shown by the STANDARD METAL ENGRAVING COMPANY, who make a speciality of name plates for cars in metal and ivory. These can be left with the natural polished metal finish or relieved with colours so as to render them an artistic plate for dashboard plates, step plates, axle cap plates, &c. Special mention may be made of the company's radiator plates, on which the name of the car can be executed or any distinctive design facilitating the identification of the vehicle to which they are affixed. Already many of the leading cars are supplied with such plates by the Standard Company, which has lately removed to larger premises in Buchanan Buildings, 24, Holborn, E.C. The company do not limit their work to the automobile industries, but make name plates and dials for any branch of the engineering industry.

Clothing.

Messrs. H. J. NICOLL AND CO., LTD., had some very fashionable garments for lady motorists in rainproof frieze, rainproof twill, and other cloths that secure warmth without the great weight associated with early efforts to cater for fair motorists. These coats can be lined with leather, fur or camel hair, and present an appearance which should at once secure the appreciation of all who travel by car. Equally good praise may be bestowed on the garments for gentlemen. A speciality of liveries for chauffeurs is made by Messrs. Nicoll and Co., Ltd.

Miscellaneous displays were made by Messrs. RICHARD JAMES and Co., whose polishes and creams have each their recognised place among such goods; the Tella Camera Company, whose operators were in attendance for photographic purposes; the West End Motor Car Packing Company, who were giving particulars of their plans for packing and shipping cars and heavy vehicles; Messrs. J. and E. MARX, whose "Garlio" cloths for cleaning and polishing motor-cars are as well known as their stencil plates for numbering registered cars, &c., and Messrs. BROWN and HUGHES with Taylor's Oriental veneering cream for preserving and brightening the bodywork of motor-cars. Mention may also be made of the typewriting office established by Miss G. SAUNDERS at Stand 213, where typewriting and shorthand work was satisfactorily performed for exhibitors throughout the week. Messrs. ROYCE, BARNES and Co. had also a display of a capital soap for cleansing dirty hands. Messrs. DARRELL AND Co. showed, for the first time, Darrell's Dirt Defier—an excellent preparation for removing dirt from the hands with cold water. At this stand also M. Rene Kreher, the London agent for M. F. Champagne, of Paris, showed accumulator and tool boxes. The latter are of handsome appearance, and have been specially designed to fit on foot boards. The compartments are well arranged, and the whole idea is well thought out and executed.

MESSRS. REO MOTORS, LTD., inform us that over 100 tons of Reo chassis are, at the present moment, on the high seas bound for London, by the Atlantic Transport line. At the recent exhibition at the Agricultural Hall twenty-eight complete Reo cars of the two types, 10-h.p. and 18-h.p., were sold to private buyers, whilst agents from all parts of the country vied with each other in fixing up contracts for exclusive agencies for their various districts—an excellent testimony of the way these vehicles are rapidly gaining popularity in this country.

CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

SOME NOTES OF AN EASTER TOUR.

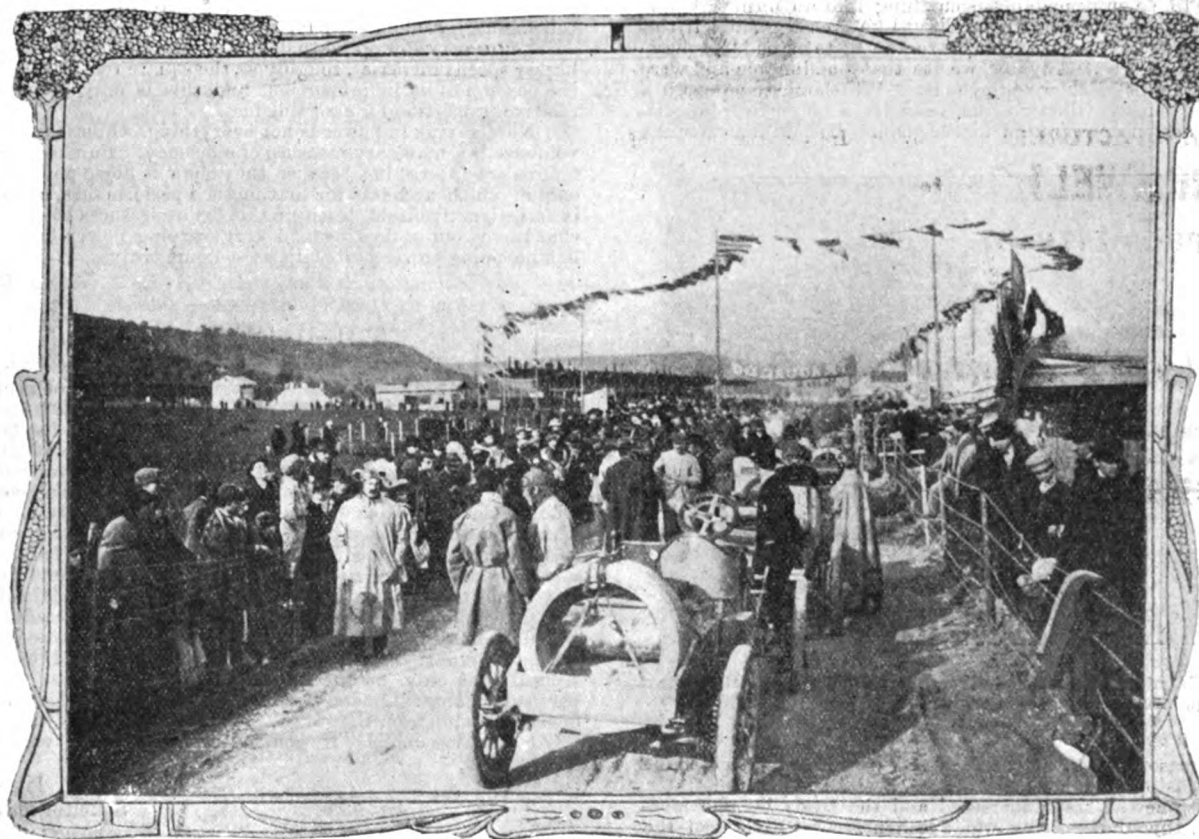
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—“Have you had a breakdown?” the perversity with which people will ply you with this question, should one make a stop on the road, is really astonishing. I had a bit of bother on the outward run on Good Friday through one of the cylinders misfiring, and during the ten minutes’ stop made in remedying the trouble I believe the same question was addressed about a dozen times. Late in the evening we had another stop on the road, as the acetylene headlamp refused to work, and whilst investigating the cause the same thing occurred. First a passing pedestrian plied us with the question, then someone in a passing trap. After a few minutes’ interval a couple of lovers loomed out of the

along the Front, but still it did not prevent those irrepressible boatmen from asking us if we wanted a “Boat out, sir.”

Speaking of boatmen, it has always been one of life’s mysteries to me how the boatmen at the average sea-side resort get a living. At Deal and other places I have seen them on the Parade. They sit on a box and sleep for the most part of the day, only waking up at meal and beer times or at intervals to chivvy small boys off their boats. On Bank Holidays, and for about four weeks of the busiest time of the year, they may make a few shillings, all the rest of the year they sleep or look through telescopes at ships at sea, or watch the tide coming in and going out. And all the winter—what do they do in the winter? I give it up.

We left Deal by the coast road that leads through Sandwich to Margate and Ramsgate, and that is evidently a favourite one with touring motorists, judging by the number of cars that were to be seen. At the toll bridge at Sandwich there is a 1s. toll to pay on a car before one can proceed, and the toll-keeper makes an entry of the number of the car in a book as a receipt. As it can only be avoided by a circuitous inland route, it is evident that considerable revenue is derived from this source. From Sandwich to Pegwell Bay is a dead level and practically straight stretch of road of about four miles and of a surface equal to the finest bit of French road. It would form an ideal course for a kilometre or mile speed test.



The Scene at the Start of the Targa Florio Race.

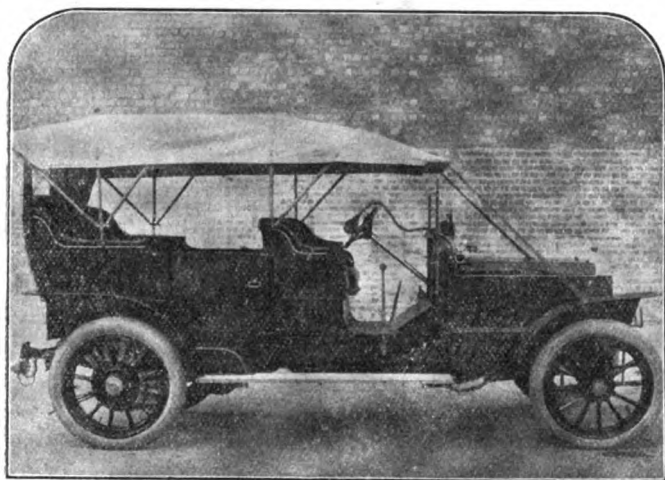
gloaming, coming to a stop in front of the car. For a few seconds they regarded the car and ourselves in silence. Then the swain addressed us in this way: “Have you had a b—.” The sentence was not finished. I thought my friend who was assisting me in the operation was going to brain him on the spot. Instead he let forth “No, you —.” “Can’t you see we’re doing this for fun?”

In company with a great many other motorists I stopped at Folkestone on the opening holiday night. There is a very select and fashionable air about Folkestone which is rather freezing. Perhaps this is because there are no shops along the front,—beg pardon, Lees—but only swell hotels and private houses. It is one of the few remaining seaside places where the electric tram has not penetrated. Instead, there is a fine and evidently popular service of motor brakes, that run to Hythe and elsewhere, which service they say is going to be considerably extended this year. We tried about a dozen hotels in vain before we could get accommodation, and even then had to pay Savoy price. The following afternoon we looked in at Deal, an interesting old place, reached by capital roads, and with its golf links amongst the finest in the country, is yearly becoming more popular with motorists. The most surprising thing about Deal is the number of public-houses adorned with some seafaring sign, such as the “Deal Lugger,” “The Ship and Anchor,” “The Deal Smuggler,” &c. The afternoon we were there there was a bit of a sea fog on. We had to feel our way through this

The Isle of Thanet is a perfect maze of roads. One can approach Margate and Ramsgate, for instance, by about twenty different roads, and near Pegwell Bay we struck a curiosity in signboards, each arm pointing in an opposite direction to Ramsgate. We took the left hand road and presently struck a veritable maze of roads and cross-roads. After a few miles, during which we lost sight of the sea altogether, we enquired of a native if we were on the right road for Ramsgate, which met with the reply that we were heading for Canterbury, but if we took the second on the right and third on the left we should strike the Ramsgate road. We followed the advice and ran into a blind road that led into a cowshed. However, we reached Ramsgate at length by the hideous tramway road, which, with its poles and overhead wires, is a distinct eyesore. The trams run down a very stiff hill to the harbour, there being an acute bend at the foot, so that in the event of a runaway tram nothing could possibly stop it running off the rails and going clean into the harbour and eight or nine feet of water. For one thing, I note they do not souse the rails with water on this stiff drop. Ramsgate was a trifle slack in the matter of amusements, the chief attraction being a fine band on the east cliff. After putting the car up and contracting at an hotel, we had dinner, after which we started for a stroll round the town. From the old harbour jetty, with its huge landing stage at the end, where thousands of Londoners are transported by the steamers every day in the summer, one gets a most romantic view of

the town, with its lights gleaming and shining in the dark waters of the harbour. Facing you is the old stone pier marching out into the Channel, the old stone soldier that has braved a thousand seas. The sun always sets behind the cliff, throwing the town into a deep rich purple shade dotted and sprinkled with light, yellow, green and crimson. Across the water came the long-drawn-out melancholy ho-oo-oot of the siren of the Goodwin Sands. Amongst the boats moored in the harbour was a trim little petrol launch, evidently a sea goer.

We left Ramsgate long before the holiday trippers had arrived, but not before the "Mirror" and "Chronicle" motor-vans, that had made the journey down early in the morning, and in such good time, too, that the two papers were on sale considerably before any others. The homeward run lay through Margate and the mostly level road to Canterbury, that was in excellent trim. At Canterbury we left the direct road and were soon travelling over a most picturesque road that led past Chilham and Chartham into Charing, which is entered by a stiffish hill with an acute bend at the foot. We arrived at Maidstone shortly before one o'clock, and sat down, with four or five others, to a midday meal of roast beef and—have you ever tasted it—pudding pie. Kentish folk are proud of pudding pie, which is a speciality of the county. It is a Lenten dish, though why this is so, and what connection pudding pie has with fasting, I cannot tell you, and I don't think that many born and bred natives could either. What I can tell you is what pudding pie is like. It is something like a milk-pudding, something like an open tart, and something like a cheesecake, and something like a custard, and if this description is not enough to make you have the taste of pudding pie in your mouth, it should be. Anyhow, we ate that pudding pie and were careful to explain how much we enjoyed it. We should have eaten a dish of hot cross buns for dinner rather than let a single word of disapproval make us appear ungrateful for the genuine hospitality, excellent



The 28-43-h.p. Daimler Car recently delivered to Sir Owen Scourfield. The coachwork is painted crimson lake, with fine red lines and upholstery to match.

fare, and most reasonable tariff, we obtained from the hands of mine host at that Maidstone hotel.

After Maidstone the traffic increased and the roads became most loose and dusty, though the going was excellent. At Riverhead the Hastings road was joined, and careful driving was necessary the rest of the way owing to the number of brakes and wagonettes, the usual accompaniment of Bank holiday on the Sevenoaks road. We reached home well before lighting up time, dusty, but sunburnt, after a most enjoyable Easter holiday.—Yours truly,

C. M. F.

COMPARATIVE IGNITION TESTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. S. F. Edge's tests in regard to the value of ignition flame, and relative h.p., are not only interesting but instructive, as they tend to overthrow some of the apparent values, given no doubt in all good faith, still in opposition to reasonable expectation. Personally, I know that a hot flame is an easy starter, but given the hot flame as a start from a magneto, under low starting conditions, the usual working speed gives a more intense spark of an unnecessary magnitude, resulting in an excessively hot cylinder and burnt-up lubrication. As Mr. Edge remarks, given a correct flame spark, no further power is gained by increasing it. A red hot poker will not inflame petrol, neither will an electric spark fire it, if generated within the body of the substance, whilst a flick of red dust from a cigarette end will do the trick. Just enough spark power is required to pierce a dense gas, sufficient to heat a local amount to attain the critical volume of vapour which will fire, even as a piece of paper held under a weight will not inflame until the pressure is relieved, the heating of a portion of a substance locally expands it, and as it seems props asunder the pressure, releasing

or rather relieving the combustible of the superincumbent weight, whereby the condition is attained for firing it. It is quite obvious that a given amount of heat is required in any one substance, neither more nor less, and when this is obtained any increase of flame or sparking power is wasted energy. The accumulator system gives one power spark for all speeds under one compression condition; the high-tension magneto gives one spark at low or starting speed, and a different spark for every increase of speed. Therefore, as the spark for the start is ample, then any increase of spark power is wasted and useless. The chief and main advantage of magneto ignition is its constancy; whilst the magneto and its power is intact, which it may be for years, then sparking is a certainty, whereas the accumulator declines from a best point to a useless one within given periods, and therefore needs recharging; but any contention that more horse-power is got from the spark from one system, as against the spark from another, is tantamount to saying that the spark adds to combustible value, which is nonsense, under the one restriction that the spark acts to fire, and when the substance is fired it is done, and nothing can increase it. Another point must be borne in mind, viz., that the engine supplies the power for the magneto, and whatever its efficiency, mechanical, it can never exceed 100 per cent., but is very likely 90 per cent.; therefore of the power given to produce the spark at least 10 per cent. is lost, whereas with the accumulator and coil the power to produce the spark is outside of engine effort, and consequently so much power is saved to the engine. And on the supposition that the magneto supplies sufficient spark at a very low speed to do the work, then as the power to drive at higher speeds increases, roughly as the square root of the difference, then the power lost is in proportion, and this is only given to form some relative proportion for asserting fact.

Now, saving in power is not everything, whilst expediency and convenience is a necessary measure of efficiency. Further, Mr. S. F. Edge's figures are interesting because they show a horse-power for the Napier engine which accounts for that motor's performance, and this, in itself, is an instructive item, testifying to the uselessness of dogmatic formula, that leaves out a floating and very varying power factor in regard to handicapping power probabilities.—Yours truly,

JOHN BATEY.

THE DAIMLER ACTION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As the effect of the decision of the Court of Appeal given on the 15th ult. in the case of the Daimler Motor Company 1904, Ltd., and the London Daimler Company, Ltd., seems from the reports thereof which have appeared in some of the weekly motor papers, including your issue of the 20th ult., to have been misunderstood, I am requested by my clients to point out that the injunction granted by that court in no way affected the main issue on which my clients successfully contested the action in the court below, viz., that the defendants are entitled to use the word "Daimler" both in their title, and as applied to cars built or sold by them under their licence rights, so long as they use it in such a way as not to be likely to cause confusion with the plaintiff company.

The plaintiffs, in fact, in the course of the proceedings, expressly abandoned their wider claim to restrain the defendants from using the word "Daimler" at all, and the injunction granted by the Court of Appeal was only on the minor point, viz., against the use of the particular name "London Daimler" or any other name not sufficiently distinguishable from that of the plaintiffs.

I shall be obliged if you will publish this in your next issue.—Yours truly,

WILLIAM J. HUNTER.

Solicitor for the defence.

THE COST OF CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—There has been a considerable amount of correspondence in the motor Press recently on the comparative price per horse-power of various makes of cars. In this connection it appears to me extraordinary that so many of those who are interested in the sale of cars at once hasten to point out that those makes they sell are, at any rate, among the low-priced ones. Now, all this appears to me to be leading in quite the wrong direction. It is to my mind a significant fact that while most of the English firms are making every effort to hold out the inducement of low price to would-be buyers, foreign firms of the best standing prefer to employ the very finest materials and workmanship and charge for them proportionately. And, what is equally significant, the firms who make these high-class, and, therefore, proportionately (although not actually) high-priced, cars are selling more cars than ever before. As an example take the Westinghouse. While this car works out at a fairly high price per horse-power, I do not think there is anyone with real engineering knowledge and practical motoring experience who will not agree that—considering the high-class workmanship and the great care taken in the making—the price of the car is in any way inflated. This, at all events, was the opinion of those who saw the Westinghouse chassis at the recent Cordingley Show.

One of your most prominent advertisers, who makes a very high-class and expensive car, in his advertisement a short time ago compared his car to a thoroughbred and the cheap cars to a cart horse. This is undoubtedly the right way to look at the matter, and it is a great pity that

an attempt should be made to persuade people that the really high class of motor-car can be built cheaply. It is surely no more reasonable to suppose that a cheap car will be as good as a more expensive one, than that a cheap pair of boots will be as good as a higher priced and better made article.—Yours truly,

G. P. H. DE FREVILLE.

STARTING THE ENGINE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a regular reader of your valuable journal, I should like to have your opinion, or any of your readers, as regards starting the engine of a car with a live axle, by getting the car away on the face of a hill, then letting in the clutch instead of starting in the usual way. Do you think this method is detrimental to the gears?—Yours truly,

T. R.

[The method of starting the engine by letting in the clutch when the car is in motion is not one that can be commended to form a habit of, as not only the gears but the crankshaft of the engine may easily be strained if the operation is not performed skilfully. The car should be put in its top gear, the ignition retarded, and the throttle as far closed as the engine will just run at. The clutch should next be withdrawn and then the side brake released, and as soon as the car has gathered sufficient way down the incline, the clutch can be let in very carefully, taking care to release it promptly if there is any "snatching," before the speed of the engine and gears synchronise. Provided that sufficient skill is exercised no harm whatever need result. On some cars it can be done so sweetly that not the slightest snatch can be noticed.]

RE ENDORSEMENTS AND RENEWALS OF LICENCES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a question of vital interest to all concerned in motoring, I venture to ask you to be good enough to accord the following space in your valuable columns. I was recently fined quite a nominal sum, viz., 6s. 6d. and 4s. costs, for driving a car on the footpath (in order to avoid 36 yards of unrolled metal), my licence being endorsed also. A few days afterwards—my licence having nearly expired—I duly applied for renewal of same, quoting the exact words constituting the endorsement; now, instead of copying this exactly as it stood, on the back of my renewal, I found that they had added the alternative, "In distress seven days' hard labour." As nothing of the kind had either been mentioned at the court or entered in the endorsement, I wrote protesting, and claimed that I had the right to demand that nothing other than that already framed in the original endorsement should appear on the renewal. In reply to this I was informed that the term "H.L."—meaning hard labour—should have read "imprisonment," with a request that I should return it for correction. Now the question arises, have the authorities the right to add anything whatever to one's existing endorsement?

I trust you will pardon the length of this letter, but as it appears to me to be a matter of some importance to all motorists, I shall be glad to have some opinion.—Yours truly,

ALDER.

[The point raised by our correspondent seems to indicate an excess of zeal on the part of the person making out the renewal or licence. In the sixth Schedule of the Motor Car Regulation and Licensing Order, 1903, the note is appended, "Particulars of any endorsement of any licence previously held by the person licenced must be entered on the back of this licence." That is specific enough, and the authorities should be content with merely copying the endorsement on the old licence without such addition as that which has been made in the above case. Motorists who have had similar experiences as our correspondent are invited to acquaint us of the facts, as the matter is one upon which authoritative opinion would be useful.]

A TYRE TRIAL.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the Petrol v. Steam controversy which is at present exercising the minds of many motorists, I make the following suggestion, which I hope you will consider of sufficient interest for insertion in your columns.

Mr. Claude Johnson has undertaken to match a Rolls-Royce against Mr. Coleman's White steam car.

This is too good an opportunity for a tyre trial to be lost, and I offer to match Moseley detachable tyres against Michelin, Continental, or Dunlop tyres. I would provide detachable tyres for four wheels, namely, the near front and off back of the Rolls-Royce and the off front and near back of the White, the other four tyres to be the ordinary kind as made by one of the three firms named.

I would rely solely on the usual spares and repair outfit carried by the ordinary motorist, and my opponent should, in addition to this, be allowed to call at any garage on the route traversed for replacements. Only one man for each car should be allowed to touch the tyres, and I would stake £100 that the detachable tyres lose less time on the trial.—Yours truly,

OSWALD G. MOSELEY.

EXPERIENCE WITH TYRES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As you get many enquiries as to the cost of tyres, &c., I think that it is only fair that people should hear both sides of experiences. I have had on trial on my car three types of tyres, viz., A, B, and C. On working up the cost per mile for my one wheel fitted with the C tyre, it is hardly believable when I state that it cost over 1s. per mile.

I started first with a brand new 875 by 105 cover. By the time I had covered 300 miles the canvas was showing. I sent the tyre back to the makers, who stated that it was no fault of the cover and charged £5 5s. for retreading it. This cover was not on more than three weeks before the grooves were worn down and the tyre burst at the side, and I now have to purchase a new one for this wheel. The tyre was fitted to a 105 mm. rim, which was about 1 mm. out of size, and the makers give the excuse for the tyre bursting by saying that it was owing to the rim being the wrong size.

My experience with the A. and B. (both on back wheels) has been quite different. They have each covered about 1,500 miles and neither have been pumped up, and for comfort in riding and resiliency are to be strongly recommended, while with the other tyre it is practically impossible to tell the difference between that and a solid.—Yours truly,

A CONSTANT READER.

[The contrast between the three examples is certainly striking.]



Merry Maids a-Motoring Go.

The Misses Firth, Webster, Brakine, Bell, and Carrington, of the Vaudeville and Daly's Theatres, on a 16-20-h.p. Argyll Car.

THE FLEXIBILITY OF MOTOR-CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In view of the interest being taken in this subject, we proceeded, on Saturday last, to a trial of our three cars on the Hog's Back, about four miles from Guildford. The cars consisted of two Cadillacs, models A. and B., single-cylinder, 5 in. bore and 5 in. stroke; and of a Rochet-Schneider, with cardan shaft drive and four cylinders, each 100 mm. bore and 140 mm. stroke. Knowing beforehand the quickest speed these cars can attain on a level as at present geared, i.e., twenty-five miles per hour for Cadillac Model A., twenty-seven miles for Cadillac Model B., and thirty-six miles for the Rochet-Schneider, we restricted our trials to driving at the lowest speed possible on top gear, without slipping the clutch and using the throttle only. With the aid of a level and straight edge, we selected a stretch of practically level road and taped 200 yards along it. We were able to drive the Cadillac Model A. over this length in 1 min. 57 sec., and a second time in 1 min. 57 sec., the Cadillac Model B. in 1 min. 45 sec., and again in 1 min. 33 sec.; and the Rochet-Schneider in 45 sec., and again in 50 sec. Taking the lowest speed in each case, the speeds work out at 3.5, 3.9, and 8.18 miles per hour respectively.

Now comparing these lowest speeds with the highest the cars can run in our hands, we have:—

Car.	Lowest miles per hour.	Highest miles per hour.
Cadillac, model A.	3.5	25
" B	3.9	27
Rochet-Schneider	3.18	36

These figures give a greater flexibility for the single-cylinder cars as compared with the four-cylinder one, in approximately the ratio of

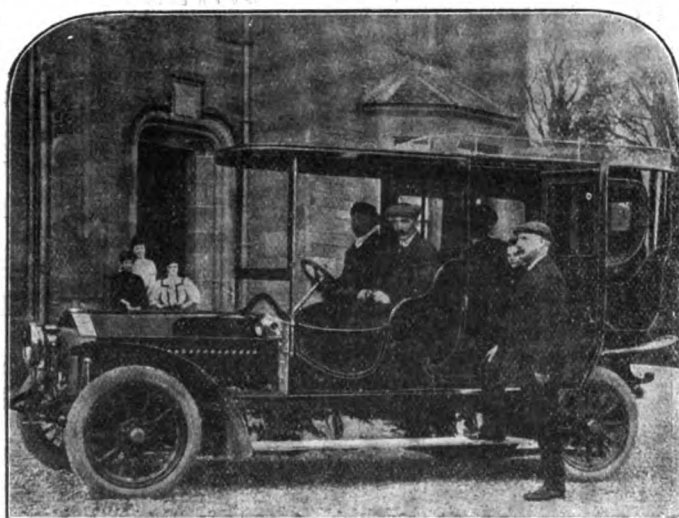
7 to 4½. We consider this result as likely to be of great interest to many of your readers, hence this communication to you in the expectation of your taking the same view. We would, to some extent, qualify the result by stating that, in more experienced hands than our own, the flexibility, as shown above, of the Rochet-Schneider could probably be improved upon, but certainly not, in our opinion, to such an extent as to bring it up to the ratio of the Cadillacs.—Yours truly,

JAS. C. MADELEY } M.M.I.C.E.
J. W. MADELEY }

AUXILIARY EXHAUST VALVES ADVOCATED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read many varying discussions in the *M.C.J.* relating to the above subject of four versus six cylinder engines, and that some severe offers have been made to match a four against a six-cylinder car. Personally, I am of opinion that the four-cylinder advocates have not yet struck the right note to warrant their competing with their adversaries. Now if a standard four-cylinder engine of good repute were fitted with an auxiliary exhaust, it would be a hard nut for the six-cylinder to crack, and what I am going to point out is that four auxiliary valves with their various accoutrements will cost infinitely less than two more cylinders, valves and all, both in the initiate and subsequent upkeep. The auxiliary exhaust valve should be placed at the extreme bottom of the piston's stroke and be so designed as to relieve 65 per cent. of the working charge; the remaining 35 per cent. would expand and thus become cool while passing back up the cylinder and through the ordinary exhaust valve. The net result of this idea is a clean cylinder, chock full of combustible mixture ready for the next



The Thames 50-h.p. Six-cylinder Car recently supplied to Baillie Taylor, of Carnoustie, N.B.

The vehicle was recently driven from London to its destination, a distance of about 550 miles, entirely on top gear. The owner, who is a well-known agriculturist, is seen standing at the side of his new car.

working stroke, more compression and maximum efficiency with minimum heat. It means death to the carbon deposit bugbear, and in theory, at all events, it neutralises the shock given out by the momentarily-released working charge through one valve at the top of the cylinder. An auxiliary exhaust will give buoyancy and resiliency akin to the steam car, and the efficiency of an engine so fitted would far exceed the misleading conventional estimate of h.p. based upon the bore and stroke of the cylinders. I have often wondered that such an important refinement in valve construction was not decided upon against the invasion of the six-cylinder engine.—Yours truly,

HERBERT J. CHAPMAN.

CHARGING ACCUMULATORS FROM PRIMARY BATTERIES.—“Anti-magneto” writes:—“I am a motorist, and reside at some distance from a charging main. As I wish to adopt electrical ignition in place of the magneto, I intend to charge my own accumulators, and contemplate introducing the Boron battery system, which, I am informed, is the most reliable. I should be glad if any readers who have tried this will kindly give their views on the same.”

THE directors of the newly-formed Vauxhall Motors, Ltd., include Messrs. William Gardner, Leslie Walton and Percy E. Kidner, two of whom are still connected with the Vauxhall and West Hydraulic Engineering Company, Ltd., so that continuity of the policy which has built up the reputation of the last-named concern is assured.

CLUBS AND ASSOCIATIONS

AUTOMOBILE ASSOCIATION.

THE Automobile Association will have an exhibit illustrating its work at the Travel Exhibition, which is to be held in the Horticultural Hall, Westminster, next month. Members of the A.A. will be entitled to free admission on presentation of their membership cards.

In view of the large number of motorists who announced their intention of attending the Frome's Hill Climb, on the 3rd inst., the Automobile Association decided to patrol the road from London to the scene of the contest. An official road was chosen as follows:—Uxbridge, High Wycombe, Oxford, Witney, Northleach, Andoversford, and Cheltenham, thence via Ledbury to Hereford. This road was thoroughly patrolled, and motorists visiting the hill climb were advised to follow this course.

SOUTHERN MOTOR CLUB.

THE club had a competition on Saturday over a course of about 100 miles on southern roads for the Howlett Challenge Cup and Gold Medal. Each competitor on starting was given 300 marks and half a mark was deducted for every stop; tyre stops counted half a mark for every four minutes. The winner had to make a non-stop run, and the even running of the machine was also taken into consideration. The competitors were sent off alternately in opposite directions on a circular course which was not known to them until the actual start. The winner proved to be Mr. A. Carpmael on a 9-h.p. Riley Tri-car. He lost no marks. Mr. G. Aldington (5-h.p. Twin Kerry Tri-car) was second with 297 marks. Mr. S. Newton third with 296 marks on an 18-h.p. Royal Star car, Mr. W. S. Smith (16-20-h.p. Mutel), was placed fourth with 294 marks. The previous holders of the cup were, in 1906, Mr. W. H. Lorkin, in 1905, Mr. H. Jones. This trophy has to be won three times, not necessarily in succession. Mr. Malcom Brooke started on his new six-cylinder car, but unfortunately had not gone far when a wire fused, placing him out of the running. It was the birthday of the new Malcom six-cylinder, and it was its first road trial.

WOLVERHAMPTON.

THE Wolverhampton Automobile Club held its opening meet in the Wolverhampton West Park recently, when between sixty and seventy cars assembled. The Mayor of Wolverhampton (Councillor A. B. Bantock), attended the meet on a Sunbeam car, while quite a number of local celebrities were in attendance. After the meet, several cars proceeded, in spite of the weather, to Newport for tea. In a town which has such strong connection with the motor industry as Wolverhampton, locally built cars might be expected to predominate, and this was proved to be the case by the fact that sixteen Star cars and thirty-two Sunbeams were present, as compared with eighteen of all other makes.

KENT CLUB.

THE club held the first of its luncheon meets at the Royal Star Hotel, Maidstone, on Saturday. Dr. Charles Firth, vice-Chairman of the club, took the chair. After the luncheon a committee meeting was held, and the following were elected to membership of the club:—Mrs. H. E. Straker, the Rev. — Boyd, Mr. H. B. Smith, Mr. R. H. Steen, Mr. A. B. Pilcher, &c.

MOTOR CYCLE UNION OF IRELAND.

THE open meet of the season of the Motor Cycle Union of Ireland was held on Saturday last at Portmarnock. The following are the details:—

ONE MILE NOVICE SCRATCH.

For members who never won any prize in any event promoted by the Union. N. E. Drury (3-h.p. Triumph), 1; J. Gould (3½-h.p. Morehampton), 2; J. T. Beahan (3½-h.p. Minerva), 3.

ONE MILE MEMBERS' HANDICAP.

C. W. Smith (3½-h.p. Triumph), 1; H. G. Ferguson (2½-h.p. Minerva), 2; N. E. Drury (3-h.p. Triumph), 3.

TEN MILES GO-AS-YOU-PLEASE RACE MEMBERS' HANDICAP FOR SHAW CUP.

H. G. Ferguson (2½-h.p. Minerva), 30 sec., 15 min. 31 sec., 1; R. Walsh (2½-h.p. F. N.), 2 min. 30 sec., 16 min. 36 sec., 2; H. Mouney (2½-h.p. F. N.), 2 min. 30 sec., 17 min. 20 sec., 3.

FLYING KILO.

The following took part in the competition:—H. Mouney, 2½-h.p. F. N. (15 sec.); H. G. Ferguson, 2½-h.p. Minerva (6 sec.); J. H. Drury, 3-h.p. Triumph (5 sec.); N. E. Drury, 3-h.p. Triumph (5 2-5 sec.); H. Quinn, 4-h.p. Roc (8 sec.); W. Ladley, 5-h.p. Twin Minerva (2 sec.); J. Gould, 3-h.p. Morehampton (8 sec.); J. T. Beahan, 3½-h.p. Morehampton (3 2-5 sec.); E. W. Smith, 3-h.p. Triumph (6 sec.); C. B. Fran (Klin), scratch.

DERBY AND DISTRICT.

ON Saturday the opening run of this club took place, when, as on the last several occasions, the venue chosen was Ashby-de-la-Zouch, and in spite of the inclement weather there was a large gathering of motorists and their friends. On this occasion the members of the Derby and District A.C. were joined by those of the Leicester, Nottingham, Wolverhampton and other Midland clubs. Shortly after three o'clock the cars commenced to arrive, and were stabled in the spacious yard of the Royal Hotel, advantage being taken of the interval before tea to renew old acquaintances and make fresh ones. The president of the club, Mr. Francis A. Bolton, was present on his 35-h.p. Daimler. About 4.30 the members and their friends adjourned for tea, which was served in the Royal Hotel ball-room, after which, towards six o'clock, the weather having meanwhile greatly improved, the cars began to disperse.



The Southern Motor Club's Competition.—Mr. S. Newton on his 18-h.p. Royal Star Car.

SOUTHERN.

THE handbook of the Southern Motor Club for 1907 is to hand in its usual attractive form, accompanied with No. 1 of the Southern Motor Club Gazette, edited by Mr. J. W. Lewis Cufley and full of matter of club interest.

THE MOTOR CYCLING CLUB.

THE Sharpenhoe Hill Climb, held on April 20th, was the first competition of this club's season and the first open event the Club has organised. Everyone is agreed that it was a great success. The results of the handicap will be found below. The thanks of the Club are due to Mr. W. A. Sale, of Luton, for the work he did in connection with this hill-climb.

Name.	Machine.	H.p. and make of Engine.	Bore. Mm.	Stroke. Mm.	Cubic capacity. Cms.	Weight of Machine. Lbs.	Weight of Rider. Lbs.	Time. Sec.	Mark.
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CLASS 1.—SINGLE CYLINDER MACHINES NOT EXCEEDING 80 BY 80.

J. P. Legrand ..	Matchless	3½ J. A. P.	70	76	292	130½	142½	85½	90.3
W. O. Scales ..	Rvto	3½ Fafnr	80	80	402	175½	135	71½	92.1
D. H. Gainsford ..	Advance	3 Advance.	76	82	371	166½	158½	125½	143.4

CLASS 2.—SINGLE CYLINDER MACHINES, ANY CAPACITY.

R. M. Brice ..	Brown	3½ Brown	82	88	464	150	153	46½	71.3
Stanley Webb ..	Quadrant	3½ Quadrant	81	88	453	178½	121½	54	81.9
J. Marshall ..	Triumph	3½ Triumph	82	86	454	163½	139	54½	82.1
F. Hulbert ..	Triumph	3½ Triumph	82	86	454	165½	135½	56½	85.7
J. C. C. Brodie ..	Noble	5 Noble	90	95	604	179	156½	49½	87.1
F. Applebee, Jun.	Rex	3½ Rex	82	89	490	181½	140½	60½	88.0
J. S. Hurwood ..	Triumph	3½ Triumph	82	86	454	176	140½	62½	90.0
F. W. Applebee ..	Rex	3½ Rex	82	89	490	173	132½	61½	98.4
F. Russell ..	Quadrant	3½ Quadrant	81	88	453	191½	194½	84½	99.4
Stanley Webb ..	Triumph	3½ Triumph	82	86	454	163½	121½	66	108.4
F. C. Mustard ..	Triumph	3½ Triumph	82	86	454	169½	161½	71	106.1

CLASS 3.—MULTI-CYLINDER MACHINES NOT EXCEEDING 80 BY 80.

W. W. Genn ..	Minerva	4½ Minerva	70	76	584	161½	189	41½	80.9
W. H. Wells ..	Vindee Special	5 Peugeot	75	76	670	179½	157½	45	89.4
W. A. Sale ..	Vindee Special	5 Peugeot	75	76	670	175½	152	46½	94.4
E. Gwinne ..	Vindee Special	5 Peugeot	75	76	670	183	148½	51½	103.7
Count Kolowrat	Laurin Klement	4 Laurin Klement	70	80	614	181½	206½	66½	106.1
O. C. Godfrey ..	Rex	5 Rex	76	80	724	182	124½	47	111.0
W. H. Normeau	N. S. U.	5-6 N.S.U.	75	93	795	221½	152½	56½	61.6
S. Browne ..	LurquinCoudert	6 LurquinCoudert	80	80	804	226	143½	62½	125.7
R. S. Osborne ..	Rex	5 Rex	67	80	724	256	132½	83½	157.8

CLASS 4.—MULTI-CYLINDER MACHINES, ANY CAPACITY.

W. H. Wells ..	Vindee Special	5 Peugeot	75	76	670	179½	157½	44½	88.2
W. A. Sale ..	Vindee Special	5 Peugeot	75	76	670	175½	152	46½	92.8
C. R. Collier ..	Matchless	6 J.A.P.	76	95	862	157½	144½	41½	118.6
R. M. Brice ..	Brown	5½ Brown	82	90	950	198	153	54½	147.2

CLASS 5.—SINGLE CYLINDER PASSENGER MACHINES.

A. F. Halsey ..	Phoenix Trimo	5-6 Minerva	90	100	636	672	302½	131½	85.6
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CLASS 6.—TWIN CYLINDER PASSENGER MACHINES, NOT EXCEEDING 80 BY 80.

W. Montgomery	Montgomery Sociable	5 Antoine	77	80	744	335	261½	116½	145.1
R. S. Osborne ..	Rex and Side Car	5 Rex	76	86	724	250	260	134½	159.7

CLASS 7.—MULTI-CYLINDER PASSENGER MACHINES, ANY CAPACITY.

W. Montgomery	Montgomery Sociable	5 Antoine	77	80	744	336	261½	118½	147.9
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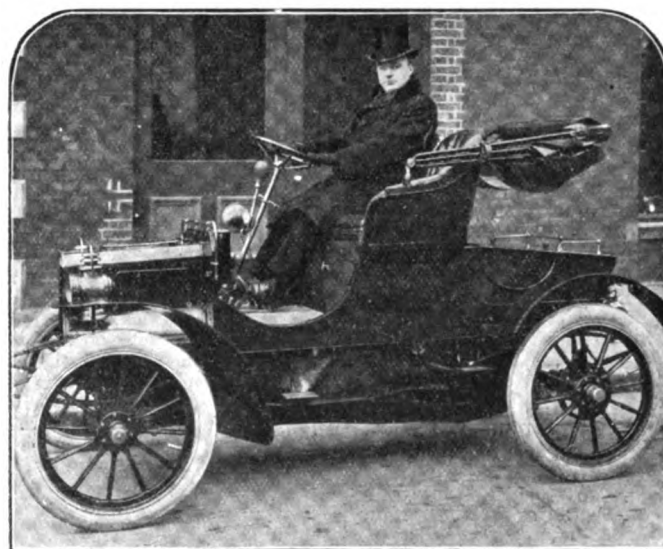
C. R. Collier and W. W. Genn tied for the fastest time over the course.

AUTO CYCLE CLUB.

ON Saturday the Auto Cycle Club held its team penalty contest over a seventy-three miles course, from Woodford to Stumps Cross and back again. The minimum time was 3 hours 45 min., and the maximum 4 hours. The performances of the competing organisations were as follows:—

	Starters.	Non-Stop Runs.
Woolwich M.C. ...	7	4
Essex M.C. ...	11	8
North-West London ...	5	3
West Essex ...	5	2
Walthamstow M.C. ...	6	4
Lewisham A.C. ...	3	1
Auto Cycle C. ...	5	4
Black Prince ...	1	—
Motor C.C. ...	1	1
Southend M.C. ...	3	2
	47	29

That there should have been 29 non-stop runs out of the 47 starters is a tribute to riders and machines alike.



Mr. David H. Kyd, a well-known Barrister-at-Law, on his new 10-h.p. Rex Car.

This gentleman is already an expert motorist, and is delighted with his car, which he uses for town work, as well as for long tours to the southern and western counties of England.

HULL.

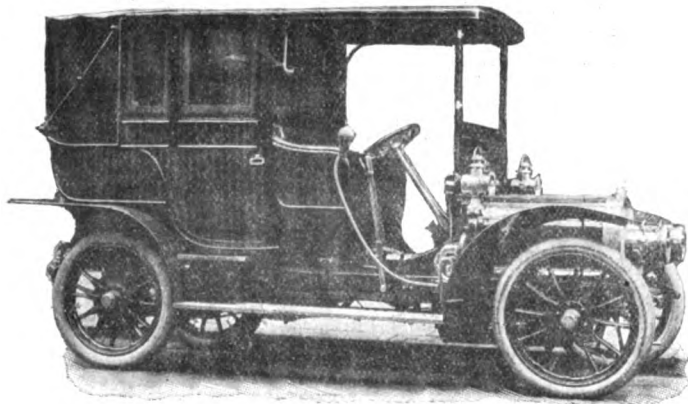
THE annual meeting of the Hull and District Automobile Club was held at the Imperial Hotel, Hull, Dr. W. H. Coates presiding. The secretary (Mr. B. Hancock) read the annual report. It was stated that

district councils had been written to regarding the state of roads, &c. and individuals who had proved an annoyance to motorists had been communicated with. The treasurer (Mr. A. E. Hagestadt) presented his annual report, which was highly satisfactory, there being a large balance in hand.

A vote of thanks was accorded to Colonel W. H. Harrison-Broadley, M.P., for acting as president, during the past year. Mr. A. J. Atkinson was elected president and Sir Seymour King, M.P., K.C.I.E., Mr. Guy Wilson, D.S.O., Colonel W. H. Harrison-Broadley, M.P., and Dr. W. H. Coates were elected vice-presidents; Dr. W. H. Coates was re-elected chairman, Mr. Bergh Hancock hon. secretary, and Mr. H. Whiteley hon. treasurer in place of Mr. A. E. Hagestadt (resigned). Messrs. A. E. Hagestadt and J. Richards were elected auditors. It was agreed to write to the Education Committees of Hull and the East Riding regarding the nuisance caused by the throwing of missiles by children, and asking them to instruct the head teachers to draw the attention of children to this matter.

IRISH.

THE following have been appointed repairers to the Irish A.C. for the year 1907:—Messrs. John Cleary, Fair Green, Tullow, Co. Carlow; Cleary and Company, Bagenalstown, Co. Carlow; Motor Car Repairing Company, Dublin Street, Carlow; R. Pulvertaft and Sons, 119, George's Street, Cork; Thompson Brothers, Custom House Quay, Wexford; R. H. Poole, Charleville Square, Tullamore, King's County; John Alexander, John Street, Londonderry; D. J. Thompson, Great James Street, Londonderry; A. J. Brandon, Abbey-leix, Queen's County; J. J. Ward, Eyre Square, Galway; Corrib Motor and Engineering Company, William Street, Galway; James Healy, Henn Street, Killarney; W. F. Pearce, Catherine Street, Waterford; T. K. Hinds, Kildare; Northern Motor Company, Ltd., 38, Chichester Street, Belfast; John Apperson, 31, Francis Street, Newtownards, Co. Down; W. Christy, 58, George's Street, Limerick; Burke Engineering



The Leon Bollee Car, with Landaulet Body by the Victoria Carriage Works, Ltd., recently supplied to Mr. Gerald Loder, of Ardingly, Sussex.

and Motor Company, Clonmel; D. H. McDowell, College Street, Armagh; Henry Cooke, Mill Street, Ballymena; P. J. Fulham, Lawrence Gate, Drogheda; John McCollum, Mill Street, Coleraine; P. Barrett, Carrick-on-Shannon; T. Williamson, Francis Street, Dundalk; B. Gannon, Dunleer, Co. Louth; S. F. Haines, Cumberland Square, Birr; J. W. Buchanan, Strabane, Co. Tyrone; and J. Wright, Newry.

LIMERICK.

THE members of the Limerick Motor Club opened the season on Thursday last week with a meet at Adare, Co. Limerick, the residence of Earl Dunraven, K.P., patron of the club. During the afternoon a series of speed trials were indulged in by the members of the club. The course was two miles in extent and the pace limited to sixteen miles per hour. Mr. Malcolm D. Shaw was the successful competitor, driving Lady Shaw's car just on schedule time. The following took part in the contest:—

Lady Shaw's 14-h.p. Whitlock-Aster	...	1
F. C. Clieve, 12-h.p. Arrol-Johnston	...	2
R. Roche, 15-h.p. Darracq	...	3

A. E. Browning, 9-h.p. Adams-Hewitt; Sir Thomas Clieve, 10-h.p. White steam; Sir C. B. Barrington, Bart., 9-h.p. Cadillac; Sir Alex Shaw, 6-h.p. Wolseley; M. D. Shaw, 8-h.p. Darracq; A. Blood Smyth, 6-h.p. Siddeley; Major Wise, 20-h.p. Spyker; R. de Ros Rose, 16-h.p. Sunbeam; T. D. Atkinson, 20-h.p. Darracq; G. S. Browning, 10-h.p. Peugeot; and G. Goodbody, 10-h.p. Argyll.

BLACKHEATH AUTOMOBILE CLUB.

THE opening run of the Blackheath Automobile Club took place on Saturday. About forty members and friends assembled at The Beacon, Westerham Hill, for tea. Among those present were Messrs. J. H. Bowden, 10-12-h.p. Humber; W. F. Butcher, 12-16-h.p. Clement-

Talbot; A. Cunis, 6-h.p. Regal; H. A. Cunis, 18-h.p. Regent; O. V. Flather, 15-h.p. Ariel; A. Jackson, 10-12-h.p. Georges-Richard; Professor C. J. Lambert, M.A., 10-12-h.p. Argyll; Messrs. T. Marshall, 12-h.p. De Dion; A. W. Wansby, 8-h.p. Horley; W. Whiteway, 14-16-h.p. Regal; H. Beadle, Rover.

THE open hill climb of the Essex Motor Club has been postponed to the 11th inst.

DURING the Whitsun holidays the Junior Automobile Club will have a tour into Shakespeare's country.

THE Wolverhampton and District A.C. will hold a hill-climb at Harley Bank, Wenlock Edge, on June 15th. According to the regulations, "no steam cars are eligible to compete, nor cars of which the cylinder diameter in inches squared and multiplied by the number of cylinders exceeds 125."

THE next meeting of the Institution of Automobile Engineers will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., on Wednesday next, when a paper will be read by Professor H. L. Callendar, on "The Effect of Size on the Thermal Efficiency of Motors."

PARTICULARS have been issued of the Open Hill Climb promoted by the Southern M.C., to be decided on the 22nd prox. at Captain Kydd's Hill, East Grinstead. Cars will be weighed in East Grinstead, and Mr. S. W. Phillpott, 18, Gosberton Road, Balham, S.W., will supply further particulars of what promises to be a very interesting trial.

DANGEROUS DRIVING AND SPEED LIMIT.

AT Raglan, on Saturday, Mr. Harold Brewer, Cardiff, was summoned for driving a motor-car in a manner dangerous to the public on Good Friday. Mr. F. C. Shackel, Cardiff, defended. P.S. Jones, Raglan, stated that the car driven by the defendant covered 354 yards in 25 seconds, which would be a few yards under 25 miles an hour. Mr. Shackel objected on the ground that the defendant was not charged with excessive speed. In cross-examination the sergeant stated that there were no people on the road. He also stated that there was no danger to anyone, and if it had not been for the speed the car was travelling he would not have reported the case. Mr. Shackel contended that as there was no danger to anyone, as the prosecution admitted, the summons should have been either for exceeding the speed limit, or under Section 1 for driving at a speed dangerous to the public. The Bench upheld the objection and dismissed the case.

SMOKE EMISSION FROM MOTOR-CARS.

AN important appeal with reference to the emission of smoke from motor-cars was heard in the Divisional Court on Thursday, last week, the Motor Union having undertaken the case on behalf of one of its members. Mr. Horace Avory, K.C., and Mr. Grimwood Mears, instructed by Mr. Staples Firth, appeared before the Lord Chief Justice, Mr. Justice Darling, and Mr. Justice Phillimore, to support a rule nisi, which had previously been obtained to quash the conviction of the Eddisbury Justices.

Mr. W. E. Rowcliffe was summoned and convicted by the Justices under Section 30 of the Highways and Locomotives (Amendment) Act, 1878, for allowing smoke to issue from his motor-car. It was argued by Mr. Avory that a motor-car was defined by Section 1 of the Locomotives on Highways Act, 1896, and the enactments mentioned in the Schedule to that Act were not to apply to light locomotives, and that such schedules contained (*inter alia*) part 2 of the Highways and Locomotives (Amendment) Act, 1878, and that part 2 contained Section 30, under which section the Justices erroneously convicted Mr. Rowcliffe, on the ground that the car he was driving on the day in question was a locomotive which did not as far as practicable consume its own smoke. They convicted under this Act, notwithstanding the fact that they described it both as a locomotive and as a motor-car, and then ordered his licence to be endorsed under the Motor Car Act.

The Justices filed evidence in support of their conviction. It was stated that from the facts before them at the hearing of the petty sessions a great volume of smoke was emitted from the motor-car, which was probably due to carelessness. Mr. Avory at once pointed out that upon the Justices' evidence alone this brought the case within the Act, which states "that if from any temporary or accidental cause, &c." After considerable argument the Lord Chief Justice gave judgment, in which he stated that the conviction must be quashed, and as the endorsement on the appellant's licence could only be justified if there had been a conviction, and as such conviction had been quashed, the endorsement must be erased.

Mr. W. HACKER ARNOLD, who for many years managed the affairs of Messrs. Henry Whitlock, Ltd., the well-known coach and carriage builders of Holland Gate, Kensington, W., informs us that he is now conducting the business at 24-27, Orchard Street, Oxford Street, W., in conjunction with Messrs. J. A. Lawton and Co., whose reputation for high-class work is well known in the trade. Messrs. Henry Whitlock and Co. are in a position to supply high-class motor bodies and carriages of every description, and have exceptional facilities for the immediate delivery of Mercedes, Panhards, and other leading types.

ROAD REPORTS.

LUTON.—The roads in Luton and district are generally in a good condition for motorists.

TORQUAY.—The road from Torquay to Dartmouth has been quite unsuitable for motor traffic, owing to the laying of a pipe under the middle of the road. The road is very narrow, and heaps of clay and stones render the passage of cars a difficult and damaging task.

SIGNPOSTS ON IRISH ROADS.—The Irish A.C. is interesting itself in the erection of signposts in various districts, and the hon. secretary has interviewed the chairman of the Kildare County Council with reference to the subject. As a result probably three suitable signposts will be erected in the town of Kildare.

BOSTON.—The roads round about Lincolnshire are now in very fair order. The level crossing over the Great Northern Railway on the Sleaford road, about a mile from Boston, should be taken very slowly, as the driver comes over a high-backed bridge and regularly drops on the crossing, which is not over good for the springs, as our correspondent has found out; the reverse way is just as bad.

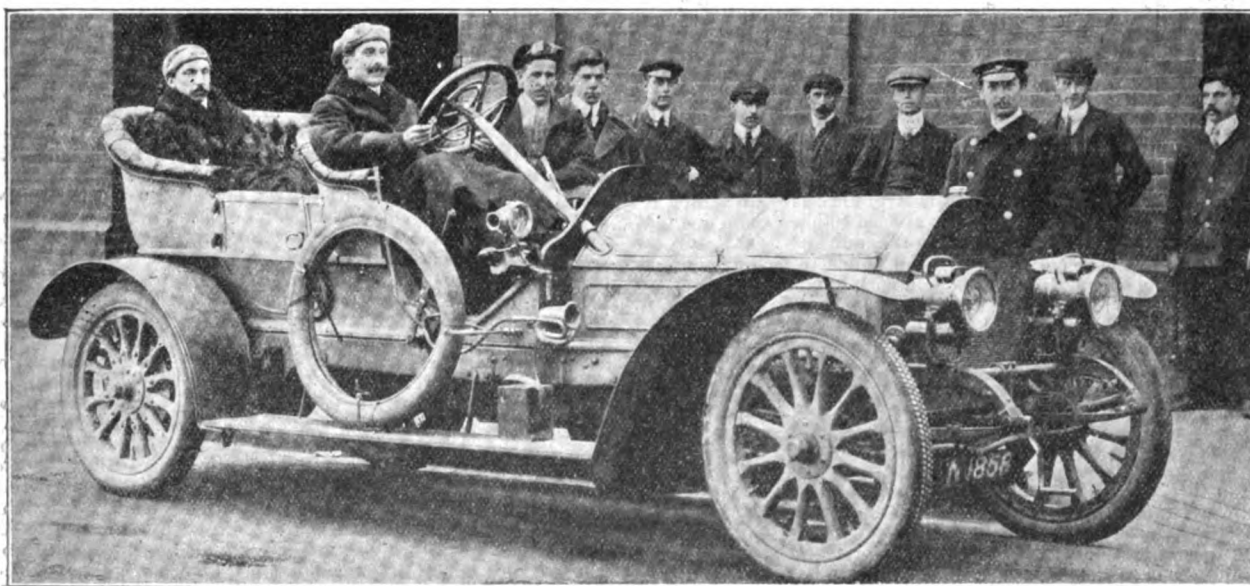
EASTBOURNE.—Success having attended the covering of the surface of the Grand Parade at Eastbourne with tarred slag, the surveyor, Mr. A. E. Prescott, is having Terminus Road, the principal thoroughfare in the town, re-covered with this material before the Whitsun traffic.

LEWES.—Two miles of the Brighton road have just been tar-sprayed. These are just outside the borough boundaries of Lewes and have been dealt with in an experimental way by the Tarspara machine, the demonstration being carried out under the observation of the surveyors of the Rural District Councils of East Sussex.

when picked up was dead. The motor-car also collided with an electric standard. The prisoner gave evidence in his own defence. When he saw the man in the road he blew his horn twice, put on his side brake and another brake, and this caused the car to begin skidding, which prevented full control just before the deceased was struck. Then it skidded another seven or eight yards. The evidence of the prosecution as to speed was exaggerated; he was not going even fifteen miles an hour. The jury stopped the case, and found the accused not guilty.

ON Monday the Lambeth coroner held an inquest on the body of a lad who was knocked down and run over by a motor-car with fatal results. The driver of the car said that he was driving a 20-h.p. Darracq from London to Reigate. He saw the children some distance ahead of him as he was proceeding along Brixton Hill and sounded the horn and eased up, when the deceased, who had nearly reached the opposite pavement, suddenly turned back just in front of the car. The witness did all he could to prevent the accident, and pulled up within four yards. The jury returned a verdict of "Accidental death," and exonerated the driver from all blame.

MISS BRASSEY, a relative of Lord Brassey, of Clock House, Edge, Malpas, has lost her life in attempting to save a pet dog from being run over by a motor-car. The story told by the driver of the car, Thomas Mason, of Liverpool, was to the effect that as he was returning to Birkenhead from Stratford-on-Avon, on nearing Clock House, Edge, he noticed a dog crossing the road and a lady running across after it a few yards in front of the car. He applied both brakes, stopping the car within its own length, but not before the mudguard of the left front wheel knocked the lady down. He was travelling at fifteen to eighteen miles an hour. The car contained a party of four, and belonged to a



Mr. J. Keele on the Belsize 60-80-h.p. Six Cylinder he has purchased, and which he will drive at the most important race meetings during the coming season, including that at Bexhill, on Whit-Monday. The photo from which the above picture was reproduced was taken outside the works at Highgate of Messrs. J. Keele and Co., the London and district agents for Belsize cars, just after the car had arrived by road from Manchester, the journey having been made without a single involuntary stop.

ROMFORD.—The urban district council, which for two seasons has treated the local roads with a dust laying preparation, has passed a resolution in favour of legislation to compel the owners of cars to contribute to the cost of the roads.

WORTHING.—There is every likelihood of a great extension of road making experiments in the town of Worthing.

NORTHWICH.—The Northwich Council have adopted chloride of lime for street watering, to abate the motor dust nuisance.

REIGATE.—We understand from the surveyor to the Reigate Rural District Council that the statement as to the intention of his Council to tar long stretches of the main road before Whitsuntide is incorrect, no such arrangement having been made.

MOTOR-CAR ACCIDENTS.

RALPH CREAK TAYLOR, chauffeur to Colonel Lockwood, M.P., was indicted at the Central Criminal Court on Saturday for the manslaughter of Richard Margerum. Mr. Arthur Gill prosecuted; Sir Charles Mathews and Mr. C. J. Mathews defended. About half-past eleven on the night of March 15, the prosecution stated, the prisoner was driving a motor-car from Colonel Lockwood's residence in Essex to his house in London. In the Seven Sisters Road, near the turning into Stonebridge Road, Mr. Margerum was standing on the pavement waiting for a tramway car to Finsbury. Presently a tramway car arrived, and as he stepped into the roadway the prisoner's motor-car came up and struck him with such force that he was carried some distance, and

Liverpool gentleman. Medical aid was summoned, but Miss Brassey succumbed to her injuries shortly after the accident.

THE LINCOLN MEET.

IN connection with the Whitsun meet of the Motor Union, at Lincoln, a party will be conducted round the Cathedral and Castle by the Rev. Canon Hicks, M.A., on the 18th inst. For the procession a most interesting route has been chosen and a special "itinerary" has been written by the Sheriff of Lincoln (Dr. Mansel Symphon). This will be embodied in the official programme. At Canwick Hall the guests will be received by Lady Cholmeley on behalf of her father and mother (Mr. and Mrs. Waldo Sibthorpe). The gymkhana will commence at 3.30 p.m. At the dinner in the County Assembly Rooms the toast list will be short; besides the loyal toast the only others will be "The Motor Union" and "The County and City of Lincoln." The guests will then adjourn to the reception rooms, where conversation will be undisturbed.

MESSRS. WEIGEL MOTORS, LTD., inform us that they have terminated their agreement with Messrs. Huntley Walker and Co., and that they are no longer their agents for the London district.

WE are informed that the Holland Branch of the Continental Tyre and Rubber Company, Ltd., has been transferred from Rotterdam to 1077 Prinsengracht, Amsterdam, where the business will be carried on in a more extensive way.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

STELLA MOTOR COMPANY.—£1,000. Manufacturers of and dealers in motors, &c. First directors: Messrs. H. P. MacConnell and G. Elkin, 20, Avonmore Road, Kensington.

HOLLAND PARK MOTOR COMPANY.—£5,000. To adopt an agreement with Messrs. J. G. H. Wood, F. Jackson, and R. V. Asbury, for the acquisition of the business carried on by them as the Holland Park Motor Company. No initial public issue. First directors: Messrs. F. Jackson, R. V. Asbury, and F. Hurd-Wood. Managing directors, £100 each per annum. 124, Holland Park Avenue, W.

MINTON MOTOR RIM COMPANY.—To adopt an agreement between Messrs. V. H. Minton, F. C. Minton, and G. E. Minton of the first part, Messrs. A. E. Skidmore and H. G. Mills of the second, and Mr. A. O. Wright of third, and to carry on the business of manufacturers of rims, tyres, &c. First directors: Messrs. A. O. Wright, V. H. Minton, A. E. Skidmore, and H. G. Mills. 60, Newhall Street, Birmingham.

MESSRS. ELWELL-SMITH PETROL SAFETY GAS COMPANY.—£1,000. To adopt an agreement between Messrs. H. Elwell-Smith and A. C. M. Anderson, and to acquire and turn to account any inventions, &c.

SIMMS MAGNETO COMPANY.—£100. Magneto and motor manufacturers, &c. No initial public issue. First directors to be appointed by signatories.

OBSTRUCTING A MOTORIST.

THE Lancaster county magistrates, who have done a good deal in the way of fining motorists, had before them on Saturday a case in which a motorist was the aggrieved party. A week ago two cattle drovers were charged on police informations with obstructing the highway near the Crook o' Lune, Caton. According to the evidence P.C. Ferguson saw the men with a herd of cattle, which occupied the whole of the road, and they declined to make a way through the herd for a motor-bicyclist named Slinger, of Lancaster. The police officer got the cattle to the side of the road, and asked the defendants why they had not let the motorist pass. He took the names of the men, and when he tried to serve the summonses he found the names and addresses given were false, and he spent two days in finding the men.

Mr. Barton, a magistrate and an agriculturist, got the case adjourned for the attendance of the motorist, who was alleged to have come upon the men at a great rate and to have almost run them down. On Saturday Mr. Slinger gave evidence corroborating the police testimony, and added that he was going slow. He had his wife with him, and the men would not make any effort to get the cattle to the side of the road. He had to bring his motor to a standstill. After a long consideration in private the Chairman announced that the Bench would deal leniently with the defendants, and fined them 5s. each, without costs. The Bench also gave the men time in which to pay. It was subsequently stated that Mr. Barton had paid the fines.

POLICE TRAPS.

ACCORDING to Mr. Plowden, the magistrate at the Marylebone Police Court, what every motor driver may hope and pray for is that he may never fall into a trap.

CHESHIRE is now familiar with police traps for motorists, and on the roads leading from Birkenhead special care should be taken.

A TRAP about two miles to the west of Marlborough, on the London-Bath road, is becoming a source of profit to the authorities.

SHOOTERS' Hill Road is again being infested with police traps, and, as a result of official observation, four motorists have just been fined 20s. and costs at the Greenwich Police Court.

RIVERSIDE motorists have knowledge of motor traps in the neighbourhood of Walton-on-Thames, Hampton Court, &c.

MOTORISTS should be careful when driving from Lewes to Eastbourne or Hastings, as there is a trap on the road across the Dicker Common; also at the cross roads near Arlington, on same road. There were seventeen victims before the Bench, at Hailsham, on Wednesday week, and none got off. The police evidently like trapping on this road, and a resident is not averse to giving them every information and facility for their work.

COMPLAINTS by a motorist at Chester on Saturday against the police method of timing cars in Cheshire did not save him from being fined, with costs.

AERONAUTICS.

THE Hon. C. S. Rolls has made an ascent from Short's Balloon Works, at Battersea, in his balloon "Britannia," which reached a height of 5,500 feet, carrying nine passengers, who included Lord Dalmeny, Lord Northland, Sir Hugo de Bathe, Sir Charles Ross and Captain Corbet.

SCOTTISH RELIABILITY TRIAL, 1907.

THE Scottish Motor Trade Association, Ltd., have placed at the disposal of the trials committee a prize value £10, to be awarded to the member of that association competing in the trial whose fuel consumption per ton mile is lower than that of any other member competing.

PUBLIC MOTOR SERVICES.

THE BOLTON TRAMWAYS COMMITTEE has engaged a motor-'bus for an experimental service.

AN afternoon motor service has been established between Hythe, Dymchurch, Romney, and Littlestone.

PETITIONS have been presented to the Great Western Railway Company from residents about Falmouth in favour of the establishment of a road motor-service in the Roseland district.

By a majority of one the Todmorden Town Council have agreed to the purchase of more motor-'buses for public service in the town.

DAILY motor-car trips are being run between Canterbury and Folkestone.

THE Brighton Watch Committee have decided that motor-cabs constructed to carry four adult persons inside will be licensed as first-class hackney carriages, and that motor-cabs constructed to carry fewer than that number of adult persons inside will be licensed as second-class hackney carriages.

"DON'T'S" FOR MOTORISTS.

Don't forget that even pedestrians have their rights.
Don't blow your horn as if it was the last trumpet.
Don't leave too many tools on the road.
Don't forget to pump your tyres; a pump in time saves ninety and nine.
Don't kill more dogs than you can help; it's bad for the car.
Don't forget that on the road it is usually the unexpected that happens.
—Truth.

BUSINESS NEWS.

THE winners of four events in the Motor Cycling Club's hill-climb at Sharpenhoe Hill, Luton, rode motor-cycles fitted with Dunlop tyres.

THE Motor Supply Company, Ltd., have removed from Jermyn Street to large new premises at 111, Piccadilly, London, W.

BOWLEY's motor spirit and lubricating oil are, we learn, being used by the Hotchkiss six-cylinder car in its 10,000 mile trial through Great Britain.

THE Shrewsbury and Challiner Tyre Company, Ltd., have issued a circular of their pneumatic tyres and of other detachable rims which can be attached or detached within a minute. Their London address is Page Street Works, Westminster, S.W.

A USEFUL list of agents who have been appointed by the Elastes Company, and who have the requisite mounting levers to deal with the tyres of provincial clients who are thinking of adopting this successful innovation, has been issued by the Elastes Co.

THE Electric Ignition Company, Ltd., of Sampson Road North, Birmingham, inform us that the following American motor firms have placed contracts with the holders of the patents under which they manufacture accumulators, viz., the Winton Motor Carriage Company, the Wayne Automobile Company, the G. N. Pierce Company, the Pope Manufacturing Company, and the Victory Motor Car Company.

WITH reference to the Targa Florio Race, we learn that the two De Dietrich cars which competed, and which finished fourth and sixth, were fitted with ordinary standard 40-h.p. engines. Messrs. De Dietrich tell us that they were very greatly handicapped by being unable to get the vehicles out in time to have much practice, and when they reached Sicily they found the roads very bad owing to heavy rain. It is interesting, too, to notice that there was only a difference of 39 sec. in the running times, Duray covering the 450 kilometres in 8 h. 39 min. 7 sec., and Gabriel in 8 h. 39 min. 46 sec.

MR. F. EASON, who has been connected with the motor trade for nearly ten years, informs us that he has resigned his position with Messrs. Jarrott and Letts in order to enter into partnership with Mr. H. H. Sternberg, who has been associated for some little time with the Mors Company. The new firm, which will be known as Messrs. Sternberg and Eason, have secured the sole British agency for the Buick motor-cars manufactured by the Buick Motor Car Company, Flint, Michigan, U.S.A., one of the largest motor-car manufacturers in the States. In addition to handling the Buick cars, they will act as general agents, and are prepared to supply any make of car from the new depot they have established at 15, Poland Street, Oxford Street, London, W.

AN important addition to the motor-car show rooms of London has just been opened at 2, Albemarle Street, Piccadilly, W., by Messrs. John I. Thornycroft and Company, the well-known engineers of Chiswick, Southampton and Basingstoke, where examples of the various models of the Thornycroft cars are now on view. Three models are now made, viz., 14 and 30-h.p. four-cylinder and 36-h.p. six-cylinder vehicles. The new premises, which are situated close to Piccadilly, comprise a tastefully decorated show room and offices on the ground floor, with ample accommodation for the storage, repair and cleaning of cars in the basement, which is reached by a hydraulic lift capable of carrying a load of two tons. In the basement are also situated the general and petrol stores. The show room will be well lighted during the winter months by numerous Tantalum lamps and heated by electric radiators, and visitors will find that their comfort has been carefully studied in the general arrangement of the premises. With the opening of their new show rooms Messrs. Thornycroft have brought out a new catalogue giving illustrations and full particulars with prices of their latest models.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, MAY 11, 1907.

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COMMENTS.

The Thermal Efficiency of Motors.

PROFESSOR CALLENDAR gave a suggestive and well-nigh exhaustive paper on "the effect of size on the thermal efficiency of motors" before the Institute of Automobile Engineers on Wednesday. It is scarcely necessary to remind readers that the thermal efficiency of an internal combustion motor is limited by the heat lost during ignition and expansion to the cooler walls of the cylinder, and also to the heat remaining in the exhaust gases at the end of the expansion being rejected unused. The former losses, Professor Callendar pointed out, are in part avoidable; those of the second kind are in a sense unavoidable, and constituted the main subject of his paper. He went on to say that, other things being equal, a small engine is less efficient than a large one, and referred to some of the general results of some reliable experiments with a small petrol motor. In our next issue we hope to publish the conclusions to which these have led the Professor—results of considerable importance to the designer of the modern car.

Mr. Rudyard Kipling's Views.

MR. RUDYARD KIPLING was a distinguished guest at the fifth annual dinner of the Automobile Club of South Africa, held at Cape Town, and submitted to the company the toast of the Royal Automobile Club of Great Britain and Ireland. In the course of an interesting speech he made some comparisons between the condition of the roads in the old days of stage coaches and that of to-day, when automobiles seem in a fair way to take the place of the ancient form of locomotion. Referring to the London and Brighton run in 1896, which he himself witnessed, he humorously remarked that there were now no cars like those. Since the advent of the motor vehicle, "the loafer, the botanist, the tramp and the dog" had had to clear out of the way. Thanks to the efforts of the Automobile Club, and of those who had done much to further the organisation of the motoring community, many public prejudices had been removed, and so well had the movement prospered that it now promised to go higher, and he thought that in five years—sanguine prophet that he is—the airship might be in general use. In this connection he thought that South Africa would be a popular site for aeronautics. But before they invade the clear skies of our Colonies, airships must be able to rise in the murkier atmosphere of the Alexandra Palace.

Unattended Horses.

THE decision of Mr. Justice Bray in the case of Ward v. Smallwood, which came before him on Saturday by way of an appeal from the Northumberland County Court judge, is hardly satisfactory to the public in general nor to motorists in particular. In this case the plaintiff was driving his motor-car from Morpeth to Newcastle-on-Tyne along the Great North Road, when he saw in front of him a covered van drawn up at the side of the road while the driver was delivering goods. Just as the motor-car drew level with the van the horse swerved into the middle of the road, and the automobilist was driven into a ditch in order to avoid a collision. The car was

damaged, and it was urged on behalf of the plaintiff that the driver of the van was negligent in leaving the horse unattended. The county court judge had held that there was no negligence on the man's part in leaving the cart and going into a cottage with bread. The Divisional Court dismissed the appeal, with costs. It was a question of fact which the county court judge had decided, and Mr. Justice Bray asked if every baker in the country was to be obliged to send a man and a boy with his bread cart. We would ask his lordship if horses of uncertain temper and liable to sudden frights are to be allowed to stand unattended on the roadside. In the early days of motoring the subject was often keenly discussed, for the unfamiliarity of horses to motor-cars resulted in several accidents. Now, according to the latest legal dictum, we have no legal remedy for the risks we run.

The Road Question.

FOLLOWING the recent conference of road makers and road users held at Olympia, when the time at the disposal of speakers did not allow anything like adequate discussion, there will be a further meeting at which the papers read will be fully debated. This will take place at the Institution of Civil Engineers on Monday and Tuesday, June 10th and 11th, with Sir John Wolfe Barry, K.C.B., in the chair on both days. The Roads Improvement Association has taken the matter thoroughly in hand, and the conference should do much to focus public attention on the experiments which will shortly be conducted under its auspices. It is to be hoped that many of the road surveyors who have given the subject any practical study will be prominent in the discussion. The ultimate solution of the problem can only be arrived at by the joint efforts of those who make the roads and those who use them, hence the importance of the gatherings shortly to be held.

For Man and Beast—but not for Car.

A NEW problem has arisen in the councils of the Metropolitan Drinking Fountain and Cattle Trough Association. That worthy institution, which has for years provided drinking water for man and beast, has discovered that motor vehicles are also among the recipients of its liquid bounty. The man who cleans the trough at Hyde Park Corner—one of the busiest centres of London's roar and traffic—reports that several conductors of motor-buses are in the habit of taking water from the trough. This predatory habit has been reported to the Westminster City Council, and the Clerk has been instructed to take proceedings against the next person discovered taking water from the receptacle for any purpose other than drinking, i.e., if he is discovered by someone in authority.

The Accident Season.

THE spell of sunshine which brightened the landscape on Saturday brought from their winter inactivity many a motor-car and motor-cycle. Unfortunately the week-end was signalised by an unusually large number of fatal accidents, while the number of serious mishaps was equally extended. This is regrettable, and we notice many of the daily papers have taken prompt advantage of the fatalities to revive some of the old prejudice against the car. On Monday morning three of the

London daily journals gave up half their placard space to alarming their readers with notifications of these accidents, and in chronicling the sad happenings detail embellishments were not omitted. Of course it is the primary duty of a newspaper to chronicle news, and the general press has to cater for all classes of readers, but that is no reason why opportunity should be so readily taken to secure a recrudescence of the feeling that was rampant some months ago. At the same time a careful study of these fatalities proves conclusively that the danger lies, not so much in the automobile, as in the vagaries of the public. In London most of the mishaps arose from indecision on the part of the victims; in the country carelessness on the part of cyclists was the cause of two or three which loomed large in the public print. Now that the touring season has commenced care must be exercised by all road users alike, so that life may be secure and nothing done to mar the progress of the motor-car industry.

The Princess of Wales in a Steam Car.

DURING the recent visit of the Prince and Princess of Wales to Scotland they were the guests of Lord Blythwood at Blythwood, Renfrew—one of the most enthusiastic motorists north of the Tweed. He is particularly partial to the White steam car, and their Royal Highnesses went to most of their



public functions in a vehicle of that type. In the accompanying photograph the Princess of Wales is seen alighting from Lord Blythwood's 30-h.p. White car at Blythwood House after her visit to Govan to lay the foundation stone of the new infirmary there. His lordship may be easily recognised in the photograph.

A Fiat Trip.

LONDON to Brighton is a familiar run to motorists; it is now being popularised by the Fiat Company among the non-motoring public, who appreciate quick and comfortable travel. The institution of the motor coach service has been a pleasing innovation of this season, and has done something to advance the interests of the movement at London by the Sea, where Fiat Motors, Ltd., have established a fine garage—notable among the motor establishments of the south of England—in St. James Street. This has lately been extended, and to commemorate the development a luncheon was held at the Royal York Hotel, Brighton, on Tuesday. The day was not an ideal one for motoring, and the venturesome souls who were conveyed thither from London in fourteen Fiat cars, a motor-bus and a motor-coach found the skies in tearful mood. True the dust

was laid; but spirits, too, were depressed, and everyone was glad of the halt at Crawley.

London to Brighton.

THEN again to Brighton, where Mr. D'Arcy Baker welcomed the company, and in the presence of Sir John Blaker, several ex-mayors, Mr. Victor Miller, and other well-known people, the rain-storms were forgotten and enthusiasm revived. The extension of the company's operations at Brighton is an event of considerable local importance; it also means much to the crowds of motorists who make the place a rendezvous throughout the season, and who will be glad to hear of this considerable addition to the facilities for the repair and storage of cars in the town. Among the guests was Mr. K. Okura, a well-known Japanese gentleman, who already owns a 30-40-h.p. and a 120-h.p. Fiat, and who is about to take to Japan a six-cylinder vehicle of the same type.

The Law's Delay.

LIKE Browning's mills of God that grind slowly but "they grind exceeding small," the limbs of the law may appear somewhat laggard at times, but they do not always forget. This was made clear at the Arundel Police Court on Monday, when Mr. Montague Graham White and Mr. C. F. Cave were summoned for offences alleged to have been created so long ago as July 22nd and August 3rd last year respectively. Nearly a year has thus elapsed since they exceeded the legal rate of speed, so that detailed evidence must have been exceedingly difficult, if not impossible, to obtain. In the first case the fine was £8 and costs, and in the second £5 and costs, the magistrate, in fining Mr. Cave, remarking that six persons had been killed on Saturday and Sunday by motor-cars, and declaring that the public had a right to protection. If the latter statement is correct why do the police not do their duty instead of leaving thieves and vagabonds alone while they are setting traps for motorists?

Police "Justice."

A NEW view of police justice is suggested by the action of the Chief Constable of Huddersfield in wishing to withdraw a case against a motorist after causing him to incur considerable expense. Mr. Cardwell, of Nottingham, was summoned for driving a motor-car at a speed of twenty-four miles an hour, and when the defendant appeared at the Huddersfield Court, Chief Constable Morton said that, having regard to the fact that the speed was not much over the legal limit, and that the defendant had been put to considerable expense, he should prefer to withdraw the case. When, however, the chairman of the Bench pointed out that such a course would establish a precedent, he went on with the matter, and in the end a fine was imposed. It would appear from this policy of vacillation that the police themselves were uncertain as to whether their action was really warranted, and whether they were doing right in taking proceedings at all. Certainly, however, it is a new reading of English law if a constable can, after involving heavy expenditure on the part of a defendant, suggest getting rid of the case without the latter being allowed to plead on his own behalf.

Heavy Motor Traffic in Kensington.

LEGAL proceedings have been initiated by the Kensington Borough Council which may lead to the most important litigation which has taken place since the Motor Car Acts came into force. The Borough Council have obtained the fiat of the Attorney-General to apply for an injunction to restrain the owners of certain motor vehicles from using on any highway in the borough any locomotive engine or other vehicle "of such construction or in such manner as by noise or vibration to cause a public nuisance." The firm against whom the injunction has been applied for are members of the Commercial Motor Users' Association, and the case has been brought before the Executive

Committee. It has been suggested to the Association that the firm in question have been made the defendants in this action "because in their case the employment of such engines is not very vital to them, and they could without much loss return to the use of horse-drawn vehicles, but if the firm do not defend this case, and the injunction is given against them in default, it will constitute a very serious precedent, and from inquiries that have been made it is evidently the intention to proceed in turn against all users of motor vehicles, in order that thorough authorities may obtain the power of preventing any class of commercial and public service, and possibly pleasure vehicles, using their streets." The matter is also under the consideration of the Motor Union.

Motor Sports.

ELSEWHERE we detail the results of the Frome's Hill climb promoted by the Herefordshire Motor Club on Friday last week. This event is now regarded as the opening of the sporting season so far as Motorism is concerned, and, judging by the way it was supported, motorists do not seem to have tired of

suggestion of the promoters of motor services and of the engineers of London bus companies. New inventions are always considered with a view to the publication of particulars provided they appear to have points of novelty or utility, and correspondence on such matters is welcome. With the return of the motorist to the road and the revival of the dust nuisance the brains of inventors will doubtless get to work again, with, it is to be hoped, due consideration of scientific data and facts. One, at least, of our correspondents is searching for knowledge in this direction, and wants to know the proportion of dust caused by atmospheric disturbance and by the body of the car passing over the loose surface. Who can tell?

Petrol and its Price.

NOTWITHSTANDING the widely-expressed desire on the part of motorists for a cheaper fuel, and the efforts made by distributing companies to supply something that will answer the purpose and yet be less expensive than the ordinary motor spirits, the demand for the cheaper grades (of heavier gravity) shows little increase. Experts seem to be



The Frome's Hill Climb.—General View of the Starting Point.

hill climbs, either as spectacular events or as trials of cars. If anything, Friday's meet was too successful from a popular point of view, the spectators crowding on to the course and seriously hampering the movements of the competitors. Such a testimony of the public interest will perhaps be regarded by the promoters of the Brooklands Motor Track, illustrated in our last issue, as a hopeful augury for the success of their venture.

New Ideas.

REGULAR readers are well aware of the information we give from time to time with regard to the institution of new motor services and the development of those already in operation. This feature has resulted in the recognition of the M.C.J. as the organ of the Public Motor Services in many parts of the country, and the organisers of such are thanked for their encouragement of our efforts to chronicle the doings of such methods of public convenience. Evidence of how we are regarded in that respect has been unusually plentiful since the Exhibition at the Agricultural Hall, and numerous inventors of non-skidding devices have brought their notions to us at the

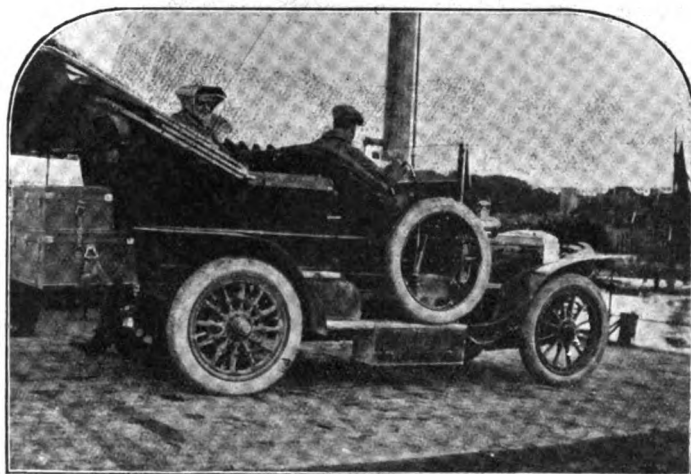
turning their attention to other fuels, such as alcohol, paraffin and even acetylene, but long before these can in any appreciable way take the place of the lighter motor spirits there is a large amount of the heavier spirit available, which far exceeds the so-called substitutes in value as a motive power. With reference to the suggested reduction in price of petrol by reason of the Suez Canal route being opened to naphtha steamers, it has been reported that this saving will amount to 50 per cent. Such a calculation is absurd. At the most it cannot be expected to materially reduce retail prices, for if the whole of the freight from Eastern fields to the United Kingdom were saved, and the spirit transported at no cost whatever, it would make a difference of only 1½d. per gallon. Motorists already have the opportunity to effect this saving by using heavier spirits, such as the "Anglo '760," without waiting for any reduction in price on account of restrictions in the Suez Canal. For motorists with heavier cars this should be attractive enough to warrant their using the heavier grade as the warmer weather comes on—no change or adjustment of carburettors other than a liberal supply of air being necessary.

THE PROGRESS OF AUTOMOBILISM IN SOUTH AFRICA.

By C. R. BRADFORD, Hon. Secretary of the Natal Automobile Club.

(Concluded from page 205.)

THE commercial side of motoring has not up to the present been developed to any extent. There are, however, several vehicles in use for trade purposes in Capetown and Johannesburg, and these have given the greatest satisfaction. About four years ago one of the largest firms of cartage contractors of Durban launched out in this direction and acquired ten or more petrol lorries. These rendered excellent service, but when the trade slump came it was discovered that, in order to reduce their cartage plant, a better return could be obtained by disposing of these vehicles in England than by selling off their horses and wagons. The former course was resorted to, but I am given to understand that on the revival of general trade conditions, and when horses can be realised at anything like value, motors will again be adopted. The South African breweries have used several heavy steam lorries for collection and delivery, and they have proved successful in every way. Motor-bus services have been



A Daimler Car waiting for the Ferry at Bommel, to cross the Rhine.

tried in Johannesburg and Durban, but, owing to the fact that the trials occurred some three years ago, when these vehicles were practically in the experimental stage, and the old difficulty of obtaining qualified mechanics and drivers cropped up, these services were abandoned. There is no doubt that this field, given the right class of vehicle and good management, is capable of great development. The success of the commercial vehicle, either for passenger or goods traffic, depends largely on the man at the wheel, and up to the present such ventures have not been in the hands of practical men. The matter of motor vehicle communication between small villages lying some distance from the railway line has, on several occasions, been considered by the Natal Government, and it is quite within the range of probability that an experiment will be made by instituting a service between Howick railway station and Howick village, a distance of about five miles. As regards the use of the motor-wagon for the transport of farm produce, there can be little room for doubt that this will have to be adopted at an early date. This is a country in which the many ills which cattle flesh is heir to so frequently manifest themselves, necessitating the isolation of certain districts, owing to rinderpest, tick fever, &c. Thus the transport of goods and produce by the slow, old-fashioned bullock-wagon and horse power render that means of locomotion impracticable. It is the writer's opinion that, given a suitable class of vehicle for farm purposes, there is a large opening for the light delivery wagon. That farmers have so far failed to patronize this style of transport is solely due to the fact that the

many benefits to be derived have never been demonstrated to them.

Another class of commercial vehicle for which there will also, no doubt, be a good demand is the delivery vehicle for loads up to about two tons. The specification of the same, so far as can be ascertained at present, should be on the following lines:—The motor should be of the vertical four-cylinder type and of about 15-h.p. The water cooling system should be of extra capacity, and the ignition by magneto of either the high or low tension type; the latter has proved most satisfactory in this climate, and seems to be less liable to break down. The carburettor should be conveniently placed and should be capable of easy adjustment owing to the great difference of temperature in the summer and winter seasons. The crank case should be built with large inspection doors and the whole of the engine should be so placed as to be easily handled, or removed without difficulty. The lubrication system should preferably be of the mechanical class, working and stopping with the engine. The transmission for this class of vehicle should be of the simplest. The sliding change-speed car, with three speeds forward and reverse, should have substantial pinions, the speed to be three, six and ten miles per hour normal. The axles and springs should be of especially strong build, and the wheels should be about 34 inches in diameter and shod with either solid or block rubber tyres.

The majority of private cars are those owned by doctors, and until a great improvement has taken place in the roads of the colony there is only a very small field for the high-powered heavy touring car.

The streets of the principal towns are, on the whole, fair. In Durban, as yet, there are many miles of sandy roads that have to be hardened. The roads within the town area are maintained by the municipal authorities. The main roads of the colonies are constructed and maintained by the Governments, and are under the control of the Public Works Department. A large sum is spent annually on these roads, but, owing to the bad system of construction and repair and the scarcity of proper supervision under which the repairing gangs work, this money is practically wasted. The trunk roads were constructed in the early days when there were no railways, and the whole transport was by coach or bullock wagon, and are merely cuttings through the hills, with no macadamizing whatever; and in summer (the wet season) they are mud tracks, and in the winter (dry season) sand beds. A few of the larger rivers are bridged, but many with 18 in. to 2 ft. of water have to be forded, consequently it is advisable to place the carburettor and magneto on cars as high up as possible. Motorists still live in hopes of a better state of affairs coming about at an early date, as in all the Parliamentary elections throughout South Africa of late years extensive use has been made of motor-cars by candidates both for town and country.

There are several automobile clubs, the oldest being that of Capetown, with a membership of about 100. The next is that of the Transvaal, with a membership of nearly 200. The Natal Club has fifty members, and a new club has just been formed in Bloemfontein. The clubs are working together for the general interest of the movement, and, as the majority of the wealthy men in the colonies are owners of cars, their influence is felt to a considerable extent. The whole of these clubs keep up an active programme of runs and gymkhanas, as well as occasional trials. On the whole, the automobile world in South Africa is in a flourishing state, and only suffers for want of proper exploiting by manufacturers or their representatives.

IN connection with the A.C.F. Grand Prix race the Secretary of the Royal Automobile Club has arranged that there shall be a permanent official of the Service of Mines at Dieppe prepared to issue drivers' licences, and to attend to other formalities in connection with the circulation of British cars in France. An agent has also been appointed to take charge of members' triptiques, accommodation has been secured for thirty cars, and an option covering fifty rooms has been obtained from the Hotel Metropole.

The Frome's Hill Climb.



THE Frome's Hill climb has come to be regarded as the Alpha of the motoring season of the year in this country, and has prior place, in point of time, to the Tourist Trophy, the Irish and Scotch Trials and the countless inter-club events that contribute to the activity of motorists in the United Kingdom. Some measure of its importance may be gauged from the fact that it attracted 112 entries, while a better estimate was obtainable at Hereford on Thursday of last week, when practically the whole of the British motor trade wended its way to the ancient city of Hereford—awakened from its

Hereford as judge, the officials of the R.A.C. as timekeepers Mr. A. Townsend as marshal in place of Mr. J. W. Orde, who was unavoidably absent, and Mr. Groom as hon. sec. Thanks to the efforts of the Automobile Association as well as to the early hours at which many of the competitors travelled to Hereford, those who went by road were generally unmolested, and it was a sanguine, happy crowd that set forth to Frome's Hill on the morning of the 3rd inst. More than a hundred of the entrants had reported themselves. There was a freshness in the air, and the dust had been effectively laid by a good shower on the previous



The Frome's Hill Climb.—Viscount Ingestre on a 15-h.p. Clement-Talbot which proved the winner of Class 3.

somnolence by the tooting of horns and the whizzing of cars, that quickened the pace of everybody about that region.

The hill where the annual open hill climb of the Herefordshire Automobile Club takes place was first discovered by motorists during the Light Car Trials of 1904—an event which was held in the apple country, owing to the persistent advocacy of Mr. Wilfrid Groom, the hon. secretary of the county automobile club, whose endeavours for automobilism have been of no light value to the movement in Herefordshire and round about. He has now the satisfaction of knowing that the Frome's Hill climb is one of the popular events open to motorists, having this year produced a larger entry than any other trial that will take place. Frome's Hill is about a dozen miles distant from Hereford, and the course over which the cars were timed by Messrs. Ebbelwhite and Straight was 3,867 ft. in length, with an average gradient of 1 in 11.22, and 1 in 6.37 at its steepest point, not far from the summit. It is of a sinuous character and altogether as much a test for the driver as the car.

The event of Friday last was well officered, with Mr. J. T.

day. Just as in Manxland nature revels in her green and gold, so Herefordshire was bespattered with green and white as we went by orchard-lined lanes with trees laden with their snowy blossoms. Many of the Press set forth on the petrol-electric bus of the British Thomson-Houston Company, which made the trip in less than an hour and arrived in good time to give us opportunity of bidding good-morning to earlier birds than ourselves.

The cars were lined up in a meadow at the foot of the hill, and there was a great crowd of spectators, but probably the largest concourse of observers was at the top, where the rise of practically one in six was likely to prove troublesome. So far as hill climbs are concerned one is much like the other, and in regularity of starts and the celerity with which the vehicles were despatched that of Friday was equal to its predecessors; so that, when we have said that by the luncheon all the cars had had a trip up the hill, an idea of the capital organisation of the event may be gleaned.

In Class I. there were twenty-five entries, ranging from the 6-h.p. single-cylinder Rover entered by Mr. James Fryer, the well-

known motor agent, of Ross, to the 12-h.p. two-cylinder Riley driven by Mr. Victor Riley. All these small vehicles made a good showing, and memories of last year's successes of the Alldays cars were recalled when the 10-h.p. Alldays passed a Darracq on the way. That prepared spectators for the official return, which showed that the five fastest vehicles in the class were as follows:—

Car.	Entrant.	Time behind the fastest.	
		m.	s.
9-h.p. Riley ...	V. Riley ...	0	0
10-h.p. Alldays ...	W. Allday ...	0	11½
10-h.p. Alldays ...	F. W. Huband ...	0	14½
10-h.p. Alldays ...	S. Downing ...	0	17
10½-h.p. Clyde ...	G. H. Wait ...	0	17½

Class II. only attracted nine entrants, eight of which faced the starter. Much interest was taken in the American representatives, the merits of the Reo being already known, and the Buick having yet to make fame in this country both for itself and

24-28-h.p. Metallurgique, the good hill-climbing powers of which have often been demonstrated by Mr. Oscar Cupper. In this class, too, account must be taken of the splendidly consistent team running of seven 18-h.p. Siddeley cars entered in Class III. There was only twelve seconds difference between the slowest and speediest of the lot—a regularity of running that occurred again in the fourth class, thus adding to the good account of itself which the Siddeley car has always rendered on Frome's Hill. The Rovers, the Coventry Humber, the West-Aster, and the Star were also conspicuous in this class, the fastest time in which was made by the Metallurgique, with runners up as follows:—

Car.	Entrant.	Time behind the fastest.	
		m.	s.
24-h.p. Metallurgique ...	O. Cupper ...	0	0
20-24-h.p. Clément-Talbot ...	W. Stokes ...	0	0½
15-h.p. Clément-Talbot ...	Viscount Ingestre ...	0	5
16-20-h.p. Calthorpe ...	G. W. Hands ...	0	5
18-28-h.p. Clément ...	A. Mosses ...	0	15



The Frome's Hill Climb.—A General View of the Finishing Point.

for Mr. Frank Eason, who signalled his entry into business on his own account by running the car into fifth place in the fastest time category, despite the fact that the vehicle had only just been received and had not been tuned up. The order of running was as follows:—

12-16-h.p. Clément-Talbot ...	Earl of Shrewsbury ...	0	0
— Vulcan ...	T. Rimmer ...	0	25
12-16-h.p. Clément-Talbot ...	T. H. Woollen ...	0	48½
— West-Aster ...	P. R. Lamb ...	1	18½
18-h.p. Buick ...	Frank Eason ...	1	21½

In many respects the most interesting class was the third, the entries numbering twenty-six, ranging from the 15-h.p. Coventry Humber entered by Mr. Walter Phillips to the 24-32-h.p. New Leader of Mr. Robert Goodenough. With the exception of the six-cylinder Horbick, all the vehicles were of the four-cylinder type, and the fact that they were of a popular power for touring purposes gave the public a concern in their performances. The event proved a triumph for the Clément-Talbot cars, which eventually won gold and silver medals; distinction also being obtained by the 18-28-h.p. Clément and the

By reserving the larger cars for the later events of the morning the interest of the spectators was well maintained and Class IV. was anticipated with some zest. There were thirty-two entries, including the 15-h.p. six-cylinder Standard of Mr. Charles Friswell, the others ranging from the 18-h.p. Siddeley to the 35-45-h.p. Gladiator. Remarkably good runs were made by the T.T. Arrol-Johnston, and the 40-h.p. Berliet and the 24-h.p. Buick also did well. The B.T.H. petrol-electric 'bus was entered in this class, but it had had its run before in Class I., so that the course was afterwards clear for the cars of smaller passenger capacity. In the end the fastest runners in the fourth class were:—

Car.	Entrant.	Time behind the fastest.	
		m.	s.
40-h.p. Berliet ...	J. E. Hutton ...	0	0
"T.T." Arrol-Johnston ...	vice J. S. Napier ...	0	0½
30-h.p. Siddeley ...	Owen Clegg ...	0	9½
— Brasier ...	S. Sanderson ...	0	15½
24-h.p. Minerva ...	D. Citroen ...	0	16½
24-h.p. Buick ...	H. H. Sternberg ...	0	16½

Class V. had eighteen entrants, three of which were six-cylinder cars, viz., the Napier, Minerva, and Simms-Welbeck. The h.p. of all the vehicles was in the 30-40-h.p. category, and some very quick runs were made, the Spykers, Iris, La Buire, Napier, Daimlers, and Ariels all appearing to do well, and in the end it was found that the fastest times of the day had naturally been made in this class. Mr. H. Holder on his Daimler romped up the hill in 1 min. 26 2-5 sec., and Capt. Hughes-Morgan followed, but 3 1-5 sec. slower—also on a Daimler—the order of time being:—

Car.	Entrant.	Time behind the fastest.	
		m.	s.
35-h.p. Daimler	H. C. Holder	0	0
35-h.p. Daimler	Capt. D. H. Morgan	0	3
40-h.p. La Buire	Hollingdrake Auto Co.	0	6½
30-h.p. Ariel Simplex	E. Herrington	0	7
30-h.p. Daimler	P. Brodtmann	0	8

It may be mentioned that the La Buire arrived too late to be eligible for the competition, but was allowed to be timed, so that a record of its capability could be obtained.

S.M.	Name of Car.	Bore.	Cylinders.	Entrant.
...	10-12-h.p. Clement-Talbot	100 mm.	2	T. W. Bowen.
B.M.	9-h.p. Sizaire-Naudin	120 mm.	1	C. Jarrott.
Cert.	9-h.p. Sizaire-Naudin	120 mm.	1	R. B. Bird.

CLASS 2.				
G.M.	12-16-h.p. Clement-Talbot	85 mm.	4	Earl of Shrewsbury.
S.M.	12-16-h.p. Clement-Talbot	85 mm.	4	T.H. Woollen.
B.M.	West-Aster	88 mm.	4	P. R. Lamb.
Cert.	14-h.p. Climax	84 mm.	4	Climax Motors Ltd.

CLASS 3.				
G.M.	15-h.p. Clement-Talbot	90 mm.	4	Viscount Ingestre.
S.M.	20-24-h.p. Clement-Talbot	100 mm.	4	W. Stokes.
B.M.	18-28-h.p. Clement	95 mm.	4	A. Mosses.
Cert.	24-28-h.p. Metallurgique	102 mm.	4	O. Cupper.

CLASS 4.				
G.M.	24-h.p. Mass	110 mm.	4	A. F. King.
S.M.	24-h.p. Deasy	105 mm.	4	P. Graham.
B.M.	24-h.p. Deasy	105 mm.	4	E. W. Lewis.
Cert.	Brasier	112 mm.	4	S. Sanderson.



The Frome's Hill Climb.—Competitors Preparing to Leave Hereford.

It was unfortunate that the last event of the morning was marred by an accident, a spectator being knocked down and his leg broken by the rider of the motor-cycle entered by the hon. secretary of the meet for club motor-cycles. The silver challenge vase in this event was won by a 5½-h.p. Rex motor-bicycle in 1 min. 5 1-5 sec., being at the rate of 52 miles per hour.

With regard to the open events detailed in the foregoing report, the official awards of gold, silver and bronze medals as well as certificates were announced at the dinner held in the Town Hall Assembly Rooms, Hereford, on Friday evening, when we learned that the City of Hereford Trophy for the most meritorious performance had been awarded to the 12-16-h.p. Clement-Talbot car, driven by Mr. George Day. The Clement-Talbot firm were also successful in securing the gold medal for the best team performance, all the awards being made on the R.A.C. handicap basis.

CLASS 1.				
G.M.	Name of Car.	Bore.	Cylinders.	Entrant.
...	8-h.p. De Dion	3½	1	Newey Motor Co., Ltd.

CLASS 5.				
G.M.	40-h.p. Napier	4 in.	6	Cecil Edge.
S.M.	30-40-h.p. Daimler	124 mm.	4	Paul Brodtmann.
B.M.	35-h.p. Daimler	134 mm.	4	H. C. Holder.
Cert.	35-h.p. Daimler	134 mm.	4	Capt. G. Hughes-Morgan.

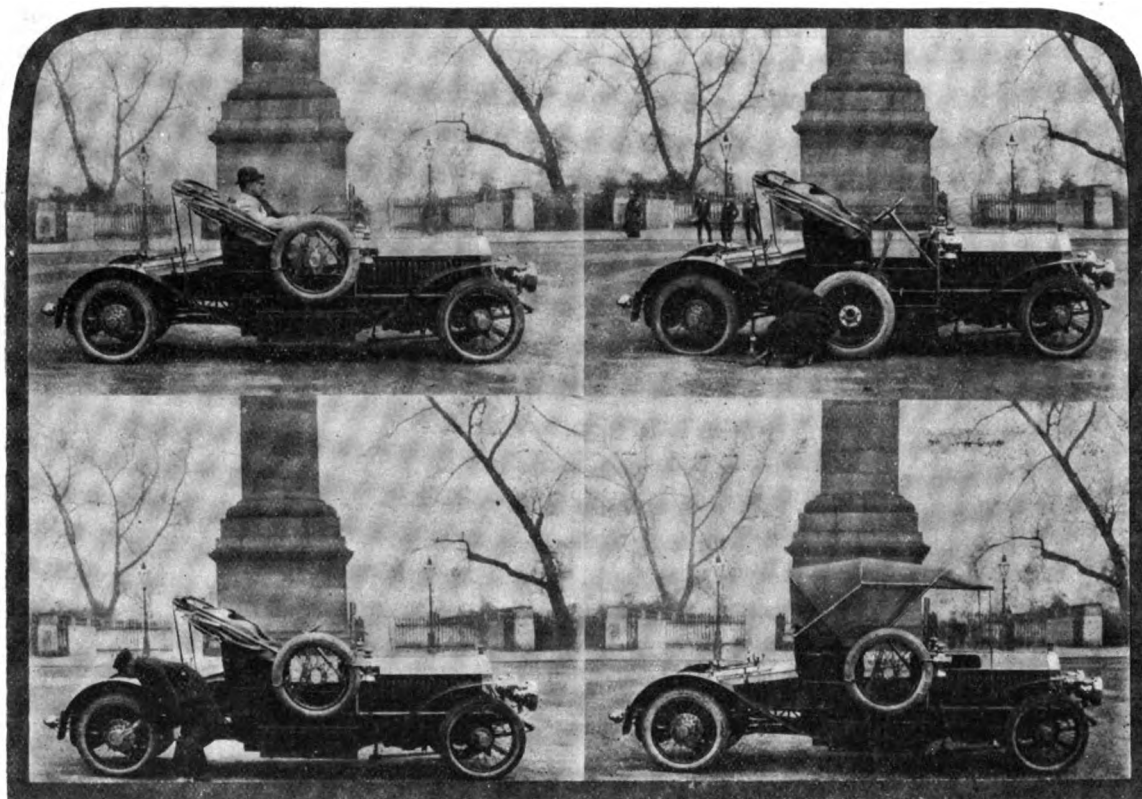
With regard to the behaviour of tyres in the competition, it is of interest to record that forty of the vehicles were fitted with "Continentials," which behaved so well that these cars won a gold medal, two silver awards, two bronze distinctions and also four certificates. In addition to this, Captain Hughes Morgan's Daimler, which made the second fastest time, and Captain Brodtmann's Daimler, which was credited with the fourth fastest time, were also fitted with Continental tyres. Three gold medals were awarded to cars with Dunlop tyres, and other vehicles similarly fitted were placed in Classes 3, 4, and 5. The fastest time in the competition was on a Daimler fitted with Dunlop tyres, and it is a remarkable coincidence that both these and the Continental tyres each obtained nine awards.

With regard to the details of this successful event, we may mention that not only were the Sunbeam and Wolseley cars at the service of the officials, but the Wolseley staff of draughtsmen rendered good help in working out the handicaps.

In the evening Mr. A. W. Foster, the president of the Herefordshire Motor Club, took the chair at the dinner, at which the officials and competitors in the day's proceedings were present. Following the loyal toasts, Mr. Charles Jarrott proposed "Prosperity to the Herefordshire Automobile Club," and referred to the part played by the local club in developing the sporting aspect of the industry. In acknowledging the compliment the President dwelt upon the recent advance in the British motor-car industry, and expressed the pleasure of the Herefordshire Club in being able to do something to give motorists the opportunity of testing the good quality of their cars. Mr. T. H. Woollen gave the toast of "The City of Hereford and Donors of the Trophy," which had been won by his firm, and Mr. H. C. Beddoe responded, calling attention to

A NOVEL CAR.

THE accompanying illustrations depict the interesting 40-h.p. six-cylinder car which Mr. S. F. Edge has recently had completed for his own use. The vehicle, as will be seen, is fitted with an exceedingly small and light body, the reason for this being that in view of Mr. Edge's twenty-four hours' prospective run on the Brooklands track he is doing a large amount of driving, and naturally wishes to do it with the minimum amount of tyre expense. The car is not only light by virtue of its body, but it will also be noticed that the frame itself is cut out wherever possible. In other respects it is on standard lines. The road wheels are of Pugh's detachable wire type, so that if tyre troubles are experienced at any time, it is only the work of a minute or two to change either the front or back wheel, as the spare wheel fits on either of the hubs. In our opinion the appearance of the wire wheels in this car makes it look much better than if they had been



A Napier Six-cylinder "Runabout."

the good state of the roads, and the charms of the county from a touring point of view. Other toasts followed, concluding with a compliment to the hon. sec., Mr. Wilfred Groom, whose rising occasioned hearty applause, testifying to the satisfaction he had given competitors and spectators alike in the organisation of the event.

A NEW process by which steel or wrought or cast iron are rendered rust proof was brought to our notice during the Cordingley Show by Mr. R. Warner, of the London Sherardising Company, Ltd., Hythe Road, Willesden Junction, N.W. This method is particularly useful in the case of motor fittings, springs, &c., and, besides retaining the rust-resisting properties of the ordinary hot-dipped galvanised goods, it is pointed out that the zinc covering is alloyed into the surface of the part "sherardised," and becomes firmly incorporated therewith. Brass or copper thus treated will resist strong sulphuric acid solutions. The coating is an even one throughout, and screw threads are left clean and sharp, and articles that have been sherardised will take a lasting and brilliant polish.

the heavier looking wooden wheels, besides the fact that they are claimed to be stronger and raise less dust. The first illustration shows the car with the hood down and with the small wind screen in a vertical position; the latter can, however, be set at any angle desired. Picture No. 2 shows the mechanic in the act of jacking up the back wheel, as he would have to do in practice to change it. To do this the hub cap is merely unscrewed, when the wheel comes off and the new one fits in place. There is a special locking device preventing the wheel coming off by accident. No. 3 shows the special spanner for screwing up the hub cap, which automatically allows the locking device to come into operation as soon as it reaches the correct spot. No. 4 shows the car with its hood up, and Mr. Edge assures us that he can drive for hundreds of miles in pouring rain and be as warm, dry, and comfortable as in a covered vehicle.

MOTORISTS who repair to Bexhill for Whitsuntide will be pleased to learn that Messrs. L. Russell and Co. will have their spacious garage in Wickham Avenue open during the holidays.

STANDARDISING TYRE AND RIM SIZES.

FOR some time past the French Chambre Syndicale de l'Automobile and the pneumatic tyre manufacturers have been considering the question of standardising the sizes of motor-tyres and rims, with the view of reducing the great variety of sizes at present in use. At a joint meeting of the two bodies recently held it was agreed to recommend the adoption of the twelve sizes shown in the subjoined table. Curiously enough, the Mechanical Branch of the American Association of Licensed Automobile Manufacturers has been studying the same question. At the present time there are said to be no less than twenty-three sizes of tyres in use on motor-cars in the United States. This the Association proposes to reduce to eleven, those decided upon being given below:—

French Standard Sizes.	American Standard Sizes.
700 x 85 mm. } *	28 x 3 in. (700 x 75 mm.)
710 x 90 mm. }	30 x 3 in. (750 x 75 mm.)
750 x 85 mm. } †	30 x 3½ in. (750 x 88 mm.)
768 x 90 mm. }	32 x 3½ in. (800 x 88 mm.)
810 x 90 mm.	32 x 4 in. (800 x 100 mm.)
870 x 90 mm.	34 x 3½ in. (850 x 88 mm.)
815 x 105 mm.	34 x 4 in. (850 x 100 mm.)
875 x 105 mm.	34 x 4½ in. (850 x 114 mm.)
820 x 120 mm.	36 x 4 in. (900 x 100 mm.)
880 x 120 mm.	36 x 4½ in. (900 x 114 mm.)
920 x 120 mm.	38 x 5 in. (900 x 125 mm.)
935 x 135 mm.	

* These fit the same rim.

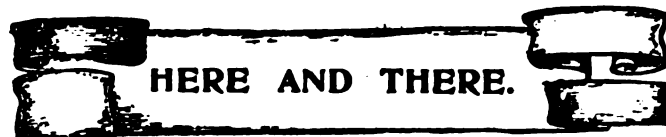
† The same rim will take both these sizes.

We understand that the difficulty which confronted the American manufacturers was the various sizes of rims on the market, the makers of single piece rims not working to a uniform size diameter and depth of clinch. Through the efforts of the Association they have all, however, agreed to a standard size rim to be inspected and passed by the tyre makers. By a glance at the table it will be seen that the sizes which the French and American associations propose to adopt differ considerably. The idea of standardising tyre sizes is an excellent one, but its utility will be nullified if each country sets up a different series of standards. In view of the great development of automobile touring, the matter, if it is to be taken in hand thoroughly, appears to us to be one which calls for an international agreement, and we would venture the suggestion that both of the bodies above mentioned should defer the definite adoption of the proposed standard sizes, and that a deputation from both should meet in Paris or London—when British motor tyre manufacturers might be invited to join the movement—during the coming summer to decide upon a uniform range of sizes.

MR. J. MEIKLE, of Messrs. R. A. Munro and Co., of Glasgow, has been advocating the use of "Scotch oil"—a mineral oil with a specific gravity of .950—by motorists. He believes it could be delivered in London at 3d. per gallon.

MR. ERNEST ESDAILE, of 124, Birchanger Road, South Norwood, has been asked to give evidence before the Royal Committee of Inquiry into Indian Railways as to the utility of commercial motor-cars as feeders to the railways and as to their usefulness for the collection and delivery of goods. Mr. Esdaile, who has motored many miles in the East, should prove a valuable witness, and any of our readers who have views on the matter should communicate with him.

FROM Messrs. Angus Murray and Sons, of the Craigton Engineering Works, Glasgow, comes a copy of the catalogue of "Atholl" cars—the latest addition to the list of British automobiles. Two models of live axle vehicles are being made, 25-h.p. four-cylinder and 12-h.p. double-cylinder. The change-speed gear is of a patent type, all the pinions being disengaged on the top speed, which is a direct drive. The engine and other parts of the mechanism are all made in Messrs. Angus' own works, and, being standardised, are turned out on the interchangeable system.



SALFORD is to be provided with a motor ambulance.

PRACTISING on the Isle of Man course begins on the 10th inst.

MR. S. A. JONES has a garage on the River Road, Littlehampton.

A NEW motor depot has been opened at Dunblane by Mr. W. A. Mackenzie.

A MOTOR-GARAGE is attached to the Bridge House Hotel at Staines, of which Mr. T. Taylor is the proprietor.

THE county of Buckinghamshire has received £269 in twelve months as fees for the registration of cars and motor drivers' licences.

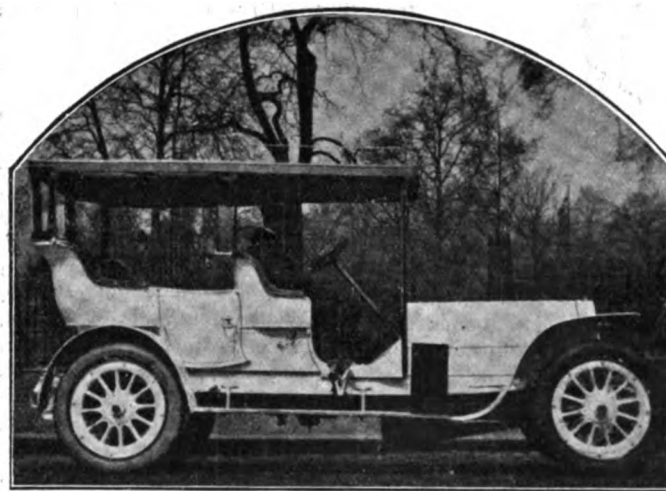
THE final run of the 40-h.p. Siddeley car trial took place last week, when a total mileage of 10,003 was reached, 7,089 of which were run without an involuntary stop.

LADY PAGET has just taken delivery of a 28-35-h.p. Isotta-Fraschini, fitted with the largest and most comfortable limousine body which Messrs. Hall, Capris and Company, Ltd., have so far turned out.

IN view of the growing demand for motor-cars in the Argentine Republic, it may be of interest to British motor-car manufacturers to learn that it is proposed to hold a motor-car exhibition in Buenos Ayres in October next.

MESSRS. GEORGE POLKEY, LTD., of Birmingham, have issued a pamphlet of illustrations of ship lamps, in which we notice motor-boat lamps are included. These are evidently designed with the same care and thought that is indicated in the firm's lamps for cars.

THE accompanying illustration depicts the 40-h.p. six-cylinder Iris car which was recently driven from London to Madrid, where it is now being exhibited by Iris Cars, Ltd. A start was made at 8 p.m. on Saturday, the 27th ult., in time to catch the night boat at Newhaven. There was no intention of creating a record on the trip, which was made under touring conditions, by Mr. H. Clifford Earp. Bordeaux was reached on the evening of the 29th ult., and Madrid, 960 miles, at 3 p.m.



on Thursday, the 2nd inst. Only brief telegrams have been received concerning the run, but it is satisfactory to learn that both the car and the Palmer tyres, with which it was shod, went through without any trouble of any sort, notwithstanding the poor quality of the Spanish roads. We may add that the body of the car, which was built by Messrs. Alford and Alder, is painted white, which, in combination with light green upholstery, makes a very handsome vehicle.

ACCORDING to the "Indian Motor News," the number of motor-cars running in Calcutta has now reached 500; in Bombay there are over 800; on the other hand, Madras is said to have only thirty.

BARON CASTLEMAINE, D.L., J.P., Lieutenant of Westmeath, has just ordered a 24-h.p. Deasy car.

A NEW safety starting handle for use in connection with petrol cars has been put on the market by the Crown Patents Company, of Bank Parade, West Kensington, W.

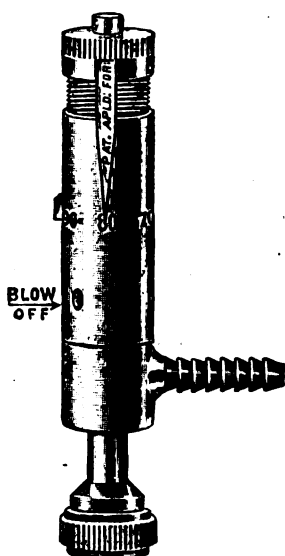
THE municipal authorities of Boston, U.S.A., have purchased five Reo cars for the use of those of its officers whose duties take them into comparatively outlying parts of the city.

AMONG suburban motor engineers who are favourably located for attending to the wants of motorists when mishaps overcome them are Messrs. C. A. Robinson and Co., of the Parade, Streatham—on the main London-Brighton road.

THE block of buildings at the junction of Hope Drive with Castle Boulevard, Nottingham, has been taken over by Humbers, Ltd., and will be fitted up as a modern garage, space being reserved for local private users as well as for visitors to the city.

A 30-H.P. six-cylinder Brooke car has just completed a 1,000 miles long distance trial, the daily journeyings having been as follows:—London to Stamford, *via* Brighton, 193 miles; Stamford to Newcastle, 184 miles; Newcastle to Edinburgh, thence to Berwick, 180 miles; Berwick to Doncaster, 175 miles; Doncaster to London, 162 miles; London to Worthing and back, 112 miles.

WE illustrate herewith the Washburn pressure gauge, a device for use in connection with tyre inflators, hailing from



America, and which is being introduced into England by Messrs. Markt and Co., City Road, E.C. The gauge, which is made entirely of metal, and cannot get out of order, is a combined swivel and right angle connection and safety valve, which can be used on any style or size of pump. It is so constructed that it has simply to be set at the number of pounds pressure wanted, and when this is obtained no more air will go into the tyre, but pass out through the gauge, making a sound so that the operator will readily understand he has obtained the pressure desired. The gauge is numbered from 60 to 110 pounds, and one of its features is that the amount of pressure is given at the valve of the tyre, and not at the base of the pump.

MOTORISTS generally will be interested in the half-yearly bargain list of the Motor House, which contains

particulars of several good lines in accessories, tyres, and clothing, to be disposed of on the favourable terms usually associated with this establishment in the Easton Road, N.W.

A CATALOGUE of the lamps and horns for motor-cars made by the Rejna-Zanardini firm, of Milan and Turin, for which Mr. C. F. Bertelli, 1, Albemarle Street, W., is the London agent, is to hand. The lamps are well constructed, from the scientific as well as from the mechanical point of view, securing employment of all the luminous rays where wanted and doing away with the aberrations that sometimes occur. Illustrations are given of the Zanardini spherical parabolic projectors with central lens, the spherical lenticular projector and other good patterns of these lamps, which have quickly attained a wide popularity in this country.

A LITTLE booklet which should prove useful to all motorists—in fact, to all who have to do with motor-cars—is that which has just been issued by the Aston Motor Accessories Company, Ltd., Aston Lower Grounds, Birmingham. The work, which has been prepared by Mr. F. de Veulle, has for title "AMAC" wiring diagrams, and comprises a series of diagrams showing the ignition wiring arrangements for single and multi-cylinder motors for both accumulator and magneto (high and low tension) ignition and for combinations of both of these. The Aston Company inform us that they will be glad to send copies of the little book to any motorist on application.

MR. HENRY GARNER has recently made very extensive alterations to his garage on the main London and Holyhead road at Nantwich, and will be pleased to render assistance to any motorist touring in Cheshire.

AMONG recent purchasers of Napier six-cylinder cars are Admiral Sir A. K. Wilson, V.C., C.V.O., K.C.B., Commander of the Home Fleet; Mr. Hudson E. Kearley, M.P.; General Milo Spitzer and the Rt. Hon. Sir Gorell Barnes, President of the Probate, Divorce and Admiralty Divisions, the latter's vehicle being a 40-h.p. landaulet.

MR. K. OKURA, who is the owner of a 120-h.p. and 30-40 h.p. Fiat, has just purchased a six-cylinder car of the same make for his father, Mr. K. Okura, of the well-known Japanese firm, Okura and Co., Tokyo, engineers and contractors to the Imperial Government of Japan. It is interesting to note that the vehicle, which is to be shipped to Japan very shortly, is of exactly the same type as the one which was recently supplied to the King of Spain, the first Royal personage to take delivery of a six-cylinder car.

DR. EHRKE, of Kempsey, Worcestershire, writes:—"I think it may interest you if I report one of the many non-stop long distance runs I have done on my 8-10-h.p. Talbot. I left Worcester at 10.40 a.m. on a recent Monday morning, and went *via* Warwick, Northampton, Bedford, Cambridge and Newmarket to Norwich, arriving at 5.15 p.m., without a stop of any sort, and without alighting from the car, a distance of 177 miles in 6 h. 35 min., that is to say, at an average speed of over twenty-seven miles per hour. I returned to Kempsey (181 miles) two days later without stopping the engine, only alighting to put on a Stepney wheel."

M. BAUDRY DE SAUNIER'S "Annual," a copy of which has just reached us, is one of the most complete and up-to-date encyclopædias of automobilism yet published. The volume, which extends to close on a thousand pages, is arranged in dictionary style, and contains, in addition to biographies of the principal automobilists of Europe, paragraphs relating to every subject in which a motorist is interested, addresses of motor-car builders, agents, members of the Automobile Club of France; in fact, it is practically an "Enquire Within upon Everything," so far as automobilism and motor boating and aeronautics are concerned. The book has been compiled by M. Baudry de Saunier, and is published by M. Hubert Baudry, 20, Rue Duret, Paris.

THE following is a report from one of the passengers on the Hotchkiss six-cylinder car which is now undergoing a reliability trial of 10,000 miles throughout Great Britain, and which lately finished a 6,200 mile non-stop run in France. The first run was to Newark, a distance of 126 miles, on Monday, the 29th ult., and nothing worse happened than the meeting of a severe hailstorm near Stamford. Nottingham (155 miles) was visited on Tuesday, a run to Buxton and back (171 miles) formed the programme on Wednesday, 167 miles were covered on Thursday, and 147 miles on Friday. The runs were all non-stop, and the tyres fitted to the removable rims have given no trouble. The car stayed at Leicester over the week end, when a move was made to Leeds for three nights, and thence to Newcastle for the rest of the week.

IN addition to handling the Mascot and Zusta cars, the Farman Automobile Company, Ltd., do a large garage business at their extensive premises in Long Acre, W.C., and also, what is not generally known, an extensive trade in spare parts for cars of different makes. The managing director, Mr. A. Pereno, recently showed us over this department, and we were surprised at the large stock that is kept on hand. Spares for Panhard, Darracq, Clement, Mors, Argyll, Mascot, Zusta, and other well-known makes have each their separate nests of bins and cupboards, so that motorists' requirements can be met with dispatch. Another department in which a rapidly-increasing turnover is being recorded is that of accessories, a large stock being kept on hand of all the leading makes of tyres and non-skids, acetylene and paraffin lamps, &c. Altogether this old-established concern is keeping well to the front in catering for the multifarious requirements of automobilists.

CONTINENTAL NOTES.

The A.C.F. Grand Prix Race.

A good deal of practice is now being put in on the Grand Prix course, among those who have driven round it during the past week being Messrs. Edmond and Richez, on Renault cars, Messrs. Brasier, Baras, and Barillier, on Brasiers, and Messrs. René de Knyff and Heath, on Panhards. The three racing cars which Messrs. Renault have built for the event have been on the road some little time, and have been subjected to several trial runs. In general appearance they closely resemble the vehicles which proved so successful in last year's event. The four-cylinder engines, which are 165 mm. bore by 150 mm. stroke, are nominally rated at 100-h.p., but are expected to develop at least 20 per cent. more than this. The familiar type of Renault dashboard radiator is retained, the water circulation being on the thermo-syphon system. Ignition is by Simms-Bosch high-tension magneto, and the lubrication is by pump. The power is transmitted through a leather cone clutch, three speeds and reverse gear-box, with direct drive on top speed to the rear live axle, which is not provided with a differential gear in the usual way—a practice which Messrs. Renault successfully adopted in the 1906 race.

A Moscow-St. Petersburg Race.

As was briefly mentioned in the last issue of the *M.C.J.*, a motor-car race from Moscow to St. Petersburg, a distance of 425 miles, is to be held on the 7th prox., under the auspices of the Automobile Club of Russia. The competitors in the racing section will be divided into three classes:—1, motor-cycles; 2, cars up to 24-h.p., i.e., of a maximum bore and stroke of 100 by 120 mm. for four-cylinder engines; and 3, cars over 24-h.p. The touring category will be merely divided into motor-cycles and cars. The start will be made at two o'clock in the morning, and six controls will be established *en route*, where supplies of petrol, oil, &c., will be available. The official finishing point will be at Tsarskoye Selo, which is twenty kilometres from St. Petersburg. The final part of the route will be covered in procession by all the cars which have arrived by two o'clock in the afternoon on June 8th. The Grand Duke Sergius Michaelovitch is taking considerable interest in the event, the prize fund for which already exceeds £800.

The Kaiser Prize.

The German Government has notified the Kaiserliche Club that the number of competitors in the race for the Kaiser's Prize must be restricted to forty competitors. As a consequence it has been decided to hold an eliminatory contest on the 13th prox. The vehicles which have been entered will be divided into two groups, the fastest twenty in each over two circuits of the course being eligible to compete in the Kaiser contest.

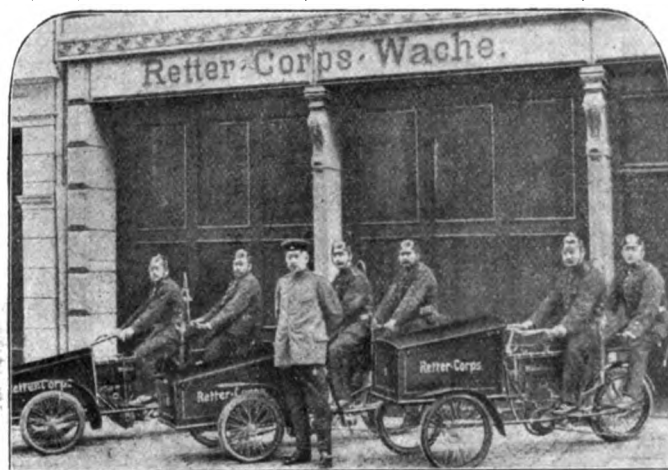
The Spanish Motor-Car Exhibition.

Considerable interest is being taken in the first Spanish motor-car exhibition, which was opened in the Palais de l'Industrie des Arts, Madrid, on Saturday last, by King Alfonso, who arrived *en automobile*. Altogether there are about 100 exhibitors, all the leading French manufacturers, who have given considerable support to the show, having cars on view. Germany is represented by the Mercedes, Benz, and Dixi vehicles; Italy by Fiat, Bianchi, and Diatto-Clement. The British exhibitors of pleasure cars include the Daimler, Napier, Iris, and Austin concerns, while Messrs. Straker and Squire, Ltd., are showing in the heavy vehicle section. The exhibition will remain open until the 19th inst.

The Provençal Small Car Competition.

An interesting competition for light cars was held on Sunday last by the Automobile Club of Marseilles. The contest, which was a combination of speed and regularity, was held on a 30-kilometre course, which had to be covered eight times to give a total distance of 240 kilometres (150 miles). The competitors were divided into four classes: (1) Single-cylinder cars of a maximum bore of 100 mm.; (2) ditto, up to 125 mm. bore; (3) two-cylinder cars, maximum bore 105 mm.; and (4) four-

cylinder cars up to 85 mm. bore; the total weight of the vehicles having to be proportionate to the bore. The classification was on novel lines, as, while every encouragement was given to make good times, regard was also had to regularity. The times were taken for each lap, and the competitors given a number in accordance with their times, the fastest being first, and so on, the positions in the final classification being as given by the total of the numbers allotted for each round. Thus it was possible for a car which ran consistently well to come out better than one which secured leading positions in several circuits and low places in the others. Twenty-four entries had been received, and of these eighteen started, these comprising one each Alcyon, Fouillaron, Laurentia, Delage, Lion-Peugeot, Cottureau, Werner, and Bolide, three Sizaire-Naudins, two De Dions, three Peugeots, and two Demeesters. The winners were:—Class 1, Masse (De Dion), 12 points (time 5 h. 8 min.); Class 2, Romano (Sizaire-Naudin), 11 points (5 h. 54 min.); Class 3, Plaisant (Peugeot), 8 points (5 h. 52 min.); and Class 4, Collard (Peugeot), 11 points (4 h. 14 min.), the latter making the fastest time of the day.



The N.S.A. First-aid Motor Cycles used in connection with the Hamburg Fire Brigade.

The King of Siam's Visit to Europe.

The Siamese Legation in Paris has purchased four Brasier cars for the use of the King of Siam and suite during his visit to Europe. Last week His Majesty motored from Genoa to San Remo in a 25-36-h.p. limousine.

Miscellaneous Items.

According to the "Annuaire Generale de l'Automobile" there are now 31,700 motor-cars in France.—Dr. Stoess, who drove the Horch car to victory in the 1906 Herkomer Touring Trophy Competition, will defend his title and will again drive a Horch in the Trials which will be held from Tuesday, June 4th, to June 11th.—Twenty-two entries have so far been received for the trial of touring cars which is to be held in Denmark on the 26th inst.—Owing to the large number of motor events which are to take place this season it has been decided to postpone the projected automobile relay race from Kiel to Vienna.—It is announced that Hemery will drive a Benz car in the Kaiser's Prize race in Germany.—The entry list for the trial of industrial vehicles which is to be held by the A.C.F. from the 20th inst. to June 10th closed last week with a total of forty-eight machines—forty-two French and six Swiss.—Fifty-two entries, including a Rover car, were received for the three days' reliability trial of light cars which is this week being held by the Deutsche Motorradfahrer Vereinigung.—Eighteen entries have been received for the Swiss heavy vehicle trials which are being held from the 10th to the 14th inst., sixteen of the machines being of Swiss construction, one German and one French.—An Argyll car has been entered for the Criterium de France and Coupe de la Presse events, which are to be held in August next.

CORRESPONDENCE

[Letters to the Editor should be addressed to the office, 87-88, Charing Cross Road, W.C.]

THE SOUTHERN MOTOR CLUB'S COMPETITION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the report of the Southern Motor Clubs' competition, on the 27th ult., it is stated that the Malcolm six-cylinder had not gone far when a wire fused, placing it out of the running. I should be glad if you would permit me to say that this is entirely wrong, as the car ran consistently for two circuits and about half another. The car was sent off at Coulsdon, then to Redhill, Godstone, Purley, and back to Coulsdon, and it ran perfectly throughout. On the second round Redhill was reached exactly to the minute; Godstone, half a minute out, Purley half a minute out; and Coulsdon within seconds of the previous round. On the third round I had reached Godstone, taking the course the opposite way round, when the engine began to misfire badly, and overheated, so I had to stop; the fault was with the high-tension wire, which, unfortunately, had fallen on to the rear cylinder and melted the insulation. Owing to this I lost thirty



The Targa Florio Race.—Gabriel on the De Dietrich taking a nasty corner at Cerda.

minutes, but I returned to Coulsdon, completing my third round without further trouble. Considering the car was only on the road the previous evening for three hours, the performance is, in my opinion, excellent. The three rounds represented roughly sixty miles.—Yours truly,

MALCOLM BROOKE.

THE VAPOUR EMISSION COMPETITION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Like other correspondents, I was astonished to find that the Royal Automobile Club paid little or no attention to the visible vapour due to lubrication, and dwelt almost entirely on the invisible and odourless constituents which resulted from the combustion of the petrol. Nevertheless, these exhaust results are of the very greatest importance and interest, but I think myself that if we could have in each case the brand and tests of petrol used, the results would be of still greater value. Using a spirit distilling at a low temperature, we might find that less hydrocarbon passed into the exhaust unchanged, and again, when using a spirit such as Borneo, which contains a considerable percentage of hydrocarbons of the (tar) benzol series, we might find that the percentage of carbon-monoxide was greater.

In conclusion, I feel very strongly that the Club will not be performing its duty unless it undertakes investigations with the object of enlightening both the motorist and the manufacturer as to the best course to adopt to secure the nearest approach to an ideal composition of the exhaust.—Yours truly,

A. DUCKHAM.

THE COST OF CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Adverting to the letter of G. P. H. de Freville, in your issue of the 4th inst., all he says as to quality of the high-priced car may be perfectly true, but would he kindly say why, whilst a railway express locomotive, all of finest material and workmanship, weighing from eighty to ninety tons, may be bought for £4,500 or so, a car of equal quality, and weighing about a ton, costs sometimes as much as £2,000? Making all allowance for the fact that car builders have had to sink a lot of money for experiments which were made years ago, does it not seem that the car builder has a very good idea of the meaning of profit? The market price of the shares of some of the manufacturing companies seems to bear this out.—Yours truly,

W. L. C.

TRIALS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter of Mr. P. L. D. Perry, on page 194 of your current issue, suggests a problem which is still unsolved by the organisers of the trials and tests which are arranged from time to time in the automobile world.

He has a car which is manifestly outside the classification as devised by the committee responsible for the Scottish Reliability Trials. There are other vehicles on the road, and on the market too, which cannot be entered in any of the recognised classes in the trials. They have merits which should be tried; and if their mechanical details are such as to prevent their inclusion in the existing category a new class might be arranged in which vehicles not already provided for could be run and observed—though not allowed to compete for the award.

This would enable every designer to give opportunity for his vehicles to be compared with other types and secure the publicity that should be accorded every new idea in the motoring world. At the same time it would not controvert the present ideas with regard to classification, but would prevent the constant complainings that now occur when a great trial is announced.—Yours truly,

A. E. T.

CHARGING ACCUMULATORS FROM PRIMARY BATTERIES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Anti-Magneto's" query as to the charging of accumulators by means of the Boron battery, I beg to state that I have used a Boron battery for this purpose since last September, and have found the greatest comfort from doing so, as I live about five miles from the nearest charging station. I also find that the accumulators retain their voltage longer than they did. When the first cost is paid off, re-charging by primary batteries costs very much less.—Yours truly,

G. A. L. RAWSTORNE, Lieut.-Colonel.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a chauffeur of over eight years' experience, will you kindly allow me to give "Anti-Magneto" a hint on this subject? I have had entire control of five different cars. One fitted with magneto ignition was the cause of endless trouble and annoyance, and do what I would I could never induce the car to work satisfactorily. I certainly have no wish to renew acquaintance with the magneto system. Of the remaining four cars, all fitted with coil ignition, the accumulators belonging to two were charged from the mains; these cars worked much better than that which had a magneto, though the results were not quite so good as could be desired owing to frequent insufficient charging of and not unfrequent damage to the accumulators at the charging stations. In the remaining two cases the accumulators have been charged by Boron batteries, and the results have been unquestionably more satisfactory than either the magneto or the main-charging system. With the Boron battery and charging under my own supervision, I can not only rely on my accumulators being properly and fully charged but can obtain the best possible result from the cars. I have recently seen a cabinet fitted to a car, by means of which two spare accumulators can be charging while the car is running, a very admirable arrangement.—Yours truly,

SCORCHER.

REVERSING A MAGNETO.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you or any of your readers let me know how to reverse an Eisemann magneto, as it turns the wrong way?—Yours truly,

W. AULD.

[It is not possible for the ordinary mechanic to reverse an Eisemann magneto in a satisfactory manner, as the rotation would then be in an opposite direction to that for which the make and break is designed. However, if the magneto were only an old one, and the best mechanical efficiency not aimed at, our correspondent could alter the machine by reversing the cam and securing it to the shaft in such a position that the platinum contacts separate immediately after the maximum pull of the magneto is felt, when the armature is rotated in the desired direction.]

The high tension contact pawls would tend to dig into the distributor disc, which would make it necessary to take these off their supports and place them pointing in the opposite direction. Care would have to be taken that the segment on the disc is in contact with one of the pawls when the platinum contacts separate. This adjustment can be made by removing one of the gear wheels and replacing same a tooth or two backwards or forwards as may be necessary. As previously pointed out, however, this is but a makeshift, and for a proper job the magneto should be sent to Messrs. G. T. Riches and Co. or other firms who specialise in magneto repairs.]

TRAFFIC REGULATION ON THE EMBANKMENT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The Thames Embankment is at last becoming one of London's important thoroughfares. For a long period it was but little used by vehicular traffic, but the coming of the motor-car and the rapid adoption of the same by City men quickly wrought a change. If proof of this be needed, one has only to station himself, say, at Charing Cross Railway Bridge between 9.30 and 10.30 a.m., when the number of automobiles that pass by will doubtless cause considerable surprise. The latest addition to the traffic on the Embankment is that of the tramcars, the two lines for which are both laid on the river side of the road. There may have been good reasons for placing the two lines together, but in my opinion it is fraught with danger, as the arrangement has quite upset the ordinary rule of the road. For example, I was driving home on my car from the City the other day, naturally keeping on my own side—the left. I had not gone far before I saw a tram coming towards me at a good speed; I had either to pull in close to the kerb or pass the tram on the

DRIVING CERTIFICATES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The way in which the Royal A.C. maintains its propaganda to secure candidates for its examination is really a very business-like method. Hardly an opportunity is missed, and one wonders sometimes whether the dignity of such an institution is always considered by those responsible for the organisation. I have just received a circular from the Club wherein it is said that "the owner who is in possession of the Club's driving certificate has valuable testimony of his competence to drive, in the event of legal difficulties, and if he wishes to tour abroad with his car, he may obtain a French driving certificate before leaving England, thus obviating the necessity of undergoing an examination in France." Is it really necessary to undergo an examination in France?—Yours truly,

A TOURING MOTORIST.

CIRCUMVENTING POLICE TRAPS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is increasing evidence that the police mean to be very busy with their vile trapping system this summer, and no doubt, as before, just on those nice stretches of open road where there is absolutely no danger, and not the least possible inconvenience to anyone. This is very unfair, and more so because it is a well known fact that many motorists who get caught are only running it fine, or, to be more precise, they are running as near to twenty miles per hour as they can estimate, and perhaps not exceeding that speed, but the men with stop watches say 26 miles, 30 or 35 per hour as the case may be, and the



The Inauguration of a Renard Road Train Service at Dejointes (Oher) France.

(La Locomotion Automobile).

wrong side. I have since watched the traffic on several evenings and have found many drivers and numerous cyclists embarrassed as to the right way to pass the approaching trams. I venture to suggest that Scotland Yard or other responsible authorities should issue some regulations with regard to traffic on the Embankment. The sooner it is done the better, as if it is delayed I shall not be surprised to hear that a nasty accident has taken place.—Yours truly,

W. HETHERINGTON.

EXCESSIVE PETROL CONSUMPTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have run a 7-h.p. Panhard for more than two years, and have travelled about 20,000 miles; it is a very reliable car and the gears and engine are still as good as new. The weight is 17 cwt., but I find the petrol consumption excessive. In an ordinary up and down country I get only twelve to fourteen miles out of a gallon. Can you or any of your readers suggest a remedy? The makers can only recommend reduction of spray. This merely reduces power.—Yours truly,

C. R. E. WHEATLEY.

[Panhards take a lot of wearing out, but perhaps this one had seen service before the 20,000 miles our correspondent has driven it. The efficiency of the engine may be somewhat reduced by slight loss of compression, reduced lift of exhaust valves, or want of perfectly correct strength and lift of springs of the inlet valves. As regards the gears there may be a drop in the alignment somewhere, and another very frequent cause of loss of power is chains that are stretched and partly ride on the teeth of the sprockets. If the car has solid tyres, about eighteen miles on a gallon would not be bad for this car, but if it has pneumatics, then it ought to do over twenty.]

result is a heavy fine, much loss of time, and considerable annoyance. Of course, we are aware that it is the law as it stands to-day, but surely it is one of those laws which does not receive much respect, as I know of many who, like myself, go carefully at all times, slowly where necessary, but otherwise as fast as we want to in the open, and we take our luck; of course, making enquiries on the way as to how the land lies ahead. I myself have piled up a considerable mileage, and my first fine has yet to come, although I have had a few near squeaks.

The suggestion I have to make may, to some, appear unworkable, but if carefully thought out could be arranged, and for those touring would prove a real boon.

Let the Motor Union or A.C. keep a register of all police traps throughout the country, and then, any member taking a trip from, say, Sheffield to London, could write asking for information as to dangerous parts, &c., and would no doubt be saved a lot of anxiety, and possibly a few fines. I also think that there would be less risk of fast driving through towns when a motorist knew that he had a clear road further on.

It might appear that there would be difficulty in getting the necessary information for the register, but I do not think so; I am sure all secretaries would take the matter up, and individual members would do their best, even to the trouble of wiring information of any new traps they came upon, or heard of. I think if this system was properly worked, it would soon tire the police of the trapping business.—Yours truly,

JNO. H. HALL.

VAUXHALL MOTORS, LTD., Luton, inform us that they have appointed the Burlington Carriage Company, of 315, Oxford Street, London, W., sole London agents for the 12-18-h.p. Vauxhall cars.

New Combination Petrol-Electric Vehicles.

A NOTABLE feature of the recent Cordingley Show was the display of combination petrol-electric vehicles, in which the power of the engine is transmitted to the rear road wheels by electrical in place of the usual mechanical means. No less than three systems were on view, all making their initial appearance at exhibitions in this country, and comprising many noteworthy features, as will be seen from the appended descriptions.

The Mercedes-Mixte Cars.

Reference may first be made to the MERCEDES-ELECTRIC COMPANY, who had on view a 45-h.p. touring car, Fig. 2, and a 40-h.p. single-deck, thirty-four-seated bus on the Mercedes-Mixte system, which has been developed by the Austrian Mercedes Company, of Vienna. The prime mover in both these vehicles consists of a four-cylinder engine, of the power mentioned above, and located in the usual way under a bonnet in the fore part of the frame. In place of the clutch and gear-box of the ordinary petrol car a small dynamo is mounted on an extension of the crank shaft of the engine, the current generated being transmitted to a lever-actuated controller of the type used on electric motor-cars, and thence by two cables to two series-wound motors, the latter being built up in the hubs of the rear road wheels. The motor shell forms the wheel-hub proper, and is itself formed with a central bearing, receiving the axle upon which the road wheel rotates. Each armature is keyed to the hollowed axle through which the cable is projected and secured

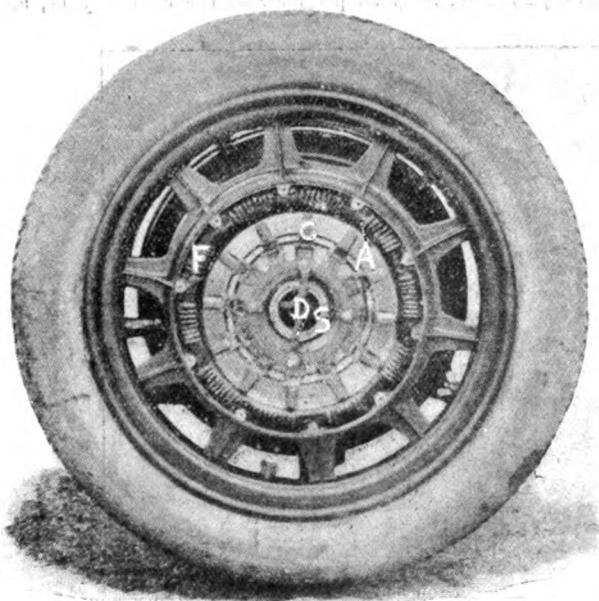


Fig. 1.—The Electric Hub Motor of the Mercedes-Mixte Car, with cover plate removed.

A, Commutator Segments from Armature; C, Collecting Brush Holders; F, Field Windings; S, Hollow Axle, containing Cables, D.

by a nut and lock nut, while around the armature, and solid with the shell, are the fields. These rotate to turn the wheels when the current is transmitted, series fashion, to the armature, the commutator and spider on which the contact brushes are fixed being inside the hub-plate on the outer side of the wheel. This plate is secured by screws, the removal of which exposes the commutator and brushes, which can thus, if necessary, be examined in a very few minutes. Furthermore, either motor can be removed from the wheel with but little difficulty. It is claimed that the motors are able to develop a relatively high power for their size and weight, this being due to the fact that the fields revolve about the armature, instead of the latter rotating within the former, as in the majority of electric motors; the result being a comparatively low tangential for the fields and a high output of power for the current received. In the Mercedes-Mixte system no accumulators are used, and, as the hub motors are independent of each other, this forms another advantage claimed for the system, in that it obviates the use of the usual differential gear, as well as all mechanical power transmission apparatus. The braking system is also interesting. The mechanical brakes, actuated respectively by a pedal and a hand lever, are in no way different from the internal expanding and band types used on ordinary petrol cars. It may be noted, however, that as the pedal brake comes into action it operates a switch which cuts out the current, for the time being, from the dynamo to the motors. In case of failure of the mechanical brakes, an electric brake may be immediately constituted, with the whole power of the petrol motor behind it, by simply reversing the current to the motors from the dynamo by moving the lever to the reverse position. Great hill-climbing efficiency

is claimed for the system, for the engine can be run at its maximum speed, the dynamo and electric motors being designed to take this without being overloaded.

The Hart-Durtnall 'Bus.

The HART-DURTNALL SYNDICATE, LTD., of Luton, attracted considerable attention with an exhibit of a handsomely-finished double-deck petrol-electric bus, Fig. 3, which is of interest

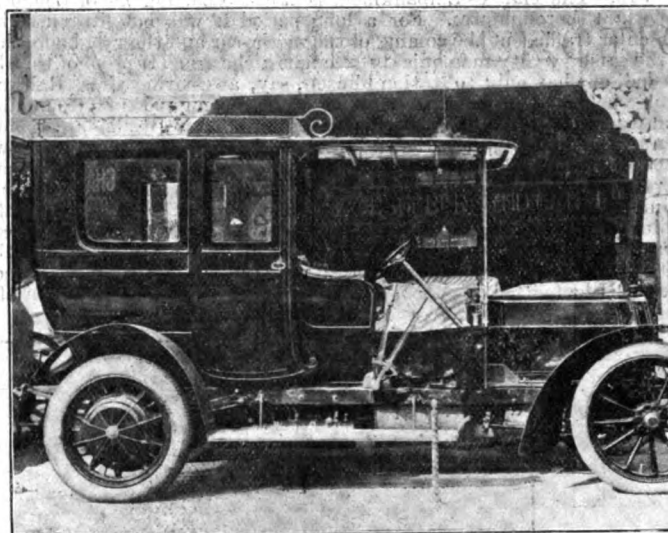


Fig. 2.—The Mercedes-Mixte 45-h.p. Petrol-Electric Car.

owing to the employment for the first time, we believe, on an automobile of a polyphase generator and a polyphase current-induction motor. The object of the designers has been to produce a system of power transmission that shall be both simple and reliable, permanently silent, and one that will require practically no attention as regards maintenance, and also a transmission that will be constant in maintaining high efficiency throughout its life, and made up with the minimum of parts. The motive power is supplied by a 40-h.p. four-cylinder engine, located under a bonnet in the fore part of the frame in the usual way. The

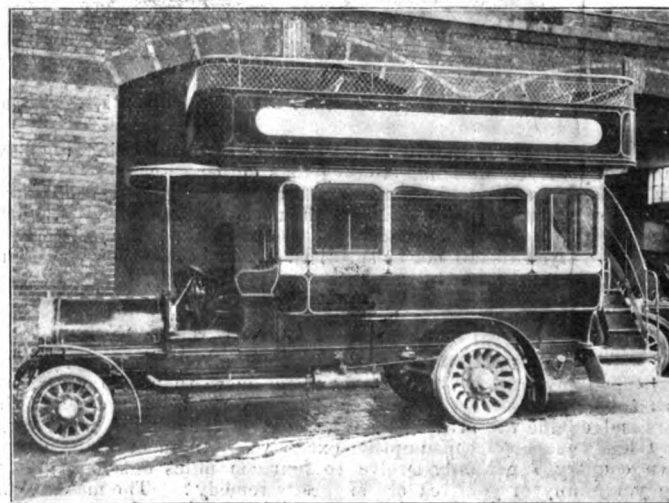


Fig. 3.—The Hart-Durtnall Petrol-Electric 'Bus.

engine is coupled direct to the four-pole polyphase generator, a small 1.5 K.W. series-wound continuous-current exciter and one half of a special magnetic clutch. The spindle of the other portion of this clutch passes through the polyphase current induction motor, a universally-jointed or cardan shaft thence conveying the power through a worm gear drive to the rear live axle. The motor, which has no brushes nor commutators, freedom from trouble on this account being consequently claimed, is fitted with a self-contained rotor; it is only employed on putting the car into motion or on steep hills, for as soon as a fair

rate of speed is attained the magnetic clutch is engaged and the power of the engine is then transmitted direct to the rear road wheels, the generator and motor turning idle, and acting as flywheels. It is claimed that the car can be driven on the direct drive, that is without the intervention of the generator and motor, at as slow a speed as four to five miles per hour, simply by controlling the admission of gas to the engine, the electric system being only called into operation on starting or on climbing steep hills, when the load may be too great for the existing gear ratio. The engine is put in operation in the ordinary way, and as soon as the car is ready to start, the controller allows the small continuous-current exciter on the generator spindle to supply an excitation current at low voltage to the alternator field windings. Polyphase current is thus generated, and is conducted through reverse and two-speed switches

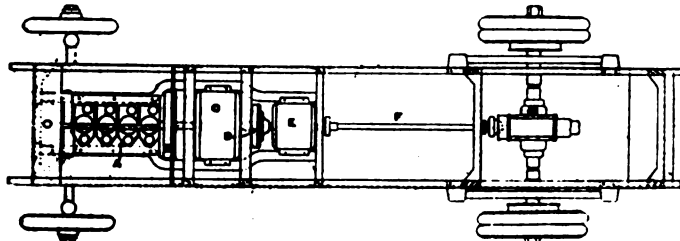


Fig. 4.—Plan of Chassis of Hart-Durtnall Petrol-Electric 'Bus.

A, Motor; C, Generator; D, Clutch; E, Motor; F, Cardan Shaft; G, Differential Gear.

to the stator windings of the motor and thence to the rear axle. As soon as the car gets away, a direct drive is obtained by placing the magnetic clutch winding in series with the field of the generator, which weakens the field, and at the same time brings the clutch gently into contact. As soon as this takes place, a bridge-piece short circuits the generator field, and the exciter then only furnishes current to the clutch windings, which give a firm grip and a direct drive at about twelve miles an hour. Should it be necessary to stop and restart on a steep gradient the two-speed switch is placed in the low-speed notch. This gives increased torque at the road wheels, the engine running at its maximum and the car slowly. When the vehicle is pulled up sharply, the exciter field is short-circuited before the brakes are applied, and in starting off, the exciter cannot pick up again until the driver takes his foot off the brake-pedal, and the band brakes are clear of the drums. The bridge contact then opens up the field, allowing the exciter to build up, and the car starts again. A further feature of the system is a magnetic brake, which automatically comes into operation when

by the engine. The battery is always maintained in a state of charge by the dynamo, and serves, beyond its role of reserve power, for the automatic starting of the engine, for the clutch and the brake, for the ignition, for the lighting, and any other accessory services, such as foot warmers, electric signals, &c. The engine is of 24-h.p., and comprises four cylinders 100 mm. stroke by 100 mm. bore, with mechanically-operated valves, and ignition by make and break contact in the cylinders themselves. The intensity of the spark is varied by increasing or diminishing the self-induction of the induction coil. The water cooling of the engine is on the thermo-syphon principle,

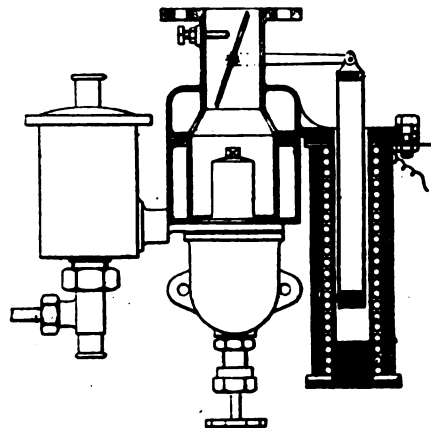


Fig. 5.—The Carburettor with Electro-magnetic Regulation, as employed on the Auto-Mixte Car.

through a radiator with air-inducing fan. The rotary speed of the engine is limited to that imposed by the dynamo, which it drives; the crown of the electric-magnetic clutch, which serves also as a fly-wheel to the engine, is keyed, like the dynamo, on the end of the main shaft. The result of this direct coupling is that the engine never runs at an angular speed above that which corresponds to the speed of the car itself. The dynamo is of the four-pole type with series drum winding and shunt excitation, provided with auxiliary commutation poles with series excitation, which allows the brushes to be placed in a neutral zone and assures a good commutation, even with intense currents and a feeble field, without sparking. The use of auxiliary poles allows of

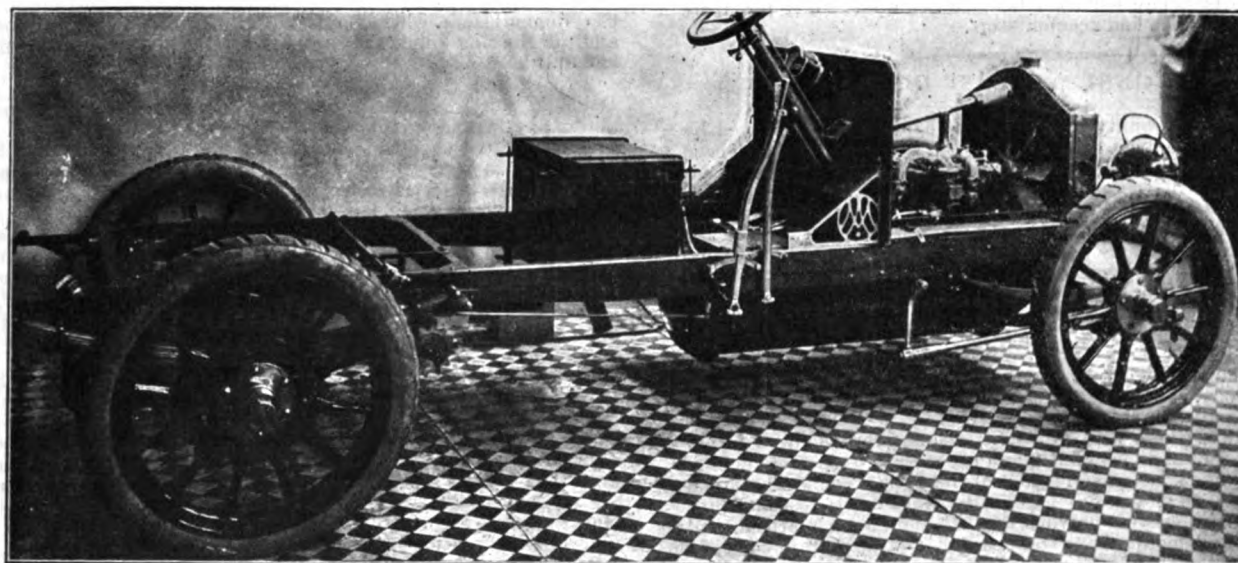


Fig. 6.—Chassis of Auto-Mixte 24-h.p. Petrol-Electric Car.

descending hills. The 'bus exhibited was driven to the Show from Luton via Dunstable, a distance of forty miles, in just under two hours, on a petrol consumption of 6.667 miles to the gallon.

The Auto-Mixte Car.

Great interest was evinced in the exhibit of the petrol vehicles built on the Henri Pieper system by LA SOCIÉTÉ L'AUTO-MIXTE. The vehicles on view comprised an elaborately-finished limousine, closely resembling in outward appearance a petrol touring car. The design of the machine is on exceedingly novel lines, the general arrangement being briefly as follows:—A petrol engine drives a shunt-wound dynamo keyed on to the main shaft. The dynamo works as a motor or generator according as the E.M.F. is inferior or superior to that of the battery. In the first case it produces an excess of power; in the second it absorbs the excess power supplied

the variation of the angular speed of the dynamo, by the simple shunt variation alone, between 400 and 1,600 revolutions per minute, the same as that of the engine which drives it. The battery consists of twenty-four Tudor cells connected in series and specially designed to supply heavy currents without deteriorating; it can momentarily discharge at 200 ampères, corresponding to eight K.W. with a weight which does not exceed three cwt. Running in parallel it thus adds its power to that developed by the petrol engine. The regulation of the latter is such that it works at full gas admission as soon as the battery gives out current and tends to discharge itself. After the assistance thus rendered the battery automatically recharges itself, with a current which diminishes in intensity as it approaches the state of complete charge, i.e., as its E.M.F. increases. The battery gives about fifty volts, all the electrical parts (excitation, ignition, clutch, brake, and lighting) being designed to normally work at this voltage

The carburettor, which is provided with electro-magnetic regulation, is of the ordinary Longuemare type, the mixture admission valve being, however, controlled automatically by the action of a soft iron core suspended from a spring and placed in a solenoid with two windings. One of the latter, of fine wire, is shunted across the terminals of the battery. The other winding—a series one—is placed in the circuit connecting the dynamo to the accumulators. The tension of the spring, to which is suspended the core, is so regulated that when the accumulators are properly charged the dynamo neither produces nor absorbs current, the petrol engine develops just the necessary power to drive the car, through a cardan shaft and bevel gear, at its regulation speed, and to keep in movement the generating plant so as to supply the small current necessary for the auxiliary services of the battery. The current controller constitutes with the steering wheel and the clutch or brake pedal one of the three organs necessary for the complete control of the car. The position O of the controller corresponds to all the circuits open. Passing from this to position (slow speed) produces successively:—(1) The closing of the exciting circuit of the dynamo on the battery without any external resistance; (2) the placing of the armature in derivation with the battery with starting resistance in series, causing the petrol engine to run under the action of the electric motor; (3) the closing of the ignition circuit; and (4) the short circuiting of the starting resistance. The successive positions from two to twelve correspond to increasing speeds, regulated by the excitation of the dynamo. In passing from one to the other the entire car accelerates itself, and for each period of acceleration energy is taken partly from the battery which drives the dynamo and engine, making it produce the complimentary torque, and partly from the engine, of which the gas admission opens itself fully and causes it to produce its maximum power and thus relieve the battery. The reverse effect is produced when the lever is pulled back. The dynamo at higher excitation works as a generator, and recharges the battery, at the same time closing the gas if the charging circuit tends to become too heavy. Backwards from O the controller has three positions, one for electric braking, one for commencing the reverse motion, and one for running backwards. The electro-magnetic clutch and brake consists of an iron disc, the surfaces of which are face to face to crowns, also of iron, one of which—movable—is fixed on the prolongation of the dynamo shaft, the other being fixed to the frame. Each of these crowns has a magnetising coil in which passes an electric current of an intensity variable by the clutch and brake pedal. The adherence is in proportion to the current, which, very weak at the beginning, allows the plate to slip on clutching. Numerous advantages are claimed for the system in the way of quiet running, efficiency, simplicity of control, &c., and the makers state that with an equal maximum power the chassis of the Auto-Mixte car is no heavier than that of an ordinary petrol car, the weight of the parts suppressed in the latter being equal to, if not more than that of the dynamo and accumulators.

CLAIM AGAINST MOTORIST DISMISSED.

At the Newcastle County Court, Major Chapman has been sued by a vanman for £100 damage for personal injury alleged to have been caused by the negligent driving of a motor-car by the defendant or his servant. The plaintiff was standing in the road of Grainger Street, when he was knocked down by the major's motor-car and badly injured. For the defence it was contended that the car was driven carefully and that the man staggered back on to one of the lamps before being knocked down. This view was urged by Mr. H. S. Mundahl, instructed by Mr. J. A. Williamson, and his honour Judge Greenwell, in giving judgment said:—"The case put forward on behalf of the plaintiff was one which would entitle plaintiff to recover without any possibility of doubt, because nobody travelling along streets in a crowded condition with his eyes open would be entitled to ride down anybody, whether sitting, standing, or lying on the road. The evidence, however, was weightier on behalf of the defendant than that of the plaintiff as to where the plaintiff was, and what he was doing. He (his Honour) took it that plaintiff and his brother were crossing the road, and that they had crossed in front of the car. People who stood about the roadway on a Saturday night must have some responsibility cast upon them; if they were nervous so that they were alarmed, and jumped back when a motor-car or tram passed, and were injured, they had no one to blame but themselves for being in that position when they had not sufficiently strong nerves. It seemed to him there had been no negligence on the defendant's part to justify him (his Honour) in saying he was liable. Judgment, therefore, must be for the defendant. Defendant did not ask for costs.

MESSRS. JARROTT AND LETTS, LTD., have just received a repeat order from Lord Alwyne Compton for one of the new 30-40-h.p. Crossley chainless cars, which is to be fitted with a limousine body, the car being for the use of Lady Alwyne Compton. This is the third Crossley car owned by Lord Alwyne Compton.

THE R.A.C. has issued a certificate with regard to the trial of the consumption of lubricating oil used on a 40-h.p. six-cylinder Napier. The car was recently submitted to a 510½ mile run, divided into three consecutive daily journeys to Southampton, Bath and Daventry and back respectively, during which the amount of lubricating oil used was 1 pint 8½ oz., which is equal to 2,866 miles to the gallon.

A RELIABILITY RUN THROUGH NORTH WALES.

THE open space in front of St. Margaret's Church, Bowdon, presented a very animated appearance between 7.30 and 9.30 on Saturday morning on the occasion of the reliability run of the Manchester Automobile Club. There was much inspecting of the cars to see that tyres were right and engines in order, much filling of petrol tanks, oiling, &c., and general careful preparation for the journey. As one car after another ran up the officials allotted the observers, who had been nominated by each competitor, to the car to which they were to devote their attention in seeing that the rules and regulations were adhered to. Thirty-one members entered their names for the run, and twenty-nine started for a spin of 132 miles through Cheshire and North Wales. It was a new departure on the part of the club, but so much interest has been aroused in it that it is safe to say that it will not be the last. Of the twenty-nine cars that commenced the run twenty-eight covered the entire course, and the defaulting car, through delay from a mishap to the steering, stopped short at Bettws-y-Coed. The principle underlying such a run is that it shall be a test of the reliability and efficiency of the various types of cars entered by the members. Marks were therefore given for reliability, quick starting, and economical consumption of petrol. 1,000 marks were the maximum, made up as follows, 750 for reliability, 50 for starting, and 200 for petrol consumption. Of course reliability involves speed, as well as safety and freedom from breakdowns, but the minimum time of 7 h. 20 min. for the whole journey works out to only 18 miles per hour, and any excess above this speed involved a loss of marks.

The route determined upon by the committee lay through Chester, Denbigh, Pentre Voelas, Bettws-y-Coed, Capel Curig, Beddgelert, Portmadoc, Blaenau Festiniog, Dolwyddelen, and terminated at Bettws-y-Coed Station, thus, while giving the motorists a journey through most varied and picturesque country, satisfying the conditions required for a reliability contest in the highest degree. The numerous towns and villages en route called for the exercise of that restraint and care without which the steerer of the car is liable to find himself involved in unpleasant altercations with the inhabitants or possibly noted by the argus-eyed man in blue; then, again, the narrowness of some of the roads with many twists and turns and the steepness of the gradients were a severe test of the skill in driving and the brake control of the car.

The car on which the present chronicler journeyed started at 8.35, and after passing Northwich, Delamere, and Tarbin, Chester was reached at 10.17. The ancient city is always interesting, though on occasions such as reliability runs the mind is occupied with matters remote from historical reminiscence. Yet the old-world appearance of the place forces itself upon one no matter how flying the visit may be, and we remember in the tranquillity of the country at the end of the day that we have careered on the most modern of migratory inventions through the Roman Deva, where once camped the legions of the Imperial City, and the Norman knights jousted and revelled, or, like Jamshyd, "gloried and drank deep."

At Ruthin the main road was left and a detour made round by Denbigh, thirty miles distant from Chester. The maximum time allowed between the two places was 2½ hours and minimum 1 h. and 40 min., but we covered this stage in the exact minimum time. Its castle forms a good landmark in the approach to the town from Ruthin, and one was almost tempted to stop and enter if only to ascend the stairs and view the famous and beautiful Vale of Clwyd, but there was serious business before us. Our route-book warned us of a road narrow in places with a closed gate to be opened by cottagers, and our previous study of the road had informed us of stiff hills to be negotiated, for we rise from 250 ft. at Denbigh to a height of 1,521 ft. on the Mynydd Hiraethog before reaching Pentre Voelas. We expected to have obtained some fine views of distant Snowdonia as we made our way along this rough, lonely road across the moorland, but a change came over the scene and we were mercilessly pelted with hail, which continued for above half an hour.

At Pentre Voelas we are only some 700 ft. above the sea-level and join the great Holyhead road about seven miles from Bettws-y-Coed, where the first stop can be made, an hour being allowed for lunch. As we moved rapidly along to the halting-place we obtained glimpses, in the breaks of cloud, of the noblest peaks of the district, Snowdon with Moel Siabod to the right, Y Tryfan with its sharp peak, the Glyders, and, further north, Carnedd Dafydd and Carnedd Llewelyn, almost rivalling Snowdon itself.

The second portion of the route was a most severe test of the staying power of the cars, particularly in the hilly district near Blaenau Festiniog and Dolwyddelen, but twelve cars completed the whole run so as to gain the non-stop certificate of the club. The further awards of medals will be made after the calculations necessary have been worked out by an independent outsider to be appointed by the committee.

The following twelve gentlemen made non-stop runs:—Messrs. H. Bright (Argyll); J. Arrowsmith (Horbick); R. Jackson (R. Jackson); F. R. Hesse (Daimler); Joshua Hall (Mercedes); Jos. Makin (Belsize); J. Higginson, jun. (De la Baire); G. J. Crawford (Lanchester); H. P. Barry (Belsize); H. Hollindake (De la Baire); A. E. Growdy (Walsley Siddaley); W. J. H. Steiner (Belsize).

THE demand for the "Garantire" tyres introduced by the Motor House, of Euston Road, N.W., has been so great that we learn the factory is now working night and day to cope with the inquiries.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

THE Marquis of Breadalbane has just obtained the Royal A.C. driving certificate. A badge will shortly be issued to all who have passed the examination.

The Dust Committee of the Club suggests a competition of a scientific character in the summer.

The entries for the "Graphic" trophy include Mr. J. E. Hutton's 40 and 60-h.p. Berliet and Mr. G. S. Barwick's 35-h.p. Daimler.

Six entries have already been received for the Commercial Vehicle Trials, and at least a dozen other firms have signified their intention of submitting vehicles for trial.

Supplementary regulations have been issued in connection with the "Henry Edmunds" challenge trophy to be competed for at Carter's Hill, Underriver, Kent, on the 8th prox. This competition is restricted to vehicles fitted with engines which comply with the following formula:—Cylinder diameter in inches squared multiplied by the number of cylinders must not exceed 100. On the same day the competition for the Carter's Hill cup will take place, this being restricted to vehicles fitted with engines of which the cylinder diameter in inches squared multiplied by the number of cylinders does not exceed 65.

WEST SURREY

THE annual closed hill climb of the club was held on Saturday, May 4th, at Tunnel Hill, Pirbright, by permission of the Aldershot authorities. The course, of one mile, is of an average gradient of 1 in 25, the maximum being 1 in 9½. The handicap R.A.C. formula and results were as follows:—

CARS OVER 12-H.P.

		Handicap.	Gross Time.	Net Time.
		Sec.	Min. Sec.	Min. Sec.
R. Kirke	24-h.p. Dennis	29 1-5	2 52 4-5	2 28 3-5
F. Houghton	14-h.p. Renault	22	2 59 1-5	2 37 1-5
O. O. Wrigley	28-h.p. Daimler	scratch	2 44 2-5	2 44 2-5
R. W. Buttemer	14-h.p. Renault	17 2-5	3 30 1-5	3 12 4-5
E. E. Pullman	15-h.p. Durkopp	62 2-5	4 27 2-5	3 21
R. Vogan	20-h.p. Simms-Welbeck	5 4-5	3 36 2-5	3 30 3-5
A. King	16-h.p. Rover	2-5	3 39 2-5	3 39

CARS 12-H.P. AND UNDER.

A. C. Tessier	12-h.p. De Dion	57 2-5	3 47	2 49 3-5
R. S. Robertson	6-h.p. Wolsley	59 1-5	4 4 3-5	3 5 2-5
Capt. Lang	10-h.p. De Dion	81 1-5	4 30	3 3 4-5
G. H. Gill	10-h.p. Victoria	34 4-5	3 46 4-5	3 12
Dr. Minchin	8-h.p. De Dion	116	5 43 4-5	3 47 4-5
J. F. Ponsford	8-h.p. Clement	72 2-5	5 8 3-5	3 56 1-5
Col. Fairtlough	12-h.p. Darracq	41 1-5	5 16 2-5	4 35 1-5
Dr. Bond	10-h.p. Argyll	9	6 55 1-5	5 38 1-5

Mr. J. W. Orde acted as judge at one end, Mr. Barker officiating in the same capacity at the other, while the handicapping was undertaken by Messrs. Straight and Ebbelwhite. A picnic tea concluded the proceedings, which were well attended by members of the club, about thirty cars being present.

AUTO CYCLE CLUB.

TWENTY-THREE entries have been received for the international Tourist Trophy Race for motor-cycles, to be held in the Isle of Man during the last week in May. The last day for receiving entries is May 14th.

The following are the entries up to date for the International Auto Cycle Tourist Trophy Race:—Mr. J. Schulte, Triumph (2); H. A. Collier, Matchless (2); Albert Brown, Brown; H. G. Cove, Minerva; C. B. Franklin, J.A.P.; W. D. Coplestone, Peugeot; A. W. Wall, Roc (2); Wm. Williamson, Rex (4); Isle of Man Motor Company; W. H. Wells, Vindec Special; R. W. Ayton; J. D. Hamilton, N.S.U.; J. Schink, N.S.U.; T. Silver, Thomas Silver; Stanley Webb, Triumph; H. Rene Fowler, Norton; and H. Martin, Kerry.

SOMERSET.

THE annual meeting of the above club was held on Saturday, when an "At Home" was given by Mr. and Mrs. Armitage, at Haygrass, Taunton. Favoured with fine weather and good roads a large number availed themselves of the hospitality of the host and hostess.

The chair was taken by Mr. Jackson Barstow, J.P., D.L., one of the vice-presidents, Mr. Armitage being the hon. sec. The annual report and balance-sheet showed that the number of members is 116, an increase during the year of thirteen, and the balance in hand amounted to £141 15s. 9d. The hon. sec. regretted that the size to which the club

had grown, and the extra work entailed, prevented him from continuing in that capacity, and, to the regret of all, his resignation was accepted. The following officers were elected:—President, Sir Wroth Lethbridge; vice-presidents, Mr. J. Barstow, Mr. John Hargreaves, Mr. R. A. Sanders, and Mr. A. Armitage; committee, chairman Mr. A. Armitage, (Taunton), Messrs. Aspinall (Weston), Beauchamp (Stone Easton), Col. Barrett (Taunton), Dr. Benson (Bath), Blake (Bridgwater), Dave (Weston), Elwes (Somerton), Hippisley (Stone Easton), Vaughan Jenkins (Bath), Chester-Master (Bridgwater), Metcalf (Cheddar), and Wills (Bridgwater). The hon. sec. elected for the ensuing year is Mr. R. B. Graves-Knyfton, the Manor, Uphill, Weston-super-Mare.

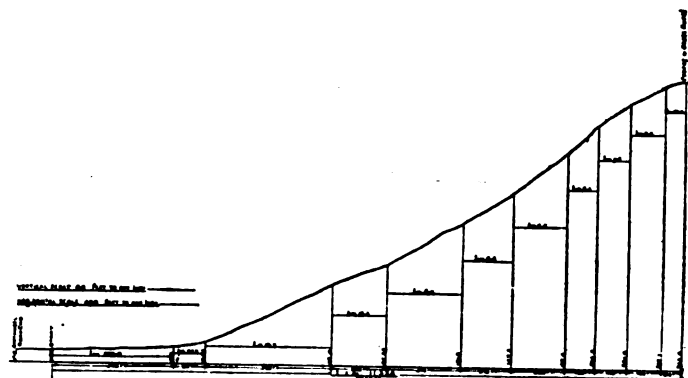
MOTOR CYCLE CLUB.

DOUBTLESS the attraction of the Frome's Hill meet militated against the number of entrants in the Motor Cycling Club's competition for the "Albert Brown" trophy, which was decided on Saturday. This event is restricted to vehicles mainly of British manufacture, and of a maximum catalogue price of £550. Starting from Slough the route was via Maidenhead, Henley, Oxford, High Wycombe, Beaconsfield, Farnham Royal, and back to Slough—a distance of about seventy-five miles. In the afternoon a second trip over the same course but in the reverse direction was included in the run. The regularity of running and petrol consumption test based on the total weight carried were factors in arriving at a decision.

In the end the winner was Dr. H. A. Jowett on his 8-h.p. Rover, while non-stop runs were also made by Messrs. J. S. Harwood, J. Platta-Betta, and F. J. Jenkins—all on Rover cars.

NORTH-EASTERN AUTOMOBILE ASSOCIATION.

THE usual monthly meeting of this association was held in Newcastle last week, when there was a good attendance of members, Capt. H. Streatfeild being in the chair. The question of the Ragpath



Profile of Ragpath Hill.

hill climb was fully discussed and it was decided to make this an open event this year under the rules of the R.A.C. The following were appointed a committee to make local arrangements, viz., Dr. McHaffie, secretary, G. S. Barwick, W. Haggie, F. T. Maling, A. N. L. Wood, J. Nattrass, Dr. Buckham, J. D. P. Taylor-Smith and C. R. F. Engelbach, also the chairman and hon. sec. of the Association.

MOTOR YACHT CLUB.

THE first weekly handicap for members' motor-boats will take place to-day (Saturday), on which occasion the one design sailing boats will make their debut on Southampton Water.

The club has been requested by the Nottinghamshire A.C. to assist them in arranging their motor-boat races on the Trent on July 6th, and has consented to do so.

IRISH.

THE Irish Automobile Club has arranged to hold a hill climb towards the end of July, under somewhat novel conditions. The trial is to be on two hills of very different gradients. One contains very steep stretches of road, some being as bad as one in five. On this hill a low geared car will have a distinct advantage, while on the other hill the gradients are much easier, and will give a speedy car an opportunity of showing what it can do there. The cars will be run under the observation of the Irish Club, and no sprockets may be altered or adjustments made during the time. The hills are situate close together, which greatly facilitates the proposed arrangements.

THE MOTOR UNION.

THE membership returns of the Motor Union of Great Britain and Ireland show a record increase for the first four months of 1907. No less than 2,000 new members have been enrolled, or an average of about 120 per week. The total membership of the Union is now between 15,000 and 16,000. The recent developments of Motor Union activity

have also met with striking success. The insurance scheme which came into operation on the 1st of January has received support far in excess of the most sanguine estimates of the Committee. The Motor Union car badge, which has recently been issued, has also met with the approval of the membership. Within three weeks from the date on which their issue commenced over 1,000 had been disposed of. Particulars of a new scheme for protecting the highways of the country and ensuring the safety of the public—in which the co-operation of the local authorities, clergymen, and landowners is to be invited—will shortly be announced.

MR. K. A. STEVENS is forming a motor club for the Straits Settlements.

ON Thursday the East Lancashire M.C.C. held a hill-climbing competition on Sawley Brow.

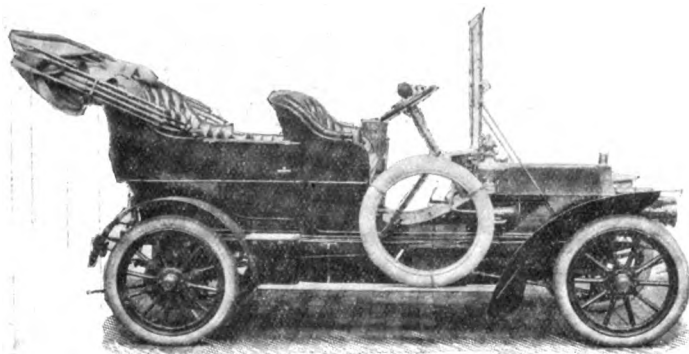
A MOTOR-CYCLE club is being formed in the Cirencester district, with Mr. W. G. Inward, 3, Corin Villas, Cirencester, as hon. secretary.

AT a meeting of the Committee of Management of the Society of Motor Manufacturers and Traders, the following were elected members:—Elastes Company, Ltd., W. H. Tye, Aster, Ltd., Miesse Petrol Car Syndicate, Ltd., Roseleigh Motor Company, and North Eastern Garage, Ltd.

FOR the convenience of members visiting the Bexhill Races at Whiteside, the Motor Club Committee have secured an option upon a limited number of bedrooms at the Sackville Hotel. All the important roads leading to Bexhill will be specially patrolled by the A.A. during the race meeting.

MOTOR TOURING IN AUSTRIA.

THE American Consul at Carlsbad reports that during last year a large number of automobilists visited this district, in which the well-known Austrian watering places of Carlsbad, Marienbad, and Franzensbad are situated, and as scarcely any owners of cars were acquainted with the regulations in force regarding foreign automobilists, great inconvenience has been experienced. As the number of motoring visitors is likely to be



The 14-h.p. Four-Cylinder Car recently supplied by the Star Company to His Majesty's Government for use on the Gold Coast.

The vehicle is fitted with a specially-designed Cape Cart hood, having storm curtains and glass screen, which entirely protects the whole of the passengers from rough and stormy weather.

even greater during 1907, travellers using automobiles should make themselves acquainted with the legal rules and regulations now in force, because those who do not understand them may find themselves subjected to disagreeable positions and meet with many troubles and annoyances which could be avoided. The following is an extract from the rules and regulations in regard to motor vehicles entering into Austria:—For every automobile passing the frontier, no matter whether the car remains in the country or not, and without any reference to the machine being old or new, or for private use or business purposes, the full custom-house duty levied must be paid in cash if the machine remains in the country, or the amount is requested to be deposited if it is to be taken out of the country. It is very important that travellers should provide themselves with sufficient Austrian money before they enter the empire. A duty must be paid or deposited as follows: for machines weighing up to 800 lbs., £3 per 100 lbs.; from 800 to 3,600 lbs., £2 8s. per 100 lbs.; from 3,600 to 6,400 lbs., £2 per 150 lbs.; and above 6,400 lbs., £1 4s. per 150 lbs. On producing the receipt when leaving the Austrian Empire the money deposited will be returned to the owner. A machine brought into Bohemia may be used fourteen days without restriction. After that time the use is only permitted if it has been subjected to a technical examination by a commission appointed by the chief court of administration at Prague. A tax of 120 crowns (about £4 17s. 6d.) is required to be paid for this examination. Vehicles coming from certain countries with which the Austrian Government has made a special agreement, as for instance Bavaria, Italy or Saxony, can be used without an examination for three months. All persons driving motor-cars in Bohemia longer than eight days must undergo an examination at Prague or Reichenberg to obtain a licence, for which a tax of fifty crowns (about £2) has to be paid. Drivers from Italy may drive three months without any examination

or licence. The speed of a car must never exceed nine miles an hour in towns and villages, or twenty-eight miles on the open road; during a fog, at crossings, curves, and in all places where special care should be exercised, the speed must not exceed three and a half miles. In inland towns and villages it is not permitted to drive with an open silencer.

A QUESTION OF LIABILITY.

IN the Court of Appeal, before the Lord Chief Justice and Lords Justices Moulton and Buckley, the case of Harris v. Fiat Motors, Ltd., has been heard. It was an appeal by the plaintiff from a decision of the Divisional Court.

The defendants had had a motor-car belonging to a Sheffield gentleman to repair, and they despatched it back to Sheffield in charge of a chauffeur named Watts, with instructions that he was not to leave the wheel while on the journey. Watts picked up another chauffeur named Biscoombe whom he knew on the road out, but continued driving the car himself until Grantham was nearly reached. Something had gone wrong with the car, which began to rattle, and Watts asked his companion to take the wheel while he went on to the back seat to ascertain, if possible, the cause of the trouble. While Biscoombe was driving, the car and a van belonging to the plaintiff, Mr. Percy Harris, a Grantham tradesman, came into collision. The plaintiff sued the defendants in the county court to recover damages for injury thus caused to the van. The action resulted in a judgment for the plaintiff, with £80 damages. The defendants appealed, and the Divisional Court ordered the judgment to be set aside and judgment entered for the defendants on the ground that Biscoombe not being their servant they were not liable. The plaintiff appealed.

Mr. English Harrison, K.C., and Mr. H. Walker appeared for the plaintiff; Mr. Montague Lush, K.C., and Earl Russell for the respondents.

The Lord Chief Justice, in giving judgment, said he thought this appeal ought to be allowed. Referring to the circumstances under which Watts gave up the wheel he said it was impossible to argue with any success that Watts was not acting within the scope of his employment when the accident happened. Watts was in charge of the car, and when something went wrong it was in the interest of his employers, and it was his duty to try and find out where the mischief lay. The prohibition given to Watts in the circumstances had no bearing on the case. The defendants were liable, in his opinion, and the verdict for £80 in favour of the plaintiff must be restored. The lords justices concurred. Judgment accordingly with costs.

AUTOMOBILE ACCIDENTS.

ON Saturday evening a pedestrian in Stoke Newington was knocked down and killed by a motor-bus. Later in the evening a similar casualty occurred in Trafalgar Square.

TWO fatalities occurred on Saturday in which motor-cyclists caused the death of pedestrians in Herne Hill and Holloway respectively.

AN inquest was held on Friday of last week on Mrs. Susan Ryder, 48, of 58, Churchill Road, South Croydon, who was killed by a motor-car in the Brighton Road two evenings before. The evidence showed that the deceased was chasing a dog which was frightening some children, when she was caught by the car and knocked down. Mr. Arthur Jacobs, owner of the car, said he was driving at the rate of twelve or thirteen miles an hour. The deceased appeared to hear the motor horn and ran across in front of the car. He put the brakes on hard and the car stopped but swerved round, pivoting on the front wheel. He thought she was struck by the mudguard. Medical evidence was that death was not due directly to the injury, but to shock acting on a fatty heart. The jury returned a verdict of "Accidental death," and exonerated the driver from blame.

A MIDHURST cowman named Henry Albury was cycling up Gravel Hill, near Petersfield, on Sunday afternoon when he was knocked down by a motor-car driven by Dr. Stanley Welby, of Petersfield. The man died afterwards. The man was on his way with his wife to visit some friends at Clanfield. He was zigzagging up the hill when the collision occurred, and being deaf evidently did not hear the motor horn. When the car reached him he suddenly swerved across the road in front of it.

MR. ADNEY PAYNE, the well-known music-hall proprietor, was injured in a motor-car accident on Sunday at Tunbridge Wells. Mrs. Adney Payne was driving the car, when a cyclist suddenly crossed from his own side of the road right in front of the car. If there was a collision Mrs. Payne knew it would be certain death for him, and in trying to avoid him she ran the car right on to the pavement and into a bank. The two near-side wheels came right off and the car overturned. The two friends who were passengers and Mrs. Payne were not badly hurt, but Mr. Adney Payne was very much cut about the head.

A 45-h.p. four-cylinder Mercedes standard touring car, driven by Mr. A. G. Brown, has, we are informed, just beaten the London to Monte Carlo record by 4½ hours, the total time being 29 hours 20 minutes. The car was timed by Mr. Stenson Cooke, on its departure from the Motor Club, Coventry Street, Piccadilly, W., at 8.25 a.m., on Wednesday, the 1st inst., and according to a telegram received by Messrs. Ducros Mercedes, Monte Carlo was reached at 1.45 p.m. the next day.

CASES UNDER THE MOTOR CAR ACT.

IN REGENT'S PARK.

At Marylebone, a batch of summonses against motor-car drivers for exceeding the speed limit of ten miles an hour in the Regent's Park have just been dealt with. Among the defendants was Herbert Horwood, who was understood to be chauffeur to the Chancellor of the Exchequer. He was accused of driving at a speed of twenty-two miles an hour, and his only remark in answer to the summons was, "This is the renowned trap." Mr. Plowden imposed a penalty of £3, with 2s. costs. Lord Alexander Thynne was also summoned for driving at the rate of twenty-five miles an hour in the Regent's Park, but did not appear. Mr. Plowden imposed a fine of 20s. and costs.

EXCEEDING LEGAL LIMIT.

Several motorists have just been fined at Alton (Hampshire) for exceeding the legal limit. Similar batches of alleged offenders have also been before the Arundel bench.

A MATTER OF ENDORSEMENT.

Several motorists have been summoned this week before Mr. Marsham, at Bow Street, for driving motor-cars in St. James's Park at a greater speed than ten miles an hour. After hearing the evidence, Mr. Marsham said he intended to convict, but he adjourned each case pending an appeal which has been made to the High Court against his decision that convictions of this kind, under the Parks Regulations Acts, must necessarily be endorsed on the offenders' licences. Mr. Marsham said it was a point that ought to be decided, and he had frequently offered to state a case.

MOTOR CYCLING RECORDS.

THE Bohemian Motor Club held a motor-cycle race meeting at Canning Town on Saturday, when C. R. Collier proved successful in

those who join in will have a charming time. By the way, it is just as well to write early for hotel accommodation to Mr. Godfrey Lowe, St. Catherine's, Lincoln.

The programme of the Motor Union meeting at Lincoln on the 18th is as follows:—11 a.m., meeting of the general committee and official reception by the mayor; 11 a.m., inspection of Cathedral and Castle; 2 p.m., assembly of cars in the G.N.R. station yard; 2.30 p.m., procession to Canwick; 3.30 p.m., gymkhana; 7 p.m., dinner in the County Assembly Rooms, Lincoln.

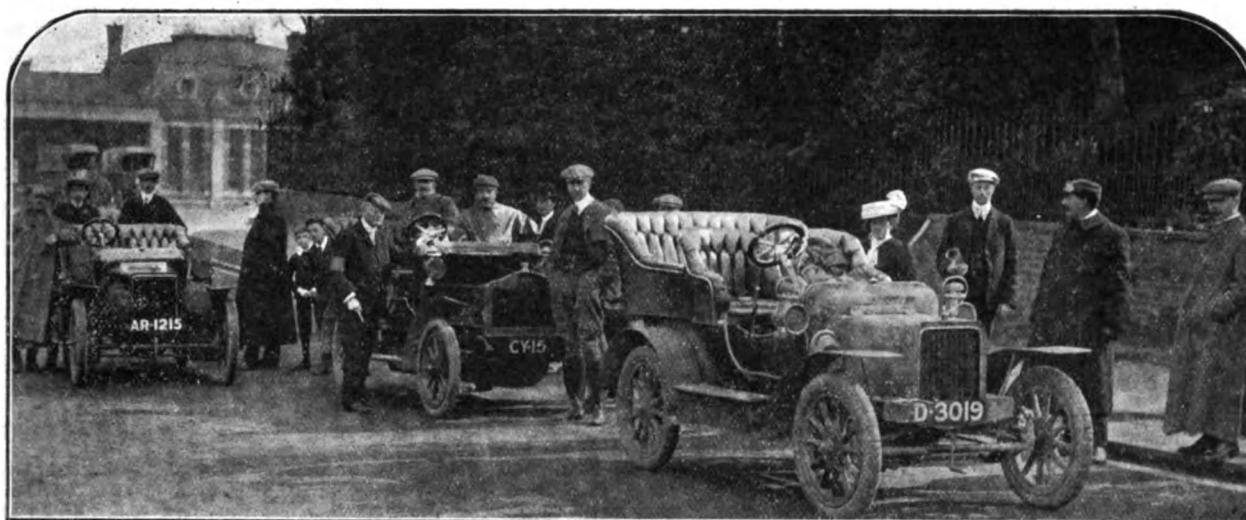
ROAD REPORTS.

CUCKFIELD.—The Urban District Council of Cuckfield is doing much useful work in connection with tarring the roads in its district.

NEWHAVEN.—The Newhaven Rural District Council consider that the grant of £85 last year by the County Council for the upkeep of the Lewes to Newhaven road was entirely inadequate. During the manœuvres the Council spent £537 on it. Deducting £130 paid by the military authorities, £427 was left to be contributed from the rates. They are reminding the Council that the Lewes to Newhaven road is on the main motor way to France via Newhaven and that it has considerable automobile traffic.

STOATS NEST.—The Brighton road in the neighbourhood of Stoats Nest was on Saturday last in anything but a satisfactory condition, several patches of unrolled new metal having been left for the benefit of the week-end traffic.

KILMARNOCK.—A public inquiry is being held at Kilmarnock with reference to an application from the Town Council for the restriction of the speed of motor-cars to ten miles per hour in certain roads. Mr. George Rennie, Glasgow, in giving evidence for the objectors, stated that he had timed the Corporation trams over measured distances,



The Start at Slough for the Albert Brown Trophy Competition. The Event was won by Dr. Jowett, whose 8-h.p. Rover is seen in the foreground. [Photo by] [E. W. Ashworth.]

numerous events, and also beat the one mile flying start record for 76 by 76 mm. machines. The previous record was his own, 65 3-5 sec., and on Saturday he covered the distance in 64 1-5. Collier rode three matches against the Irish champion, C. B. Franklin, winning all three. In the one mile match Collier beat his opponent by 150 yards in 1 min. 30 2-5 sec.; in the three miles he won by a few yards in 4 min. 13 4-5 sec., and in the five miles he passed Franklin in the last lap and won by a couple of lengths in 6 min. 55 3-5 sec. C. R. Collier also won the five miles scratch race in 5 min. 46 1-5 sec., C. C. Bennett being second, and J. Perkins third. Bennett won the five miles handicap, with 25 sec. start, in 6 min. 2 1-5 sec. D. H. Clark, 35 sec., was second, and C. R. Collier, scratch, third. The three miles tourist handicap fell to H. A. Collier, 10 sec., in 4 min. 19 sec., W. W. Genn, scratch, being second, and S. Webb, 15 sec., third.

THE MOTOR UNION AT LINCOLN.

THOSE who participate in the Motor Union meet at Lincoln on the 18th should make a point of taking part in the tour arranged for the following day. The route is via Horncastle to Somersby and Tennyson's country and The Wolds, and then on to Harrington, South Ormsby, Calceby Ruins, Skeddleby and Partney to Spilsby, where Franklin was born, and where there is much to see, then on to Keal, for the fine view over the Fens and to the Norfolk coast, Revesby, Scrivelsby (the town of the King's champion), Tattershall Castle and Woodhall Spa. In this run there is some of the most beautiful scenery in the county, and

and on the Hurlford Road he found them going at the rate of 15.1 and 15.4 miles an hour, and between the Cross and Riccarton at 14.5, 14.7, 13.8, and 14 miles per hour, and from the George Hotel to Beansburn at fifteen miles an hour.

PERTHSHIRE.—The inquiry with regard to motor-car traffic in Perthshire has been resumed before the General Superintendent to the Local Government Board. The Central district of the county want eight roads closed to motor traffic and the Western district six, though neither has been able to show that any accident has occurred on any of these highways.

TUNBRIDGE WELLS.—There is a large and increasing amount of through motor traffic on the principal main roads including the St. John's Road, Mount Ephraim, Pembury, and London roads en route to Brighton, Eastbourne, Hastings, and other South Coast towns. The roads are maintained in a good state of repair, and well scavenged, thus minimising the dust nuisance, which has received much attention. The Corporation were the first to use oil gas tar for dustlaying, which was successfully employed several years ago, and has since been used by several other public bodies. This year the St. John's Road for a length of 600 to 700 yards is being widened to 60 ft. and laid with slag tar macadam. Several miles of the London road, Mount Ephraim, and Langton roads are also to be treated, as soon as the weather permits, with tar by means of the "Tar-Spra" machine, and by the "Laissailly" apparatus. The High Street Bridge, which was formerly narrow and congested, has been rebuilt and very substantially widened and will be opened by the Mayor on the 16th inst. Mr. W. H. Maxwell, A.M.I.C.E., is the Borough Surveyor.

FORTHCOMING EVENTS.

MAY.

SATURDAY, 11TH.

R.A.C. examination at Leicester.
 Meet of the Derby and Wolverhampton A. Clubs at Lichfield.
 Run of the East Surrey A.C. to Old Ship Hotel, Brighton.
 Opening meet of the Ipswich and East Suffolk A.C. at Clacton.
 Nottingham A.C. meet on the Welbeck track.
 Aero Club ascent at the Crystal Palace.
 Auto Cycle Club's open hill climb at Fernhurst.
 Manchester A.C. run to Haddon Hall.
 Speed judgment competition of the Walthamstow M.C. at Ongar.
 Speed judgment competition of the Junior A.C.

SUNDAY, 12TH.

Southend M.C. run to Burnham on Crouch.
 Cardiff M.C. run to Whitechurch and Raglan.
 North London A.C. run to Hockliffe.
 Run of the Birmingham M.C.C. to Great Witley.
 Run of the Junior A.C. to Aston Clinton.

TUESDAY, 14TH.

Meeting of the Roads Improvement Association.
 Entries close for the International Auto-Cycle Tourist Trophy Race.

WEDNESDAY, 15TH.

R.A.C. examination at 119, Piccadilly, W.

FRIDAY, 17TH.

Motor C.C. run from London to Edinburgh.

SATURDAY, 18TH.

Motor Union meeting at Lincoln.
 Entries close for the R.A.C. "Graphic" Trophy.
 Cleveland Branch Yorks. A.C. run to Hutton Hall.
 Meet of the New Forest A.C. at Beaulieu.
 Southern M.C. run to Cambridge and thence to Lincoln.
 Southend and District M.C. tour to France commences.

SUNDAY, 19TH.

West Essex A.C. run to Newmarket.

MONDAY, 20TH.

Crystal Palace A.C. race meeting at Bexhill.

WEDNESDAY, 22ND.

Tar spreading machine and tar preparation competitions.

LIGHTING-UP TIMES—LONDON.

11th—8.35	...	13th—8.38	...	15th—8.41	...	17th—8.44
12th—8.36	...	14th—8.39	...	16th—8.42	...	18th—8.47

THE ROYAL NORTH OF IRELAND YACHT CLUB.

THE annual motor gathering under the auspices of the Royal North of Ireland Yacht Club was carried to a successful issue on Saturday, at Cultra, Co. Down. The following are the details:—

CLASS A.

		Min.	Sec.	
Mr. H. C. Craig	28-36-h.p. Daimler	1	5 2-5	1
Mr. J. Cunningham	30-40-h.p. Daimler	1	55 2-5	2
Mr. S. P. Corry	30-h.p. Hamber	1	2 2-5	3

CLASS B.

		Min.	Sec.	
Mr. G. Craig	15-22-h.p. Daimler	1	7 4-5	1
Mr. R. E. Workman	14-22-h.p. Germain	1	17 2-5	2
Mr. W. C. Mitchell	15-20-h.p. Panhard	1	27 3-5	3

CLASS C.

		Min.	Sec.	
Mr. R. Workman	12-h.p. Darracq	1	48	1
Mr. V. Craig	8-10-h.p. Swift	1	34 3-5	2
Mr. C. W. Cookson	8-h.p. Rover	2	9 3-5	3

SCOTTISH RELIABILITY TRIAL, 1907.

THE following additional entries have been received:—William Turner (Imperial), Capt. Theo. Masui (Germain), Northern Engineering and Manufacturing Company (Spyker), Sternberg and Eason (Buick). The entries at ordinary fees close on the 14th inst.

THE "Wescot" overall, for use in garages, &c., is being placed on the market by the Engineers' Universal Supply Stores, of 25, Sumner Street, Southwark, S.E.

THE Swift Motor Company, Ltd., have sent us a copy of the new catalogue they have just issued. It gives particulars and illustrations of the various models of Swift cars—9-10-h.p. two-cylinder, 10-h.p. three cylinder and 12-14-h.p. and 18-24-h.p. four-cylinder. Four pages are devoted to useful information on the handling and care of the Swift vehicles, while a useful feature is the inclusion of a large and clearly marked illustration showing the parts which need lubrication.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

FILMER AND COMPANY.—£2,000. Manufacturers of, dealers in, and letters to hire of automobiles, motors, &c. First directors: Messrs. C. C. Filmer and S. F. Sharp. Middle Row, Maidstone.

SKINNER AND COMPANY.—£8,000. To take over the business of jobmasters, manufacturers of and dealers in automobiles, &c., carried on by Skinner and Company, Ltd. (in liquidation), at: Hastings and St. Leonards. First directors: Messrs. F. G. Tyrrell, G. H. Swatland, H. A. Fuller, H. A. Pearch, and W. Parks (managing director).

ARGYLLS SHEFFIELD, LTD.—Registered with a capital of £6,000 to adopt an agreement with Argylls Motors, Ltd., relating to the appointment of the company as selling agent for Sheffield.

VIVINUS AGENCY COMPANY.—£10,500. To acquire the exclusive rights to buy and sell the Vivinus motor-cars in the United Kingdom and British colonies, and with a view thereto to acquire the rights conferred by the liquidators of Les Ateliers Vivinus Société Anonyme under an agreement dated April 17th, 1907.

IDEN MOTOR COMPANY.—£10,000. To acquire the business carried on by Mr. G. Iden, at Coventry, as the Iden Motor Company and the Parkside Engineering Company. First directors: Messrs. G. Iden, R. E. Skipwith, and F. O. Wright.

ARMY MOTOR RESERVE.

In the Army Orders for May the full dress to be worn by the Army Motor Reserve is given as follows:—Forage cap: Olive green, band of dark green cloth, gold cord round crown, peak embroidered as for infantry field officers. Tunic: Olive green cloth, collar and cuffs of dark green cloth, ornamented with $\frac{1}{2}$ in. gold lace and Russia braid, as for infantry of the line, eight buttons in front. Sword-belt: Gold-laced on dark green Morocco leather. Shoulder-belt: Gold-laced 2 in. wide on dark green Morocco leather, gilt buckle.

PUBLIC MOTOR SERVICES.

TRIAL trips have taken place of the motor-buses which are to establish a passenger service between Stranraer and Drummore.

A MOTOR-OMNIBUS service is being established by the Great Western Railway Company in the Llandysul district.

A SERVICE of motor-buses is about to be started in the Glossop district.

SOME new single-deck motor-buses are to be put on the Harborne route at Birmingham.

AN average of three motor-cab drivers are now being licensed every day by the Scotland Yard authorities.

A SUGGESTION for the formation of a motor-bus service between Midhurst and Haslemere has been made at a meeting of the local Ratepayers' Association.

POLICE TRAPS.

HALIFAX, Huddersfield, and Bradford now possess their police traps for the capture of motorists.

A NEW trap has been set up by the police in the Lancaster district. This is on the Burton road, the finish of the measured distance being at the junction of the Burton and Milnthorpe roads. The trap has one cross road in it.

THE trap at Carnforth, Lancaster, is again in full working order.

BUSINESS NEWS.

THE CARLTON GARAGE, LTD., have removed from New Burlington Place, Regent Street, S.W., to larger premises in Great Central Street, Marylebone Road, N.W.

THE performance of the Elastes-filled tyres on the 40-h.p. Siddeley car, which has just finished a long distance reliability trial, and which reached a mileage of over 10,000, is excellent testimony to the hard work to which it is possible to subject the tyres. It is noteworthy, too, that the car has never had a road stop during the whole time of this trial through tyre troubles.

TURNER'S MOTOR MANUFACTURING COMPANY, LTD., of which Mr. J. Burns Dumbell is the managing director, inform us that they are in no way connected with the petrol car now being marketed by a syndicate in the title of which the name Miesse occurs.

MR. H. G. NORRIS, until recently manager of Aries, Ltd., informs us that he has just taken over the management of Itala Automobiles, Ltd.

A GOOD deal of attention is now being devoted by motor manufacturers to the development of the automobile movement in Spain, and we are glad to find that British manufacturers are taking steps to secure a share of the trade which is now being developed in that country. During the past week we have received copies of two catalogues of British-built cars, printed in Spanish. The first is that issued so long ago as May, 1906, of Messrs. S. F. Edge, Ltd., describing the Napier cars, while the second comes from Iris Cars, Ltd., and deals fully with the latest types of Iris vehicles. Both lists are got up in excellent style, the text being embellished with a large number of illustrations.

THE Motor-Car Journal.

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COMMENTS.



MATTERS have moved forward since the first repairers were appointed by the Automobile Club in the early days of the movement, and it has frequently been thought that a revisal of the original list might be useful. Recently the subject was brought before the notice of the central authorities by the Northamptonshire Automobile Club, who have suggested that a distinction should be made between the various classes of repairers in the general interest of motorists. The method proposed by the Northamptonshire Club, which has given the matter considerable attention, is that the R.A.C. should decide upon two or three classes of repairers, according to the facilities possessed by the various firms, and that the county clubs should in some measure become responsible for seeing that those people placed on the various lists fully come up to the requirements. We understand that the question of classification of repairers has been deferred for a season, but that meanwhile the Automobile Club has determined to request all the motor firms who were appointed prior to May of last year to apply for renewal of their certificates. In the future local repairers will be required to apply annually for renewal, and it is evident that the R.A.C. intends to thoroughly overhaul the arrangements in this connection.

Motor Ambulances.

THE City of London electric motor-ambulance service was opened on Monday afternoon at the temporary station in the Newgate Street ground belonging to St. Bartholomew's Hospital. During the ceremony of inauguration a test call came from Old Jewry police station. The ambulance was there in just over three minutes, and was back with its "patient" within ten minutes. Sir Alfred Newton, chairman of the Police Committee of the Corporation, presided over the proceedings, and there were also present Sir Edward Henry, the Chief Commissioner, Captain Nott-Bower, the City Commissioner, a large number of representatives of the City Corporation, ambulance associations, and medical men interested in the scheme, which forms part of the plan now being developed in order to bring the ambulance service of the Metropolis to an efficiency that has previously been lacking.

An Irish Note.

JOURNALISTS from the Irish capital, chronicling the gay doings at the Punchestown races the other day, seem to have utilised the motor-car for the purpose of out-distancing each other. One who set out with the idea of observing the roads as well as the people describes how he was not long on the way to Naas—in whose long-streeted town the cars were weighed for the Irish Gordon Bennett race—when he passed the Hon. A. H. Ruthven, whose motor-car had become disabled through tyre troubles. Some distance beyond they were passed by the car of Mr. C. E. Sutton, a leading Dublin solicitor, and then the journalist observed the road. "One thing struck me very forcibly on the way to the course from Naas,"

says this plain-speaking writer, "and that was the niggardly manner in which the roads are made. They are more like boreens than roads, and at many places it is nearly impossible to pass those who are not so fast as you are—in a motor-car. How cars and horses and men and women are not dissected on these miserable flat courses called roads is a mystery to me"—and to others.

In Manxland.

As in previous years, the authorities in Manxland are doing what they can to promote the success of the Tourist Trophy race, and (it may be incidentally remarked) to preserve the lives and property of the islanders. The famous mountain road over Snaefell has been widened at least 4ft., so that the passing of cars will now be possible. Further improvement has been made at the iron gates on the mountain road, and a bad corner cleared away. In the town of Peel, too, the Commissioners are making important alterations for the convenience of the participants in the race. We may add that it has been settled that not only shall the two races be run on the same day, viz., Thursday, the 30th inst., but that the Tourist Trophy cars shall be started first, the heavy touring vehicles following. The distance for the Tourist Trophy race will be six times round the course, with a total of 241 miles 5 furlongs 140 yards, and that for the heavy touring car race will be seven times round the course, with a total distance of 281 miles 7 furlongs 200 yards. This alteration from the Wednesday to the Thursday is made at the special request of the Island's Highway Board. The Auto Cycle Club's Tourist Trophy race will take place on the 28th, and the competition for the "Graphic" trophy will be on the 31st inst.

The Dangers of Petrol.

A RECENT mishap, unfortunately attended by two fatalities, in a London motor depot has drawn attention to the dangers that lurk in the careless use of petrol, and many firms have taken heed of the warning of the coroner's jury against permitting smoking in places where petrol is likely to be about. The subject has also been before the explosives department of the Home Office, who have drawn up a new regulation with regard to the matter. This has been discussed by Captain Thomson, chief inspector of explosives, Earl Russell and Sir Boverton Redwood, with the result that approval has been made of the following brief regulations, the spirit of which, as well as the letter, should be observed by all having petrol under their care.—"In a storehouse, or in any place where a light locomotive is kept, or is present, petroleum spirit shall not be used for the purpose of cleaning or lighting, or as a solvent, or for any purpose other than as fuel for the engine of a light locomotive; provided that, where due precaution is taken to prevent petroleum spirit from escaping into a sewer or drain, and provision made for disposing safely of any surplus petroleum spirit, and where no naked light is present, quantities not exceeding one gill may be used for the cleaning of a light locomotive at a safe distance from any building or much frequented highway, or for the repair of tyres under suitable precautions. This regulation shall apply to premises on which petroleum spirit is kept for the purpose of, or is being used on, light locomotives, whether such

premises are licensed or not, unless the local authority see fit, in the case of licensed premises, to grant an exemption by a special term of the licence."

Registration of Drivers.

THE Automobile Club in London has fostered the scheme for the examination of motor-car drivers; the corresponding organisation in Scotland is now developing what promises to be an excellent plan for the registration of drivers. Only those men who obtain the certificate of the R.A.C. will be considered in connection with employment. Two registers will be kept by the Scottish A.C.: A, of drivers open for employment; B, of the characters of the men who are in the service of members of the club. Thus opportunity will be afforded of assisting capable and well-conducted men to situations, and warning employers against the inefficient and unreliable men who would seek to handle the steering-wheel. The committee are satisfied that in time these registers will become valuable records. They will accumulate the opinions of each successive employer as regards each man registered. In their earlier stages the reports may in many cases have to be applied for from previous employers, after inquiry for them has been made by a prospective employer, but it is expected that the value of the register will become so recognised that the members will



On the occasion of the opening of their new Garage at Brighton last week the Fiat Company took a number of their friends down by road from London. The above illustration shows the party at Crawley.

furnish them as a matter of course. It may also be possible, in cases where the applicant to a member has been previously employed by a non-member, to obtain records for inclusion in the register relative to these, and altogether it should become a great protection amongst members of the Scottish A.C. against unworthy or incompetent servants.

Industrial Alcohol.

MUCH has been written during the last decade with regard to the industrial uses of alcohol, more particularly as to its value as a source of motive power. The report of the Departmental Committee issued some time ago caused a set-back in the expectations of those who looked to alcohol as an alternative for petrol in connection with automobiles, and since then the agitation has been somewhat spasmodic. The publication of Mr. J. G. McIntosh's book on industrial alcohol by Messrs. Scott Greenwood and Sons may do something to revive interest in the matter. The author points out that if this country intends to build motor-cars for the colonies it is very desirable that we should be experimenting with alcohol engines, especially as the high price of petrol would give them a commercial advantage. One of the most serious objections to the use of

alcohol is the extraordinary corrosion which it is alleged takes place. Mr. McIntosh deals very completely with his subject, from the manufacture of industrial alcohol to the plant for its distillation and rectification, as well as its uses in various manufactures. The volume is well illustrated in addition to being well written, and should prove of considerable value to all making experiments in the direction of securing the utilisation of alcohol as an alternative to petrol as a motor fuel.

Motor-car Imports and Exports.

APRIL proved a very active month as regards the importation of foreign motor-cars and parts into the United Kingdom, the returns just issued showing that the number of vehicles which reached this country was no less than 620, their value being given as £228,427. Parts were responsible for an additional £299,071, which gives a total of £527,498—the largest for any one month that has so far been recorded—as against £403,229 in the corresponding month of last year, and £293,903 in April, 1905. For the first four months of the current year the figures are: Number of cars imported, 2,038; value of same, £812,522; imports of motor parts, £879,743, total, £1,692,265. For the similar period of 1906 they were:—2,179 cars of a value of £842,620; parts, £684,671; total, £1,527,291. Turning to the exports of British motor-cars and parts, the number of cars shipped during the four months ending with April was 631, of a value of £248,705; to this have to be added parts estimated at £159,380, which gives a combined total of £408,085, as contrasted with only £199,570 in the corresponding four months of 1906.

A Colonial View.

HIS Excellency the Lieut.-Governor of Victoria, Sir John Madden, who has recently returned from a round the world trip, was entertained by the members of the A.C. of Victoria (of which he is president), vice-president Dr. G. Weigall occupying the chair. The clubroom was crowded, and included amongst the guests were several members of Parliament and prominent public men. Sir John Madden gave a *resume* of his travels, and had some very flattering commendations for the motor-car and motorists. He said the letter to the Royal A.C. secured for him a very pleasant time both in the club and at many outside functions, and he felt very grateful to that body. In Great Britain he said he was able to see from a motor-car considerably more of the sights than would have been possible otherwise. He was there at a time when motor-buses were more odorous than they now are, and described that vehicle to his fellow clubmen in Australia as somewhat objectionable. Mr. Harry Maddox, vice-president, proposed "The Visitors," to which Mr. Norman Bayles, M.L.A., and Chief Commissioner of Police Mr. T. O'Callaghan responded. Altogether a very pleasant and enjoyable evening was spent.

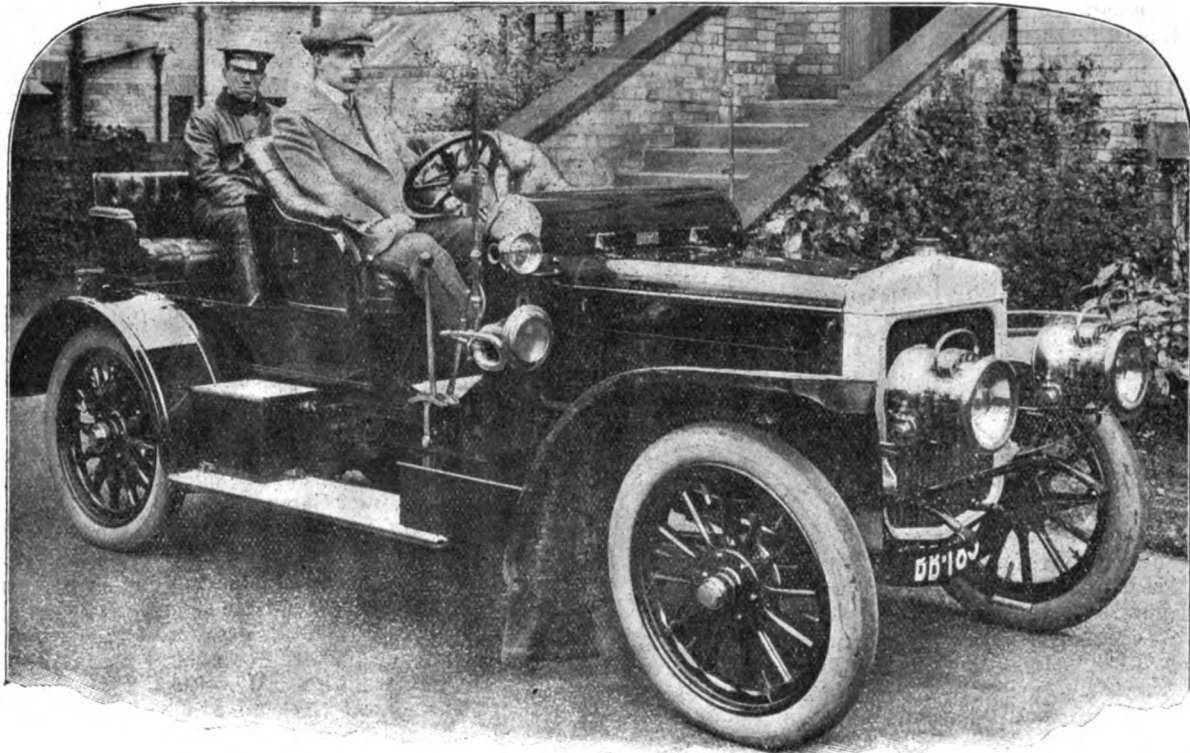
Part of the Entertainment.

IN the years before the suburbs had their present palatial trading establishments, leading drapers were in the habit of providing ordinary 'buses for the conveyance of their patrons. Now the same idea is being developed in connection with modern theatrical enterprises. Mr. Charles Frohman is introducing a novel scheme to suburban patrons of the Hicks Theatre who are desirous of seeing "Brewster's Millions." A private motor-omnibus will on the evenings of Wednesday, Thursday, and Friday next leave the neighbourhoods of Tooting, Wood Green and Lewisham at an advertised hour, and will be at the disposal of patrons of the play, who upon purchasing their tickets will be given a motor-omnibus ticket upon application, provided, we are informed, all the seats in the same have not been allotted. Doubtless the idea will catch on until the provision of motor-buses may suggest to Brewster a new means of disposing of his millions.

**Roads in
Mexico.**

THE influence of the motor-car in connection with the improvement of roads is not confined to countries like our own. Mr. E. G. Westlake, who has lately taken a trip on the "Thomas Flyer" through Mexico, says that although there is not to be a direct Government appropriation for automobile roads for some time on account of the fear that the people will think the officials are fixing highways for their own comfort, there will be no lack of capital to do the work. Already the country club members have contributed enough to make many miles of road. There is a stiff grade of several thousand feet on the Cuernavaca road, involving a climb to a height of 11,000 feet. It will be less than a year, in all probability, when tours to these cities will be weekly features for the residents of the city of Mexico. Six years ago there were deep ditches and causeways leading to the elegant homes in the city where to-day the streets are asphalted under an agreement of the contractors to keep them in first-class condition for a period of ten years.

tions and wealthy with more than an ordinary share of Nature's gifts. And so we hail with pleasure the appearance of Devon in Messrs. Methuen and Company's series of "Little Guides," more especially as the Rev. S. Baring Gould is the author. He knows Devon as well as any man and loves it with a Kingsley-like affection. Among modern men none can write with such knowledge and enthusiasm, and all who intend to tour Devon this year must have the Rev. S. Baring-Gould as their guide. Everyone knows the county is hilly. There is, in fact, hardly a level tract, save in the silted-up portions of the river estuaries. Dartmoor and Exmoor are traversable by car, and the county usually radiant with foliage and flora of varied range, at least three species of flowering plants being peculiar to Devon. The high roads are for the most part excellently made, but badly engineered—the exception to the good construction being in the sandstone region from Crediton to near Okehampton. When the roads were re-engineered at the beginning of the 19th century, instead of being carried along the valley bottoms the old packhorse courses were followed. The result is seen in a



Mr. Roland Hodge, Managing Director of the Northumberland Shipbuilding Company, at the wheel of his new 28-h.p. Daimler Car. The body of the vehicle, which was built by Messrs. Henry Angus, Sanderson and Co., of Newcastle-on-Tyne, is of special design, the rear seat folding up out of the way when not in use. The cushion is, of course, taken off, the two sides hinged down, and the back hinges over the top. The complete set then turns over and it is entirely hidden from view.

In the environs in almost every direction men are at work improving the roads for automobile touring. At Cherubusco the improvements are remarkable, and will be supplemented soon by a half-mile speedway for the private use of the club members. Embankments along the drainage and irrigation canals are to be widened and prepared for touring. Inasmuch as these will afford a hard and almost sun-baked road surface for eight or nine months in the year the value of these roads will be appreciated by tourists.

**A Touring
County.**

THOUGH characterised by narrow winding lanes made famous in song and story, the county of Devon is beloved of the motorist in search of the beautiful. There is a charm in this glorious region that few other English districts possess, and, although guide-books galore already have familiarised the public with its delights, we welcome yet another—for new aspects constantly occur with regard to a county rich in associa-

succession of undulations which would have been quite unnecessary had the roads been lengthened somewhat. Fortunately, however, even the minor cars of to-day can mount the major obstacles of yesterday, so that these difficulties only add to the variety of the journey.

**"The Voice of
the Siren."**

THE phrase "considerate driving" has been prominently before us during the last few years, and has become mainly associated in the public mind with the safety of pedestrians and others. There is another aspect, however, suggested by Mr. F. P. Armstrong, who happens to live on a main road where he is subject to the annoyance caused by the siren and the exhaust cut-out on cars and motor-cycles. This is a matter that motorists should seriously consider, because public opinion is, after all, largely a matter of personal observation, and people cannot be expected to become enthusiastic in favour of that which causes noise and alarm when comparative

peace should prevail. It is understood that the matter is to be brought to the notice of all provincial clubs, and they can do much to prevent a recurrence of the complaint by publishing a warning in their next circulars to members. We shall be glad to hear from the officers of such organisations who take the matter in hand, so that those who are less prompt in their action may be incited to emulation. In the meantime the letter on the subject in our Correspondence columns from Mr. C. D. Rose, M.P., the new president of the R.A.C., will be read with considerable interest and approval.

Where Pace is Slow.

MOTORISTS should remember that at Beverley, Newmarket, Horsham, and one or two other places, regulations are enforced limiting the speed of motor-vehicles and prohibiting their passage along certain roads. Although it was set forth in the regulations empowering such limitations that notices giving particulars of the Order were to be conspicuously displayed, this is sometimes honoured in the breach; or, as at Horsham, by the exhibition of the notice in an obscure and unobtrusive position. Here Middle Street is the thoroughfare where the speed of cars is to be reduced to five miles an hour, and at each extremity of the street is the special sign indicating the regulation. But, owing to the bend of Middle Street, it is almost impossible to see the sign until too late to avoid the lynx-eyed police, who have caught many motorists who have, unwittingly, disobeyed the injunction. The County Council should take steps to place the sign in a better place, so that those who ride may read.

Marine Motorists as Clubmen.

MOTORISTS are the most clubbable of men. Early trials on the road were always accompanied by evidences of good feeling for others, and the development of the motor movement has been marked by a desire for mutual help and assistance that has contributed greatly to its success. From one end of the country to the other organisations are again becoming active, and in the world of marine motoring this is particularly marked. Away at Norwich the Norfolk Automobile and Launch Club combines the movement both on land and water, and its annual dinner, just held under the presidency of Mr. H. L. Clark, was a great success, one of the most interesting utterances in the speech-making being an invitation for the Motor Union to visit Norwich next year. In Scotland a national motor-boating club has been formed from the Glasgow branch of the British Motor Boat Club, and on Saturday the Sussex-Motor Boat Club opened its summer season with a cruise, winding up with tea at the Royal York Hotel and a motor-car drive along the Brighton Front. About fifteen motor-boats took part in the trip at sea.

Meets for Industrial Vehicles.

ONE of the most novel May Day parades that London has yet seen was the procession of commercial vehicles which started from the Thames Embankment a few years ago, and proved to the somewhat sceptical people of those days that the motor vehicle has commercial use as well as pleasurable possibilities. Since then little in that way has been done until recently Mr. Leo Harris and some of his friends organised a similar parade of heavy vehicles. The movement thus inaugurated is now being placed on a permanent basis, and during the coming season some provincial meets for commercial vehicles will take place. The first of these will be held at Reading, on the 15th prox., and the second at Maidstone, on the 27th of the following month. Previous experience has led the organisers of these meets to advise that vehicles should proceed to the meeting place independently, to avoid long processions along country roads. But, arrived at the rendezvous, the vehicles will traverse the respective towns according to a previously arranged itinerary. Subsequently the vehicles will be available for individual de-

monstrations to possible buyers. A committee has been formed, with offices at 379, Strand, W.C., and with Mr. Leo Harris as hon. secretary, to carry out the organisation of the event.

The Irish Trials.

CONSIDERABLE interest is being taken in Ireland in the Reliability Trials, which commence there on Wednesday next over an interesting course. The first day's run will be from Dublin to Portrush, a distance of 150 miles; on Thursday the journey will be back again to the capital over a 168 miles route. The next day's objective will be Waterford, and then on the Saturday the trial will conclude with a return journey, the distance traversed being 563½ miles. The luncheon stops each day will be Newry, Armagh, Glendalough, and Abbeylisle.

A Steam Car Record.

ON Tuesday, the 30-h.p. White steam car, which has been making a Reliability Trial under the official observation of the Royal A.C., concluded its very successful tour. The run of 1,871 miles was an absolute non-stop journey, made all the more interesting by the fact that the route to be covered in the Scottish Reliability Trial was included in the itinerary, thus demonstrating the value of the White car as a touring vehicle. This added testimony to the reliability of the steam car should prove gratifying to Mr. Frederic Coleman, who has seen his car successful both in town carriage competitions and also in a long-distance non-stop run.

DR. BOURNE, the Archbishop of Westminster, is to be presented with a motor-car by his co-religionists in England.

WORKS previously devoted to the manufacture of agricultural machinery at Wickford (Essex) are, it is reported, about to be re-opened by a motor firm.

THE "Bystander" of the 8th inst., which had a capital caricature of Lieut.-Col. Mark Mayhew, of the Army Motor Reserve, reported that twenty-eight Reo motors were sold at the Cordingley Motor Show.

MR. ARCHIBALD FORD's attempt at the 1,000 miles non-stop record run between Manchester and Liverpool on a 10-12-h.p. Darracq car had to be abandoned through the fracture of a small fork actuating the clutch. He had driven continuously night and day for 41 hours, and had covered 694 miles.

DURING the House of Commons debate on the report stage of the Budget resolutions, Mr. Hicks Beach submitted that if the Chancellor of the Exchequer intended to raise an increased revenue from licences on motor-cars he should give the extra amount received to the local authorities responsible for the upkeep of the roads.

MESSRS. SMITH, PARFREY AND CO., of the Pimlico Wheel Works, Hammersmith, have expressed their sympathy with the object of the new Automobile Standardisation Committee, expressing the view that if three or four standard sizes were agreed upon by manufacturers they would be enabled to make considerable reductions in prices for wheels and spare parts.

THE Windham Sliding Detachable Motor Body Company, of Clapham Junction, S.W., have sent us a photograph of a 40-h.p. 1907 Berliet chassis fitted with a Windham patent side-entrance body which is interchangeable with a brougham, built for Sir Henry Norman, M.P., one of the vice-chairmen of the Royal Automobile Club. The bodies have been completed in the short space of about a month from delivery of the chassis, and as Sir Henry Norman is making his wedding tour on the car, it has been equipped in the most complete manner, the fittings including Truffault shock absorbers, Bleriot head lamps, carriage side lamps fitted to the dash, Allen's patent wind screen, a Stepney spare wheel, a double extension hood and side curtains, a disappearing Windham luggage grid, a Jones speedometer, dissolved acetylene lighting, electric horn, side lockers below steps, detachable leather covers over sprockets made on the Windham system, &c. The front wheels are shod with Palmer and the rear with Continental non-skid tyres.

FLEXIBILITY.

WHAT IT MEANS AND HOW IT IS OBTAINED.

THE term "flexibility," as applied to a petrol motor, is one which has come to be very generally used, and is not always employed with an appreciation of what the word implies. In fact, different people at different times use the term with somewhat diverse meanings. An engine which can be run under load without marked unsteadiness at an extremely low rate of speed, and which is also capable of running at a very high speed with load, is said to be "flexible," and a motor which is capable of very prompt acceleration under load without showing signs of distress is also spoken of as being flexible. The first-mentioned capability in an engine permits of the car being driven at very widely varying speeds on the top speed, and practically obviates the necessity of the use of lower gears, the only need of the latter being to secure the additional torque necessary for severe hill climbing. The second-mentioned quality of a motor is expressed by the commonly used expression that the motor "picks up quickly," and it permits of sudden bursts of speed on the level, or of acceleration on hills. Generally speaking, it may be said that flexibility is that characteristic which permits of a motor being worked at widely different speeds and allows of these changes being realised with the utmost promptness.

It may be interesting briefly to review the factors which permit of a wide speed range. First and foremost, the arrangement of the throttling device must be such that, on the one hand, a very slight, uniform amount of mixture may be admitted for low speed running, and, on the other hand, a free and uncontracted supply must be available for high speed operation.

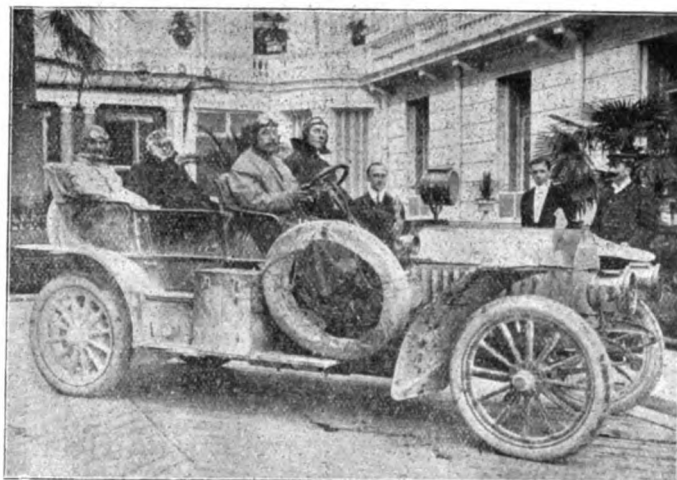
More important still, the quality of the mixture during periods of extremely small demand must be perfectly adapted to that condition, and during times when enormously large volumes of gas are required the quality must still be well adapted for those altered conditions. If these specifications are not followed loss of flexibility will be occasioned. If an engine, running under a nearly closed throttle, at low speed, draws—as it is likely to do—too weak a mixture to be perfectly explosive when mixed with the exhaust gas left in the clearance spaces of the cylinders, explosions will probably be missed and the engine will fail to run regularly at very low throttle openings. Under this condition it should be remembered that the compression is low, and mixtures which might explode infallibly at high throttle openings may prove uncertain. If the quality of the mixture at full throttle is too rich, it will be slow burning, and the engine will not speed up under load, owing to the low initial pressures developed and the large losses to cylinder walls and through the exhaust. A mixture which would be too weak at low throttle to ignite readily under the low compression and large exhaust admixture then prevailing will ignite with certainty when used in full charges. A high degree of flexibility may be secured by employing a mixture of slightly abnormal richness at small rates of gas demand and a more normal mixture at large degrees of consumption.

The enhanced flexibility of modern petrol motors is largely due to improvements in carburettors. It is closely dependent, too, upon the manner in which gas is admitted to the cylinders by the valves. Unless the latter are so liberally designed that the engine may draw an amount of gas unlimited, so far as the valves and ports are concerned, it cannot run at so high a speed as it would otherwise attain. Flexibility is thus sacrificed. On the other hand, unless the valves are so operated that they open infallibly and uniformly during periods of minimum gas demand, the engine cannot run regularly at low speeds, and flexibility is again sacrificed at the other end of the scale. The adoption of the mechanically-operated inlet valve has done much towards securing uniform engine operation at low throttle openings. The use of large valve and port areas, with the most intimate connection with the combustion space, has led to high maximum engine speeds and thus to flexibility. A late closing of the inlet valve has been found to secure the entrance to the cylinder of full charges at high speeds, and this means that higher engine speeds may be maintained under load than would otherwise be

possible. Then, too, an early opening of the exhaust valve allows the cylinder to clear itself more fully of the burnt gases, largely prevents back pressure and permits of higher sustained speeds under load. These two practices in valve timing tend toward a high degree of flexibility.

The moment of inertia of the flywheel, a function of its mass and mean diameter, has an important bearing upon the minimum rate at which a motor can run under load, and hence upon the property of flexibility. If too small or light a flywheel is used, a point will be reached in the slowing down of the motor when the energy stored in the wheel will be insufficient to carry the engine past compression, and the motor will stop. This point will be reached the sooner in proportion as the rate of compression employed is high—the capacity of the flywheel remaining the same. With a motor of a given number of cylinders and compression pressure, the larger the capacity of the flywheel the slower it can run under load without signs of distress. On the other hand, the use of a very large flywheel prevents the realisation of a high degree of flexibility as defined from the standpoint of prompt acceleration, which may now be considered.

The rapid changes of speed, under load, which constitute the property of prompt acceleration or "picking up," depend pri-



The Mercedes Car at Monte Carlo on the completion of its recent run in record time from London.

marily, remarks Mr. Albert L. Clough in the "Horseless Age," upon the manner in which energy is furnished by the motor during its cycle, or, in other words, the distribution of its power production. The sudden opening of the throttle of a motor, and the rapid addition of energy derived from the explosion of a large accession of mixture, are absorbed in two ways. It goes either to the acceleration of the car or to the acceleration of the flywheel. With a given addition of energy to the system, per unit of time, the larger the demand made by the flywheel the less energy will go into car movement, and the less will be the rate of the vehicle's acceleration. The proportion of the total energy absorbed in flywheel acceleration will mainly depend upon the number of cylinders of the motor, a certain horse-power being assumed, and upon the rate of revolution of the engine in respect to the car speed.

(To be concluded.)

THE question is often asked as to whether it is possible for a lady to drive a car. In this connection we may mention that Miss Lane, of Leicester, has written to Messrs. Humber, Ltd., stating that she recently drove a 15-h.p. Coventry Humber car from Leicester to London, via Kettering and Bedford, without having once to change gear. "Seeing that this necessitated climbing Clack Hill, out of Market Harborough, it shows that a lady need not be afraid of the 15-h.p. car on account of the gear-changing, as my experience has been that this car will take any ordinary hill on the main roads without any change whatever."

SIGNS FOR BRITISH ROADS.

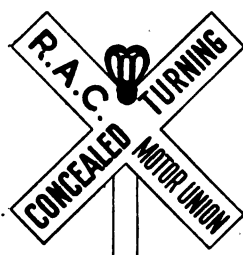


FIG. 1.

AN important part of the policy of the Motor Union has consisted in efforts to secure considerate driving on the part of its members, and also by motorists generally. This is particularly desirable in the neighbourhood of schools, churches, sharp corners and the like, where want of knowledge of the whereabouts of such buildings and turnings has led to many mishaps. In order to give a practical turn to its plans, the Motor Union has now prepared a series of signs to be erected in suitable positions, and they hope that public authorities, hospital managers, landowners, the clergy, schoolmasters and private residents may put up such cautionary signs for the public safety as well as the convenience of those who motor. The idea is a feasible one, and we are glad to know that the suggestion has already been well received in many quarters. The Uxbridge Urban District Council is a case in point. In view of the increase of motor-car traffic through the town, Dr. Look recently offered to provide the district with a notice board requesting motorists to drive slowly through Uxbridge. On consultation with the police authorities it was conceded that the notice should be erected close to St. Andrew's Church, and this is being done. What has occurred in this Middlesex town may well be done elsewhere if motorists will take the initiative.

In Fig. 1 we give a reproduction of the sign that is provided for erection at cross and converging roads, carriage drives, footpaths, &c., the entrances of which are concealed. Others



FIG. 2.



FIG. 3.

provided are shown in Figs. 2 and 3. In every case the name of the town or village is specially cast. For the word "school," "level crossing," &c., may be substituted. The maximum width of the signs is two feet, and, doubtless, these warning indications will become familiar objects of the roadside.

WE spent a few minutes the other day in looking over the extensive stock of second-hand cars at present available at the depot in Euston Road, N.W., of Messrs. W. A. McCurd, Ltd. They range from an 8-h.p. single-cylinder Rover to a 24-36-h.p. De Dietrich, and comprise examples of all the leading models, many of them being provided with covered bodies. Mr. McCurd, the managing director, makes a point of keeping the vehicles ready for a trial trip, so that, now there is a promise of more settled weather, any intending purchaser can have his requirements promptly filled. Mr. McCurd's latest departure is the establishment of works at Willow Walk, Kentish Town, N.W., for the manufacture of Cape car hoods and glass wind screens. This branch of the business is to be carried on as the Cape Car Hood Company, and we understand that not only is it the intention to supply high grade goods at moderate prices, but, what is equally important, to fit them to cars with as little delay as possible, Mr. McCurd knowing from experience that many motorists have been deterred from having these useful adjuncts applied to their vehicles owing to the time usually occupied.

IN AND ABOUT LINCOLN.

IT is very evident that the Motor Union Meet at Lincoln to-day (Saturday) will be a very enjoyable function, thanks to the enterprise of the Lincolnshire Automobile Club.

Lincoln is admittedly an interesting place, but we think those who take the run arranged for after the meet, &c., will be surprised to find how very beautiful the county really is. The tour is a circular one, through Tennyson's country and the Lincolnshire Wolds, and much really delightful scenery will be passed through, as well as some historical places.

A run of twenty-one miles along a good road takes us to Horncastle, a town of much historical interest, and then in a mile or two Tennyson's country is reached. Somersby is the centre, and a halt should be called to look over the quaint church, Tennyson's birthplace, the "Moated Grange," and Holywell Glen, the last mentioned a place one can spend an hour or more in.

Up to Harrington Hill there are many charming scenes, notably Bag Enderby and Harrington Hall, and when the hill has been surmounted (it is very steep) a magnificent river unfolds itself. A lovely run along charming lanes takes us through South Ormsby, &c., and *via* Skindleby and Partney to Spilsby, where another halt should be called. Here Sir John Franklin was born, and a fine statue has been erected to him. The "butter cross" in the market-place is worth noticing, and the splendid monuments to the Willoughby family (ancestors of Lord Willoughby de Eresby, M.P.) should be inspected. The "Avenue" and the "Shades" will of course be visited. The latter is a place of very wide fame.

On leaving Spilsby another pretty road takes us through the two Keals, E. and W., and from Keal Hill is another magnificent view over the Fen country and to the Norfolk coast. A succession of pretty views, charmingly diversified, are passed as we make for Revesby, the home of the Stanhopes, and where is a picturesque and famous inn. Then through wooded lanes and a water splash we make for Scrivelsby, the picturesque home of the King's Champion, and along more lovely roads to stately Tattershall Castle, over 400 years old, but not looking so ancient, and then on to Woodhall Spa, where the motorists are left to stay or make their way home.

Apart from the scenery around, the ancient city of Lincoln has much of real interest, as is revealed in the New Guide by Dr. E. Mansel Sympson, J.P., the Sheriff, which has just been published by Messrs. Methuen and Co. Of great historical renown since the very earliest days, the city has a picturesque situation. In the earlier years of the last century it was known as the place of orchards, although the rapid growth of the manufacturing industries of the city has besmirched the scenes pictured by De Wint and Turner. The town is still full of archaeological and æsthetic delights to the visitor. The castle is beautiful beyond the charm of most castles; the Minster is a crowning glory, the best view of which, according to Dr. Sympson, is that from the south side of the Witham, near Washingborough. Even Ruskin acknowledged the greatness of Lincoln Minster, for in "Modern Painters" he declared that "the only art work which France and England have done nobly is that which is centralised by the Cathedral Church of Lincoln and the Sainte Chapelle." Beyond these two great buildings there is much of interest in the Stonebow, the ancient gate of Agricola, the Palace of John of Gaunt, and other historical possessions fully described in this guide, which will provide a pleasant souvenir to those who to-day will be seeing Lincoln for the first time, their appetite whetted to know more of a city which has played a notable part in the history of the country.

EXTENSIVE works, covering an area of over 10,000 square feet, have been opened at 108-110, High Street, Camden Town, by Mr. F. H. Melhuish for motor-body building and repairs.

IRIS CARS, LTD., have sent us a photograph of a 25-h.p. Iris landaulet for town use recently taken out to Sydney by Mr. H. R. Dixon, director of the Dixon Tobacco Company, Ltd., one of the largest concerns of the kind in Australia.

CONTINENTAL NOTES.

A Noteworthy Run from Paris to Madrid.

M. Sorel has just accomplished an excellent run on a standard 60-h.p. 1907 model De Dietrich car, fitted with double phaeton body, from Paris to Madrid, in the splendid time of 28 hours 14 minutes, thus establishing a new record. M. Sorel left Paris on the 6th inst. at 2 o'clock in the afternoon, and reached Madrid at 6.14 p.m. the next day. It was pouring with rain practically the whole of the distance, the roads being consequently extremely bad. It is interesting to compare M. Sorel's time with that of the quickest trains running from Paris to Madrid. The express, which starts at 10.23 p.m., takes 32 hrs. 39 min.; the Rapide, starting at 7.40 p.m., accomplishes the journey in 27 hrs. 43 min.; while the fastest train, the South Express, takes 26 hrs. 5 min., so that the performance of the De Dietrich speaks much for the reliability of the vehicle.

Darracq retires from the 1907 Races.

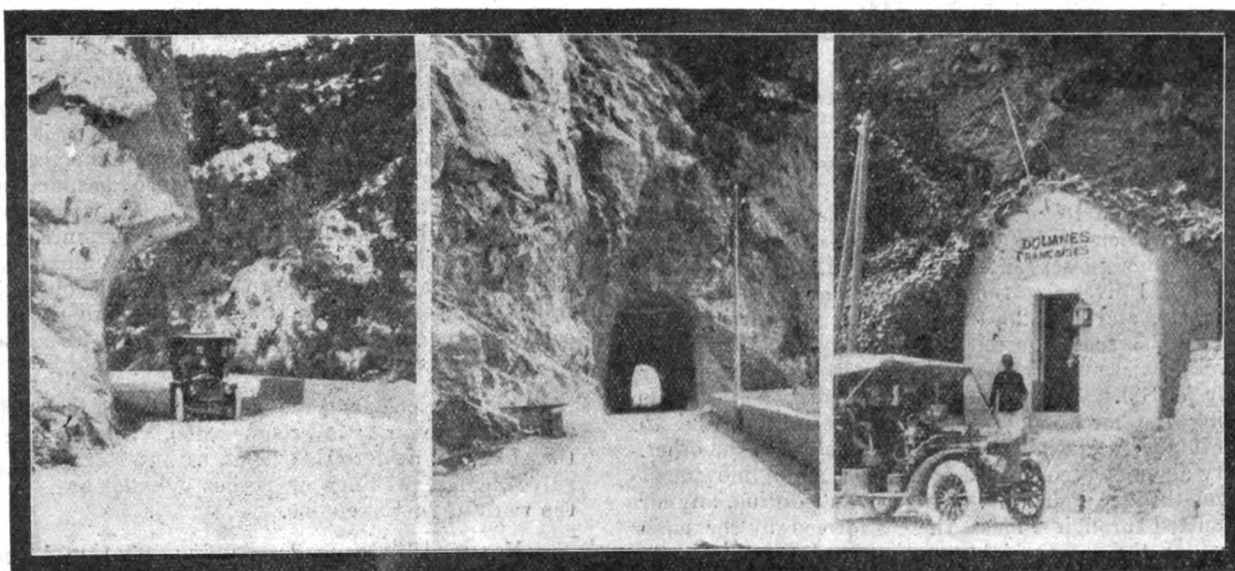
Some surprise has been caused in French motoring circles by the announcement that the Darracq Company will not compete in any of this season's races, although they had entered vehicles for all the important events, including the A.C.F.

A Two-Cycle Engine Competition.

The Technical Committee of the French Automobile Club has just issued the rules of the competition of two-cycle engines suitable for motor vehicles, which is to be held in October, at the laboratory of the A.C.F. at Levallois. The trial will be open for motors of from 8-h.p. to 24-h.p., and will consist of (1) a six hours' test under load; (2) a three hours' run under half-load; and (3) a three hours' test running light, at the same speed as is recorded in the load trial. All classes of liquid fuel—petrol, alcohol, heavy oil, &c.—will be permitted. The points on which the judges will base their awards are: (1) the weight per horse-power of the engine, and (2) the cost of operation in francs per horse-power per hour. Competitors will be allowed one day for the erection of their engines on the test bench, and a second day for any preliminary running they deem necessary; on the third day the six hours' test under load will be made, and on the fourth day the two three-hour runs. Entries at £4 per motor will be received until July 31st, and must be accompanied by drawings and description (in French) of the various engines.

Miscellaneous Items.

The French Chambre Syndicale de l'Automobile has voted a sum of £200 as a prize in a competition, which is to be organised



A Turn in the Corniche Road.

A Tunnel near Monte Carlo.

The French Custom House near the Italian Frontier.

TOURING IN THE SOUTH OF FRANCE.

[Motor, New York.]

Grand Prix. The situation has arisen through the Italian Fiat Company having secured Wagner to drive one of their cars in this year's races, and it is by way of publicly protesting against what M. Darracq conceives to be a disloyal and unsportsmanlike act on the part of a foreign rival that he has taken the decision alluded to above.

French Motor-Car Imports and Exports.

At the meeting of the Chambre Syndicale de l'Automobile last week it was announced that the imports of foreign motor-cars and parts into France during the first three months of the current year had attained a value of only £65,240, a decrease of £2,920 as compared with the corresponding quarter of last year. On the other hand, the exports of French motor-cars and parts during the same period have increased from £1,345,080 to £1,527,480.

The Austrian Light Car Trials.

Forty-nine entries have so far been received for the Reliability Trials which are to be held in Austria on the 24th, 25th and 26th inst., under the auspices of the Austrian Automobile Club. The event will comprise a run from Vienna to Klagenfurt and back, two hill climbs and a speed trial over a measured level distance being included in the programme,

by the A.C.F., for the best liquid fuel to take the place of petrol.—A 60-h.p. De Dietrich car has been entered for the Moscow-St. Petersburg race, which will take place on the 7th prox.—During the time the cars are competing in the Herkomer Touring Trophy Competition in Saxony a vehicle of the Kaiserliche Club will lead the way, and no competing car will be allowed to pass it.—King Alphonso has just placed an order for a 22-h.p. Berliet car.—Owing to the large number of motor events which have been organised for the 1907 season, the Turin Automobile Club has decided to postpone the reliability trial it proposed to hold next month.—An automobile club is being formed at Trieste, Austria.—A meeting of delegates of the various national automobile clubs is to be held in Homburg on the 15th prox., on the occasion of the Kaiser's prize race.—It is reported that negotiations are in hand for the establishment of a branch factory at Cracow for the manufacture of Germain cars in Austria.—The Kaiser is reported to have placed an order for a 50-h.p. Adler car, which will be fitted with a six-seated body.—An international motor-car exhibition is to be held in Copenhagen from the 28th September to the 7th October next.—After the 18th inst., no practising will be allowed on the A.C.F. Grand Prix course until further notice.

THE G. & R. CARBURETTOR.

WE illustrate herewith a new carburettor which has recently been devised by Messrs. A. Gunston and A. Richardson, and which is stated to be giving excellent results in practice. The object of the inventors has been to devise a carburettor which shall give a constant mixture at all engine speeds and loads, and at the same time shall not possess any delicate springs or moving mechanism, special attention

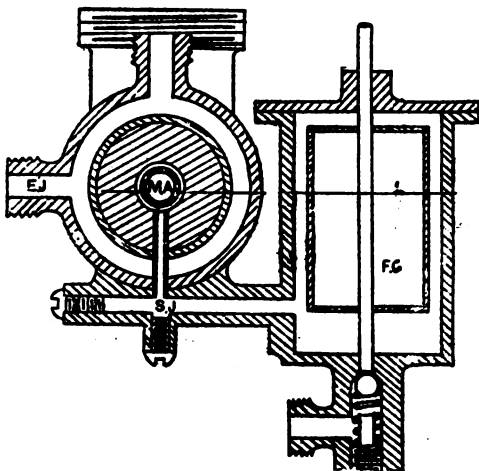


Fig. 1.—Sectional View through Float and Spraying Chambers.

having been devoted to obtaining a variable flow of petrol through the jet without the usual complications, and, further, to cause the variation to act automatically. Referring to the illustrations, Fig. 1 gives a section view through the float and mixing chambers, and Fig. 2 a transverse section through the latter. As will be seen, the device consists essentially of a constant level float chamber F C supplying petrol to a peculiarly formed spray jet S J. Two air inlets are provided, the main one M A causing the air to flow across the petrol jet, and an auxiliary air intake A A, which is set at right angles to the other. The auxiliary air inlet is controlled by the horizontal movement of the piston throttle P T, and, owing to its position, any air which is admitted through it meets the gas formed by the main air rushing past the jet at right angles, causing an intimate mixture to take place. The air inlet M A is formed with a circular groove in which are drilled three holes at varying heights above the level L of the spirit in the float chamber. The effect of the suction of the motor is to cause the petrol to rise into the circular groove above referred to, and to issue through one

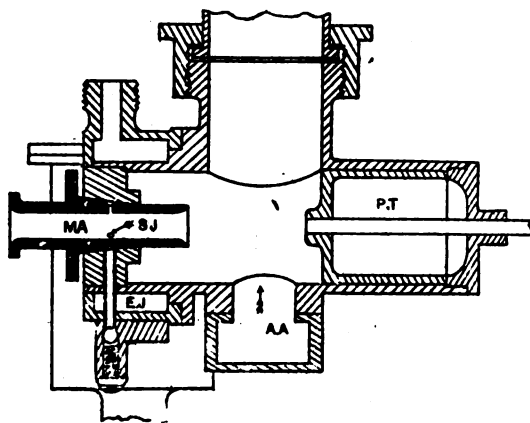


Fig. 2.—Transverse Section through Mixing Chamber.

or more of the orifices, the quantity issuing depending on the suction of the engine. An exhaust jacket E J is provided to maintain the mixing chamber at an even temperature. When

once correctly adjusted the carburettor requires no further attention, all the variations in petrol and air supply being performed automatically, the only control lever being that connected with the piston throttle. We may add that the carburettor is being put on the market by the Central Garage and Motor Company, of Sawclose, Bath.

SOME USEFUL NOTES.

A GOOD guide to tyre inflation when no pressure gauge is fitted to the pump is to take two of the spokes of the wheel, one in each hand, and stoutly shake the car, noticing whether the wheel moves to and from the operator while the part of the tyre on the ground remains stationary. If any side roll is apparent the tyre is not sufficiently inflated.

ONE cause of unnecessary wear in chains is failure to keep the sprockets in proper alignment. In cars fitted with side chains this condition may arise through the shifting of the axle sidewise under the springs, or the unequal length of the distance rods. Care should be taken in adjusting the chains to see that these rods are taken up or let out equally, so that each pair of chain rings revolves in the same plane.

IT occasionally happens that the user of an acetylene lamp fails to get a good light owing to the fact that the generator does not have a sufficient supply of water. Every time the generator is supplied with carbide see that it has plenty of water; one is as essential as the other. The gas tips should be kept open and clear for the passage of gas, and a small hair wire should be used to clear the holes, which sometimes get carbonised. If one hole stops up, the pressure, being unequal, may cause a jet of gas to strike the lens mirror and crack it. Care should also be taken to see that all connections leading from the generator to the lamp or lamps are tight. Sometimes condensation causes water to accumulate in gas cocks and tubing, which should be cleaned out.

THE efficiency and economy of a petrol motor depends in a large measure on perfect compression. Special attention should, therefore, be paid to this point, as any leakage in piston rings, valves, plugs, packings or porous cylinder walls directly affects the working of the engine.

NOTHING is too small or unimportant to be considered in the running of a motor-car. For instance, the petrol tank, though it is simply a metal receptacle, quite frequently does its share towards making trouble, especially the tank with the gravity style of feed. On more than one occasion a weak engine has been made strong by simply opening up the vent hole in the tank-filling plug or drilling one where none was provided, as with no vent the petrol level is held up by the formation of a partial vacuum above it, and will not flow to the carburettor freely enough to make the requisite amount of mixture. Another point in the gravity system is the liability to an interruption in the flow on a steep hill when the petrol becomes low in the tank, on account of the lack of fall from the tank to the carburettor. This can be got over by arranging a small supplementary tank under the bonnet near the carburettor, while we have heard of one motorist who surmounted the difficulty by backing his car up the hill, thus putting the tank at a higher level than the carburettor and giving the petrol the needed fall.

To determine whether a chain is seriously worn it should be stretched out tight on a smooth floor, and then its ends should be pushed toward one another, without buckling it out of a straight line. The difference in its length when tightly stretched out and when its ends are forcibly pushed together is the sum total of the wear of the rivets. If this amounts to two inches or more in a chain of usual length, it should be replaced. It is a bad practice, however, to put a new chain on badly worn sprockets, so that the condition of the latter should at the same time be inspected.

The Speedwell 25-h.p. Car.



SOME brief particulars of the new British-built cars of the New Speedwell Motor Company, Ltd., were given in our report of the Olympia Show, but the more complete description we are now able to publish will no doubt be read with interest, as, while the design generally follows the usual arrangement of live axle vehicles, the details show many departures from the ordinary practice. Three sizes are being built, viz., 10-12-h.p. two-cylinder, 25-h.p. four-cylinder, and 40-h.p. six-cylinder. The following particulars relate to the 25-h.p. car, but, except where specially mentioned, they may be taken as applying to all the different models. The engines (Fig. 4) have the cylinders cast in pairs, with the inter-

(Fig. 3) runs in two rows of adjustable ball bearings with the driven pulley supported centrally between the fork that carries the bearings, and the bracket is bolted on to the front of the first cylinder in such a manner as to distribute the strain from the driving belt equally. The belt is automatically retained at the correct driving tension by means of a volute spring beneath the fan carrying fork, a long pin passing up through the spring, so that the latter cannot sway sideways, but can only move in a vertical direction. The carburettor is of the automatic float feed type, located on the right hand side of the motor. The hot air for the mixture is taken from a pocket around the exhaust, and combined with the cold air in proper proportions. The device is automatic in action,

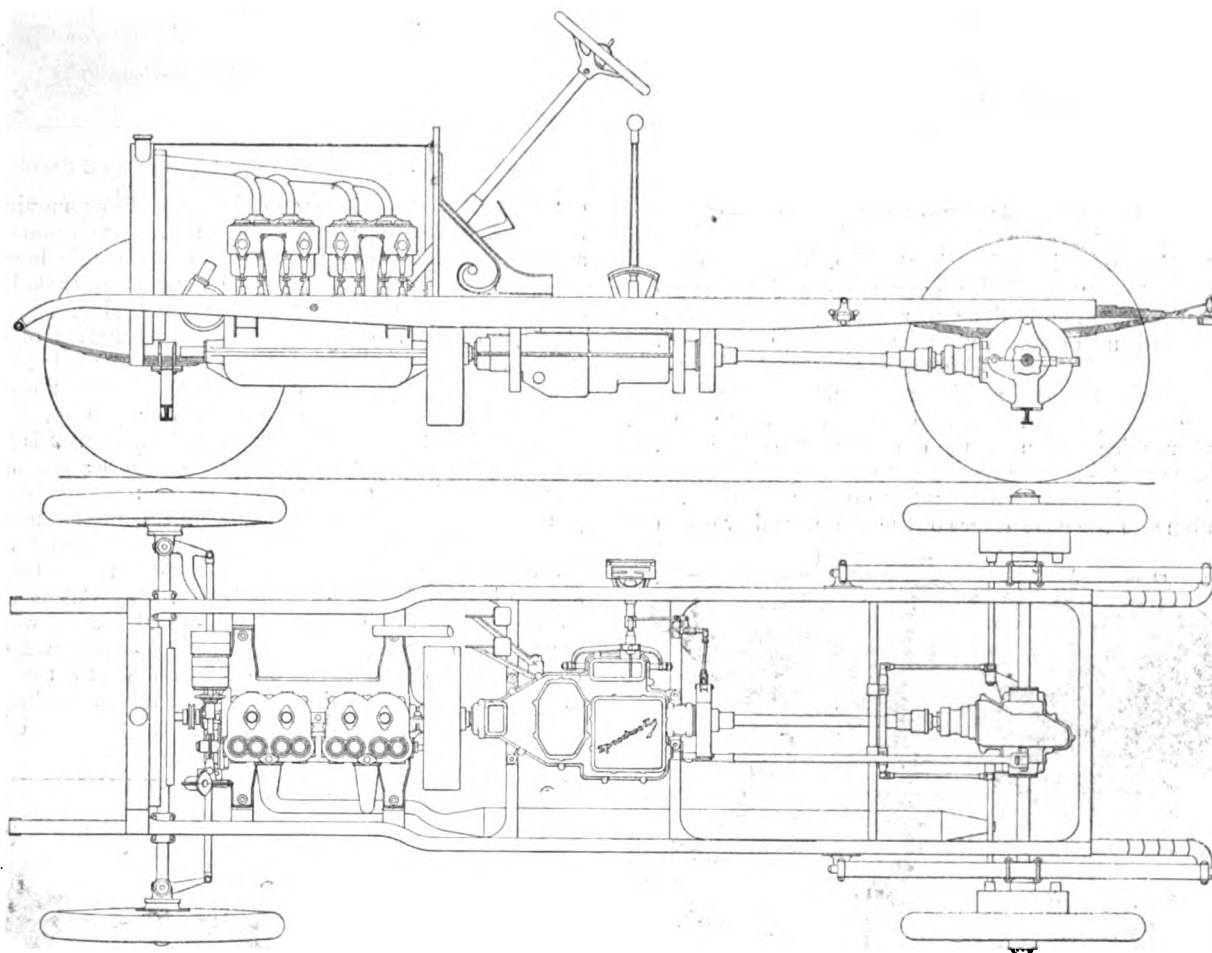


Fig. 1 and 2.—Elevation and Plan of Chassis of Speedwell-25-h.p. Car.

changeable valves all operated off a single cam shaft. The dimensions of the cylinders are: 10-12-h.p. 99 mm. by 130 and 25-h.p. and 40-h.p. (six-cylinder) 100 mm. bore by 130 mm. stroke. The base chamber can be dismantled without interfering with the crank shaft or clutch, allowing a ready inspection of all the internal parts. Except on the 10-12-h.p. car dual high tension ignition is provided—magneto and accumulators. The speed of the engine is controlled by two small vertical levers projecting from the centre of the steering wheel but not turning therewith. The magneto and water circulating pump are driven off a cross shaft by a worm-gear on the cam-shaft, and the radiator is of the honeycomb type. The water is pumped from the bottom of the radiator to the cylinders, upward to the top and out through a pipe which is in connection with the upper end of all cylinders, and thence through a flexible rubber connection to the top of the radiator, where it is cooled. The fan spindle

additional air being supplied at high engine speeds by an automatic air valve, which is controlled by the speed of the motor. The petrol is fed by gravity to the carburettor from a tank placed under the front seat. The silencer is also of a new type; it consists of a long narrow cylinder, three openings being provided at the engine end of same, through which air is drawn in with the exhaust. The action is stated to correspond to that of the carburettor spray, the cold air being drawn into and through the central tube by the inertia of the exhaust gases issuing from the expansion chambers of the silencer, and as it mingles with these latter before they emerge, the heat and consequently the pressure is so reduced that there is no noise, while the efficiency of the engine is augmented. The lubrication of the motor is effected by the pressure of the exhaust, leads conveying the oil to every principal bearing; the base chamber is also provided with partitions, so that the splash remains constant.

Coming now to the transmission, the clutch, which in the two large cars is of the multiple disc type running in oil, is, as will be seen from Fig. 5, contained in the gear-box, and attached direct to the main driving shaft, increasing its strength and securing alignment between clutch and gear. The plates of the clutch are self-separating, they immediately ceasing to grip as soon as the pressure of the spring is released, enabling a change

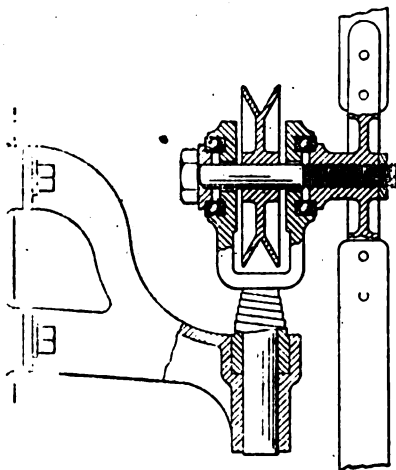


Fig. 3.—Section through Fan and Pulley Spindle, and Support.

of speed to take place quickly and without noise. The separation of the plates is effected automatically by means of spring tongues formed on each alternate plate. The gear-box is adapted to give three speeds forward and a reverse, with direct drive on top speed, the control being by a small lever working in a special form of "gate" quadrant. The gearing is locked in either position, the whole of the locking mechanism being contained within the gear-box. The final transmission is through a cardan shaft and bevel gear to a live axle, which latter forms another of the special features of the Speedwell vehicles. The axle (Fig. 6), which is built up of two members, is claimed to combine all the advantages of the chainless drive with

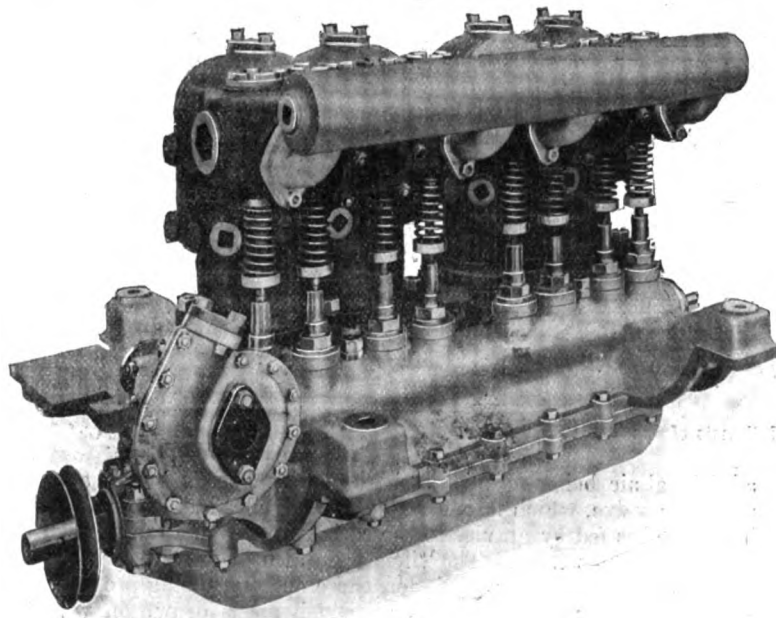


Fig. 4.—General View of Valve Side of Speedwell 25-h.p. Engine.

the safety and strength of the solid forged steel axle. It is so arranged that the weight of the car is entirely borne by the lower axle, which is made of forged steel, and runs across from one to the other without any break or joint. The wheels run on the ends of this axle, and no weight is thrown on the driving mechanism. The differential is supported on this solid axle, through the bosses of which pass the live shafts which transmit

the power to the road wheels by means of dog clutches. The whole of the driving gear can be dismantled without interfering with the wheels or jacking up the car; the differential case is made in two halves, parting horizontally, making the inspection of the crown bevel driving pinion and differential gear an easy matter; further, the gearing can be lifted out by simply drawing

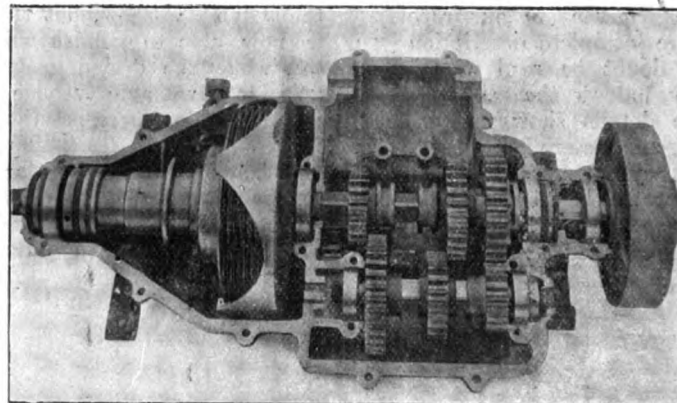


Fig. 5.—View of Clutch and Change-speed Gear-box.

out the two driving shafts on either side after removing the wheel hub caps. The inner ends of the shafts are square in section, and fit in corresponding square holes in the side bevel wheels of the differential. It may here be mentioned that ball bearings are employed throughout except on the engine.

The rear dumb irons are replaced by halves of semi-elliptic springs, and a special feature is the double pivoted spring shackles, which are claimed to allow the springs greater action without strain than when secured in the ordinary way. The bottom leaf of the portion which displaces the dumb iron is set outwards at right angles and curled round to form a bearing for one of the bolts of the shackles. Provision has been made for oiling all the joints of the springs and shackles, by the insertion of concealed and dust-tight oilers which do not project beyond the ordinary level. The arrangement of the brakes is interesting, the usual system being reversed—that is to say, the pedal is connected up to the internal expanding metal-to-metal brakes working inside drums connected with the hubs of the rear road wheels, a special compensating device to equalise the action of the two brakes being provided. The emergency brake, which is controlled by a hand-lever at the side, works on a drum at the rear of the gear-box.

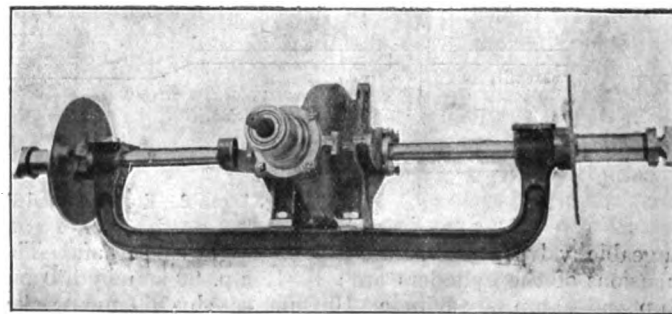


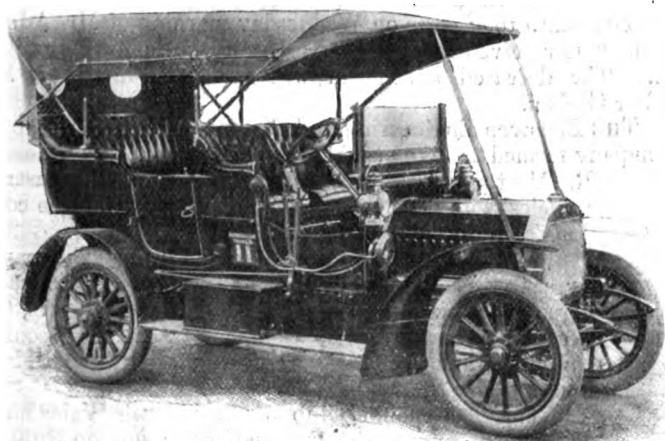
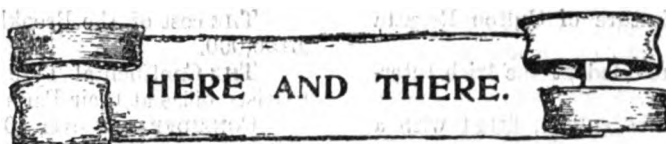
Fig. 6.—The Speedwell Rear Axle.

The frame is of pressed steel, narrowed at the dashboard to give a wide steering lock. It has four cross ties, all gusset plated, the front one serving as a cradle to carry the radiator. It will be seen, too, from Fig. 1 that the power transmission mechanism is all in one line, the crank and cardan shaft being in the same plane throughout. The wheel base of the vehicle is 9 ft. 6 in., and the track 4 ft. 6 in., which enables a roomy side-entrance body of the open or closed type to be fitted. Altogether the new Speedwell cars reflect great credit on their designer and should take a prominent position in the growing list of British-built vehicles.

To meet the convenience of motorists at Whitauntide the Dunlop Tyre Company will keep all their depots open during the holidays.

WELL equipped with repair plant, the new Star garage of Messrs. Broadway and Co. should be of service to motorists passing through Alnwick.

We learn that the Royal Automobile Club has just awarded the "Dewar" Challenge Trophy for the most meritorious per-



formance in a long distance trial taking place between January 1st and December 31st, 1906, to Messrs. Dennis Bros., Ltd., of Guildford, for their record run, on one of their cars, of 4,007 miles without an involuntary stop. We give an illustration of the vehicle herewith, and may add that it could have undoubtedly doubled the distance, as the run was unfinished; the same car has since been supplied to Mr. Hylton Lamotte, Shirley, Croydon, who has himself driven it 20,000 miles without a single mechanical stop. According to the certificate given by the R.A.C. in respect of the car, "the roads were heavy and wet during the greater part of the trial, and on two occasions part of the run was taken through snow. At the official examination on completion of the run the entire mechanism was found in remarkably good condition. The road wheels, gear-box, and live axle are fitted with ball bearings throughout, and all those examined were in perfect condition. The engine was in perfect condition, including piston rings, all bearings and valves." This is not the first time that the reliability of the Dennis machines has been demonstrated, as in the 1,000 miles reliability trial of 1903 one of their cars attained fourth highest marks out of 140 competitors, and was second among the English-built vehicles—in fact, it obtained 2,991 marks out of a possible 3,000.

ONE of the new Renault motor-cars caught fire early on Saturday morning in Brixton Hill. The driver tried to put out the flames, and was badly burned while doing so. Four fire-engines had to be summoned before the fire could be extinguished, and the car was practically destroyed. The fire is reported to have been caused by an overflow of petrol.

THE Tramways Committee of the Leicester Corporation have leased to Mr. G. H. Wait, who is well known in connection with the Clyde motors, a large portion of the old tramway depot, to be used for a motor works and garage. This will accommodate about fifty cars, and Mr. Wait is being joined in the enterprise by Mr. C. B. Warner, of Quorn.

A NEW garage in Norfolk Street, Sheffield, has been built for the Hattersley and Davidson Automobile Company.

MESSRS. RICE BROS., of 63 West Street, Horsham, have a number of motor-cars for sale or hire, and also undertake all classes of repair work.

It is definitely fixed that the drivers of the Weigel cars in the A.C.F. Grand Prix race will be Messrs. D. M. Weigel and Pryce Harrison, with Mr. Robert Laxon as reserve.

THE value of the motor-cars and parts exported from the United States during March last amounted to £109,069, as compared with only £58,712 in the corresponding month of 1906. England headed the list with £29,324, Canada being second with £24,904.

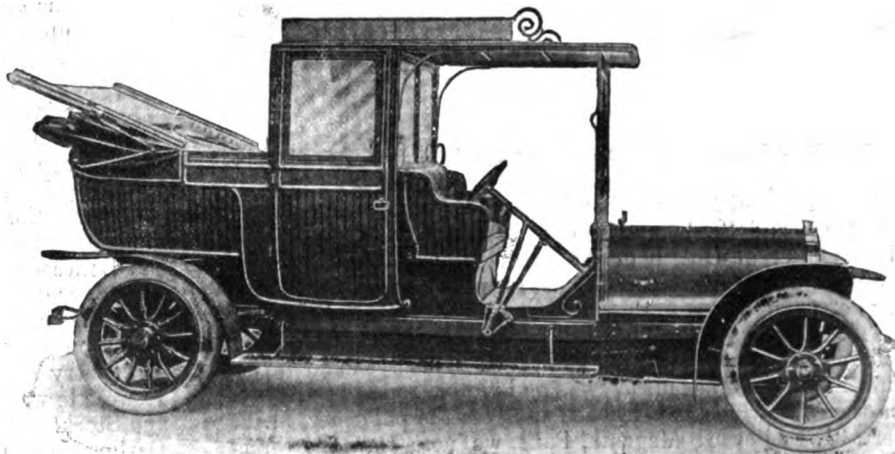
APPLICATION is being made to the Local Government Board by the East Sussex County Council for a speed limit of ten miles an hour for motor-cars on that portion of the London-Brighton road in the village of Handcross, between the 33rd and 34th milestone.

MESSRS. C. A. VANDERVELL AND CO., of Warple Way, Acton Vale, W., the makers of the "C.A.V." accumulators, have sent us a sample of a new ignition switch they have lately introduced, and to which we hope to refer more fully in a subsequent issue.

THE discharge by a metropolitan magistrate of the driver of a motor-car in which Sir Wilfrid Laurier, the Canadian Premier, was passenger, for exceeding the speed limit in Regent's Park, was clearly, as Mr. Plowden expressed it, a case of preferential treatment.

THE Vicar of Midhurst, the Rev. Frank Tatchell, deserves the thanks of motorists for his offer to provide direction signs at the corner in Midhurst where West Street—leading to the Chichester road—and the Bepton, Petersfield, and Petworth roads join. Hitherto it has been very easy for drivers to go the wrong way on arriving at that spot.

THE first motor-car was introduced into the Canadian province of New Brunswick in 1903, and in the spring of 1905 a law regulating the speed of automobiles and prescribing registration was adopted. At that time there were only twelve cars in the province, but by the spring of 1906 the number had been doubled, and an automobile club was formed, through whose efforts more money was spent for the improvement of the public highways in one year than had been spent for many years prior to that time. Fully 75 per cent. of the cars now in use in New Brunswick are of American manufacture, despite the import duty of 35 per cent., the remainder being of French, English and Canadian construction.



The Speedwell 25-h.p. Limousine-Landaulet (See page 1251.)

A CORONER's jury on Tuesday returned a verdict of manslaughter against Miss Elsie Fox, whose motor-car collided with a covered van near Royston. The driver of the latter received injuries resulting in his death.

MOTOR-BOAT racing will be a feature of Oulton Regatta next week.

A GARAGE for cars has been provided at the Irish International Exhibition at Dublin.

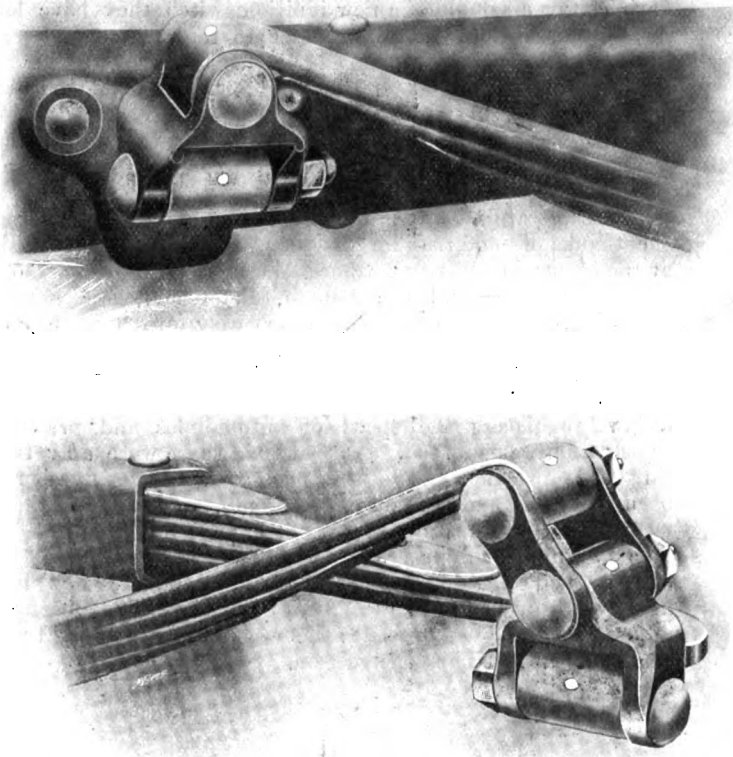
SHEFFIELD is to have a motor fire engine, fitted with a 40-h.p. four-cylinder Argyll engine.

A 16-h.p. Albion car has lately been supplied to the War Office for use in the Curragh Camp, Ireland.

SHOULD the entries warrant, a class for motor-buses will be arranged in connection with the Southern M.C. climb on Captain Kydd's Hill on the 22nd prox.

A NUMBER of gentlemen connected with the Scottish motor trade have entertained Mr. Kenneth Henderson, manager of the Scottish Automobile Company, Ltd., to dinner.

THE Daimler Company inform us that in addition to several orders from private individuals, as a result of their showing at the Madrid Exhibition, they have booked an order for a 28-h.p. car from the Duke of Saragossa.



Details of Rear Spring Connections on Speedwell 25-h.p. Car. (See page 251.)

THE Mayor of Hastings has forwarded a copy of some notes on Hastings and St. Leonards, compiled by Mr. A. S. Wilson, Medical Officer of Health of the borough, and dealing with its climatology and sanitary condition. Its perusal should convince readers of the delights of the place for all in search of health.

THE Annuaire I.V.A. de l'Industrie Velocipedique et Automobile en France, which has just been issued, should prove useful to all interested in the cycle and motor trades in France. From the copy which has reached us from the publisher, M. F. Gebert, 31, Boulevard Magenta, Paris, we note that the directory is divided up into a number of sections, including those referring to motor-car and cycle manufacturers, agents, makers and dealers in automobile components, ignition apparatus, lamps, bodywork, motor-boats, tyres and wheels, especial care having been taken to verify the addresses. A useful feature of the Annuaire is the alphabetical list of trade names, which enables the name and address of the maker of any car, cycle, motor or automobile component to be quickly turned up.

THE cost of the Brooklands automobile track will be about £150,000.

THE Continental Tyre and Rubber Company have now a tourists' office at their Paris depot.

CONSIDERABLY over 100 entries have been received for the motor meet at Bexhill on Monday and Tuesday next.

IT is reported that the motor-bus is to be introduced into Palestine, a service between Jerusalem and Bethlehem being projected.

THE Scottish Accident, Life and General Insurance Company, Ltd., of 115, George Street, Edinburgh, is undertaking motor accident insurance.

THE death took place on Wednesday morning of Mr. Adney Payne, who received injuries in a motor-car accident a fortnight ago. The deceased gentleman was the father-in-law of Mr. Walter Gibbon.

THE Belhaven Engineering and Motors, Ltd., is the title of a company formed to take over the business carried on by Messrs. R. Morton and Sons, Ltd., at Wishaw. Industrial vehicles will have a prominent place among the company's productions.

FROM the Franklin Manufacturing Company, Syracuse, N.Y., U.S.A., comes a very artistic catalogue describing the latest models of Franklin cars, the great feature of which is the employment of air-cooled engines, which are made in sizes ranging from 12-h.p. four-cylinder to 30-h.p. six-cylinder.

THE Automobile Club of New South Wales have decided to support the proposal of the Dunlop Rubber Company to institute an inter-state motor contest, to be held in November next, the course being Brisbane to Adelaide, a distance of 1,850 miles, during which some of the worst Australian bush roads and tracks will be encountered.

RECENT purchasers of 30-h.p. Hotchkiss cars include Lady Newborough, the Right Hon. Sir Frederick Milner, Lt.-Col. Cotton Jodrell, C.B., and Mr. H. St. George. The London and Parisian Motor Company, Ltd., have also received orders from Captain C. P. B. Wood, D.S.O., and Mr. R. E. Myddelton for 45-h.p. six-cylinder Hotchkiss cars.

THE industrial prosperity of Coventry is leading to enormous building developments, as shown by the fact that at recent meetings of the General Works Committee of the City Council plans were approved for close upon two hundred houses, mostly for the working classes. Another effect of the rapid development of the town is seen in the demands that are being made upon the school accommodation, which is at present being severely taxed.

THE second week of the long-distance reliability trial for a six-cylinder Hotchkiss car has seen some very interesting roads traversed under weather conditions that have varied from fine and warm to cold and wet, with some thunder. On Monday, the 6th inst., the car journeyed to Leeds from Leicester by a devious route, embracing Ashby-de-la-Zouch, Derby, Worksop, and Doncaster. On Tuesday York, Scarborough, and Hull were visited, and back to Leeds by Beverley. On Wednesday the party had its first taste of Midland manufacturing districts in a run through Huddersfield, Sheffield, and Chesterfield, and thence on country roads via Goole and York to Leeds. On Thursday Newcastle was reached, Friday's run being through Hartlepool and Stockton to Boroughbridge and back via Leeming Lane to Darlington and on to Newcastle; while on Saturday last the car ran to Carlisle and Penrith and back via Alston and Durham. The vehicle has been running perfectly, and, barring one nail puncture, the tyres have given no trouble, and up to date are in wonderful condition after their 1,700 miles of road travel. This week Monday and Tuesday night were spent in Sheffield, Wednesday in Cambridge, Thursday in London; while to-day (Friday) a start will be made for Dublin via Hereford and Holyhead.

CORRESPONDENCE

[Letters to the Editor should be addressed to the office,
87-89, Charing Cross Road, W.C.]

THE KAISER'S PRIZE RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—You will no doubt remember that the Kaiser's Prize race has been phenomenally successful in gaining a great number of entries. Unfortunately, at the last moment, this success seems as if it was going to completely spoil the race, as the German Club have seriously suggested that the race shall be run in the form of two eliminating trials, and that then the first twenty cars in each eliminating trial shall run in the Kaiser Prize. It seems to me that a perfectly easy way out of the difficulty would have been to have limited the entries to one car from one maker. I am glad to see the Royal Automobile Club are protesting against this alteration of the rules; but people often seem to wonder why British manufacturers do not more frequently enter cars in foreign competitions, and this is one of the reasons—that you never can be sure up to the last moment whether the rules will not be altered from those under which you enter. I hope that great prominence will be given to this very serious alteration, which certainly would have prevented many people from entering.—Yours truly,

S. F. EDGE.

TOURING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter by "A Touring Motorist" on the subject of driving certificates, I certainly do not see that the dignity of the R.A.C. is at all impaired by their notifying members of the advantages that they claim for their driving certificates. As to the actual usefulness of these certificates, that is another matter; it is quite true that by their aid it is possible to obtain a French driving certificate without examination, which otherwise, allow me to inform your correspondent, in reply to the query contained in the termination of his letter, is impossible. With regard to the practical usefulness of the R.A.C. driving certificate, apart from the matter of obtaining the French "Permis de Conduire," I cannot see much good in it; one cannot imagine a bench of magistrates reducing one's fine, or even taking in evidence for the defence, the fact the summoned motorist had a driving certificate as a defence, or even an extenuating circumstance. My remark as to the doubtful utility of the certificate in England applies only to the owner's certificate. There is no doubt that the paid driver's certificates are an exceedingly useful institution.—Yours truly,

ALAN A. L. HICKMAN.

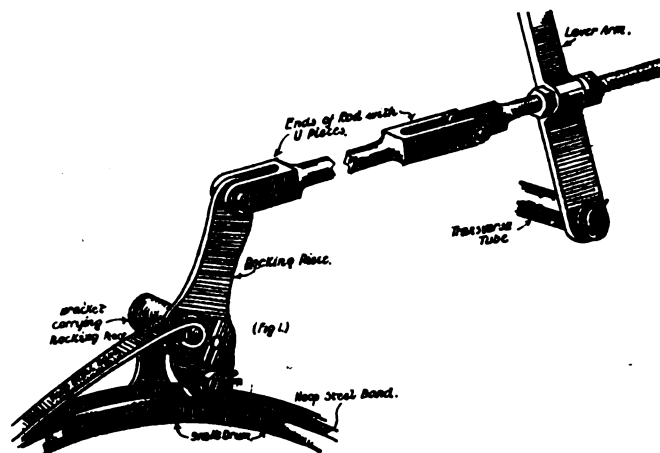
A SIMPLE HUB BAND BRAKE AND HOW TO MAKE AND FIT IT.

TO THE EDITOR OF *The Motor-Car Journal*.

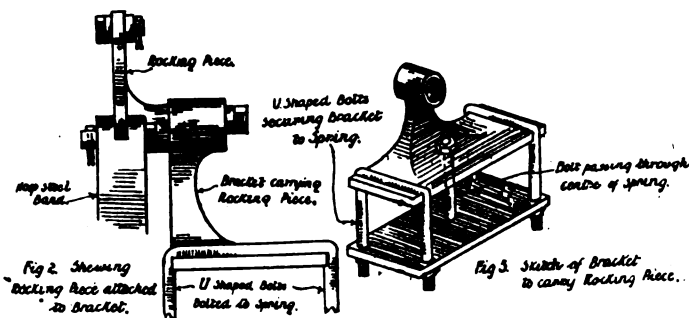
SIR,—So many cars are fitted with band brakes and so many are inefficient that perhaps this short letter may be of use to amateur motorists. The majority of band brakes are actuated by a lever fitted on the driving side of the car, and working on a quadrant fitted with teeth that engage with a projection on the lever, which can thus be held fixed. The bands work on a drum fixed to the rear wheels, and are usually lined with cast iron or wrought iron segments or with leather. Gandy belting or some patent lining, the bands themselves being as a rule made either of spring, or strips of blue lagging steel. The first is, as a rule, rather hard and apt to fracture, and the latter has a tendency to stretch. The drums are either of malleable cast iron or of phosphor bronze. The usual iniquitous practice is to have a malleable cast iron drum with band liners of either steel or wrought iron, with the result that in a very short time the drums become mere skeletons and what little survives tumbles off, and if there is nothing for the band to grip, the consequence on a hill may be the reverse of agreeable. My personal recollection includes a run beyond the legal pace down Hog Trough Hill and a broken collar bone. Another criminal feature in the usual apology for a brake is that a steel cable is employed to connect the bands with the lever, the idea being that the cable permits of compensation so that the two bands go on at the same time. Stiffness prevents this, but what happens is fraying of the cable and giving way, with resulting uselessness of the brake. The idea, like a good many others, is excellent on paper, the cable passing through a hollow metal tube to the end of which is fixed the actuating lever, and the cord passes over projections at either end to a triangular rocking piece to which the bands are fixed. As the lever is pushed forward the ends over which the cord passes are depressed and thus the cable is tightened and the brakes put on; in actual working the cord does not work over the projections, so the brakes are not thus equalised, but, as already stated, the cable rubs there and finally breaks.

Perhaps the easiest thing will be now to shortly state how I fitted the new brakes on my own car, and, as they have been in constant use for nearly two years and still hold, I do not think I need say more in their

favour. The drums were but skeletons, still they answered as patterns, and Messrs. Ginman managed, by faking them up, to cast from them two in phosphor bronze; of course a groove had to be turned up and the fixing holes drilled, otherwise they were fixed as they came from the foundry. The bands were made of 1 in. by $\frac{1}{4}$ in. hoop steel, the ends being turned over and riveted so as to make eyes for the bolts that held the band to the rocking piece. They were lined with Frood's lining 1 in. by $\frac{1}{2}$ in., the latter being fixed by countersunk rivets. The rocking pieces, which were forged from a bit of $1\frac{1}{2}$ in. square mild steel, were V-shaped, with a piece standing up for attachment to the actuating lever by forged rods with U-shaped ends in which the upright portion was held by a $\frac{3}{8}$ in. bolt. The brackets were forged out of $2\frac{1}{2}$ in. by $1\frac{1}{2}$ in. mild steel, and the accompanying sketch shows their shape—a flat base held in



position by the central bolt of the carriage spring, the U bolts also fixing the sides to the axle. From the upright arm there is a overhanging portion with a clearance hole ($\frac{1}{4}$ in.) so made that when the bands are hung from a bolt passed through this clearance hole they are exactly central with the groove on the drum. The connecting rods are also shown in the drawings. They are attached to the transverse metal tube by an eye bolt, with a nut on either side of the projection, on that tube, and thus any slack can be taken up, and in addition the brake is positive, the rods pushing it off when the actuating lever is pushed back. In my case I employed three-eighth rods drawn out of the solid and half-inch eye bolts. The ends of the transverse metal tube must of course be cranked out so that they are also exactly in line with the drum, and the bands must likewise be hung so that they are also exactly true with the groove—that is, the centre of the band must be over the centre of the drum. The advantage of this band brake is that all distance rods are dispensed with, so that when the brake is on it is on, and when off it is off, and cannot foul the drum. Eight forgings are required, excluding the suspension and other bolts. There are two brackets, two rocking levers, two connecting rods with U's at each end, and two eye bolts. A long half-inch bolt answers for the suspension, and four pins (hardened) are needed to hold the bands to the rocker, and a $\frac{3}{8}$ or $\frac{1}{2}$ in. bolt for connecting the connecting rod to the eye bolts which are fixed by a nut on either side to the ends of the rod worked by the brake lever.



Any blacksmith will make the forgings, the material for which can be obtained from most ironmongers; if not, from Messrs. Buck and Hickman, of Whitechapel Road, E.C. In order that the bands shall always hang central and not foul the rims on the drums, the suspension bolt must be a perfect fit in the clearance hole of the overhanging part of the bracket, and as there is considerable wear it should be case-hardened or made from "tool" steel. For the same reason the pins holding the bands to the rocker must be also case-hardened or made of tool steel. Malleable cast brackets would do as well, but for these a pattern is essential, and in order to stand the strain they must be stouter and cast with a central web as an extra support for the upright part. Personally, I prefer forgings, and, in addition to being stronger, they are cheaper. Should any reader decide to make one of these brakes and desire any

further information I, with your permission, shall be most happy to reply to any enquiries in the correspondence column of the *M.C.J.*—Yours truly,

CHARLES T. W. HIRSCH.

THE SOUTHERN MOTOR CLUB'S COMPETITION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the letter from Mr. Malcolm Brooke, which you published on page 234 of the *M.C.J.*, I think it only right to that gentleman to entirely substantiate every statement he makes. I do not know exactly at the moment how our report to you came to be worded as it was, but I am looking into it. As regards Mr. Brooke's 18-h.p. six-cylinder Malcolm car, on looking at the report of the observer, I find that this ran perfectly for the first two rounds and for the best part of the third round, and then, owing to the ignition wire dropping on the cylinder, the insulation became burnt through and a short circuit was set up, causing a delay of some thirty minutes. Altogether independent of this result, I have since had a run on Mr. Brooke's car, and must say that my impressions are distinctly favourable.—Yours truly,

S. W. PHILLPOTT,

Hon. Sports Secretary, S.M.C.

The magneto has no tremblers, so possibly its behaviour is more consistent, still it is purely a question of timing and adjustment. All talk about the different results owing to the different character and chemical properties of the spark magneto, as against accumulator and coil, is the purest moonshine. So long as the spark is not less than a certain minimum temperature, and occurs at exactly the same point in all four cylinders every time, the power will be the same. We were allowed by the Daimler Company to experiment on one of their engines, and we made a winding and trembler to suit their distributor. That our theory is correct was proved; there was no difference in power between the magneto and accumulator and coil; the coil and accumulator used were of our manufacture.—Yours truly,

C. A. VANDERVELL AND CO.

THE COST OF CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am afraid I cannot understand the point of view of your correspondent "W. L. C.," who compares the price of a railway engine and a motor-car. As the price given for a chassis is that of a few racing cars only, and is, therefore, considerably inflated, it is probable that the £4,500 given as the price of a locomotive is correspondingly low.



Motorists leaving Laffan's Plain, Aldershot, on the news that the Review which was to have been held last week had been cancelled owing to bad weather.

ACCUMULATOR V. MAGNETO IGNITION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have followed with interest the correspondence relating to accumulator and coil versus magneto ignition, more especially as we have ourselves gone rather thoroughly into the matter from a scientific point of view, in order to try and find out the real reason for the widely different results people seem to obtain from the same apparatus. We realised very early that when a practical motorist says he obtains more power from one or the other it cannot always be imagination; and the experiments we have carried out prove conclusively that a coil which gives good results on one engine will certainly not do so on another. In one experiment carried out by the writer, with two coils having different windings, the same engine gave 33-h.p. with one and 38-h.p. with the other. Both coils gave, apparently, the same spark on the bench. It was not a question of trembler speed, as the first coil worked better and gave more power on a six-cylinder engine. The determining factors appear to be the length of contact on the low tension side of the distributor, speed of engine, and construction of trembler. Nearly every type of engine seems to have one particular trembler, or trembler adjustment, that it suits best, and it is just as reasonable to expect an engine to give its best power on any coil as it would be to fit a carburettor of any make or size at random and expect perfect running right away.

In any case, is it not obvious that it is the very fact that the chassis of a motor-car weighs only about a ton that makes the price high? And does your correspondent really suggest that a railway locomotive has either the high-class workmanship or materials found in a high grade car incorporated in its design.—Yours truly,

G. P. H. DE FREVILLE.

TRIALS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent "A. E. T.," whose letter appears on page 234 of your last issue, has evidently missed the point of my letter to which he refers. He seemingly suggests that the Scottish Automobile Club could not do differently than they have done, and that any car which will not conform to the handicap formula of the Scottish Club is *ipso facto* something extraordinary. On the first question, I would refer you to the rules covering the Irish Reliability Trials, which rules allow any car selling for less than £250 to compete as a two-seater, irrespective of engine capacity; and on the second question I would mention that Ford cars, which are excluded from the Scottish trials under their handicap formula, have the largest sale of any motor-cars in the whole world.

The point of my previous letter was that primarily price is the real handicap in all reliability trials, or, in other words, the public wish to be

informed which is the best and most reliable car at the cheapest comparative cost. This fact is partially recognised in all handicap trials, but its practical utility is nullified by the Scottish Club when they demand that, irrespective of price, no car developing more than 11½ h.p., according to their arbitrary and erroneous formula, shall compete as a two-seater. I contend that if I can *bona fide* sell the public a car for £200 which will beat any other car being sold to the public for a similar sum, I should not be prohibited from demonstrating the qualities of my car because I am giving the public more h.p. than the other fellow. I recognise that technical formulæ are necessary, but such formulæ are quite secondary.—Yours truly,

PERCIVAL L. D. PERRY.

SIRENS AND EXHAUST CUT-OUTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The attention of the committee of the Royal Automobile Club has been called to the increase in the use of sirens and exhaust cut-outs by certain motorists, and to the annoyance and inconvenience which such a practice causes to other users of the highway, and, in accordance with a resolution passed at a meeting of the Committee on the 1st inst., I venture to appeal to motorists, through the medium of your columns, to assist the committee in the endeavour to put a stop to what may otherwise become an intolerable nuisance.

My committee earnestly request all drivers of motor vehicles who use the siren, and those who are in the habit of using the exhaust cut-out, to discontinue this practice, as the use of either is unnecessary, and their continuance must inevitably tend to arouse a not unreasonable hostility from the public.—Yours truly,

C. D. ROSE,

Chairman of the Committee of the R.A.C.

OPENING FOR GARAGE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I be permitted to encroach on your valuable space to ask if any of your readers can give me the benefit of their advice on the opening of a garage and repair shop. I mean, as to a town on any main road, where they think an opening would be beneficial to both the writer and to motor owners.

I am a stranger as to the best routes in England where a shop could be made to pay. I thought I would ask you for the benefit of your advice.—Yours truly,

M. W.

PUTTING ON NEW TYRES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Anyone who has had much of this kind of thing to do will admit that it is not a very easy matter to get the tyre on exactly straight for the valve, as although one may get it right to commence with, yet the leverage it gets to put it on the rim very often moves it a quarter of an inch, and, being new, and a very tight fit, it is impossible to move it back without partly taking it off the rim again, and this performance may be repeated any amount of times. I have seen some men cut the edges of the tyre around the valve hole so as to give a wider margin to work to, but this is not at all a smart way, and cannot add to the strength of the tyre itself. The other day I tried a dodge which I have previously heard of, and as it answers so well I give it to my friends for what it is worth. Turn the wheel round so that the valve hole is at the top, then get an old valve and drop it in the valve hole, now take the tyre and get as much of it on as possible, seeing that the edge of the far side goes under the old valve just inserted. This will keep the tyre in its correct place all the time whilst the last security bolt has been inserted, then it may be slipped out and the tube put in. There is absolutely no possibility of the tyre moving partly around whilst getting the first edge on, or when putting in the bolts; with an 880 by 120 tyre, it is not much fun making a slight mistake. Trusting this information will be useful to some of your readers.—Yours truly,

JNO. H. HALL.

WE have an inquiry for the name and address of the maker of the Arco flint tread.

MR. W. F. PARKER, of 68, St. Giles, Oxford, lost on Sunday, somewhere between Guildford and Bracknell, the top of a tool-box, and will be pleased to hear from anyone who may find the same.

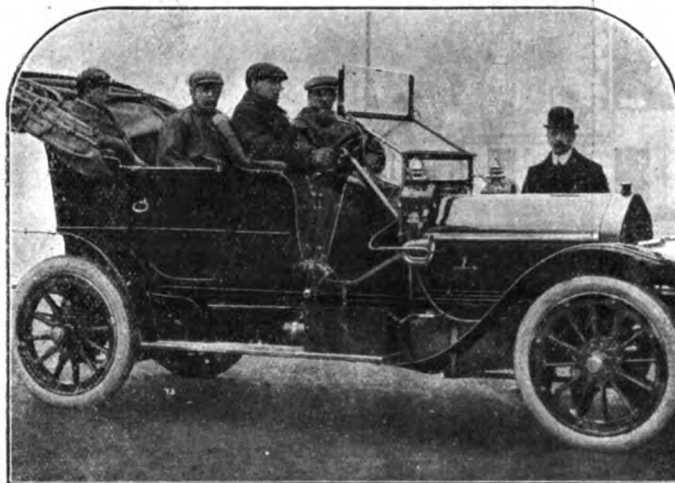
BETWEEN the "Red Lion" and Harrow Weald, a lamp and bracket from a tri-car has been found. The owner can have the same by giving description and paying expenses to Mr. George Walmer, 19, Clay Hill, Bushey, Herts.

THE Miesse Petrol Car Syndicate, Ltd., of Pelham Street, South Kensington, London, S.W., inform us that they have no connection with the Turner Motor Manufacturing Company, of Wolverhampton, and that the Miesse petrol car is manufactured by the original Jules Miesse, and "also that Mr. Justice Warrington, on May 10th, refused to grant the Turner Motor Manufacturing Company an injunction with costs restraining us from using the word Miesse in connection with the cars manufactured by Jules Miesse."

THE LONG DISTANCE TRIAL OF A SIDDELEY CAR.

As we briefly mentioned in our last issue, the long distance trial of the 40-h.p. Siddeley car under the auspices of the Royal Automobile Club came to a successful conclusion on the 1st inst. with a total mileage to its credit of 10,003, of which 7,089 miles were run without an involuntary stop. From the earliest days reliability has been the prominent feature of the cars designed and built by the Wolseley Company, and the records of various trials afford striking testimony to their consistently successful performances. The trial just concluded, however, has proved to be certainly the most severe test ever yet attempted with a motor-car. The vehicle was in charge of Mr. Martin G. Duncan, the official observer for the R.A.C., and driven by Messrs. A. Farrell and G. Fletcher, who took turns at the wheel. A new and very successful feature of the trial has been the method adopted by the Club of making various towns throughout the country local centres, from which daily runs were made. In this way motorists generally have been able to follow the daily progress of the car, while public interest has been stimulated. As was to be expected, the weather has been at times very severe, while the roads in some districts were almost impassable. This was particularly the case over the routes mapped out in Devonshire and Cornwall, and it is interesting to note that the drivers, even after penetrating into the far north of Scotland, consider that the Cornish roads provided the worst travelling of the tour.

The car—a 40-h.p. Siddeley—was of the heavy touring type, and no pains were spared as regards its appointments to ensure the comfort of driver and passengers. It was fitted with a Cape cart hood extending right over the front seats, and a specially designed double-folding wind screen was provided in front. During cold weather an ingenious method was adopted whereby hot air was drawn up from the motor to warm the occupants of the vehicle. This was effected by means of a baffle plate, worked from the driver's seat, and fitted in the protecting



tray placed underneath the motor and gear-box. Another special feature must be noted in that the tyres were filled with Elastes, and it must be admitted that this had an important bearing on the result of the trial, as no stoppages from tyre troubles were experienced on the road throughout the whole of the long journey, although at times mile after mile of loose stones had to be negotiated. It was seldom that at the end of a day's run the drivers failed to find an assortment of nails embedded in the tyres.

The Trial was not without its incidents, but no stoppage had to be reported until the 2,914th mile, when the gear change lever broke. This, on examination, was found to be due to a slight flaw in the metal. After this was replaced, the car recommenced its attempt to establish a fresh non-stop record, and maintained great regularity in its daily running thenceforward until the end of the trial, with the exception of one occasion on which the car was delayed by running off the road through being bored into a ditch by a horse attached to the tail of a cart. This happened near Lancaster, and did not affect the non-stop record, as no fault attached to the driver, who was obliged to avoid what might easily have been a very serious accident. The engine was kept running until the Official Observer gave instructions to stop it, three horses having to be requisitioned to get the car out of the ditch. Another "traffic" stop occurred in Scotland when attempting to cross the famous pass of Glenshee. Here the road was found to be covered to a depth of nearly twenty-five feet with a huge snowdrift, and although attempts were made to dig a way through, the task eventually had to be abandoned, and an alternative route substituted. It was while in Scotland that a lucky horse shoe was picked up, which was promptly attached to one of the rear spring hangers and faithfully served its duty as a mascot during the remainder of the trial.

It has been suggested that the strain of driving continually day after day would have affected the health of the drivers, but so far from this being the case they find themselves now in a far better condition

physically than when they started this long tour, an experience which is also shared by the official observer. At the conclusion of the trial the working parts of the car were dismantled for examination by the Technical Committee of the R.A.C., and their report on the whole trial will shortly be issued. This much is certain, that mechanically the car has come out of the test with the highest honours.

THE TOURIST TROPHY RACE.

THE cars which the Star Engineering Company have built for the Tourist Trophy Race are of the chain-driven type. The four-cylinder engines are 4 in. bore by 5 in. stroke, the normal speed being 1,000 revolutions, at which 20-h.p. is developed. The gravity-fed carburettor is of the Star Company's automatic type, and two forms of high-tension ignition—magneto and accumulators—are provided. The change-speed gear gives four speeds forward and a reverse with the direct drive on the top, the speeds at the normal rate of the engine being 10, 20, 30, and 42 miles per hour. The cars have a long wheel base and the road wheels are shod with 875 mm. by 105 mm. tyres.

Messrs. Humber, Ltd., Coventry, have also furnished us with a few particulars of the car they have built for the event. The engine comprises four separately-cast cylinders 4½ in. bore by 4½ in. stroke. The change-speed gear, which is gate controlled, gives four speeds and reverse, the direct drive being on the third. The various ratios are 8.002 to 1, 3.9 to 1, 2.5 to 1, and 1.98 to 1. The transmission is by a cardan shaft and bevel gear to a live axle. The road wheels are carried

CLUBS AND ASSOCIATIONS

AUTOMOBILE ASSOCIATION.

THE Automobile Association patrols will be on special duty between London and Bexhill during Whitsuntide. The official route chosen by arrangement with the Crystal Palace A.C. is:—Lewisham, Bromley, Farnborough, Sevenoaks, Tonbridge, Lamberhurst, Robertsbridge, Battle, Ninfield, Bexhill.

The Automobile Association patrols will be specially mobilised for service on the Great North Road for the Motor Union meeting at Lincoln, the route being Barnet, Hatfield, Hitchin, Buckden, Stilton, Stamford.

JUNIOR AUTOMOBILE CLUB.

THE Junior A.C. held a speed judging competition near St. Albans on Saturday. The winner was Mr. C. W. Brown. Miss Agnes Wood was second, and Mr. S. W. Stewart, third. The Ladies' Nomination Sweepstakes resulted:—Mrs. C. W. Brown, driver H. Cook, 1; Mrs. Branson, driver E. A. Merskel, 2; Mrs. Carter, driver A. J. Boulton, 3.



The above illustration depicts the Winning Team of Talbot Cars at Frome's Hill, taken after the vehicles and their respective engines had been dismantled, inspected and certified as correct, with the Hereford Trophy and Medals shown in the centre.

Reading from left to right they are as follows:—1. Mr. T. W. Bowen's 10-h.p. two-cylinder, declared second in Class 1, awarded silver medal. 2. Mr. W. Stokes' 20-h.p., second in Class 3, awarded silver medal. 3. Lord Shrewsbury's 12-16-h.p., with driver G. Day at the wheel, winner of Class 2 and awarded gold medal, and finally declared winner of the whole contest, with highest marks for efficiency, and awarded the Hereford Trophy. 4. Viscount Ingestre's 15-h.p., with His Lordship at the wheel, winner of Class 3 and awarded gold medal. 5. Mr. T. H. Woollen's 12-15-h.p., with driver J. Hedge at the wheel, second in Class 2, awarded silver medal. Mr. T. H. Woollen, the general manager of Clement-Talbot, Ltd., is seen standing between the winning car No. 33 and Viscount Ingestre's No. 32.

by the axle casing, so that the live shafts have only the driving effort to transmit. The differential gear is of the straight pinion type and ball bearings are used to all parts except the engine.

The vehicle which the New Leader Motors, Ltd., have built for the event is rated at 20-h.p.; the engine is of the four-cylinder type, 3½ in. bore by 3½ in. stroke, the normal speed being 900 revolutions per min. Both accumulator and coil and high-tension magneto ignition are provided; the water circulation is by thermo-syphon, no pump being employed. The carburettor, which is of the automatic type, is gravity fed. Four speeds and a reverse are provided, with direct drive on the top speed through a cardan shaft and bevel gear to a live axle. The vehicle, which has a wheel base of 8 ft. 11 in., is shod with 32 by 3½ in. Dunlop tyres.

THREE years have been added to the life of the Canadian patents on the Dunlop tyres, which, as a result, will not expire until the year 1910.

On his arrival at Madrid, after his record run from Paris on a De Dietrich car, M. Sorel, wiring the result of his performance, attributed part of his success to the working of the Bleriot headlights he was using on the car, and particularly to the powerful Bleriot "petrol-oxygen projector," which, sending a luminous beam of light over a mile ahead of the car, enabled him to keep a pace of nearly forty-five miles an hour during the whole of the night, without danger to himself or to any other user of the road.

THE MOTOR UNION.

IN consequence of the favourable decision secured by the Motor Union recently in the Divisional Court on the question of smoke emission by motor-cars on the highway, the Legal Cases Committee have resolved to support financially an appeal by the Little Malvern Granite Company, who are members of the Commercial Motor Users' Association, against a conviction of one of their drivers by the local magistrates for that he did "unlawfully use on a highway there a certain locomotive not consuming as far as practicable its own smoke." Expert evidence was given showing that the tractor was constructed upon the most approved modern principles and could only emit smoke from a temporary or accidental cause. The Justices, however, held that the tractor did not satisfy the conditions of a light locomotive, as defined in the Act of 1896. The appeal will be heard at the Worcester Quarter Sessions.

AUTO CYCLE CLUB.

IT has now been definitely decided that the Motor-cycle Tourist Trophy race shall be held over a course starting from Peel to Ballacraigne, which is practically level. From Ballacraigne the route runs through Glen Helen up Cleg Willeys Hill. This is the most severe hill on the course, and has a bad left-angled corner, but an average 3½ h.p. motor-bicycle can easily climb it. From the top of this hill there is a gradual descent to Kirk Michael. From here, by a sharp turn to the left, the coast road to Peel is taken; this part of the course is compara-

tively easy, although there is a very bad corner, "The Devil's Elbow," about half way. Altogether the course is an ideal one for the motor-cycle, and competitors should have no difficulty in maintaining a fair rate of speed on the fuel allowance, viz., ninety miles to the gallon for single cylinders, and seventy-five miles to the gallon for twin cylinders. This course will be covered eleven times, making a total distance of 175 miles. The special petrol provided by the club is known as the R.A.C. brand and has a specific gravity of .715 to .725. Those competitors who are going over at Whitsuntide to practise on the course are urged to use extreme care, because part of the course is the same as that used by the cars. They are also particularly requested not to use cut-outs on their machines, nor to practise on the course on Sundays; any infringement of this regulation will render the machine and driver liable to instant disqualification.

MANCHESTER.

THE following are the official awards in connection with the run of the Manchester A.C., fully reported in our last issue:—1, J. Higginson, jun., gold medal; 2, E. J. Woolley, silver medal; 3, F. Eckersley, bronze medal.

Considering the hilly nature of the route, which was 132 miles long, the fact that twenty-seven out of twenty-eight starters arrived at Bettws-y-Coed before seven o'clock in the evening speaks well for the manufacturers of the modern car; in fact, so small a percentage of marks was lost under the head of "reliability" that the factor mainly governing the result was economical petrol consumption, as will be observed from the following list:—

MARKS GAINED AND DETAILS OF PETROL CONSUMPTION.

Entrant.	Type of Car.	No. of cylinders.	Petrol used in gallons (132 miles)	Weight of car with load in tons.	Petrol consumption per ton mile in gallons.	Marks for petrol cons. max. 200.	Marks for reliability, starting, &c. Max.	Total Marks.
1. J. Higginson, jun.*	80-100-h.p. De La Buire	4	8.0	2.3375	.0259	200	800	1,000
2. E. J. Woolley...	12-h.p. Lancheater	2	5.625	1.55	.0275	188.6	797	985.6
3. F. Eckersley...	12-h.p. Lancheater	2	6.0	1.6875	.0289	192.6	780	972.6
4. H. Hollindrake*	35-50-h.p. De La Buire...	4	8.125	2.025	.0304	170.8	800	970.8
5. J. Makin*	18-24-h.p. Belsize	4	6.968	1.725	.0306	169.4	800	969.4
6. G. J. Crawford*	20-h.p. Lancheater	4	6.5	1.5625	.0315	164.7	800	964.7
7. A. E. Crowdy*	18-h.p. Siddeley	4	6.475	1.5375	.0319	162.7	800	962.7
8. H. Bright*	10-12 h.p. Argyll	2	4.5	1.0375	.0327	157.8	800	957.8
9. Joshua Hall*	18-28-h.p. Mercedes	4	6.75	1.4875	.0343	150.9	800	950.9
10. J. Hoyle Smith	18-24-h.p. Belsize	3	8.0	1.7125	.0358	146.6	799	945.6
11. H. P. Bury*	24-30-h.p. Belsize	6	8.468	1.775	.0361	143.6	800	943.6
12. S. Wallwork	12-h.p. Lancheater	2	7.0	1.4625	.0363	143.1	787	930.1
13. W. J. H. Stonier*	18-24-h.p. Belsize	4	9.0	1.6875	.0404	128.5	800	928.5
14. R. Jackson*	40-45-h.p. New Eagle	4	10.5	1.8625	.0427	121.5	800	921.5
15. M. Beaver	12-14-h.p. Clement-Talbot	4	7.125	1.2	.0449	115.3	797	912.3
16. Colin Mather	18-24-h.p. Belsize	4	9.1875	1.35	.0374	138.8	772	910.8
17. F. R. Hesce*	30-35-h.p. Daimler	4	13.406	2.1375	.0475	109.2	800	909.2
18. J. A. Bennett...	20-31-h.p. Belsize	4	9.375	1.475	.0481	107.7	798	905.7
19. F. G. Cundy	40-h.p. Napier	6	10.437	2.087	.0377	136.9	761	897.9
20. J. Arrowsmith*	18-24-h.p. Horbick	6	11.0	1.55	.0537	96.5	800	896.5
21. D. A. Parkyn...	7-h.p. Motor Manufacturing Co.	2	7.625	1.075	.0537	96.6	798	894.6

The car of J. A. Morris was withdrawn from the competition, and the following were disqualified either for shedding passengers or for non-compliance with the rules in the opinion of the judges, viz.:—J. B. Mallalieu, G. Crosland Taylor, L. Sumner, William Kay, William Hyde, and J. Duckworth.

An asterisk denotes that a non-stop certificate has been awarded.

The fourth run of the Manchester Automobile Club was held on Saturday, the destination being Haddon Hall. The choice of three routes was given in the letter to the members notifying the arrangements, and by adopting the suggestions of the committee a procession of cars on any given route was avoided. Compared with certain portions of the course near Blaenau Festiniog and Dolwyddelen, traversed on the previous Saturday in the reliability run, the gradients between Whaley Bridge and Buxton, or the latter town and Macclesfield, were not difficult to negotiate, for they only varied from about 1 in 26 to 1 in 15, and so by half-past four some twenty cars were parked on the greensward by the meandering Wye, in close proximity to the Hall, and about sixty members and friends partook of tea in the rooms contiguous thereto. By six o'clock cars were leaving the precincts of this historic home of the Vernons, to pursue their various ways homewards. Among the members present were Messrs. J. A. Morris (president), J. Hoyle Smith, A. J. Jones, J. Duckworth, Brownword, D. A. Parkyn, J. Higginson, junr., S. Wallwork, C. Frost, H. Frost, C. Ocleston, H. Hollindrake, Herbert Bright, J. Makin, R. Scott, and Stone.

THE COMMERCIAL MOTOR USERS' ASSOCIATION.

A MEETING of the Executive Committee of the Association was held last week, when it was reported that a number of motor manufacturers had proposed certain meets of commercial motors in the provinces, the first of which was to be held at Reading, on June 15th, 1907, and that they would like the co-operation of the Association. The idea was

generally approved, and a Sub-Committee consisting of Messrs. Charles Wheeler, Iltid Witherington, and H. Thompson Lyon, was elected to represent the Association in the matter.

The question of tram-rail imperfections in regard to their damaging effects upon commercial motors was considered, but it was resolved that the matter should be deferred until a case occurred.

The secretary reported as to an action against Messrs. Wild and Robbins by the Kensington Borough Council in respect of the annoyance to the inhabitants by the use of heavy motor vehicles in that borough. He reported that the solicitor acting for the Association had had a conference with the solicitor of the Kensington Borough Council. The decision of the Legal Cases Committee of the Motor Union in respect of this matter was reported. It was resolved that a letter should be sent to the members calling attention to what had occurred, and warning them as to worn gears, so as not to be liable to attack as being considered a nuisance.

EAST LANCASHIRE M.C.C.

THE East Lancashire Motor Cycle Club had its second annual hill-climbing competition for the Harold Eccles Challenge Cup at Sawley Brow last week. The event created a good deal of interest, entrants from Clitheroe, Haslingden, Accrington, Preston and Blackburn drawing followers from those districts. Sawley Brow is accounted a stiff climb, and although its gradient is given in the contour road-books as averaging one in ten, actually from measurements taken by responsible local authorities the gradient in places touches 1 in 6.3. The best performance was that of Mr. Weldon, of Preston, who drove the 3½-h.p. Triumph

entered by Mr. H. H. Edmondson. He won the cup and medal on his lap, and also the special medal for fastest time. At the conclusion of the event the winners repaired to Clitheroe, where the weights were confirmed, and the prize-winners announced as follows:—1, Mr. Weldon, Preston, driver for Mr. H. H. Edmondson, Preston; 2, Mr. D. Duckworth, driver of the 3½-h.p. Ariel for Dr. Nutter; 3, Mr. A. N. Orr, Preston, on a 3½-h.p. Triumph. Passenger class: 1, Mr. J. Scott, 4½-h.p. Humber tri-car; 2, Mr. D. Strong, 4½-h.p. Humber tri-car.

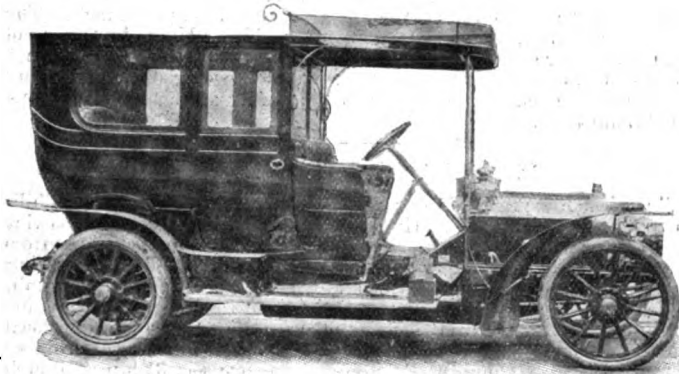
Dr. Stephenson and Mr. Arthur Birtwistle acted in the capacity of judges, and placed at the disposal of the club cars in which to convey the officials to the venue. Messrs. F. H. Wilkinson and G. Nuttall officiated as marshals of the course, and Mr. R. L. Cowburn was time-keeper. Mr. P. Isherwood undertook the duties of starter.

YORKSHIRE CLUB.

ON Saturday the third annual hill-climbing competition, under the auspices of the Huddersfield branch of the Yorkshire Automobile Club, took place for the second time over a mile and 840 yards course on the way from Meltham to Isle of Skye, on a steep section. The day was fine, and a large number of people turned out to witness the races, which were conducted in the presence of the police. The road is very free from heavy traffic, and one of the most suitable in the district. There were four classes for small, medium, and large cars, and a cup was offered for the best performance. The following are the results:—Class A, for single-cylinder cars (five starters): J. E. Dyson, Huddersfield, 3.64-h.p. De Dion, time 5 min. 58.1-5 sec., points 90; class B, for two-cylinder

cars (seven starters): W. Singleton, Kirkburton, 8-33-h.p. De Dion, 4 min. 55 sec., points 98; class C, for three or more cylinder cars up to and including 20-h.p. (nine starters): A. M. Whiteley, Huddersfield, 16-66-h.p. De Dion, 3 min. 28 3-5 sec., points, 99; class D, for three or more cylinder cars over 20-h.p. (five starters): D. S. Crowther, Huddersfield, 32-h.p. Napier, 1 min. 54 4-5 sec., points 99-8.

D. S. Crowther took the cup for the best performance. The others took medals. There were thirty-one entries in all, and only seven non-competitors. Mr. W. H. Jessop, president of the Huddersfield branch,



The Isotta-Fraschini Limousine recently supplied by Messrs. Hall, Capris and Co. to Lady Paget.

acted as referee; Mr. F. A. Reed was the starter. Mr. A. Fattorini and two assistants were the timekeepers, and Mr. E. Gordon Learoyd was the secretary.

On Saturday last the Yorkshire Automobile Club held a meet at Helmsley, where tea was served at the Black Swan Hotel, after which the party visited various objects of interest in the vicinity.

HERTFORDSHIRE.

A FIFTY miles Fuel Consumption Trial was carried out by the Hertfordshire County A.C. on Saturday. The route was from Hatfield to Biggleswade, via Hitchin and Henlow, and return. There were nine starters—six cars, one tri-car and two motor-bicycles. All finished the complete journey with the exception of one car, which was delayed over the maximum time allowed for the journey through tyre troubles.

The following are the results of the competition in their order of merit:—

No.	Car.	Driver.	Miles per gallon.	Gallons per ton mile.
1.	16-20-h.p. Rover	F. J. Jenkins	30.4	.021
2.	40-h.p. Napier	H. C. Tryon	21	0.022
3.	8-h.p. Rover	W. A. Pearkes	30.9	.029
4.	16-20-h.p. Sunbeam	C. McWhirter	20.1	.031
5.	10-h.p. Argyll	J. E. Young	Delayed through tyre trouble.	

MOTOR-CYCLES.

1.	9-h.p. Riley tri-car	H. R. McLatchie	57.25	.050
2.	3½-h.p. Minerva	W. S. Stafford	111	.055
3.	3½-h.p. Triumph	J. S. Harwood	105	.060

The carrying out of the trial and the judging were performed, as in the past two years, by Mr. D. Corse Glen, and the hon. secretary, Mr. W. Whittall.

ESSEX.

AN open hill-climb was held at Lippett's Hill, High Beech, on Saturday. The winners, decided on handicap, were:—

Class 1. (Passenger Motor-cycles).—A. Carpmal, jun., 9-h.p. Riley, scratch.

Class 2. (Single-Cylinder Motor-bicycles).—J. Marshall, 3½-h.p. Triumph, 11 sec.

Class 3. (Multi-Cylinder Motor-bicycles).—W. G. Minnies, 5-h.p. twin Vindec, 19 sec.

Class 4. (Members' Cars).—E. H. Richards, 18-24-h.p. "J.P.," 15 sec.

Class 5. (Motor-bicycles only, with stop and restart).—Open, T. Hulbert.

Members, E. Varney, 2½-h.p. Crownfield, 40 sec.

KENT.

A MEETING of the Kent Automobile Club was held at Canterbury on Saturday, the fixture including a club luncheon at the County Hotel, and a committee meeting after the lunch. There was a good attendance, nearly forty members and friends being present. After luncheon the Chairman, Mr. J. C. Morgan, pointed out that the club was the county club, and that one of its chief aims was to create a better feeling between

motorists and other users of the highway. Sir George Collard, who replied on behalf of the guests, said that he realised that the motoring movement was growing enormously, and he conceived it to be the duty of authorities to see that the roads and streets were kept in as good a condition as possible, whilst he equally conceived it to be the duty of bodies like the Kent Automobile Club, by their example and influence, to see that the roads and streets were used in a proper and considerate manner. He was afraid that the streets of Canterbury were rather narrow, but he was glad that the club had been able to hold such a successful meeting in the Cathedral city.

BLACKHEATH.

A MEET of the Blackheath Automobile Club was held on Saturday at the Camden Hotel, Pembury, where about twenty members and friends sat down to tea. The run down and back was a delightful one, the Kentish scenery being at its best. Among those present were Messrs. W. F. Butcher, L. Beadle, O. V. Flather, A. Jackson, T. E. Quick and W. Whiteway.

CHESHIRE.

A SUCCESSFUL meet—the first since the formation of the club—was held at the Brine Baths Hotel, Nantwich, on Saturday, when the members and their friends were entertained by the Chairman of the Committee, Mr. A. G. Jeans, J.P. The President of the club, Mr. Thomas H. Jackson, J.P., attended in company with thirty-two other members, the total gathering including guests numbering close upon 150.

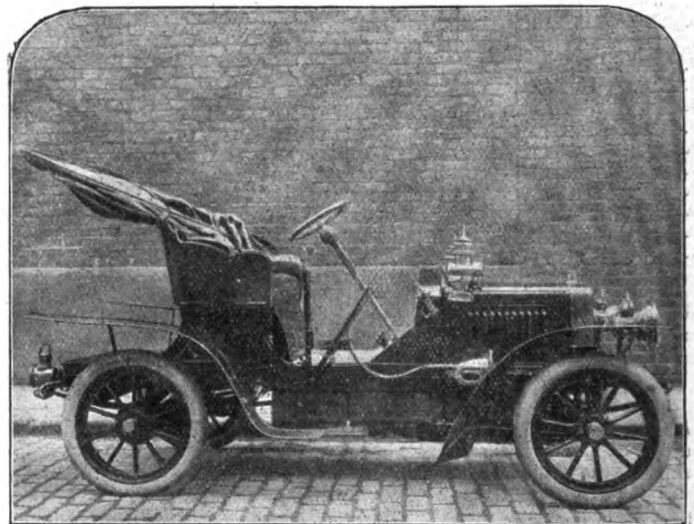
Particulars concerning the club can be obtained from the hon. Secretary, Mr. J. Alfred S. Hassal, 6, Lord Street, Liverpool.

HEREFORDSHIRE.

MR. WILFIRD GROOM, hon. sec. of the Hereford A.C., writes:—Please announce in your next issue that in Class 3 of the Frome's Hill Climb, Mr. Easthead's Sunbeam won the certificate, not the car first mentioned, also that Mr. H. C. Holder won the silver medal in class 5, and Mr. Brodtmann the bronze, not *vice versa*.

MOTOR YACHT CLUB.

THE Motor Yacht Club season opened on Saturday with a race on Southampton Water. On the handicap the results were:—1, Mr. Nicholson's Squirt; 2, Mr. Summer's Phoebe; 3, Mr. S. F. Edge's Napier IV., and Captain Cumming's Commander.



On Thursday last week two of the Lurin and Klement Standard 8-9-h.p. Cars accomplished a splendid non-stop run from London to Holyhead.

The car shown above was driven by an amateur, and the other by Messrs. Lurin and Klement's regular driver, Mr. Toman. The two cars left the Lurin Klement depot in Tottenham Court Road, W.C., just after six o'clock, and, notwithstanding the wretched weather which endured all day, Holyhead was reached without a single stop, the amateur completing the distance of 236½ miles in 10 h. 10 min., and the firm's car in 10 h. 19 min.

SCOTTISH MARINE MOTOR CLUB.

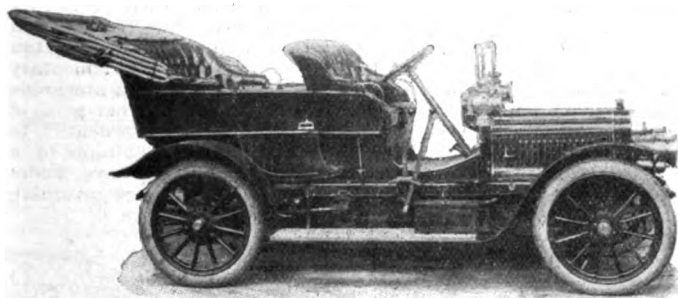
THE Scottish Marine Motor Club, Limited, has been formed out of the Glasgow branch of the British Motor Boat Club. Lord Inverclyde and Lord Angus Kennedy have been elected commodore and vice-commodore respectively, and Captain Leeschallas, of Ardentinn, rear-commodore. Mr. Gibson, of Messrs. Crawford, Herron, and Cameron, writers, is the hon. secretary, and Mr. Hart the hon. treasurer. Messrs. Cullum, Carswell, jun., Low, and Dunlop are stewards. The season

will commence with an opening cruise on June 8th; regattas on July 6th and August 10th, with events for all classes of motor-boats; and a closing cruise on August 31st.

LORD BATTERSEA has consented to become a patron of the North London A.C.

THE Motor-Cycle Union of Ireland held an open hill-climbing meet on Saturday.

AT the annual meeting of the North Wales Automobile Club a membership of 96 was reported.



The New 18-24-h.p. Car which the Swift Motor Company have just put on the market. The vehicle is of British construction throughout, the engine being of the firm's own design and construction.

THE run of the Southern Motor Club to Cambridge and Lincoln at Whitsuntide has been cancelled in favour of a tour to Bexhill.

THE Sussex Motor-Boat Club held its opening cruise on Saturday, luncheon being previously taken at the Grand Hotel, Brighton.

THE Bristol M.C.C. is being formed, with Mr. J. B. Kellar as president and Mr. H. W. Gent, 37, Aberdeen Road, Bristol, as hon. secretary.

THERE are nearly 300 motor-cyclists in the Leicester district, and Mr. T. Townsend, the Old Castle Inn, The Newarke, Leicester, is endeavouring to form a local motor-cycle club.

UNDER the auspices of the Engineering and Scientific Association of Ireland, Mr. D. J. Smith will read a paper on "The Steam Car," at the Royal College of Science, at Dublin on the 27th inst.

THE Liverpool Automobile Club will hold their next club meet on Saturday, May 25th, at Hooton Hall, Hooton, near Chester, by permission of the directors of the Hooton Park Club, Ltd.

A GENERAL meeting of Bedfordshire automobilists for the purpose of formally founding a club for the county will be held under the auspices of the Motor Union, at the Swan Hotel, Bedford, on the 29th inst. Communications for the club should be sent to the hon. secretary, *pro tem.*, Mr. Gregory J. M. Whyley, Dame Alice Street, Bedford.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING LEGAL LIMIT.

MR. HERBERT ALDIN SMITH, a director of the Firm of Smith and Sons, was summoned, at Marylebone, for driving a motor-car in Regent's Park at a speed exceeding ten miles an hour. Mr. A. Gill, barrister, prosecuted and Lord Russell defended. Two Park constables timed the defendant over a measured furlong at 11.20 p.m. on April 11, with the aid of lamps and stop-watches, and, according to their calculation, the car travelled at a speed of over nineteen miles an hour. A third constable endeavoured to stop him by waving two white flags, but he drove on, and had to be stopped by a constable of the Metropolitan police. He did not stop, he said, because he could not see in front of him, owing to the plate-glass in front of the car. He also explained that he was the inventor of a speedometer, which was affixed to the car, and showed it to the officers, pointing out that he had been travelling only a fraction over ten miles an hour. In answer to the summons Mr. Smith contended that his speedometer was far more reliable than the officers' stop-watches and their system of timing. Mr. Plowden: Is it infallible?—Mr. Smith: Yes. Mr. Plowden declined to go into the rival merits of the stop-watch and the speedometer—and found on the other evidence in the case that the summons had been proved, imposing a fine of 40s. with costs.

NO LICENCE.

Among the motor cases heard at the Chichester County Bench on Saturday was one in which Newton James Clayton, of Selsey, was summoned for driving a motor-cycle and failing to produce his licence to a police constable at Bognor. P.C. Aliff having given evidence, in which it was shown that defendant said he had left the licence in another jacket, Mr. E. B. Wannop, for defendant, suggested it was a case which might be dismissed on payment of the costs. Mr. W. P. Cogan, for the police, said he had no objection to this course, which the Bench consented to adopt.

AT Chichester, on Saturday, five motorists were fined for various offences. Four other cases were heard at Horsham. One of the latter sent a blank cheque, which was filled in to the amount of £2 8s. 8d.

SPEED TRIALS AT CLIPSTONE.

EACH of the last two years that the Nottinghamshire Automobile Club has held speed trials on the Clipstone track of the Duke of Portland the weather has been perverse. But on Saturday last, the third occasion of the trials, it was delightful, with the result that there was one of the best meets yet held in the Midlands.

The officials were:—President, Mr. Chas. Hardy; judges, Lieut-Colonel R. L. Birkin, D.S.O., and Captain R. K. Bagnall-Wild, R.E.; clerks of the course, Messrs. W. Don Foster, A. Barlow, and R. L. Jones; starters, Messrs. G. H. Kirk and W. D. Wells; clerks of the scales, Messrs. H. D. Snook and A. N. Lee; marshals, Messrs. J. Cowen, J. C. Buckley, A. R. Atkey, R. G. Hogarth, and B. W. Winter; timekeepers, Messrs. Chas. Perry, J. H. Scothern, and G. E. Batcher; and hon. secretary, Mr. Booth Granger.

The three events resulted as follows:—

THE WILSON CHALLENGE CUP.—Flying kilometre handicap for tourist petrol cars: open to members of the club. First prize, Wilson Cup and Gold Medal; second, Silver Medal.

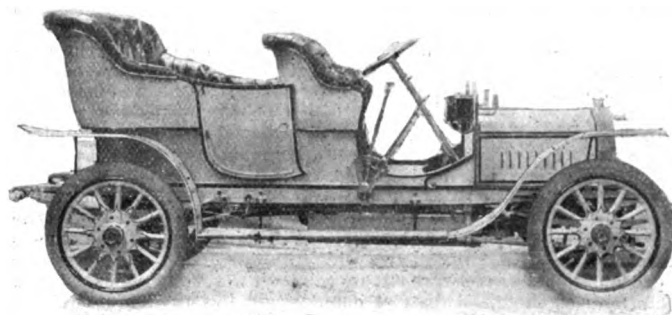
Entrant and car.	Formula Time. Sec.	Actual Time. M. s.	Difference. Sec.
1. F. A. Bolton, 35-h.p. Daimler	30	0 35	5
2. L. L'Estrange, 28-36-h.p. Daimler ..	35 2-5	0 40 4-5	5 2-5
R. G. Hogarth, 12-16-h.p. Clement-Talbot ..	42	0 47 2-5	5 2-5
W. D. Wells, 30-h.p. Daimler	32 1-5	0 40	7 4-5
C. Edge, 60-h.p. Napier	25 4-5	0 34 4-5	9
C. Edge, 40-h.p. Napier	31 2-5	0 40 4-5	9 2-5
J. A. Moran, 24-h.p. Minerva	32 2-5	0 42	9 3-5
E. W. Lewis, 24-h.p. Deasy	34 1-5	0 44 2-5	10 1-5
Victor Riley, 9-h.p. Riley	42 4-5	0 53 3-5	10 4-5
H. Bowden, 35-h.p. Darracq	30	0 41 1-5	11 1-5
R. M. Wright, 15-h.p. Humber	39 2-5	0 52 1-5	13 4-5
S. Downing, 10-h.p. Alldays	45	0 56 3-5	11 3-5
H. Belcher, 15-h.p. Talbot	41 2-5	0 53 4-5	12 2-5
E. J. Wickers, 40-h.p. Weigel	33	0 45 4-5	12 4-5
R. Cripps, 14-16-h.p. Argyll	39 1-5	0 52 2-5	13 1-5
R. B. Latham, 18-22-h.p. West	40 3-5	0 57	16 2-5
C. Jarrott, 9-h.p. Sizaire	43 3-5	1 0 2-5	16 4-5
R. C. Craven, 9-11-h.p. Clement-Talbot ..	47 3-5	1 5	17 2-5
H. D. Snook, 10-12-h.p. Humber	40 2-5	1 0 4-5	20 2-5
A. N. Lee, 8-10-h.p. Coventry-Humber ..	43	1 5 1-5	22 1-5
R. L. Jones, 16-20-h.p. Humber	39 2-5	0 56 4-5	23 2-5
W. E. Dowson, 16-20-h.p. Rover	39 3-5	1 7 1-5	23 3-5
P. E. Tressider, 15-h.p. Clement-Talbot ..	40 4-5	1 24 4-5	44

SCRATCH EVENT.—Fastest time flying kilometre, for any type of touring car, open to any member of the club; prize, a gold medal.

Entrant and car.	Formula Time. M. s.	Actual Time. M. s.
1. Cecil Edge, 60-h.p. Napier	0 36 4-5
Charles Hardy, 45-h.p. Daimler	0 38
F. A. Bolton, 35-h.p. Daimler	0 40 2-5
W. D. Wells, 30-h.p. Daimler	0 43 4-5
G. H. H. Kennedy, 35-45-h.p. Renault	0 44
J. A. Moran, 24-h.p. Minerva	0 46 1-5
E. J. Wickers, 40-h.p. Weigel	0 49 2-5
H. Bowden, 35-h.p. Darracq	0 49 3-5
L. L'Estrange, 28-36-h.p. Daimler	1 32 4-5

ONE MILE HANDICAP.—Standing start, for petrol cars, the property of private members of the club, driven by owner. First prize, gold medal; second, silver medal.

Entrant and car.	Formula Time. M. s.	Actual Time. M. s.	Difference. Sec.
1. P. E. Tressider, 15-h.p. Clement-Talbot ..	1 5	1 33 2-5	28 2-5
2. F. A. Bolton, 35-h.p. Daimler	0 47 3-5	1 17 2-5	29 4-5
J. C. Wilson, 20-h.p. Humber	0 53 4-5	1 35 1-5	41 2-5
R. B. Latham, 18-22-h.p. West	1 5	1 52 1-5	47 1-5
W. D. Wells, 30-h.p. Daimler	0 37 2-5	1 25 2-5	51
H. D. Snook, 10-12-h.p. Humber	1 4 1-5	1 58	53 4-5
A. N. Lee, 8-10-h.p. Coventry Humber ..	1 9	2 3 4-5	54 4-5
R. L. Jones, 16-20-h.p. Humber	0 52 4-5	1 51 1-5	58 2-5
R. G. Hogarth, 12-16-h.p. Clement-Talbot ..	.. ..	.. ..	..



The 20-h.p. Vulcan Car which has been entered by Capt. Corbet for the Tourist Trophy Race.

After the races a dinner was held at the Swan Hotel, Mansfield, when several toasts were honoured, including that of "The Nottinghamshire Automobile Club," proposed by the Mayor of Mansfield, and "The Visitors," for whom Captain Bagnall Wild and Mr. S. F. Edge replied.

IN view of the many motorists who pass through London during holiday time, Messrs. Friswell, the motor-car dealers, wish it to be known that they are keeping their establishment at 1, Albany Street, Regent's Park, N.W., open both day and night during Whitsuntide. This will enable those who require repairs, garage facilities, &c., to procure same without delay.

FORTHCOMING EVENTS.

MAY.

SATURDAY, 18TH.

Motor Union meeting at Lincoln.
 Entries close for the R.A.C. "Graphic" Trophy.
 Cleveland Branch Yorks. A.C. run to Hutton Hall.
 Meeting of the New Forest A.C. at Beaulieu.
 Southern M.C. run to Bexhill.
 Southend and District M.C. tour to France commences.

MONDAY, 20TH, AND TUESDAY, 21ST.

Crystal Palace A.C. meet at Bexhill.

WEDNESDAY, 22ND.

Cardiff M.C. reliability run.
 Start of the Irish A.C. reliability trials—closing on the 25th inst.
 Tar-spreading tests on the Hounslow and Staines road.

THURSDAY, 23RD.

Limerick M.C. hill climb at Windy Gap.

SATURDAY, 25TH.

Last day for practising on the Isle of Man course.
 Aero Club race for the Harbord Cup at Ranelagh.
 Mr. F. A. Bolton receives the Derby, Leicester, Mid-Staffs and
 Notts A.C. at Oakamoor.
 Reliability trial of the Ipswich and East Suffolk A.C.
 South Devon A.C. hill climb at Tavistock.

THURSDAY, 30TH.

R.A.C. Tourist Trophy and Heavy Touring Car Races.

JUNE.

1ST.—Entries close for Henry Edmunds Challenge Trophy.

22ND.—Southern Motor Club's open hill climb on Captain Kydd's Hill, East Grinstead.

JULY.

6TH.—Inaugural races on the Brooklands Track.

13TH.—Entries for R.A.C. commercial vehicle trials close at ordinary fees.

AUGUST.

20TH.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

9TH.—Industrial Vehicle Trials commence.

LIGHTING-UP TIMES—LONDON.

May 18th—8.45	...	20th—8.48	...	22nd—8.50	...	24th—8.54
" 19th—8.47	...	21st—8.49	...	23rd—8.52	...	25th—8.56

ROAD REPORTS.

DURHAM.—The Durham County Council are shortly commencing the re-building and widening of several bridges in the county as follows:—Ruby Beck Bridge, at the west end of Staindrop village, two bridges in Lancaister village near the church, bridge on the Newcastle and Sunderland road at the junction of the road to South Shields. Motorists are asked to take other routes where possible, and, if they find it necessary to cross these bridges, to use special care in driving.

LLANDAFF.—The Llandaff District Council is considering the suggestion of their surveyor that a quarter of a mile of road should be laid with a damp-proof course placed between the ballast and the top metalling.

DORCHESTER.—The Dorchester Rural District Council had before them a complaint forwarded by the county council from the War Office (Army Motor Reserve), with reference to the condition of the roads within a radius of about seven miles from Weymouth, over which motor-cars were used in a recent staff-ride. The rough condition of the surfaces was a subject of general complaint in the reports of the officers of the Army Motor Reserve. Tyres which were in good condition at the commencement of the ride were cut by the loose flints and almost ruined. The chairman of the rural district council said it struck him that the proper answer to give to the complaints of these officers was that if it was thought desirable for Imperial purposes that the rural districts should be provided with first-class motor tracks the district authorities must look to the Imperial authorities to pay the expense. It was decided to send a reply to this effect.

AMONG recent orders for Napier cars secured by Messrs. S. F. Edge, Ltd., are a 60-h.p. six-cylinder chassis for Sir Marcus Samuel, a 40-h.p. chassis for Field-Marshal Earl Roberts, and a 40-h.p. landaulet for Dr. W. F. Abbott, of Hereford.

ONE of the New Engine Company's cars fitted with a landaulet body was recently successfully driven up Porlock Hill, Devonshire, by Mr. J. C. Mort. He started alone, but, finding the car going strongly, he picked up several passengers, the vehicle finishing the climb with five aboard.

PUBLIC MOTOR SERVICES.

THE total receipts taken on the motor-buses at Eastbourne for the week ending the 4th inst. were £135 8s. 9d., and the total number of passengers carried 26,684.

AN auspicious beginning has been made by the motor-bus service from Stranraer to Drummore.

CONSIDERABLE improvement in the motor-bus service at Ryde, Isle of Wight, is reported, but complaint is still rife among visitors that Ventnor is not similarly served.

ONE hundred residents having, through the Duke of Westminster's representatives, petitioned the Westminster City Council asking them to memorialize the Home Secretary desiring him to restrain motor-omnibus companies from sending their vehicles through Eaton Square; the subject has been before the Law and Parliamentary Committee, who at Thursday's Council meeting reported that numerous complaints of a similar nature have been received from other parts of the city, and that it would be an "undesirable precedent" to memorialize the Home Secretary on behalf of the inhabitants of a particular area. They however, intimated that they have under observation the effect of the regulations issued by the police governing the licensing of motor-omnibuses.

POLICE TRAPS.

AT Friar's Oak, Sussex, about ten miles from Brighton, is a police trap, where motorists should be careful.

SOME of the roads leading from Wolverhampton are being infested with police traps.

MANY of the motor traps in Cheshire extend over five or six miles of quiet country road.

THERE is a measured mile near Haddington, upon which several tourists have lately been trapped.

THE village of Trefnant, on the main road from Mold to Rhyl, now has its police trap.

A POLICE trap has been set up on Bromley Common. Several victims have already been caught.

SEVERAL traps have been notified on the Great North Road, including Shilton, Alconbury Hill and Buckden.

ON the North Parade, Horsham, motor-cars are now being timed by the police.

THERE is a police trap in frequent operation at Westhampnett, those caught therein being taken to the Chichester court.

THE chief constable of Blackpool gives a timely warning to motorists not to infringe the law with regard to speed during the holidays.

NO less than four police traps have been working lately in the Lewes district—often simultaneously. They are located on Dicker Common, and at the Arlington cross roads—on the way from London to Eastbourne. There is another at the Berwick cross roads on the Lewes-Eastbourne road, and a fourth near the Swan inn, Chorley, on the Lewes-London road.

BUSINESS NEWS.

MESSRS. ROWLAND BARNETT AND COMPANY, LTD., of 3, Hanover Square, Newcastle-on-Tyne, have been appointed agents for the sale of Weigel cars for Northumberland and Durham.

ON Wednesday the Northern Automobile Company, Ltd., held their monthly auction sale at the Oak Lane Garage, Bradford.

NOW that Spain looms so largely in the public eye, the appended extract from a letter recently received by the Dunlop Company is not without interest. "I have recently returned from a somewhat extended tour in Spain on my 30-40-h.p. Daimler. In many parts we penetrated the roads are almost indescribable, consisting of very deep winding ruts caused by the ceaseless mule-cart traffic, hundreds of miles of endless unrolled stones, and frequent river-beds, either dry or hidden by raging torrents of water. Obviously, under those conditions, the excessive strain on tyres and continual risk of puncture cannot but result in a good deal of trouble; but, in spite of all this, you will be interested to hear that a pair of Dunlop studded non-slipping covers, 880 mm. by 120 mm., ran throughout the trip without even so much as wanting to be pumped up."

THE two six-cylinder Siddeley cars which will compete in the Herkomer Touring Trophy competition have been entered by Mr. Lionel de Rothschild and Mr. Vere Key-Seymer, respectively.

DURING his recent visit to Italy, King Edward VII. made use of two Daimler cars daily.

MESSRS. R. REYNOLD JACKSON AND COMPANY, LTD., have appointed Messrs. Trackson Bros., Ltd., Brisbane, agents for the Jackson cars in Australia.

MESSRS. S. SHERMAN AND SON, of 57, New Compton Street, London, W.C., are making a speciality of repairing damaged motor-car lamps.

MESSRS. S. F. EDGE, LTD., have sent us a photo of the 40-h.p. six-cylinder Napier car with double landaulet body they have recently supplied to the Right Hon. A. J. Balfour for town or country use. The vehicle is magnificently finished and is fitted with two extra seats inside, and has a removable canopy.

MESSRS. G. T. RICHES AND COMPANY, of 19, Store Street, London, N.W., have been appointed by Messrs. C. A. Vandervell and Company their wholesale agents for the West End of London.

THE Motor-Car Journal.

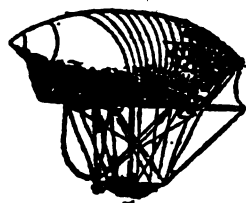
VOL. IX.]

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COMMENTS.



BALLOONING and travel above *terra firma* is becoming a holiday pleasure with many sportsmen. At Easter several notable ascents were made from the private grounds of the country, and this Whitsuntide, despite the chilly air and coolest showers, news of similar adventures comes from various parts of the country. Sir John Shelley has been entertaining a party at Avington Park, near Winchester, during the Whitsuntide, for a ballooning expedition. Arrangements were made with the local gas company for an ascent of three balloons on Saturday, but the wind was too high, and it had to be abandoned. The ascent was made on Monday afternoon, however. In the Hon. Mrs. Harbord's balloon, the *Nebula*, were the owner, Lady Shelley, the Hon. C. S. Rolls, and Major Baden-Powell; in the *Venus* were Mr. and Mrs. Moore-Brabazon and Mr. Orr-Ewing; and in a third balloon Professor Huntington, Miss East, and Sir John Shelley. The balloons sailed away in the direction of Portsmouth, and all the passengers subsequently returned safely to mother earth. There was a time when country gentlemen, wishing to give their friends an exceptional pleasure, arranged for automobile rides. Now that motor-cars have become the commonplaces of travel, the balloon provides a variant on the ordinary experiences of mankind.

Cars in Portugal.

Not only is Spain becoming an important factor in international automobile business, but Portugal also is becoming an importer of cars. In 1903 only twenty-six motor vehicles were taken into the country for regular service; the following year the number rose to thirty-four; in 1905 to sixty; and in 1906 to ninety, of a total value of £51,979, as well as three chassis, upon which, for the first time, the carriage builders of Portugal were to place bodies of native origin. Of the ninety cars received last year, fifty-seven were supplied by France, fourteen by Italy, seven by Belgium, six by Germany, five by Great Britain, and Spain sent a solitary one. The figures are not large, but they are significant of the development of a new market for makers.

Public Notification of Speed-restricted Areas.

OUR reference last week to the necessity of those local authorities which have secured the Local Government Board's sanction for the reduced speed of motor-cars giving prominent notification of such restriction has received further evidence in a case just heard at the Retford Police Court. A motor-cyclist from Rotherham, who was unaware of the fact that the speed of motor-cars in certain thoroughfares of Retford had recently been limited to ten miles an hour, was summoned by the police for riding beyond that speed and also in a manner dangerous to the public. The case was heard in the absence of the defendant, who did not arrive until its conclusion. He was then fined in each case, although there was no evidence to show

that the authorities had made any notification of the permission of the Local Government Board for the imposition of the reduced speed limit. Such restrictions should certainly be made clearly known in the thoroughfares to which they apply, otherwise injustice to strangers will be the only result. The point has received added importance lately, as the number of these speed-restricted areas has increased, and is one of which the automobile organisations in these districts should take especial note.

The Holidays.

DESPITE the unseasonable and unreasonable character of the weather during Whitsuntide, motorists were prominent on the landscape and managed to get a fair amount of enjoyment between the showers. Many of the London correspondents of provincial journals have drawn attention to the fact that the King, the Prince and Princess of Wales, and the Duke and Duchess of Connaught all adopted the automobile when they abandoned London for the holiday. In the provinces the garages generally did good business, not only in storing cars for visitors, but in hiring them for parties seeking fresh fields and pastures.

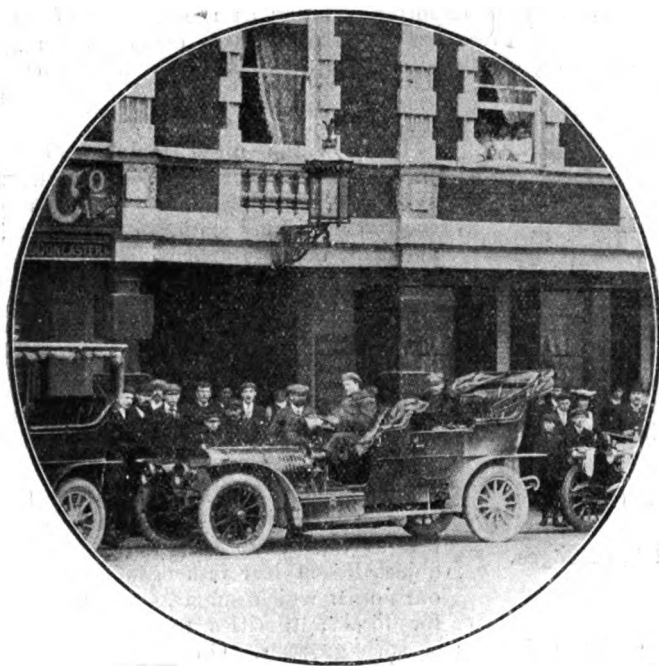
High Hedges.

IN connection with the risks that travellers run by reason of untrimmed hedges that exist on the roadside, an object lesson has just been brought to our notice which suggests the necessity for local authorities to be made fully aware of the dangers of such growths. On Sunday a serious accident occurred at Catterick Bridge, near Richmond. A motor-car driven by Mr. J. Nattras, of Stockton, was proceeding *via* Scorton to Richmond when, at the four lane ends near the hotel at Catterick Bridge, it came into collision with a motor-cycle. The roads cross each other at sharp angles, and owing to the high hedges neither of the drivers could see the approach of the other vehicle. Considerable injuries were inflicted on the passengers, and both machines were very much damaged. The accident emphasises the necessity of local authorities obeying the statutes which enjoin that landowners shall attend to such matters, and that the local authorities shall see that no neglect of such duty is allowed.

The Irish Trials.

ON Wednesday the Irish Reliability Trial commenced with a run of 150 miles. A start was made from Dublin at 8 p.m., and three hours later the cars were timed to reach Newry, where a stop of one and a quarter hours was enforced. Portrush was reached shortly before 5 p.m., and there the capacity of a dozen hotels was taxed to the utmost. There are no fewer than seventy-one entries, the first five being the 6-h.p. Rover, the 7-h.p. Star, the 8-10-h.p. Rover, the 9-h.p. Adams-Hewitt, of English make, and the 10-h.p. Chambers—a local production. The entries are classified into two divisions, Section II. being restricted to members of the R.A.C. or affiliated clubs, and driven by them or a member of the family; Section I. includes all the trade entrants. Further, there are

eight classes separated by distinction of price. Of the seventy-one vehicles the 40-h.p. Ford and the 40-45-h.p. Hotchkiss have six-cylinders, and single-cylinder vehicles are represented by the Rover, Adams-Hewitt, and Cadillac; double-cylinder cars by the Star, Chambers, Swift and Darracq; the Turner-Miesse steam car is the solitary example of a three-cylinder vehicle. All the other entrants are of the four-cylinder type. With regard to tyres, the Continental and Dunlop are most largely represented, and cars are also fitted with the Palmer tyres. Mr. Watson's 22-30-h.p. Berliet in Class F has Sirdar tyres, and the 15-h.p. Ford is provided with the Ajax on both front and back wheels. Of the fifty-five cars in Section I. eighteen use Carburine, fifteen Shell spirit, thirteen Pratt's, four Bowley's, and two each Borneo and Giant motor spirit, the steam car employing paraffin and Shell spirit as fuel. Owing to going to press ere the conclusion of the first day's run we are compelled to reserve a report of the Trial till our next issue. The event should do much for the movement in Ireland.



The Hotchkiss Six-Cylinder Car which is at present undergoing a 10,000 miles Reliability Trial, outside the Clinton Arms Hotel, Newark.

A New Dust Preventive.

ON Thursday last we had an opportunity afforded us of testing the qualities of "Hahnite" as a dust preventer, when a patch of road of 100 yards in length, crossing Barnes Common, was submitted to public inspection. This road had been treated to a coating of "Hahnite" three weeks previous to our visit, and proved to be in a dustless condition—in very strong contrast to the road leading to it. In conversation with the local road surveyor, we were informed that since the treatment with this preparation the road had not required watering, nor had any surface dust been taken from it; whereas, in the case of the ordinary road, it was found necessary to water from three to seven times per day, according to the state of the weather. He further informed us that he had gone into the cost of treating the road with "Hahnite," and found the expense per annum worked out less than the outlay necessary for merely watering the roads. Taking into consideration the advantages of "Hahnite" as a preventive of dust, a preserver of the road, a healthy disinfectant, and an assurance against skidding, to say nothing of its economy, there is no doubt that this production should commend itself to everyone in authority in residential neighbourhoods where there is much vehicular traffic, whether by horses or motor-cars.

Exploring Africa by Motor-Car.

MR. B. J. F. BENTLEY, who has already gained some fame as an explorer in Africa and other parts, started on Saturday last for an overland trip to Abyssinia in connection with a special commission he has undertaken for the Urban Bioscope Company. Mr. Bentley has made similar journeys before, but his passage across the desert has previously been made in the orthodox way on camels. His latest trip, however, will be undertaken with an 18-h.p. Siddeley car. The party are travelling *via* Dover, Calais and Marseilles, thence by steamer to Djibouti. From there the real difficulties of the expedition will be encountered as the car proceeds on its way to the centre of Africa. The full itinerary is as follows:—Djibouti, Galamo, Arabderi, Dullul, Kallelu, through the Makanesa Mountains, Harral, Jebel-Ahmar, Hawash Gorge, Zuqualla Mountains, Adda, Addis-Abeba. Mr. Bentley, who was entertained by the Wolseley Company at lunch on Friday last week, expects his tour to extend to seventy days out and home, the return journey being made from Addis-Abeba to Khartoum, and thence, *via* the Valley of the Blue Nile, to Wadi Halfa, Cairo and Alexandria.

Ways of Travel.

OPENED by Colonel W. J. Bosworth, and varied in its collection of exhibits, the Travel Exhibition now in progress at the Royal Horticultural Hall, Westminster, provides a suggestive ramble for the man who stays at home. Here are shown the equipments necessary for adventures in Iceland or Patagonia, and the requirements essential to the enjoyment of travel in all the continents known to man. The display also suggests many pleasant places in our own country which are unknown to the average man or woman, and tells how they may be reached with the minimum of discomfort. On this point the motorist may proudly assure his friends of his independence of time-tables and the long waits occasioned by the intervals at which trains run.

Level Crossings.

NOTHING could have been more admirably stage-managed in demonstration of the inconvenience of the level crossing on public highways than the passing of a Midland Railway train over the High Street, Lincoln, on Saturday. This led to the procession of cars being "held up," and the leading officers of the Motor Union were able to stand and contemplate the scene. Such survivals of the last century are familiar enough in country places, but the way in which this particular crossing dissects the main thoroughfare of such an important city as Lincoln is really remarkable, and Saturday's experience should stimulate the Motor Union to renewed activity in that direction. In this connection we are glad to know that the Great Northern Railway, recognising the danger of the level crossing, has adopted a system of continuous bell ringing on the Hatfield and Luton branch of their line, so that at the two level crossings on that section approaching drivers or pedestrians have ample warning of oncoming trains. This is particularly important where there are sharp turns in the neighbouring roadways, or where high hedges obstruct the view ahead.

Roads in Lincolnshire.

IN many respects the speech of Mr. Embleton Fox at the dinner of the Motor Union at Lincoln on Saturday was the most noteworthy utterance during the whole gathering. He spoke as a chairman of Quarter Sessions who had never had to fine a member of the Union for exceeding the speed limit, and there was a sense of glowing pride as he declared, "You also see before you the chairman of a County Council who has been from the first convinced of the futility of a speed limit." Such an introduction gave him a pleasant reception at the hands of the assembled motorists, and those

from the south could not fail to contrast the varying views that prevail in different parts of the country. Mr. Fox went on to speak of the excellence of the roads of the county. In Lindsey, he said, they claimed great credit for having anticipated the advent of the motor-car in regard to the roads, and they were endeavouring, consistently with their duty to the ratepayers, to improve the roads with a view to motor traffic. He did not say that tar macadam would be the panacea for the dust nuisance, but he thought it fairly held the field at the present moment, and the County Council was doing a good deal in that respect. And on this point most of the visitors had conclusive proof.

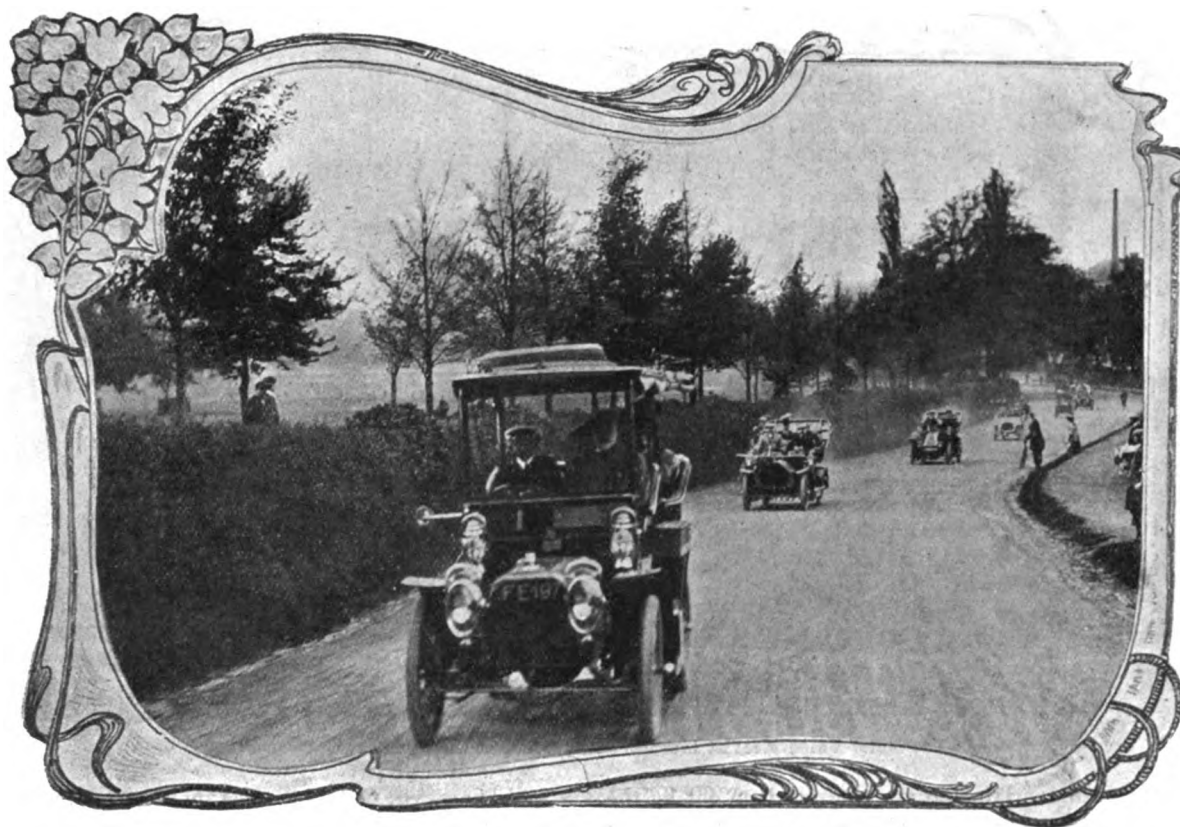
Road Experiments.

THIS week the long-anticipated tar-spreading tests, organised by the Roads Improvement Association on behalf of the R.A.C. and the Motor Union, are being held on the Hounslow and Staines road. The trial of tar-spreading machines is also taking place, these being tested on the same

discover an apparatus that will economically spread a suitable preparation of tar so that it may penetrate deeply into the road and bind the materials instead of forming a separate coating on the surface. There are about 20,000 miles of main road in England and Wales alone, and the successful competitors have a wide constituency for future work.

The Tourist Trophy.

NEXT week the Tourist Trophy races will take place in the Isle of Man, and it is unfortunate that the practising should have been characterised by a larger number of mishaps than has taken place on previous occasions. On Wednesday a West car ran into Sulby Bridge and was seriously damaged, while an accident occurred to a Thornycroft on Snaefell. Another accident was also reported from Ramsey. There is really nothing fresh to add concerning the events, except to say that with racing on Tuesday, Thursday, and Friday, those who venture across to Douglas from the mainland will have a busy time. All the best steamers will be run by the companies daily



The Motor Union Meet at Lincoln.—On the Way to Canwick Hall.

road, between Baber Bridge and the Staines boundary, as well as on the flint road between Twickenham and Kempton Park and the gravel road between Virginia Water and Reading at Ascot. The trial on the latter highway, which is under the control of the Berkshire County Council, will take place on the morning of Friday, the 24th, following which the Berkshire Automobile Club is entertaining the judges' committee and various representatives of official bodies to lunch. The rules governing the competition have previously been given in the *M.C.J.*, and it is satisfactory to know that eight tar-spreading machines and nine preparations of tar have been entered. Most of the latter have already been used on busy roads in various parts of the country, so that the competition is one of a thoroughly practical nature, and the Roads Improvement Association are sanguine as to the good results that will follow their enterprise. Tarring the roads has so far proved its value as a palliative for laying dust, but the fact that it has generally been applied by hand has made it too expensive for many local bodies. It is hoped to

from Liverpool at 10.30 a.m. and 2.45 p.m., commencing on Monday next. The charge for the conveyance of cars from Liverpool to Douglas, or *vice versa*, is 40s. per car.

THE Handbook and Guide of the C.T.C. for 1907 is to hand, with the usual well-known features, together with miscellaneous information for the guidance of motorists and a table of railway rates for motor-cycles. The list of hotels in England, Scotland, Wales and Ireland will be of service to motorists on tour.

THE British and Colonial Daimler-Mercedes Syndicate, Ltd., whose headquarters are at 532, Oxford Street, London, W., are putting on the market a new all-British car, which is to be known as the Daimler-Mercedes. The vehicles, which are being built under licence from the Daimler Motoren Gesellschaft, the makers of the Mercedes cars, are being constructed by the Yorkshire Engine Company, of Sheffield. For the current year only two models are being turned out, viz., 30-h.p. four-cylinder and 45-h.p. six-cylinder, the bore and stroke of the engines of both being 110 mm. by 130 mm.

FLEXIBILITY.

WHAT IT MEANS AND HOW IT IS OBTAINED.

(Concluded from page 247.)

WITH a motor of given horse-power, the energy required to accelerate to a given extent the flywheel, which must be used, will be inversely as the number of cylinders. Thus a single-cylinder engine will be drawn upon for energy so largely by the flywheel that the acceleration imparted to the car in a unit of time will be greatly reduced. With a twelve-cylinder motor, for instance, which can be operated, if desired, with no flywheel at all, there will be no large call for energy to be stored in the rotary form, and it will practically all go toward the acceleration of the car. Engines having numbers of cylinders lying between these two extremes are capable of more rapid accelerations, other things being equal, as the number of cylinders is greater.

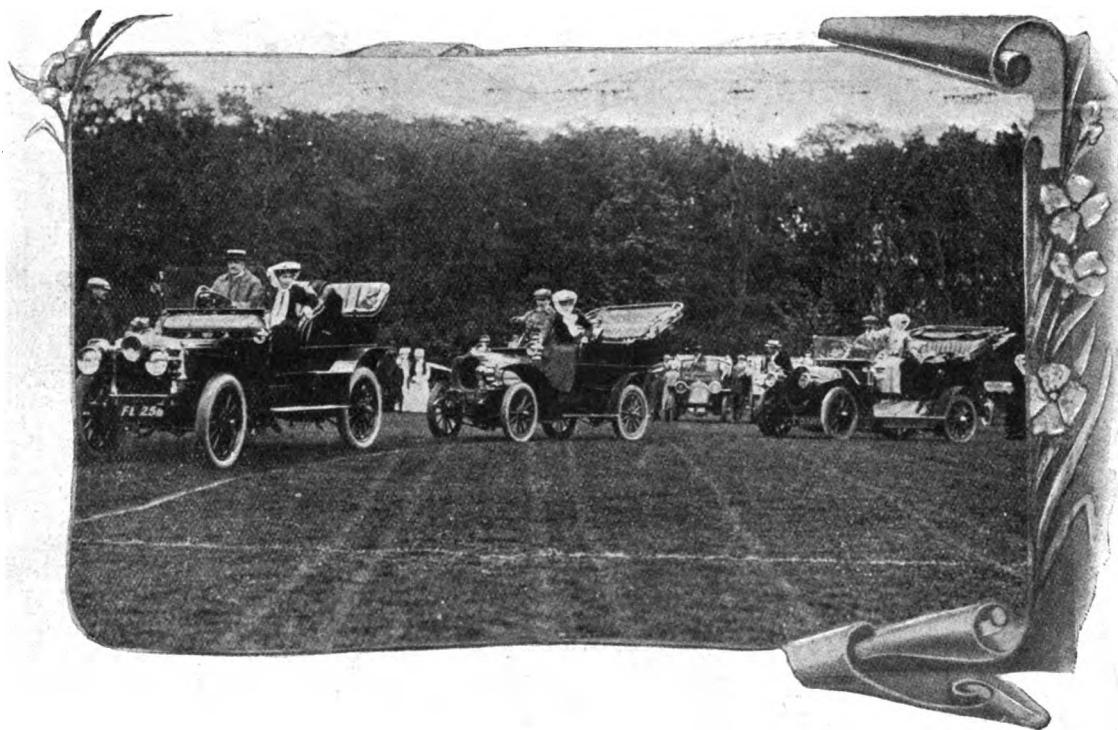
The high degrees of flexibility possessed by motors having many cylinders and their quality of rapid acceleration are explained customarily by saying that the explosions come very

"picking up" power which the single-cylinder car would possess as compared with the four.

In point of fact the fly-wheel of a single-cylinder engine, while much heavier per horse power than that of a four-cylinder, is kept down in weight from practical considerations at the sacrifice of steady running, while those of the multiple-cylinder engine, which may be comparatively light, are made liberally heavy in each instance to secure a high degree of steadiness of operation.

There is thus less difference between the flywheel weights per horse power in engines of one to six cylinders than would be supposed, but still a large variation in favour of the multi-cylinder types.

The engine of few cylinders which has to have stored at all times in its flywheel enough energy to carry it over several idle strokes, one of which may be a compression, and at the same time keep its vehicle running, will always make large demands upon each explosion for the replenishment of this store of energy, and will be able to impart for accelerative purposes to its car a comparatively small amount of energy per unit of time



The Motor Union Meet at Lincoln.—A Snapshot at the Gymkhana. (See page 267.)

close together, or even overlap, and the energy given out by the engine becomes more nearly or quite continuous, there being no time allowed for the car to slow down between power impulses. This explanation covers the ground fairly well. The fact is that, as the cylinders are increased in number, so that there are few or no complete idle strokes, the flywheel capacity may be greatly reduced, as there are no considerable periods in the cycle when no energy is being developed, and during which not only must the speed of the engine but that of the vehicle be kept up by energy withdrawn from the flywheel, after being stored in the wheel during preceding power strokes. The size of flywheel, which must be used on any engine, is that which will secure a fairly smooth action of its motor at full throttle, when slowed down to a couple of hundred revolutions per minute or so, with a single-cylinder motor of a certain horse-power. To secure as great a degree of steadiness of running as that obtained with a four-cylinder engine of the same power would require a wheel of more than a dozen times the capacity of that necessitated with four cylinders. This, of course, is out of the question, and cannot be carried out in practice, but if it were it is easy to see the enormous call which the flywheel of the single engine would make upon the motor during acceleration, and the relatively low

and hence will be less flexible in point of rapid bursts of speed than other types.

Finally, it may be said that in order to secure the utmost of what is known as flexibility, the following conditions, and probably some others, are desirable. A motor freely drawing a perfectly proportioned mixture through a well-adapted throttling device; well timed and liberally proportioned valves, and the greatest practicable subdivision of the explosive impulses, that is, the largest practicable number of cylinders, and, finally, a short stroke and a high rotative speed. The inevitable increase of flywheel weight and capacity with every attempt to concentrate the power production in a lesser number of cylinders acts, it must be remembered, in a beneficial way, as well as in the adverse manner as regards flexibility already spoken of. The larger the fly-wheel storage of energy, the larger is the reserve available to be drawn upon to help a car over sudden short resistances. The fly-wheel is always a steadying influence, and is thus by nature a deterrent to changes of speed—either acceleration or deceleration.

THE Edinburgh Fire Brigade is about to adopt a petrol fire engine, of a pumping capacity of 500 gallons per minute.

THE MOTOR UNION AT LINCOLN.



NO man's education is completed in the schools. In fact, it can really be said not to have begun till he forgets some of the ordinary lessons of his early years. According to most geographical primers the whole of Lincolnshire is flat—a great expanse of dreary fenland, with never an elevated mound, and nothing to compare even with the hills of such a county as Essex. But, after taking part in the gatherings which comprised the May meeting of the Motor Union, this belief of youth is entirely dispelled, and the great organisation of motorists, of which Mr. Rees Jeffreys is the resourceful secretary,

invitations to county magnates to have rides in cars—for educational purposes.

The meet at Lincoln last Saturday followed the orthodox lines, and, thanks to the forethought of Mr. Godfrey Low, the hon. secretary of the Lincolnshire A.C. (which now numbers over 200 members), a distinct success was achieved. The municipal welcome was cordial, for the mayor (Col. J. S. Ruston, J.P., P.L.) is both a city father and an enthusiastic motorist, while the sheriff, Dr. Mansell Sympson, J.P., combines civic virtues with motoring interest and literary ability. Both these gentlemen were in their robes of office when they received the General Committee of the Motor Union in the Guildhall over the Stonebow—a handsome fifteenth-century gateway that is the hub of the city, from which everything seems to radiate. Colonel Ruston was able to point to the record of Lincoln—with regard to its friendly attitude towards motorists—as an assurance of that toleration which welcomes any harbinger of progress. He told us that throughout the wide county of Lincolnshire there was none of the harsh treatment of motorists that was noticeable in some places, and that both the Chief Constable of the city and of the county viewed



The Motor Union Meet at Lincoln.—The Visitors' Cars in the Great Northern Railway Company's Yard.

must be regarded as a peripatetic missionary of England—to the English. Three times a year it is bringing motorists from all parts to the central cities, where archaeological lore, social delights, municipal recognition, and that spirit of camaraderie that has done so much for the advancement of Motorism are cultivated in exercises which have the further advantage of educating the people and luring from the stable to the garage those whose pockets are sufficiently lined to leave them a margin for upkeep after purchasing a car.

A provincial meet of the Motor Union is really a revival of the old three volume novel—each book having some kind of sequence with the others. As a rule the first was necessary to an understanding of the successor. So it is with the tripartite nature of these Motor Union meets. Arranged in order of precedence they are—

1. Business meeting.
2. Gymkhana.
3. Dinner and speeches.

As the day wears on serious matters recede, and, beginning with the consideration of the dubious methods of local authorities, the affair generally ends with banter of chief constables and

Motorism in a sympathetic spirit, the latter inviting the A.C. to co-operate with him in securing consideration for all users of the road. Reply was voiced by Mr. C. D. Rose, M.P., who then proceeded to occupy the chair for the committee meeting of the Motor Union.

Several important matters were considered by the committee, which resolved to increase its subscription to the expenses of the tar-spreading competitions to £400; to remit the question of enforcement of the speed limit in certain districts to a sub-committee for further consideration; to make grants towards legal expenses in special cases, and to continue negotiations with the railway company with a view to the improvement of the ferry accommodation between New Holland and Hull for motor-cars. The secretary reported that 1,200 motor-car badges had been issued, that fifty-nine applications for advice had been dealt with during the past month, that seven more clubs had affiliated, and 200 motorists had joined the Union direct, raising the number of members to over 15,000. It was also agreed to present medals for competition to the Wolves hampton, Sheffield, Sussex, Kent, and the Naval Automobile Club.

Unfortunately the weather was not so warm in its welcome

as the civic rulers, nor so hearty in its greeting as the ecclesiastical authorities. While the committee of the Motor Union was deliberating in the room over the Stonebow, Canon Hicks and the Rev. F. Kay were conducting a party of motorists over the cathedral. They did not omit to point out the swineherd on the north-west tower, who stands blowing his horn quite oblivious of the traffic below. Mr. Kay was a delightful guide to the nobly proportioned nave, and learnedly told how comprehensive is the great fan of all the styles of architecture from the days of Remigius. But outside the cathedral the wind was high and lusty, and when motorists went forth canopies were raised and windproof garments donned in preparation for the unfriendly weather which seemed in store.

Luckily there was a brighter outlook as the cars assembled in the Great Northern Railway Company's yard—a spacious ground kindly placed at the disposal of the organisers by the railway company, which has done much for the city, and affords travellers the best route for reaching Lincoln either from north or south. Nearly a hundred cars were assembled, and it was a gallant procession that set forth for a circuit of the city. Led by the mayor, it was soon sent on its way. We were on a 30-h.p. Daimler, driven by Mr. J. Huskinson, the manager of the



Nottingham depôt—a combination that secured a pleasant run along the sinuous route, with its varying gradients and frequent halts and starts, not one of which interfered with the perfect delight (the weather, of course, being always excepted) of the run. Passing two churches with Saxon towers, we made way to the Stonebow, to the left of which the police directed the drivers, from whence we went to Yarborough Road, where we had a fine view of the extensive preparations for the Royal Show, of which all Lincoln is talking. Just touching the Ermine Street, which runs in a straight line to the Humber, the route was under the Newport Arch of Agricola, and then through the Exchequer Gate Arch to the grand West Front of the Cathedral. Round this we skirted by the statue of Tennyson and the Pottergate Arch, from whence was a glimpse of the valley of the Witham, to Canwick Hall—for which we had been prepared by the capital itinerary given by the Sheriff. So far the way had been upward and we were on a hill with the city of Lincoln smoking in the hollow below. Thence the road was a descent to tramlines and—quite a touch of mediævalism—a level crossing across the High Street. By way of demonstration a train was driven through, while motor-cars, tramcars, and a crowd of miscellaneous traffic was stopped—such a halt as

the people of Lincoln have to suffer every day, and many times during the day. Once beyond the crossing the way lay along a fine wide thoroughfare, and then up Canwick Hill to Canwick Hall, the hospitable home of the Sibthorps.

There Lady Cholmeley received the visitors in the absence of Mr. and Mrs. Waldo Sibthorp, and then an interesting gymkhana was held in the cricket ground. The cars were well arranged round the enclosure, the arrangements made by Mr. S. Oglesby being excellent. Judging was undertaken by Mr. C. D. Rose, M.P., Earl Russell, Mr. Charles Hardy, and Mr. Rees Jeffreys. The marshals were Major Cole, Captain Newsum, Messrs. W. A. Tomlinson, W. J. Newsum, C. Nelson, and Godfrey Lowe. Mr. W. R. Pennell was starter. There were three events. In the starting and stopping race Mr. H. Moyses, of London, was first, and Dr. Husband, of Crowland, second. Musical chairs, as usual, formed an attractive item on the programme, Mrs. Russell Matthews, London, and Miss Gamble, Lincoln, being adjudged equal. The "tying the knot" race was provocative of mirth, and was run in three heats, the final resulting in the win of Major and Mrs. R. S. Ruston, Shrewsbury, and Mr. and Mrs. S. W. Philpott, London. Then followed tea and the prize distribution, the drive back into Lincoln city being a "go-as-you-please" kind of adventure.

In the evening the proceedings were concluded by a dinner in the County Assembly Rooms, at which Sir Hickman Bacon, Bart., presided, supported by Earl Russell, Hon. A. Stanley, M.P., the Mayor and the Sheriff of Lincoln, Major J. A. Cole, Captain Mitchell Innes, Captain Deasy, Messrs. C. D. Rose, M.P., W. Embleton Fox, C. H. Roberts, M.P., Ballin Hinde, G. T. Langridge, Rees Jeffreys, W. E. Rowcliffe, Hopkins Walter, C. Hardy, C. H. Dodds, A. McAlpin, T. B. Cawood, T. C. Aveling, and other well-known motorists.

After the loyal toasts Sir Hickman Bacon testified to the value of the Motor Union and the excellent work being done by the organisation of motorists into a central body. Mr. C. D. Rose responded to the toast of the Motor Union, and congratulated the local club on its activity. A humorous speech was made by the Hon. A. Stanley in proposing "The County and City of Lincoln," to the first portion of which the chairman of the Lindsey County Council, Mr. W. Embleton Fox, responded, declaring his views as to the futility of the speed limit, and the endeavours of his Council to improve the roads for motor traffic. The Mayor and Parliamentary representative also replied, and speechmaking was brought to a conclusion by Earl Russell and Major Cole.

Thus ended the first of the Motor Union's provincial meets for 1907—a thorough success, towards which the efforts of the Lincolnshire A.C. adequately contributed.

FOR throwing stones at Mr. R. P. Houston, M.P., when in his motor-car along the Finchley Road, N.W., two men have been fined £1 each and costs.

THE village of Buckden has a couple of hotels, and the story of how certain motorists commenced their lunch in one and finished at the other was told at the dinner table at Lincoln in the evening. Evidently police traps are not the only terrors of that village.

OUR illustrations of the Newport Arch and the Cathedral are from the Guide to Lincoln, by Dr. E. Mansel Simpson, J.P., Sheriff of Lincoln. This is the standard work on the history and antiquities of the city, and we are indebted to the publishers, Messrs. Methuen and Co., for permission to reproduce these interesting sketches which accompany our report of the Motor Union meet.

THE Southern Motor Club contingent included Messrs. Allen Vickers, H. Luff-Smith, W. L. Lorking, and S. W. Philpott, the latter having run through from town without tyre troubles—thanks to the Elastes with which they were filled. Very different was the experience of the Hon. Arthur Stanley, whose tyre burst nearly thirty miles from Lincoln—a condition of things which was pointed out to him by every policeman he subsequently met.

CONTINENTAL NOTES.

The Darracq Company and their Racing Cars.

It will be remembered that the Darracq Company last week announced that their cars had been withdrawn from all racing events by reason of their driver, Wagner, having agreed to drive a Fiat. We learn, however, that the Darracq cars still promise to figure prominently in the events of 1907, for, within a short space of time after the firm offered the vehicles for sale, together with a right to run in the event for which they had been entered, the offer was accepted by some very keen and well-known sportsmen, including the wealthy amateur driver Count Florio, who has purchased two of the Darracq flyers, one of which he will drive in the Kaiser's Prize Race, while an amateur friend of the Count will take charge of the other. Herr Branda, another well-known Continental sportsman, has purchased a third car, and will also be seen at the wheel driving a Darracq in the same event.

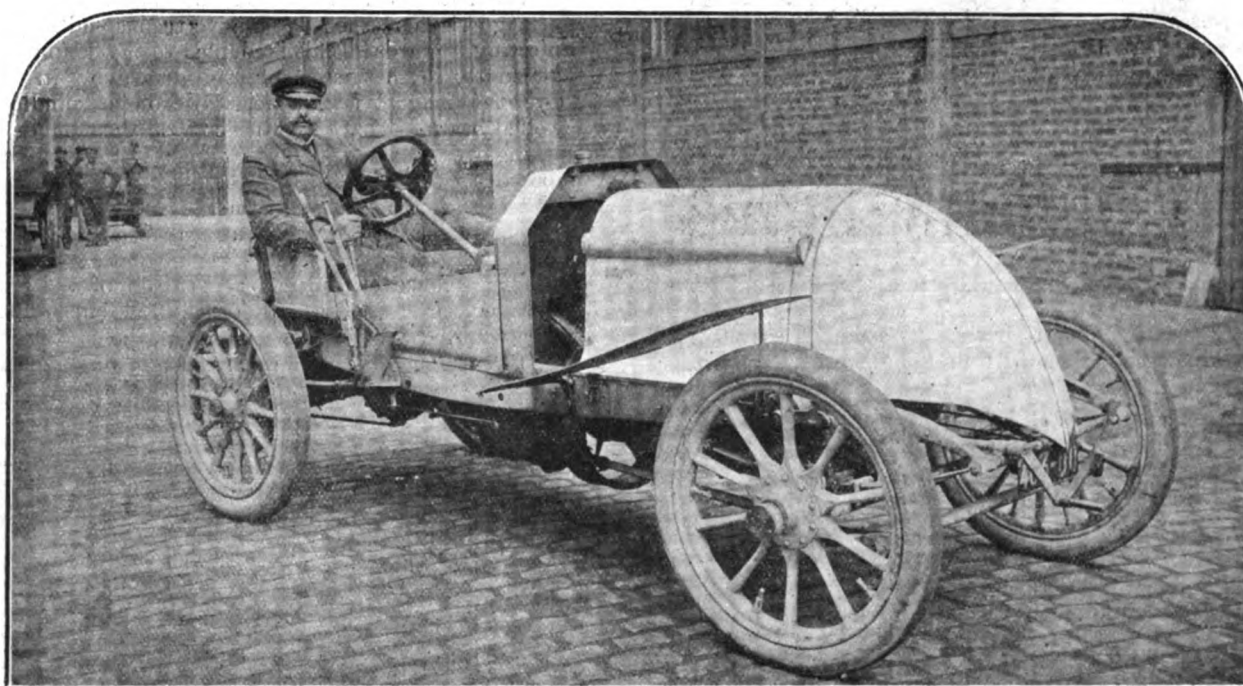
The New Panhard Racing Cars.

We give an illustration herewith of one of the three racing

Prix of the Automobile Club of Belgium, this last-named even having the same regulations as those adopted for the Kaiser Prize race, it having been decided to run the Circuit des Ardennes contest under the old conditions. If it is found impossible to obtain the necessary permission for a three days' meeting, the second and third events are to be run off on the second day of the meeting.

The Paris-Ostend Motor-cycle Reliability Trial.

The Auto-cycle Club of France has definitely decided to hold its Reliability Trials of motor-cycles from the 20th to the 23rd June. The competitors will be divided into five categories, viz.:—1, Motor-bicycles of a cylinder capacity of one-third of a litre; 2, motor-bicycles quarter of litre cylinder capacity; 3, tri-cars half litre cylinder capacity; 4, voiturettes with single-cylinder engines up to 90 mm. bore; and 5, voiturettes up to 100 mm. bore. On the first day the run will be from Paris to Boulogne (270 kilometres); on the second, Boulogne to Ostend (117 kilometres), where a speed trial will be held; on the third, from Ostend to Rouen (273 kilometres); and on the fourth, from Boulogne to Paris (135 kilometres).



M. Dutemple on one of the new Panhard Racers for the A.C.F. Grand Prix.

As will be seen, the Panhard Company have followed the Renault practice in building the radiator in front of the dashboard. The curious shape of the fore part of the bonnet will also be noticed.

cars Messrs. Panhard and Levassor have built for the A.C.F. Grand Prix race. The vehicles, which will be driven by Messrs. Le Blon, Heath, and Dutemple, are fitted with an engine comprising four separate cylinders, 185 mm. bore by 170 mm. stroke, the normal rating being 125-h.p. As will be seen, the radiator is located at the rear instead of the front of the motor, and practically forms the dashboard. Attention may also be drawn to the curiously-shaped wind-cutting bonnet. The ignition is by Eisemann high-tension magneto, and the carburettor a Krebs with hydraulically-controlled automatic air inlet. The clutch is of the Hele-Shaw multiple disc type, and the change-speed gear gives four speeds forward and a reverse, the final drive being by a cardan shaft and bevel gear to a rear live axle.

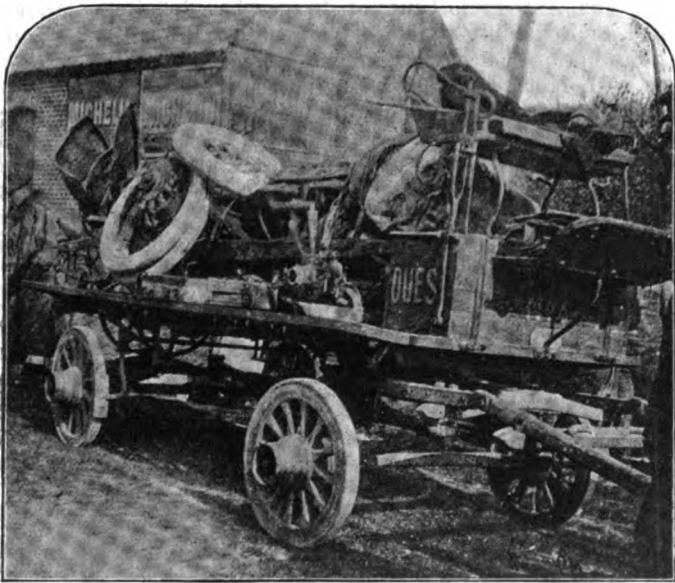
The Ardennes Meeting.

On account of the former dates coinciding with the fair at Neufchateau, the Automobile Club of Belgium has altered the date of the Ardennes meeting, which will begin on July 25th with the Circuit des Ardennes race. On the following day there will be the race for the Liedekerke Cup, and on the 27th the Grand

The Fatal Accident to M. Albert Clement.

Parisian motoring circles met with a rude shock on Friday last week when the news came to hand that M. Albert Clement, the son of M. Clement, the manufacturer of the Clement-Bayard cars, had met with a fatal accident when practising on the Seine-Inferieure circuit, on which the race for the A.C.F. Grand Prix is to take place in July next. Friday was the last day on which practising with racing cars was allowed by the authorities, and young Clement had obtained a few days' leave from his military service, in order to put one of the three Clement-Bayard racers entered for the forthcoming event through its paces on the actual course. He was accompanied by M. Gaudermann, who was also to drive a similar car in the Grand Prix. All went well until a sharp curve at Saint Martin-en-Campagne, a little village about 13 kilometres from Dieppe, was reached. For some reason or other the deceased failed to take the corner successfully, for, running wide, he grazed some houses, and ere he could get the car back on to the road it ran into a heap of sand, which caused it to leap and get entirely out of control, the vehicle practically smashing itself to bits ere it came to a

stop. Gaudermann, who was early pitched out, got off with slight injuries, but young Clement, who was pinned in the vehicle by the steering wheel and pillar, was so seriously injured about the neck that he succumbed within a few minutes. Gabriel and Rougier, who were also practising on a De Dietrich, were practically the first to arrive on the scene, and although they procured medical assistance without delay it was of no avail.



The remains of the Racing Car on which M. A. Clement lost his life.

The deceased was an expert driver, and although only twenty-three years of age had taken part in a number of long-distance races. The funeral took place in Paris on Sunday last, all the well-known members of the French motor industry being present.

Belgian Motor-Car Imports and Exports.

So far this year there has been a slight decline in the importation of foreign motor-cars and parts into Belgium, the returns for the four months ending with April showing a total of only £51,299 as compared with £53,907 in the first four months of 1906. On the other hand, the exports of motor-cars and parts from Belgium during the same period show an increase from £116,902 to £117,074.

Miscellaneous Items.

The Royal Automobile Club of Portugal is considering the question of organising a race from Madrid to Lisbon during the 1908 season.—It is reported that Henri Fournier, who won the Paris-Berlin race on a Mors car, and who has not participated in speed contests for some years, will drive an Itala machine in the forthcoming Kaiser's prize race.—Under the title Le Syndicat des Fabricants D'Antiderapants de France, an association of manufacturers of non-skids has just been formed in Paris.—A motor-car exhibition was opened in Zurich on the 16th inst.—So far, no less than 192 entries have been received for the Herkomer Touring Trophy Competition.—The annual hill-climbing competition at Chateau Thierry is to be held on the 15th of September next, while that at Gaillon is fixed for the 20th October.—It has been officially decided that the competitors in the Commission Sportive Cup race, which is to be run at the same time as the Grand Prix, shall make six rounds of the Seine-Inferieure circuit, thus covering a total distance of about 462 kilometres.—In view of the growing number of cars in the Kaiser's garage, His Majesty has just created a new post, he having appointed Lieutenant Zeysz as Marshal of the Imperial Motor Stud.—The Automobile Club Bourguignon is organising a hill-climbing competition at Val-Suzon, near Dijon, for the 2nd June.—The third international motor-car and cycle exhibition at Milan was opened on Saturday last. Among the English cars exhibited are the Daimler, Siddeley, and Napier.

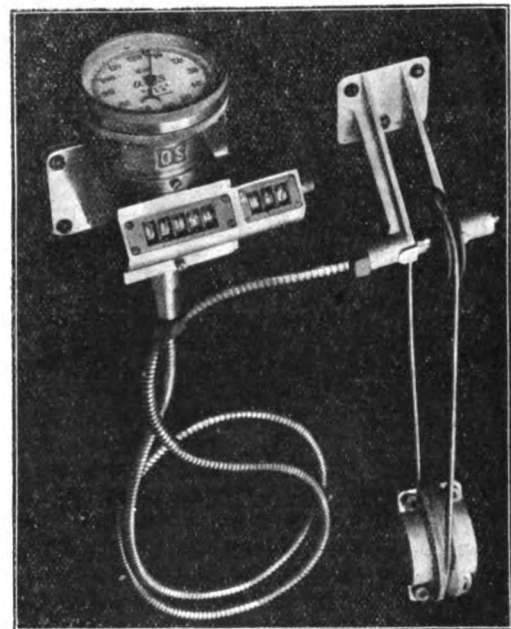
THE O.S. ODOSPEEDOMETER.

SCARCELY a week passes without its lesson to the motorist to equip his car with a speedometer as a necessary apparatus with which to controvert evidence of the police on occasion. On the principle of the supply following the demand, several devices have been brought out, and among these were three or four notable types shown at the recent Cordingley Show. We would specially refer to that shown by Mr. Searle, 33, Glasshouse Street, Regent Street, London, W., whose instrument won the first prize at the A.C.F.'s trials.

In this type a new form of drive is introduced, so that the power is taken from the countershaft instead of the road wheel. An aluminium pulley wheel is employed to transmit the power by a flexible steel cord to another pulley wheel, which is attached to the end of a flexible shaft which drives the indicator. The first pulley wheel being split can be readily attached to the sprocket shaft or the cardan shaft, so that the drive can be well protected from damp and mud. The steel cord is practically an endless one, ensuring a certain drive that is not likely to slip.

The indicator is of the magnetic type. Within the casing is a magnetic horseshoe upon a vertical spindle with its poles projecting upwards. This is coupled to the flexible shaft already referred to, so that it is directly driven by it. Immediately above the magnet is a copper disc on a spindle resting in jewelled bearings; at the other end of the spindle is a pointer working over the face of the instrument. A thin iron plate is imposed between the disc and the dial to form an armature.

The rotation of the magnet induces in the copper disc currents of electricity which cause the disc to try and revolve in unison with the magnet itself. Owing to the provision of a fine hair-spring, however, continuous rotation of the copper disc is impossible, for after it has been deflected but a little distance from its zero position, the torsion of the spring balances the torque of the magnetism, and the disc in consequence remains in equilibrium, with its pointer indicating the speed at which the car is travelling.



The device is so extremely simple in its parts that derangement is hardly likely to take place, and so accurate is the adjustment that the indicator may be relied upon to work well under any conditions. In addition to the acknowledged accuracy of the instrument, is the merit of neatness and economy of cost. The indicator is made to register 10,000 miles, as well as to show the rate of speed, and is of high-grade workmanship as well as of good design. It is also fitted with a trip recorder of the usual type.

THE BEXHILL MEET.

BEXHILL has been a busy scene this Whitsuntide, thanks to the enterprise of the Crystal Palace Automobile Club, which organised a series of automobile races on the well-known track at that favourite resort. All day on Sunday motorists were arriving from various parts of the country, and it is estimated that nearly 500 motor-cars were housed in the town on Sunday night, while others came along before the racing on Monday morning.

The secretary of the meeting was Mr. Henry Hollands, with Mr. A. V. Ebbelwhite as starter, the latter gentleman and Mr. F. Straight being the handicappers. Earl de la Warr, Messrs. F. W. Baily, S. F. Edge, and E. J. Pape were clerks of the course, which was lined with thousands of people, whose interest in the racing was keen until they grew tired of the long waits between the events, and disappeared to find their amusement elsewhere. Fortunately for their pleasure the threatening weather improved during the day, so that they had not so much complaint to make on that account.

after the long process of elimination had taken place the final was as follows:—

Car.	Driver.
1.—60-h.p. Napier	S. Smith.
2.—60-h.p. Napier	C. Edge.
3.—30-h.p. Star	F. R. Goodwin.

The scratch race for touring cars of a chassis price of more than £700 brought a field of four Napiers and two Isotta-Fraschinis, and in the end Mr. S. F. Edge's Napier defeated that driven by Mr. H. C. Tryon.

The fifth event was limited to cars with engines and chassis of the dimensions similar to the Kaiserpreis competition, and was run in two heats with a run over for Mr. Cecil Edge. In the end the order was:—

Car.	Driver.
1.—60-h.p. Napier	C. Edge.
2.—40-h.p. Junior	Capt. Owen.
3.—30-35-h.p. Simms-Welbeck ...	G. H. Woods.

During the day Mr. S. F. Edge made an attempt on the previous Bexhill record, and actually attained a speed of 63.38 miles per hour one way and 73.77 miles per hour down the



The Bexhill Race Meeting.—A Runaway Heat.

The proceedings commenced with an appearance competition, in which Mrs. A. E. Cohen won the ladies' section with a 16-20-h.p. Chenard-Walcker, and Mr. T. H. Nash the gentlemen's section with a Unic.

The serious business of the day began with the handicap for touring motor-cycles, which attracted fifteen entrants, the winners being H. A. Collier (3½-h.p. Matchless), R. M. Brice (3½-h.p. Brown), W. H. Wells (5-h.p. Vindec Special).

The handicap for cars whose cylinders $\frac{D \times N}{25}$ are under sixty-five was run in eight heats, which left two 9-h.p. Sizaire-Naudins, two 12-h.p. De Dions, one 10-h.p. Adams-Hewitt, one 9-10-h.p. Cadillac, 15-h.p. De Dion, and one 14-h.p. Vulcan for the second round. In the end the result was:—

Car.	Driver.
1.—10-h.p. Adams-Hewitt	R. R. Smith.
2.—14-h.p. Vulcan	L. Russell.

The next event on the programme was the competition for the Earl de la Warr's cup, to be awarded to the car which won two out of the three following competitions:—Quarter-mile, flying start; 110 yards slow speed on top gear; half-mile-standing start, on top gear. This brought twenty-seven entries, and

hill. But, altogether, the impression of the first day's meeting was not a pleasant one, protests being almost as frequent as races, and the arrangements for informing the spectators and competitors of the order of things not quite so good as might have been expected.

Complaints on Monday, followed by a night of calm, did much to restore the equanimity of public and competitors alike, so that on Tuesday a great improvement was noticeable. Everything seemed to be awakened and throbbing with a new zest. Smart starts and close finishes delighted the crowd that again lined the track and enabled the meeting to be brought to a satisfactory conclusion.

An appearance competition opened the programme, Miss Dorothy Levitt winning the prize in the ladies' section, and Mr. S. F. Edge on a two-seated Napier being first in the gentlemen's, with Mr. R. Gatti on a 40-h.p. Itala second.

The motor-cycle race was won by Mr. H. A. Collier on a 6-h.p. Matchless, Mr. R. M. Brice being second on a 5½-h.p. Brown.

For the cup given by Mr. E. J. Pape, of Moor Hall, Ninfield, Sussex, there were twenty-three entrants, the handicap

starts being allotted on the basis that will serve in the speed trial in connection with the Herkomer Trophy. In this event two Spyker cars got into the final, the result of which was as follows:—

Car.	Driver.
1.—15-20-h.p. Spyker	Hautekeet.
2.—30-40-h.p. Spyker	Van Hassalt.

In the scratch race for touring cars of a chassis price of £700 and under, there were fifteen entrants and the final result was:—

Car.	Driver.
1.—40-h.p. Napier	F. G. Cundy.
2.—40-h.p. Junior	Capt. W. E. Owen.

The race for cars of a chassis price of over £700 brought out the same field as the corresponding contest of the previous day, and produced the following result:—

Car.	Driver.
1.—80-h.p. Napier	C. Edge.
2.—40-h.p. Napier	S. Smith.

At the end of the events Mr. S. F. Edge made an attempt on the record secured by him on the previous day, but only attained a speed of 72.58 miles per hour, against the earlier effort of 73.77 miles per hour.

Apart from the performances of the cars, interest attached to the good behaviour of the Dunlop tyres, which were fitted to all the winning vehicles.

LINCOLN ECHOES.

MESSRS. GILBERT AND SON, LTD., are the Lincoln agents for the Siddeley car, and their works are well equipped with a staff thoroughly understanding repair work.

CANON HICKS, who conducted a party of motorists over the cathedral, is a motorist, the owner of a Humber car, which he uses in travelling to preach in the various churches of the diocese of Lincoln.

MR. H. MOYSES, who is in charge of the new Thornycroft showroom in Albemarle Street, Piccadilly, W., drove through to Lincoln on Friday, returning on Sunday to town, and continuing his journey to Bexhill.

ALTHOUGH Mr. C. H. Roberts, M.P. for Lincoln, explained that he is not a motorist, he has many motoring relatives, notably the Hon. Geoffrey Howard, M.P., whose enthusiasm for the car is well known in the Lake district.

MANY of the cars visiting Lincoln last week were put up at the splendid garage of Messrs. R. M. Wright and Co., near the G.P.O. Mr. Wright has many important agencies for new, as well as facilities for the repair of old vehicles.

AMONG the garages met with on the Great North Road by those who journeyed to Lincoln from London was that of Messrs. Murtith Bros., of Huntingdon, who add to a well-equipped establishment a real knowledge of the motor-car.

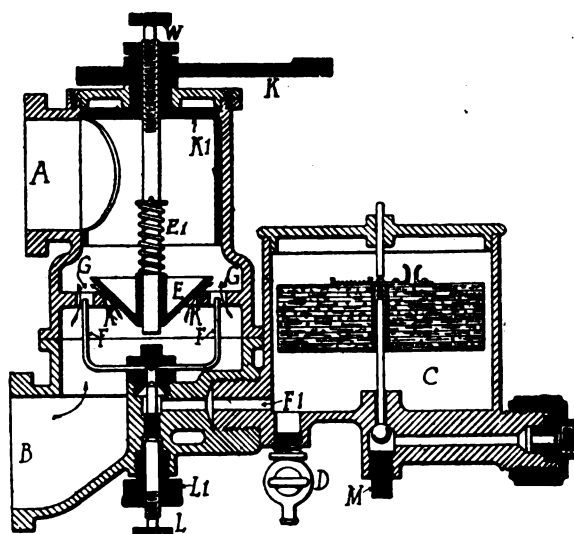
ELEVEN motor-cyclists of Lincoln started from the city on Monday morning in the 100 miles reliability trial organised by the Lincolnshire Motor Cycle Club. Other members of the Club started simultaneously from Sleaford, Boston and Louth.

DURING the night of Friday Mr. H. Luff-Smith, of the Wolseley Company, played the part of the good Samaritan to many of the motor-cyclists engaged in the London to Edinburgh run. The perils of the road were many, and punctures were somewhat numerous. From his Siddeley car he was able to assist a number with petrol—and advice.

AT their works in the Station Road, Bexhill, Messrs. L. A. Russell and Co. have a full stock of accessories, petrol, &c., as well as a well-equipped charging plant for accumulators. Their repair plant is well up to date, and altogether the firm are in a position to cater for the wants of every car owner who may be in difficulties.

A SIX-JET CARBURETTOR.

A SOMEWHAT novel form of carburettor for petrol motors has recently been put on the market by an American concern, the Willet Carburettor Co., of 764, Ellicott Square, Buffalo, U.S.A. A feature of the arrangement is that instead of the petrol being sprayed through a single nozzle it passes out of a set of six, only two of which, marked F, are seen in the sectional view given herewith. The six nozzles all draw their supply of spirit through the pipe F¹ from the float chamber C. Each nozzle F projects through a small circular opening G in a cross partition of the mixing chamber. At low motor speeds air entering through the side opening B rises through the holes G past the nozzles and sucks up the requisite quantity of spirit. When the engine is running fast an inverted V-shaped auxiliary air valve E is brought into action, it being lifted against the tension of its spring E¹ by the increased suction of the motor. When it lifts the air takes the course past its sides indicated by arrows K, which current is directed by the slope of the sides of the valve E towards the top of the six spraying nozzles, thus mixing with the petrol from the latter and the air rising through the openings surrounding them. By means of a thumb nut W at the carburettor top any degree of tension can be put upon the spring E¹. The passage of mixture to the motor is under the control of the



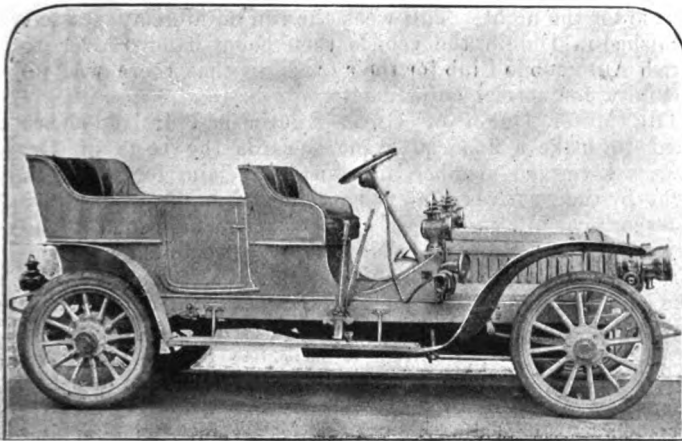
revolving barrel throttle K¹, which controls the exit passage A through attachment with the arm K. The float in the chamber C is made of cork, and is held in position on its central spindle by means of a small spring-retained clip, so that by removing the cover it is an easy task to raise or lower the float. The inlet of spirit is under control of a ball valve in the bottom of the float chamber, and beneath the valve is a screw-retained cleaning plug M. A drain cock is fitted at D, while provision is made for adjusting the outlet from the pipe F¹ to the nozzles by means of an adjustable needle valve. Among the advantages claimed for the new device is its ability to give good results with the lower grades of petrol, owing to the intimate mixing of the spirit and air, and also that it enables the engine to run at an extremely low speed.

THE American Society of Automobile Engineers in its constitution defines the word "automobile" as follows:—"The term 'automobile' as used by this society is intended to cover any self-propelled vehicle operating on or under the surface of the earth, or water, or in the air." This covers motor-cars, motor-boats and airships.

THE extensions to the Falcon Motor Works, Falcon Road, Guildford, will add considerably to the facilities possessed by Mr. E. A. Humphreys for the storage of cars, the repair of vehicles, and the stocking of spare parts, &c. The premises are situated just off the main London and Portsmouth road near the London Road Station at the entry to the town.

THE LOCATION OF CONTACT MAKERS.

UNTIL a year or so ago the contact makers of petrol motors were almost invariably located on the front end of one of the cam shafts. If the engine was the only thing to be considered this arrangement would be ideal, as it represents the simplest and least expensive construction. However, in a motor-car the best design of every part depends to a great extent upon its relation to the adjacent mechanism. The contact maker is no exception to this rule, and besides its connection to the engine its accessibility as well as the directness of



The 25-30-h.p. Straker-Squire C.S.B. Car which is taking part in the Irish Reliability Trials.

The vehicle, which has seating capacity for five persons, is fitted with a four-cylinder engine, 110 mm. bore by 180 mm. stroke. The control of the motor is by means of a variable lift to the inlet valves, which, like the exhaust, are entirely enclosed. The car weighs 26 cwt., and has a wheelbase of 9 ft. 6 in.

the control connections and electrical connections have to be considered. With the device in front the rods for the ignition advance and retard control often pass through a considerable number of tight places, and in many instances several bell cranks are necessary. These complicated connections are unsightly, are apt to rattle and readily become loose, involving considerable play and uncertain timing. To obviate these difficulties some very neat designs of ball and socket and double hinge joints have been brought out.

A forward location of the contact maker with a multi-cylinder motor involves long wires whose front ends are considerably exposed to dampness when ordinary connections are used. As the radiator is usually close to the front end of the engine crank case, it is often a difficult matter to inspect a contact maker located in front. These are, remarks an American writer, some of the considerations which have induced designers to add somewhat to the complication of the motor in order to place the device more conveniently. There is a very strong tendency in recent designs to add a special vertical shaft, driven from the cam shaft by bevel or spiral gears. This shaft is sometimes placed in front and more frequently at the rear, but the preferred location is at the centre of the motor, between the cylinders, with the contact maker somewhat higher than the cylinder heads. When the motor has the valves located in the cylinder head, operated by a single cam shaft on top, another location of the contact maker becomes possible. In a recent design of this kind the cam shaft is extended to the rear and the ignition make and break device mounted on the end in such a way that it extends through to the dashboard. This gives very short wires and permits ready inspection. Control connections, however, are not so simple unless they are of the type in which the finger levers are under the steering wheel. Take it all in all, no rule can be laid down for the best location for contact makers; only a careful study of the requirements in each case can lead to good results, and this study will be well repaid by the increased satisfaction of the user.

HERE AND THERE.

MR. J. BOND has opened the Central Motor Garage, Cannock, Staffs.

PRINCE LEOPOLD OF BAVARIA has just placed an order for a 50-h.p. Züst car.

THE garage of Mr. R. F. Surplice, at Pangbourne, near Reading, has been considerably enlarged.

TWO motor-cars have been purchased by the West Riding (Yorkshire) County Council for the use of their road inspectors.

MESSRS. GIBSON AND INGE, of the North Berks Motor Garage Co., have opened premises in Abingdon-on-Thames as a motor garage.

"MOTOR massacres" is the heading under which the "Buxton Free Press" chronicles reports of accidents in which motor-cars are involved.

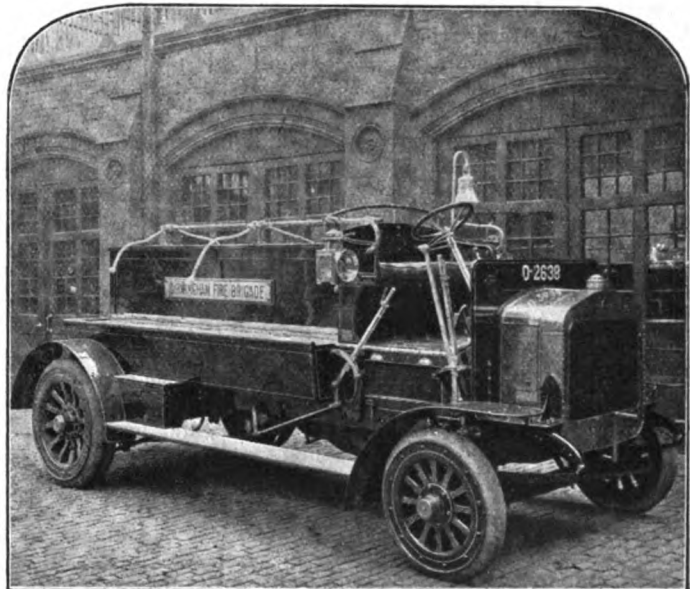
BEHIND the Queen's Hotel, at Dundee, is a well-appointed garage for thirty cars, owned by the Dundee Motor and Cycle Company, Ltd., of 128, Nethergate, Dundee.

LORD ALEXANDER THYNNE has placed an order for a 35-h.p. "Nottingham" model, and Sir A. B. Grierson one for a 28-h.p. "Milverton" model car, with the Daimler Motor Company, Ltd.

THE sandwichman has found a new form of attraction, and on Saturday visitors in London saw a dozen taximeter cabs employed for publicity purposes in connection with the Waldorf Theatre.

DURING the course of his visit to the shipbuilding yards on the Clyde last week end our Japanese Royal visitor, Prince Fushimi, and his suite inspected the large motor works of the Argyll Company at Alexandria.

It is reported from Paris that the increasing vogue of the motor-car is ruining the diamond trade. One diamond firm which recently failed are said to have ascribed their difficulties to the growing popularity of the automobile.



The above illustration shows a recent addition to the Birmingham Fire Brigade equipment with a latest-type heavy vehicle chassis, driven by a 30-h.p. Siddleley vertical four-cylinder motor.

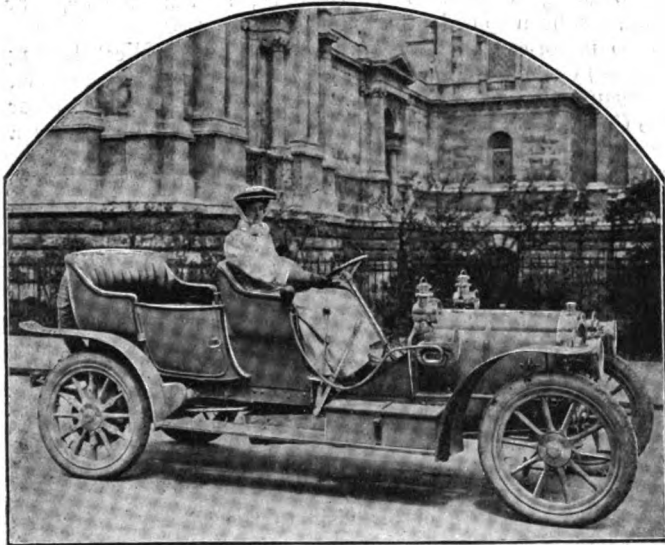
The body provides seating accommodation for sixteen men, including the driver, and the vehicle when fully loaded can attain a speed of twenty miles an hour.

THE New Leader car which has been built for the Tourist Trophy race is of 10-12-h.p., the four-cylinder engine being 3½ in. bore by 3½ in. stroke. The change-speed gear is adapted to give three speeds forward and a reverse, with direct drive on top. The live axle has only the driving effort to withstand, the weight of the car being carried by the axle casing.

THE District Inspector of co. Wicklow is the possessor of a 12-h.p. Turner-Miesse car.

THE charges for weighing motor wagons adopted by the Belfast Harbour Board are as follows:—Not exceeding 5 tons, 3d.; from 5 tons to 10 tons, 6d.; above 10 tons, 1s. each.

THE Central Motor Works of Keighley have been removed to larger and more conveniently situated premises in Hanover Street, Keighley, where there is a large garage, and motor accessories are kept in stock.



Miss Muriel Hinde on the 24-h.p. Deasy Car she recently purchased, and on which she made a non-stop run from London to Edinburgh last week. The achievement is a notable one, as Miss Hinde is not a professional driver, but an enthusiastic sportswoman.

A SUCCESSFUL long distance run on top gear has been accomplished on a 14-16-h.p. Argyll on a journey from Alexandria to London. All hills *en route* were negotiated with ease, demonstrating the flexibility of a four-cylinder engine.

MESSRS. SMITH AND SON, of Doncaster, have completed the alterations to their carriage works, and have opened it as a fully-equipped garage with accommodation for over 100 cars. They are in a position to carry out all kinds of repairs and also supply petrol, oils, grease, &c.

DURING the first eleven days of September next a petroleum congress will be held in Bucharest, and in connection therewith an international exhibition of petroleum and petroleum derivatives and products is being organised. The Roumanian Government has invited all foreign Governments and petroleum distillers to participate in the event.

MR. C. H. COOPER, of Willcott Road, Acton Hill, had just returned from a short ride with a friend, whose house he entered for a few minutes, placing his 3-h.p. Triumph outside. On leaving he was surprised to find it had gone, and no trace of it has since been found. The incident suggests a growing knowledge of motoring as well as a warning to cyclists.

THE following extracts from a letter received by Mr. S. F. Edge from Mr. Wilfrid H. Dolphin, chief motor engineer to H.H. the Nizam of Hyderabad, are of interest:—"H.H. the Nizam's garage is, I think you will agree with me after you have read the list, one of, if not the finest in the world, exclusively owned by one person. I give you below the list of his cars:—Five 40-h.p. six-cylinder Napiers, one 55-h.p. four-cylinder Daimler, two 30-h.p. four-cylinder Brasiers, one 30-h.p. four-cylinder De Dietrich, one 30-h.p. four-cylinder Argyll, two 24-h.p. four-cylinder Fiats, four 20-h.p. four-cylinder Richard Brasiers, one 18-20-h.p. four-cylinder Hotchkiss, one 18-h.p. four-cylinder Napier, one 12-16-h.p. four-cylinder Fiat, and a luggage car is about to be added. I, myself, have the honour of driving His Highness on all occasions, but the others are all driven by native drivers, trained by myself. My staff consists of forty-two men, over twenty of whom are now first-class drivers."

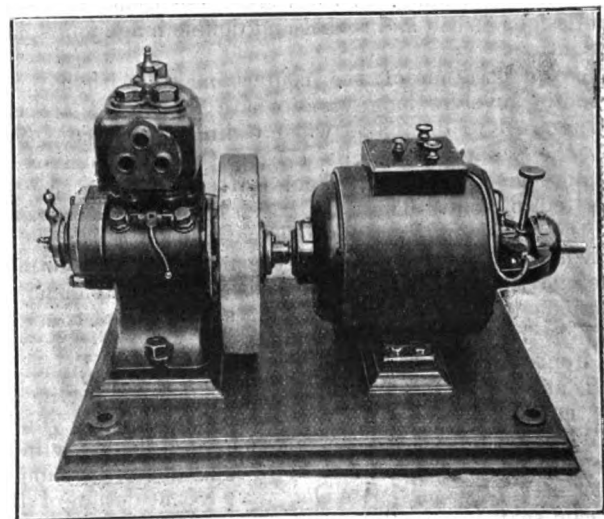
MESSRS. DENNIS BROS., LTD., have just completed three motor char-a-bancs for the Llandudno Motor Garage Company.

MESSRS. W. COLE AND SONS, LTD., whose garage is at 235, Hammersmith Road, W., make a special feature of the hiring of motor-cars for pleasure parties and professional use. They have recently issued a scale of charges which is presented in a very pleasing form.

THE Hotchkiss six-cylinder car now undergoing trial under the observation of the Royal Automobile Club arrived in London on the evening of Thursday, last week, having accomplished about one-quarter of the distance contemplated without any mechanical troubles. No stay was made in London, the car having left on Friday for Holyhead, *via* Hereford, where a halt was made for the night. This week the run on Monday started and finished in Dublin, the vehicle then being handed over to the Irish Automobile Club for their trials, so that there was no opportunity for special adjustments.

THE Motor Union of Great Britain and Ireland have decided to make a financial grant towards the costs of Dr. Mercer, a Liverpool member, in resisting a claim for damages brought by the relatives of a cyclist who was fatally injured by Dr. Mercer's car in October last. The accident happened in the Warrington Road, Whiston, where the cyclist collided with the motor-car, as the result of which he sustained a fractured skull. At the coroner's inquest the jury returned a verdict of "Accidental death," and said that no blame attached to Dr. Mercer. Notwithstanding these findings a writ has now been issued against Dr. Mercer for damages, and the case will be heard at the Liverpool assizes in July.

WE illustrate herewith a neat little set for charging accumulators which has lately been put on the market by the Premier Accumulator Co., of Northampton, and which should prove of interest to garage owners and motorists who have difficulty in getting their batteries re-charged. As will be seen, the set consists of a small $\frac{1}{2}$ -h.p. petrol engine, coupled direct to a dynamo with a small switchboard, including ammeter, voltmeters, switch cut-out, &c., fixed on the top of the dynamo. The plant is self-contained and very portable, all being fixed on one bed-plate. The dynamo has an output of 25 amperes at 10 volts, so that it is capable of charging thirty-two 4-volt batteries of the 25 ampere-hour ignition size, arranged two in series and sixteen in parallel, or



other sizes in proportion. The Premier Co. inform us that the set has been running daily for the last eight weeks, and that it will run continuously for twelve hours without the engine getting hot, and without any attention whatever. Particular notice is drawn to the steadiness of operation of the plant, as when the engine is running on full load no variation in the voltmeter needle can be detected, and the difference in variation when full load is suddenly thrown off the engine is only 4 per cent.

CORRESPONDENCE

Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

THE COST OF CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reference to the correspondence now going on in your columns on the comparative cost of a railway locomotive and an automobile chassis, I will not attempt to discuss the correctness or otherwise of the figures quoted, but, in justice to one of the most perfect pieces of machinery of the present day, I must beg to differ with the implied opinion of Mr. G. P. H. de Freville that the locomotive has neither the high-class workmanship nor materials found in a high-grade car. The modern locomotive is undoubtedly the most reliable piece of machinery working to-day, and the materials used upon it are the finest

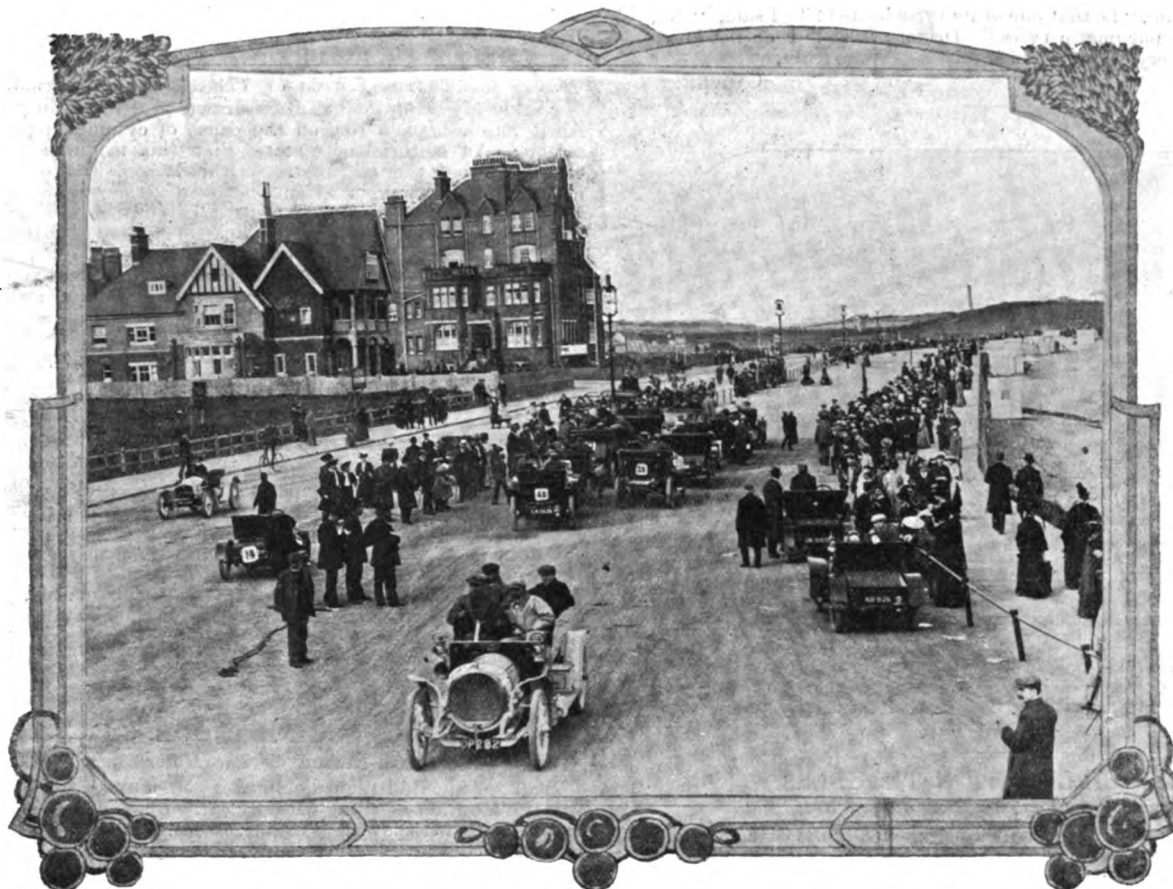
understand what they are copying. In the course of long experience, in which we have tried practically every form of brake in common use and many which are not, we have observed that a slight divergence from a good design may result in failure, and that the production of a sound brake requires no little judgment and resource. Our advice to the amateur is to have confidence in the manufacturer and to consult him when in difficulties. He finds no advertisement from faults in his products and is only too anxious to set them right. It must be added that almost inevitably he finds that ignorance is the cause of evil, and misunderstanding the forbear of more abortive notions applied to motor-cars than we should care to state.—Yours truly,

TOM WILLIAMS.

TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of 4th May I have read Mr. Perry's letter on the "Scottish Club Trials," and also the reply in the next issue signed "A. E. T." The point of Mr. Perry's letter is that the object of reliability trials is to decide the qualities of various makes of cars upon a handicap formula, the chief factor of which is, of course, the price. This "A. E. T." appears to have ignored. Mr. Perry, I gather, has a car



The Bexhill Race Meeting.—A View at the Starting Point.

obtainable, whilst the workmanship is the finest of its kind obtainable. The proof of all this is the fact that it is a wonderful occurrence for a serious breakage to occur on a locomotive. When one thinks of the terrible strain on the side rods alone of a locomotive running at high speeds—and on the Great Western at any rate the speeds are high—combined with the heavy loads, the up hill and down dale work for over four hours at a stretch without a stop, it seems to me a marvel that our locomotives stand the strain put on them in the magnificent way that they do.—Yours truly,

ALAN A. L. HICKMAN.

A SIMPLE HUB BRAKE AND HOW TO MAKE AND FIT IT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We should like to extend a friendly warning to those motorists who may have read the letter on the above subject in the last issue of the *M.C.J.* and contemplate altering their brakes. Brake design is essentially a matter so intimately connected with the rest of the car that to tamper with it is unwise unless backed by expert knowledge. Copyists should always bear in mind that copying is no good unless they

which could compete in Class 1 of the Scottish Trials, but because it is 15-h.p., and therefore a large engine, it is forbidden to compete with cars fitted with smaller engines, costing more than Mr. Perry's car. It is most unjust that a manufacturer who gives a really good car with 15-h.p. engine at a low price is forbidden to compete with other cars whose manufacturers give less horse-power, and the cars are higher in price.—Yours truly,

A. M.

CHARGING ACCUMULATORS WITH PRIMARY BATTERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—"Anti-Magneto" has been well advised to select the Boron battery as a reliable means of charging his accumulators, and, should his experience of the same prove as satisfactory as my own, which I do not doubt, he will certainly have no cause to regret acting upon such advice. I have used a 6-cell battery constantly for the past four years for charging my 30 and 40 amp. hours accumulators, and have found them extremely simple to manipulate; no special or technical knowledge is necessary to use them to the best effect; they require practically no

attention while in use; they prove much more economical and certainly more satisfactory than main-charging, and, which is of most importance, are thoroughly reliable and efficient for the purpose of charging accumulators.—Yours truly,

H. BINGHAM.

TRAFFIC ON THE THAMES EMBANKMENT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter of Mr. W. Hetherington on traffic regulation on the London Embankment, in a recent issue of the *M.C.J.*, I should advise this gentleman to treat the tramway traffic as a separate road; that is to say, as if it were a railway running by the side of the road. At any rate, this is how I should treat it, until some specific regulations were made to the contrary.—Yours truly,

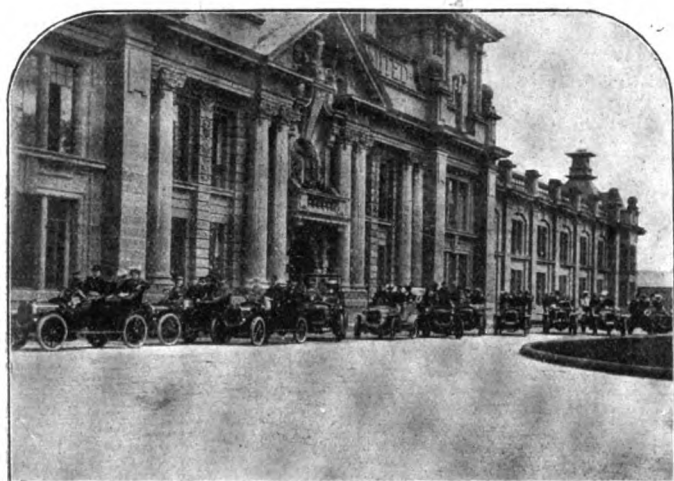
ALAN A. L. HICKMAN.

A 'BUS DRIVER'S KNOWLEDGE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was riding on the top of a horse 'bus in Camden Town last week, seated near the driver. A motor-'bus was immediately in front of us and an explosion occurred in its silencer. The driver of my 'bus turned to me and said, "Is that one of its tyres busted?" I said, "No, 'buses do not have pneumatic tyres." Driver: "Ah! I do not know much about machinery, I ain't no botanist!"—Yours truly,

GOWER.



On the occasion of Sir Joseph Ward's visit to Dumbarton twelve Argyll Cars were used to convey the party to Arrochar. The above illustration depicts the vehicles in front of the Argyll works at Alexandria.

WATER CIRCULATION TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have lately bought a second-hand 8-h.p. Darracq single-cylinder car, which runs well except for overheating. The water boils in less than half an hour; the tank is under the bonnet and the radiator in front; the water runs from the tank into the pump, then to the radiator and from there into the engine. Should this be so? I think the water should come from the tank into the radiator, then to the pump, and from there to the engine, to cause the water to circulate quickly. I should be very glad if you could answer this query for me.—Yours truly,

C. BOOKER.

[Both the system of circulation as at present arranged and the alternative circuit suggested by Mr. Booker are wrong. The best arrangement is:—From the bottom of the tank to the pump, from the pump into the bottom of the water jacket, then from top of cylinder to top of radiator, and thence back to top of tank. By doing as we suggest the hot water will go straight to the radiator, and the pump will draw the coldest water in the circuit to deliver to the cylinder. As the car is a second-hand one, we advise the examination of the pump itself, the cleansing out of the radiator with a strong hot solution of caustic potash, and a careful scrutiny of the pipes for "kinks" or dents. We also are strongly in favour of the installation of a manometer on the dashboard.]

CHANGING ENGINES ON A CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I own a two-cylinder car, which gives about 11.5-h.p. Given that the driving shaft and gear-box would stand the alteration, would it be possible to replace the engine with a four-cylinder engine of about

14-h.p.? Could the framework of the chassis be lengthened; and what would be the approximate cost? The present gear is very large and strong, and in perfect condition. If any of your readers, in trade or otherwise, could give me any help or information on this subject, I should be very grateful.—Yours truly,

A. G. P. GIPPS.

[The present gear of the chassis being strong, there will be no objection on that score to the substitution of a four-cylinder engine in place of the two-cylinder one, especially as the difference in power is so little; and, moreover, to compensate even for that, the much sweeter pulling and flexibility of the stronger engine must be taken into consideration. It is probable that no lengthening of the frame may be requisite, because, whilst it is usual to find quite a large space vacant under the bonnet of a twin-cylinder engine, it is possible to buy a four-cylinder of greater power which can be got in with a little contriving without the expense of lengthening the frame. If, however, this is necessary, it need not be a very expensive matter, and a section can be riveted in without being in any way unsightly. Without inspection of the chassis it would be mere guess-work to estimate the cost. Perhaps the radiator will be found insufficient for the new engine, and the cheapest way out of this difficulty will be to purchase a few feet of gilled tubing, which can be stowed away out of sight under the frame. This can be coupled up in conjunction with the present radiator.]

DEPOSITS IN PETROL MOTOR CYLINDERS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—My attention has been drawn to a letter in your journal of April 20th last, page 169, on the cause of cylinder deposits in petrol motors. An editorial note states that this is due solely to carbon obtained from the oil used. As this is somewhat of an inaccuracy, may I beg to draw your attention to an article on the subject in the "Motor Cycle" of April 17th last? This is not the first time I have had to examine cylinder deposits, and I may say that in every case I have found a very large proportion of road dust of some composition or other. In this case it was at least 50 per cent. I thought you may possibly be interested to learn of such examinations, which are what I am very often doing in connection with motor-cars for firms in Coventry.—Yours truly,

STACEY JONES.

WATER MARKS ON PAINT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have found a number of water marks on the paint work of my car, especially on the bonnet and the dashboard. When the vehicle is washed a hosepipe is used with a brush to take off the thickest dirt. Afterwards it is washed all over with a sponge and leather, a little paraffin being also used, the latter in the proportion of a teacupful in a bucket of water.

The place where the car is kept is, unfortunately, rather damp, there being no heating apparatus in the house, and it has occurred to me that the paint was never properly set or these watermarks would not have arisen.—Yours truly,

A. N.

ENGINE TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be much obliged if you or any reader of the *M.C.J.* will tell me what is wrong with my car. I had it taken down and the engine fitted with new rings to the pistons. I fitted it up again, I think, in exactly the same way as it was before I took it down, but it will not start. I have tried everything I can think of, but with no better results. I may say it always started very easily before. My car is an 8-h.p. Daimler.—Yours truly,

A. CONSTANT READER.

[We should think it most probable that the gear wheels controlling the lift of the exhaust valves and the ignition have not been put back in their proper relation. There is a double chance of being wrong, as it is necessary to see that the marks on the cam pinion mesh with the intermediate wheel, as well as those indicating the proper place for the crank-shaft pinion and the intermediate. The teeth of the pinions are usually stamped with letters in such a way that two letters on the adjacent teeth of one wheel are either side of a similar letter on one tooth of the wheel it meshes with. It is just possible that the ignition is wired up wrong, so that the second cylinder spark takes place when the first should fire. We presume the new rings are a proper fit and that the engine has good compression in each cylinder.]

A SEEMING PARADOX.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Passing along the Strand the other day, I could hardly believe my own eyes when I saw one of the Renault cabs with its front wheels travelling in one direction and the off-side rear wheel rotating the opposite way. The car was being pulled up at the time and the curious spectacle was only apparent for a moment. I have thought

the matter over, and, so far as I can see, the explanation is either that one of the road wheels was failing to get a good grip of the road, or that the brakes had been applied somewhat suddenly, causing the rear road wheels to lift slightly off the road, allowing the differential gear to come into play. I should be glad to know from you or any of your readers whether my surmise is correct.—Yours truly,

XENOPHON.

[This apparent freak is to be explained as follows:—The driver in pulling up his car applied the brake that transmits its retardive effect through the cardan transmission with enough power to nearly, or perhaps quite, lock it. The result being that, if one of the road wheels loses its adhesion, say, because of going over a patch of grease, the wheel that still grips the ground will necessarily rotate it in the reverse direction. Let "Xenophon" try the experiment of jacking up either one of the rear wheels and putting the gears in mesh, turn the engine round, and he will see that the raised wheel revolves forward. Then let him jack up both wheels and lock the cardan shaft by means of the foot brake, and he will find that if either of the road wheels are rotated, the other will move in the opposite direction, due, of course, to the action of the differential gear.]

THE PRICE OF CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. de Freville may, if he likes, call the price of a chassis £1,000 only, but he must not dispute my estimate of £4,500 for a railway locomotive weighing say 90 tons, for this is probably over the mark. Taking the weight of a chassis at a ton, its cost would run out

cylinder Belsize consumed less than an 18-24-h.p. three-cylinder car of similar make.

Again, in Hertfordshire a 16-20-h.p. Rover ran 30.4 miles to the gallon, whilst an 8-h.p. Rover only ran 30.9 miles to the gallon. Now, all the instances quoted above were tests for actual petrol consumption, and are therefore probably accurate. What, then, is the explanation that an 80-100-h.p. car was run for the same as a 7-h.p., and that the Lanchester, and Belsize, and Rover cars of much greater weight and h.p. were run on a smaller actual consumption (not relative) of petrol than the much lighter and lower power cars? This emphasises what I have before said, that there is something radically wrong with the application of the petrol vapour to the internal combustion engine, when such absolutely contradictory results as the above are obtained. Perhaps some of your readers may be able to offer some sort of explanation?—Yours truly,

D. 2804.

IS THE DEMAND FOR HIGH-POWER CARS DECLINING?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a close observer of motoring matters, I am glad to note an indication that the tendency toward increased horse power has at last reached a limit. Predictions to this effect have repeatedly been made in the past, but so far they have always proved premature. It is evident, however, that the possible number of purchasers for high-powered machines, which are not only high priced but expensive to maintain, must be very limited. One cause of the impending return to more



The Humber Team of Four Cars which is taking part in the Irish Reliability Trials.

at about twenty times that of a locomotive (£1,000 per ton for car, £50 per ton for locomotive). I maintain that the workmanship on a car is no better than that on a locomotive of the first class, though more costly, as being on a smaller scale; and it can hardly be the case that the whole of the materials used in the former are even ten times as costly as those employed on the latter—"let alone" twenty times as costly. Your correspondent does not comment on my remark as to the high market value of the shares in some, at least, of the manufacturing companies—there are instances in England of 300 per cent. premium. I still think that these makers have a truly wholesome idea of the meaning of the word "profit"; may they long find customers on their own terms.—Yours truly,

W. L. C.

VARYING PETROL CONSUMPTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—You have kindly twice recently inserted letters from me relative to the above subject, which only brought forward two laudatory letters about De Dion engines. May I now call attention to the result of the Manchester competition, given in your issue of the 18th inst., which more than emphasizes the great discrepancies which occur, and of which some explanation would be satisfactory? An 80-100-h.p. car consumed 1 gallon to 16½ miles, and weighed 2½ tons. A 7-h.p. M.M.C. car consumed almost exactly the same! A 20-h.p. Lanchester consumed 6.5 gallons to 132 miles, whilst a 12-h.p. Lanchester actually consumed 7 gallons in the same distance; whilst a 24-30-h.p. six-

reasonable horse-power is that users of powerful cars find that it is only on extremely rare occasions that they can advantageously use the full power of their huge engines, and all the rest of the time the surplus power and consequent weight are a disadvantage. The craze for high power originated in France, where it has already run its course, the demand there now being mostly for cars of 16 to 20 h.p., or at most 24-h.p.—Yours truly,

SLOWCOACH.

THE FROME'S HILL CLIMB.—The Daimler Company have sent us a letter in which they state that "the Clement-Talbot Company have written us pointing out that the claim which we have made in recent advertisements is incorrect. We claimed second, third, and fourth on handicap at Frome's Hill, which would naturally convey the impression that this referred to the combined performances. As a matter of fact, the advertisement was placed in good faith, but, owing to a clerical error, we omitted to state "In Class 5, for Heavy Cars." An intimation to this effect in your columns will be greatly appreciated."

THE CHAUFFEUR at Godstone Place, Godstone, Surrey, has found the hub cap of a Mercedes, which he will be pleased to return to the owner.

OPENING FOR GARAGE.—Several correspondent have replied to M. W., to whom their communications are being forwarded.

PRINCE HATZFELDT, who already possesses two Mercedes cars of 70-h.p. and 35-h.p. respectively, has placed an order for two further Mercedes cars with Messrs. Ducros Mercedes. One of the cars will be a 40-h.p., and the other a 20-25-h.p.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

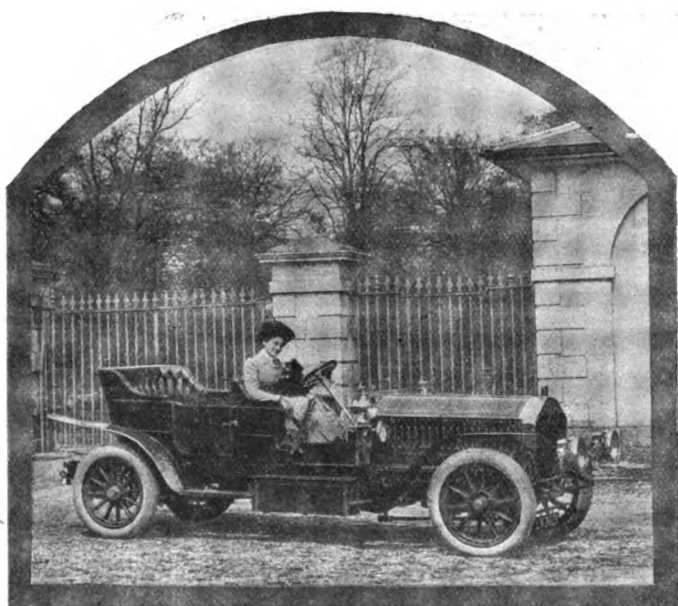
THE Royal A.C.'s new motor house in Brick Street, Piccadilly, was opened on Monday. It is situated only some thirty or forty yards from the Club's motor house in Down Street. Accommodation for about eighty cars has been arranged, and a laboratory for tests of various kinds is to be provided.

Speedometers, &c., can now be tested by the calibrating instrument of the R.A.C. and certificates of performance issued.

The Club proposes to hold Dust Trials about the third week in June, probably on the Brooklands track. An artificial dust track of fine road dust, from limestone roads if possible, will be made, and the placing of the cars will be done from photographs.

The entry list for the Graphic Challenge Trophy Race is closed. The following entries have been received:—Messrs. F. W. Baily (holder of trophy), 50-h.p. Napier; J. E. Hutton, 60-h.p. Berliet; J. E. Hutton, 40-h.p. Berliet; George S. Barwick, 35-h.p. Daimler; W. Hillman, 20-h.p. Hillman-Coatalen; John S. Napier, 38-45-h.p. Arrol-Johnston; Capt. W. E. D. Owen, 40-h.p. Junior; S. F. Edge, 45-h.p. Napier; Thomas Henshaw, 35-h.p. Daimler.

The race will be held on Friday, May 31st, on the Slein Lewaigue Hill, near Ramsey, Isle of Man.



Miss Dorothy Levitt on the Napier Six-Cylinder Car that she will drive in the Herkomer Touring Trophy Competition.

The Club's headquarters in the Isle of Man will be at the Peveril Hotel, Douglas.

The Carter's Hill Meeting.—This meeting takes place on Saturday, June 8th, at Carter's Hill, Underriver, Kent. There will be two competitions; one for the "Henry Edmunds" Challenge Trophy, and the other for the Carter's Hill Cup. For the former, the cylinder diameter in inches squared multiplied by the number of cylinders must not exceed 100, and for the latter sixty-five. Ten entries have already been received for this meeting.

The attention of the club has been called to several runs from London to Monte Carlo advertised as having recently taken place. The club is of opinion that these runs come within the conditions of the Competition Rule reading as follows:—"Any owner, manufacturer, dealer, agent or driver, taking part in or directly connected with any trial or competition otherwise than under regulations made by the Club, and obtaining extensive advertisement therefrom, shall be deemed to be guilty of a breach of these rules;" and desires to point out that it is in communication with the Automobile Club of France with reference to these runs. The Club is not prepared at present to give official recognition to them, and anyone taking part in them may render himself liable to disqualification.

A set of Patin tyres has been entered by the Patin Tyre Syndicate, Ltd., for a trial of 6,000 miles, starting on the 23rd inst. The tyres are fitted to a 20-h.p. Martini, and the Club's standard routes will be followed.

AUTOMOBILE ASSOCIATION.

AT the last meeting of the Executive Committee of the Automobile Association the number of new members was unusually large, and contained the following well-known motorists:—The Earl of Dudley, the Earl of Onslow, the Earl of Shrewsbury and Talbot, Viscount Ingestre, Viscount Knutsford, Lady Alexander Paget, Lady Tangye, Lord Alexander Thynne, Sir Ernest Cassell, Sir F. Pollock, Sir H. Ashman, and Sir John Campbell.

The Secretary reported that no fewer than 290 motorists had joined the association during the past three weeks, that is, since the new offices at Princes Buildings, Coventry Street, W., were opened, and that although the third financial year of the Association only commenced on May 1st, renewals of subscriptions from existing members had already been received to the extent of over £1,000.

It was reported that members of the A.A., especially those living in the country, were applying for membership of the Motor Club in numbers which far exceeded the committee's most sanguine anticipations.

THE MOTOR CLUB.

THE new Motor Club, Coventry Street, W., is justifying its existence. At the smoking concert which followed the last house dinner not only was there an array of musical talent but some excellent up-to-date pictures were shown on the bioscope of motor-car racing, tyre-repairs on the road, &c. There was a large attendance, and the energy of the Motor Club committee was warmly commended by members. Applications for membership are pouring in, and the waiting list runs into three figures.

YORKSHIRE CLUB.

SPEED trials will be held by the Yorkshire A.C. on the sands between Saltburn and Redcar on Saturday, the 22nd prox. The committee of the Yorkshire Club will be clerks of the course, with Mr. E. H. Hepper as chief marshal, Mr. J. Brodgen as starter and Mr. C. P. Wilson, Town Hall Chambers, Leeds, as clerk of the meeting.

Entries will be received up to June 12th, and competitors in the open events must be on the competitors' register of the R.A.C. All touring cars entered for the trials will be rated upon the formula of the R.A.C., this being $\frac{D^2 N}{2.5}$, D being the bore in inches, N being the number

of cylinders and 2.5 a constant. Each competitor will, on his entry form, declare the bore and stroke of his cylinders. The committee or the sub-committee appointed for that purpose reserve the power or right to call upon any competitor to take off a cylinder or cylinders to enable them to check the bore of same.

There will be nine events open only to members of the Yorkshire A.C. and its affiliated branches. The open events include a race for touring cars the chassis price of which does not exceed £800; a contest for racing cars not exceeding 1,000 kilos. in weight to establish a "Yorkshire record," and events for racing cars of any weight.

NORTH BERKSHIRE.

A MOST successful opening meet of the North Berkshire A.C. was held at Wytham Abbey, by invitation of the Earl of Abingdon (President), and the Countess of Abingdon. The cars arrived at 3.30 p.m., and were drawn up in line in front of the house, and in spite of the heavy rains it was well attended. Lord and Lady Abingdon received their guests. Tea was served in the dining room, after which a committee meeting was held and the fixtures for the coming season discussed.

Amongst those present were Lady G. Bertie, Lady B. Bertie, Captain Henderson (vice-president), Lady Violet Henderson, the Hon. Ethel Dormer (hon. treasurer), the Hon. Constance Dormer, the Hon. Mrs. Stewart, the Misses Anson, Mr. Campbell, Major and Mrs. Ferrar, Miss Penruddock, Mr. and Mrs. Darwin Hey, Miss Goodson, Captain and Miss Loder Symonds, Mr. Claude Theobald, Captain and Mrs. Theobald, Mrs. Frederick Morrell, Mrs. Peel, Mrs. and Miss Piggott, Mr. and Mrs. West, Mrs. Sankey, and Miss Constance Fletcher (hon. sec.).

NEW FOREST A.C.

By invitation of Lord Montagu of Beaulieu, a hill-climbing handicap was held by the New Forest A.C. and Hampshire M.U., at Hill Top, Beaulieu, on Saturday. The winners were:—Dr. N. Aldridge, 6-h.p. Rover; Dr. H. Hemsted, 10-12-h.p. Humber; Lord Montagu, 20-h.p. Rolls-Royce; and Captain R. T. Dixon, 30-40-h.p. Daimler.

SHEFFIELD.

UNDER the closed competition rules of the R.A.C. the Sheffield A.C. will hold a hill climb on the 15th prox. There will be three classes:—1, for the Harvey Foster Challenge Cup; 2, open to members unconnected with the trade; and 3, a single-cylinder car contest.

WINNIPEG AUTOMOBILE CLUB.

THE annual meeting of the Winnipeg (Canada) Automobile Club took place recently, when Sir Daniel McMillan, Lieut.-Governor of

Manitoba was elected patron. Forty-seven new members were elected, bringing the total membership of the club to over 100.

It was decided to promote a reliability contest extending over a period of not less than three days. The entries will be divided into two classes, the first for touring cars and the second for runabouts.

A special legislative committee was also appointed to watch the interests of automobilists in regard to any measures that the authorities may bring forward for the control of automobiles in Manitoba, and a special member's card will be provided, signed by the president and the chief of police, in order that the members can be saved the necessity of proceeding to the police station under arrest in case of trouble, the card being accepted as a guarantee for appearance when summoned to attend.

The good roads movement organised last year is receiving the support of every user of a vehicle of any description, and great efforts are being made to boost the movement to a successful issue. Government support is being sought for road improvements and a special grant will be asked for at the next session of the provincial legislature.

MOTOR CYCLING CLUB.

ON Friday evening, from the top of Highgate Hill, the third annual run of the Motor Cycling Club from London to Edinburgh commenced. There were ninety competitors, eighteen of whom were on cars, ten on tri-cars, and the remainder on motor-cycles. More than half of the starters reached the Scottish capital within schedule time. Among the car-owners who took part in the run were Messrs. R. B. Banks (25-30-h.p.

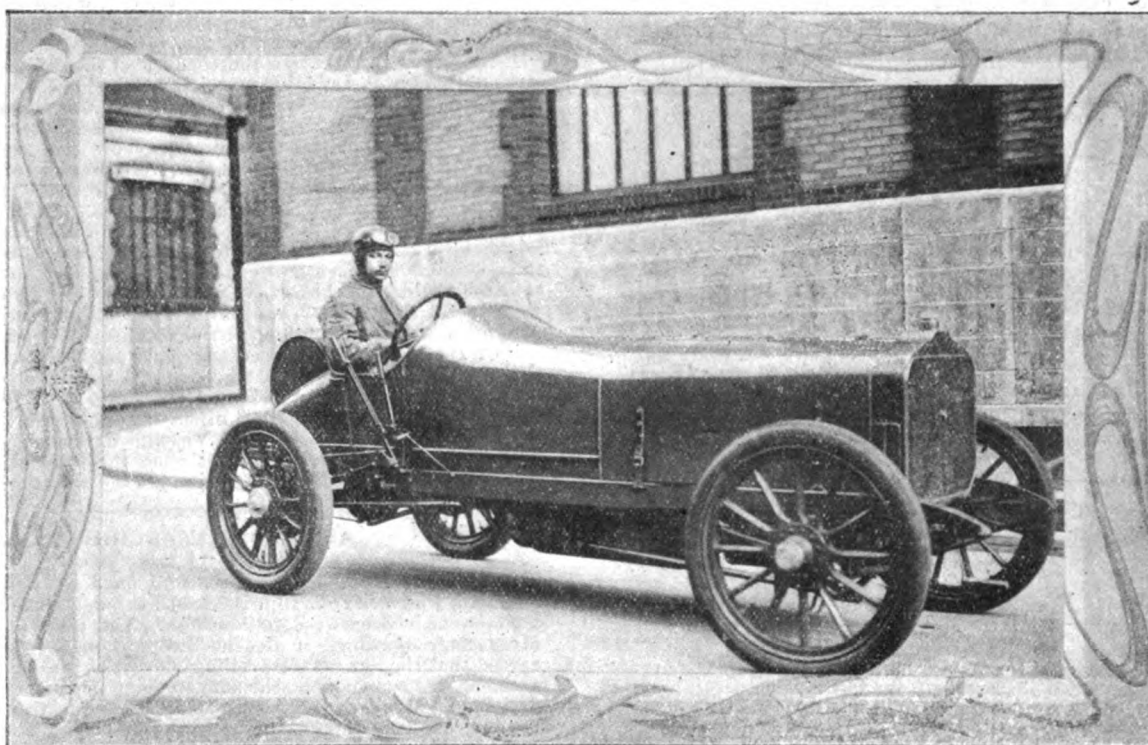
CASES UNDER THE MOTOR CAR ACT.

A TRIPLE CHARGE.

Howard Holgson has appeared at the Wolverhampton Police Court to answer three summonses charging him with driving a motor-car in Dudley Street and not stopping when requested by the police, driving at a speed dangerous to the public, and driving at a speed exceeding twenty miles an hour, to wit, forty miles in Tettenhall Road. The first case proceeded with was for refusing to stay when signalled by the police. Evidence was given by the police that on the night of April 23rd two officers put up their hands as a warning for the car to stop. Hodgson said that he did not see the constables in the street, or at all, neither did he hear anyone shout for him to stop. Joseph Albert Arnold, J.P., stated that he was in the car at the time, but he did not see any police-men in the road. This summons was dismissed.

A second summons for driving at a speed dangerous to the public was then taken. P.S. Bridges stated that the car was proceeding at nearly thirty miles an hour. The defendant stated that he was not driving at a dangerous speed. He did not think the rate was more than ten or twelve miles an hour. In this case Hodgson was fined £5 and £2 10s. costs. The summons was then taken for driving at a speed exceeding the limit in Tettenhall Road, but the case was dismissed on the ground of insufficient evidence.

A case was heard at Bromley (Kent) on Monday in which R. C. Brown, of 14, Devonport Street, Hyde Park, was summoned for exceeding the



M. A. Clement, who met with a fatal accident last week, near Dieppe.

Brown), Vandervell (Daimler), J. W. Stocks (8-h.p. De Dion), F. W. Peckham (12-14-h.p. Maxwell), and J. Van Hooydonk (9-h.p. Phoenix). Miss A. M. Hind drove a 24-h.p. Deasy, which was the first car to reach Edinburgh.

THE Blandford and District A.C. is being formed by local motorists.

POLICE TRAPS.

MOTORISTS are being timed on the main road through Lancaster.

THE Berwick cross-roads at Lewes continue to be watched by the police, and scarcely a day passes without its victims.

THE South Common, at Chailey (Sussex), is the scene of a well-policed trap.

THE Lewes police, we are informed, intend working their traps regularly. Automobilists will do well to beware at all times when travelling on any of the following roads from Lewes:—The Brighton road, the Eastbourne road, the Chailey road, or the Hastings and Battle road.

THE Lancashire county police are paying great attention to motorists. In addition to the "traps" near Carnforth, north of Lancaster, there is now one on the south side of the town, on the level road between Galgate and Lancaster, past Bailrigg.

speed limit across Bromley Common. The police deposed to timing the defendant over a course of 220 yards, the time recorded for the distance making the speed over twenty-seven miles per hour. Cross-examined by the defendant, the constable who timed him said the distance was measured with a surveyor's chain, but no steps had been taken to see that the chain was of the length described by the surveyor. He was timed as he passed a milestone, but no trouble was taken to see that anything was in line with the stone. The Bench thought the measurements and times accurate, and said that in any case there was sufficient margin. Defendant was fined 20s. and 9s. costs.

HEAVY MOTOR TRAFFIC.

A new point in the regulations relating to heavy motor traffic has just been dealt with by the Bradford Stipendiary Magistrate (Mr. Charles Skidmore), who was called upon to decide whether a motor wagon trailer should be fitted with an efficient brake. The defendants were Taylors' Drug Company (Limited), Leeds, who were summoned for permitting a motor-car to be driven to which a vehicle with an inefficient brake was attached. The driver of the vehicle was also summoned. Mr. A. Neil, on behalf of the defendants, admitted that a slipper brake was the only brake attached to the trailer, but he contended that a brake was not necessary. There was no provision in the Heavy Motor Car Order of 1904 for the use of a brake on a trailer. The Stipendiary held that a brake was necessary, but the point being a new one, the defendants were only ordered to pay the costs.

TEN CASES AT LEWES.

In one day ten cases against motorists have been heard at Lewes, and not one of the defendants escaped being fined.

WHERE SPEED IS LIMITED.

Richard Hepplewhite was charged at Retford Borough Police Court with riding a motor-cycle over ten miles an hour and in a manner dangerous to the public. P.-c. Wheaton said defendant came out of Bridgegate into the Market Square at a speed of sixteen miles an hour, although the new order of the Local Government Board limited the speed at that spot to ten miles per hour. A fine of £2 and costs was imposed in each case. Defendant did not arrive until his case had been heard, and the evidence was read over to him. He protested against the statement that he was going at sixteen miles an hour. He had only ridden a month, and did not know there was a speed limit in the borough.

MOTORING IN THE PARKS.

The Motor Union are supporting Mr. McCall, K.C., who is a member of the General Committee of the Union, in an appeal to the Divisional Court against the endorsement on his driver's licence of a conviction for exceeding the ten mile speed limit in one of the Royal parks. A *rule nisi* for the *certiorari* to bring up and quash the magistrate's order has been granted by the Divisional Court. Mr. Ivory, K.C., and Mr. Cleave, in asking for the *rule nisi*, contended that the endorsement was wrong, because under the Parks Act there is no power to endorse a licence, while the Motor Car Act gave power to endorse only on a third conviction for exceeding the speed limit under that Act. It was also contended that the ten mile speed limit fixed by the regulations was not in existence in January, 1904, when the Motor Car Act came into force, and therefore the Motor Car Act



The Motor Cycling Club's Run from London to Edinburgh.—The first four arrivals at Levenhall, the last control.

could not apply to it, as the offences there mentioned are existing offences. If the magistrate's order is held to be correct, then the conviction for exceeding a speed limit fixed by Parliament brings the penalty of endorsement only in the case of a third offence, whereas exceeding a speed limit fixed by Commissioners brings that penalty for the first offence. This construction, it is contended by many, is entirely opposed to the intention of the legislature.

EXCEEDING THE LEGAL LIMIT.

The whereabouts of a new police trap for motorists was made known at Lancaster Police Court on Saturday. It is on the road between Lancaster and Galgate, and has already yielded several defendants. Thomas Cox, of Blackburn, for travelling over the distance at twenty-three miles per hour, was fined £5 and costs. Edith B. A. Miller, of Lowton, Essex, was fined £5 and costs for travelling at twenty-four miles an hour over the same distance. Wm. Birtwistle, cotton manufacturer, Blackburn, was fined £5 and costs for travelling at twenty-five miles an hour over the same piece of road. When stopped he told the police it was a piece of nonsense to stop a car on a plain road like that. Wm. Coates, of Blackpool, was summoned for travelling at twenty-five miles an hour on the same length. He was fined £5 and costs, and for failing to produce his licence £1 and costs, his licence being endorsed for the second time. Charles de Tobert, of Chester, did not appear in answer to a summons charging him with riding a motor-cycle at Carnforth at twenty-three miles an hour. The police evidence was that when stopped defendant said that he would not attend court. He now sent a brief letter to the Bench, stating that owing to the exigencies of business he was unable to appear. The Bench adjourned the case for a week, the

Chairman (Mr. W. Garnett) stating that defendant had been most discourteous to the magistrates, and if he did not appear next week they would issue a warrant.

EXCEEDING SPEED LIMIT.

A batch of motorists was summoned, and fined, at Ayr one day last week for exceeding the speed limit; similar hauls of motorists have also been before the magistrates at Kingston.

SCOTTISH RELIABILITY TRIALS.

THE entries for the Scottish Trials have now been closed. There are over 100, including Adams-Hewitt, Cadillac, Jackson, Rover, Swift, Darracq (4), Ford (2), Chambers, Laurin-Klement, Reo, St. Vincent (2), Argyll (3), De Dion (2), Imperial, Buick, Bell (2), Calthorpe, Adams, Ailsa, Vulcan, Maxwell, Rex, Mass (3), Leader, Albion, New Arrol-Johnston (4), Belsize (2), Coventry Humber, Vauxhall, Germain, C.C.C., Swift, Unic, Atalanta (2), Nordenfeldt, West (2), Chenard-Walcker (2), Beeston Humber, Siddeley (2), Sunbeam, White steam (2), Horbick, Berliet (3), Ariel-Simplex, Austin (2), Straker-Squire, Armstrong-Whitworth (2), Junior (2), Iris (2), Vinot, Maudslay, Pilgrim, Thornycroft (2), Clement Gladiateur (2), Climax, Daimler, Ariel (2), Spyker, N.E.C., Maudslay, Benz, Porthos (2), Brasier, Simms-Welbeck, Rolls-Royce, Mercedes, Hotchkiss, Thames, and Minerva.

THE ARMY MOTOR RESERVE.

STAFF tours, topographical surveys, &c., which are now becoming so popular a method of instruction in the Army, have been carried out with considerable frequency in the various "commands" during the current year. To facilitate the conduct of these tours over extended areas of country it has been, invariably, found necessary to employ the motor-car, and the utility and efficiency of the Army Motor Reserve has, in consequence, been particularly demonstrated. Statistics prepared at the headquarters of the corps show that since last January no less than forty-two staff tours, &c., were provided for. This entailed the employment of 115 officers of the corps, with their cars, for an aggregate period of 362 days, during which a total of 25,673 miles was traversed on duty, establishing a record for the same period during previous years. Among the tours carried out, those conducted by General Lord Methuen in the vicinity of Newbury, the Commandant of the Staff College on the South Coast, and in the Isle of Wight, and by General Sir H. H. Settle in the intricate country near Portland and Weymouth, were of considerable importance and special interest.

On the occasion of the recent annual visit of the officers of the Staff College, Camberley, to the battlefields in Alsace-Lorraine, Colonel Mark Mayhew drove the Commandant, General H. H. Wilson, D.S.O., and Colonel Sackville-West. Two other officers of the corps, viz., Major Leveson Scaith and Lieutenant Vicomte de Satgé, were also present with their cars. This is the first time that cars of the Army Motor Reserve have been utilised for military duty abroad.

AUTOMOBILE ACCIDENTS.

AN inquest was held at Brentford on John Petchey, fifty-six, a roadman, who died from injuries caused through being knocked down by a motor-car in Brentwood on May 6th. The car was being driven by Mr. George Cording, of Regent Street, London. All the witnesses agreed that the car was travelling slowly at the time, and that the accident was unavoidable, the man stepping in front of the car without noticing its approach. A verdict of accidental death was returned, and the jury exonerated Mr. Cording from all blame. The coroner said he wished all motor-cars could be said to pass slowly through Brentwood.

A SALE (Cheshire) coroner's jury on Monday returned a verdict of manslaughter against William Bracewell, of Carrington, in regard to the death of John Nairey, a farm labourer, of Ashton-on-the-Mersey, who was knocked down and killed by a motor-car. Bracewell said he did not see anyone on the road at the time. The car was going at the rate of seven miles an hour. The coroner committed Bracewell to take his trial at the next Chester Assizes, bail being granted.

A CORONER'S inquiry into the death of Mr. Adney Payne has been held at Tunbridge Wells. The chief witness was Mrs. Adney Payne, who gave an account of the accident which was the cause of her husband's death. She told how she was driving the car to Tunbridge Wells, when a point was reached at which the road was divided by a sharp bank. At right angles was another road, from which a cyclist suddenly emerged. She had either to run over him or make an immediate turn in the opposite direction. She decided on the latter course, ran into the bank, and the car was thrown upside down. Mr. Payne's principal injuries were fractured ribs. He made capital progress, and would have recovered but for the fact that a clot of blood made its way to his heart and caused his sudden death. The jury, in finding a verdict of accident, offered Mrs. Payne their sympathy.

MRS. ALFRED ASLETT, wife of the general manager of the Furness Railway Company, accompanied by her nephew and niece, was travelling on Sunday from Bowness to Ulverston, and when between Storrs and Newby the chain of the motor-car came off. The vehicle was descending a steep hill at the time, and, the brakes failing to act, the car ran violently down the hill, overturning at the bottom. All

the occupants were thrown out. Mrs. Aslett and her niece were medically attended. The other occupants suffered from severe shock.

IN turning a curve at Hulton Park, Atherton, near Bolton, on Sunday, a motor-car was overturned, throwing out the three occupants, Mr. James Cameron and Mr. Donald Ferguson, of Edinburgh, and Mr. Macdonald, of Perth, who were on a holiday tour to the South of England. They sustained bruises, but fortunately escaped without serious injury.

A LOOSE horse grazing by the roadside brought a motoring party to grief near Astbury, Congleton, before daylight on Sunday morning. Mr. Melville Ashworth, of Manchester, was travelling from London to Manchester. The lights of the car startled the horse, which got in the way of the vehicle, and the driver could do nothing to avoid running into the animal. The collision caused the car to swerve into the hedge, and one of the wheels was smashed. Its occupants fortunately escaped serious injury, but they suffered the inconvenience of waiting on the road for four hours until another vehicle was obtained to carry them forward.

COMPANY NEWS.

MEETINGS AND REPORTS.

HOTCHKISS ORDNANCE COMPANY.—At the annual meeting of the Hotchkiss Ordnance Company in London, the chairman said that last year they were obliged to face a very serious strike, which practically paralysed their manufacture for two months. Under these circumstances he thought the profits of the year might be considered as satisfactory. A reserve of £20,000 had been made in the accounts of the French company in order to provide for certain contingencies and strengthen the finances. In the usual course this sum would have been transferred to the English company in the shape of dividend, and the profits would then have been shown as £46,449 in place of 126,449. The directors had every reason to hope that in future further reserves of this nature would not have to be made. The ordnance trade during the year was active. The manufacture of chassis at St. Denis had been continued with satisfactory results. The report was adopted.

ARGYLL MOTORS.—The directors have declared an interim dividend at the rate of 10 per cent. per annum on the ordinary shares, and at the rate of 6 per cent. per annum on the preference shares.

JOHN I. THORNYCROFT AND COMPANY.—The report of this company for 1906 shows that the profits amount to £25,329, including about £3,000 brought forward. Motor-car sales are improving, and reference is made to the show-room opened in Albemarle Street, W. Unfortunately, however, the action of the London police authorities has occasioned some concern to the directors in connection with the motor-omnibus branch of the business.

NEW COMPANIES REGISTERED.

HALLEYS MOTORS, MANCHESTER, LTD.—This company has just been registered with a capital of £10,000 to adopt an agreement with Halleys Industrial Motors, Ltd., and Mr. R. Gale relating to the appointment of this company as selling agents for Lancashire and Yorkshire (except Middlesbrough), to manufacture, cause to be manufactured, let on hire, and deal in motor vehicles and their accessories, &c. The number of directors is not to be less than three nor more than five. The first are Messrs. G. H. Halley, R. Gale, A. A. Jackson, T. B. Blyton, and E. J. Walthew (chairman). Registered office, 88, Mosley Street, Manchester.

MACKLIN'S SECTIONAL TYRE SYNDICATE.—£1,000. To acquire certain inventions relating to wheel rims and pneumatic tyres, and to adopt an agreement with Messrs. A. N. Campell Macklin and R. D. Hodgson.

SCOTT-STIRLING MOTOR COMPANY.—£70,000. To acquire the business of manufacturers of and builders of motor-omnibuses, commercial motor vehicles, and motor-boats carried on by Scott, Stirling and Co., Ltd., at Twickenham. First directors: Messrs. J. Scott (chairman), J. Stirling, and L. Miles. Strawberry Vale, Twickenham.

ARGYLL MOTORS (SOUTH AFRICA).—£10,000. Agreement with Mr. J. W. Courtis. First directors: Messrs. J. W. Courtis, C. A. Sexton, and H. S. Rogers. Registered office: King's House, King Street, Cheapside, E.C.

THE RENARD ROAD AND RAIL TRANSPORT CORPORATION, LTD., have just issued their prospectus in connection with an issue of 125,000 £1 preferred shares. Lord Ribblesdale is chairman of the company, with Major-General Sir John Ardagh as deputy chairman, the board also including the Hon. Claude Hav, M.P., Capt. C. Longridge, Mr. Philip Dawson, M. Laurent and M. Surcouf. Col. Crompton and Mr. B. H. Thwaite are the consulting engineers.

MOTOR LAUNCHES ON THE THAMES.

AT Brentford, on the prosecution of the Thames Conservators, Gordon Jardine, of Trinity Street, Cambridge, has been fined £2 and costs for recklessly navigating a motor-launch on the Thames off Twickenham. Mr. Glenshaw, for the Conservators, said there was a yawl drawing 3 ft. of water, and with a free board of 2 ft. 6 in., moored off the bank near Milman's Yard at Twickenham. The occupants of the yawl saw the motor-launch driven by the defendant coming from the direction of Eel Pie Island at a high speed, throwing up a large stern wave. On the motor passing the yawl the wave was so high that the freeboard of the latter was submerged and the moorings were in danger of being carried away.

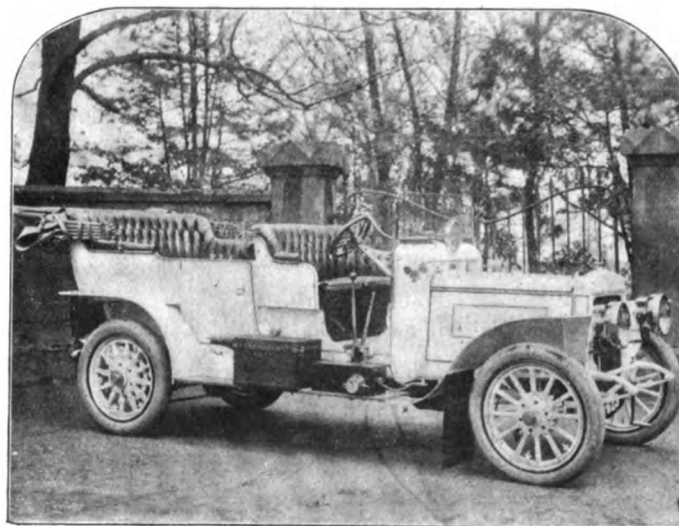
ROAD REPORTS.

BUCKS.—In the quarterly report of the Highways Committee of the Bucks County Council it is stated that complaints respecting the nuisance arising from the dust raised by motor-cars have been received from various parts of the county, with urgent requests that the County Council should lay down some dust-preventing material to obviate the nuisance. Complaints of this kind have been sent by residents at Salt Hill, Slough, Beaconsfield, Eton Wick, Little Missenden, Princess Risborough, Chesham, Winslow, and other places. The committee consider the case of Salt Hill to be the most serious of all, and have instructed the county surveyor to lay down tarmac on the worst portion of the road there.

KELVEDON.—Two motor danger signals have been erected at the main approaches to the town, one at the foot of Ferring Hill over the bridge, and the other on the Witham side of the dangerous bend into High Street, and about a hundred yards above the crossing from Church Street into Maldon Road. It is thought by many of the parishioners that a third post is much needed near the White Hart Hotel, which is immediately below the bend and crossing, there being no caution whatever at the top of the High Street, converging, as it does, into this two-fold danger.

DALKEITH.—The borough surveyor has drawn the attention of the Town Council to the damage done to the roads and streets by the motor-buses plying between Edinburgh and the surrounding district. It has been resolved to purchase 50 tons of patching metal and to regulate the places for the buses stopping at Eskbank.

CHESHIRE.—A series of important recommendations in regard to the motor dust nuisance have been adopted by the Cheshire County Council. The Main Roads Committee recommended the Council to treat about ninety miles of main roads with calcium chloride, and in



The above illustration depicts Mr. E. H. Atchley's latest Daimler Car, of which he has recently taken delivery.

It is of 30-35 h.p., with a 10½ ft. wheelbase, and the coachwork is of the Canley type, painted white, with red upholstery. This is the third Daimler car which Mr. Atchley has purchased.

addition offered to the urban authorities one-third of the cost of treating forty miles of main roads passing through their districts. Mr. Pedley, vice-chairman of the committee, said that this proposal was an organised attempt to deal with the dust nuisance. The cheapest remedy they had discovered was a solution of calcium chloride, the cost of which would average £16 a mile per annum on rural roads and £30 on urban roads. Roughly speaking, these dust-laying experiments would cost £3,600, of which £1,200 would be found by the county and £2,400 by the districts in which the work was to be carried out.

BRIGHTON.—On the recommendation of the Works Committee, the Brighton Town Council have resolved that during the coming summer Akonia and calcium chloride in about equal quantities are to be used upon the King's Road, and that portions of the Marine Parade, Freshfield Road, Palace Place, Prince's Place, and Rose Hill Terrace be tar treated. The tarring of Madeira Road will be done as soon as weather permits.

THOROUGH braking efficiency is indispensable on all cars, large or small, no matter what may be their power and weight, and anyone who may feel at all dubious as to whether he is properly equipped in this respect should see that matters are set right without delay. Improvements to existing brakes, likely to be lasting and effective, may be difficult and costly, but a remedy may be found in fitting additional brakes to the front wheels. As these are also the steering wheel, it might be imagined that such a brake fitting would be difficult, but the problem has long since been solved by the E. M. Bowden's Patents Syndicate, Ltd., with the aid of their wire mechanism.

FORTHCOMING EVENTS.

MAY.

SATURDAY, 25TH.

Last day for practising on the Isle of Man course.
Aero Club race for the Harbord Cup at Ranelagh.
Mr. F. A. Bolton receives the Derby, Leicester, Mid-Staffs and Notts A.C. at Oakamoor.
Reliability trial of the Ipswich and East Suffolk A.C.
South Devon A.C. hill climb at Tavistock.
Meet of the Liverpool A.C. at Hooton Hall, Chester.
Meet of the West Surrey A.C.
Touring Car Competition of the Kent A.C.

SUNDAY, 26TH.

South Herts A.C. run to Clacton-on-Sea.
Run of the Kensington A.C. to Cambridge.

TUESDAY, 28TH.

Auto Cycle Club Tourist Race.
Tourist Trophy cars to be within the Club enclosure at Douglas.

THURSDAY, 30TH.

R.A.C. Tourist Trophy and Heavy Touring Car Races.
The Great Yarmouth M.C.C. 75 miles Penalty run under Auto Cycle Club's rules. Entrance forms from the secretary, Mr. F. Worts, Somerton, Yarmouth.

FRIDAY, 31ST.

R.A.C. Graphic Tourist Race.

JUNE.

SATURDAY, 1ST.

Entries close for Henry Edmunds Challenge Trophy.
Cleveland Branch of Yorks A.C. run to Rokeby.
Motor Cycling Club's hill climb at Sharpenhoe.
West Essex A.C. run to Blackmore.
Reliability run of the North-East Lancashire A.C. to Carlisle.

SUNDAY, 2ND.

Meet of the Motor Cycling Club at Frensham Ponds.

WEDNESDAY, 5TH.

Start of Herkomer Touring Trophy Competition from Dresden.

SATURDAY, 8TH.

R.A.C. Henry Edmunds Hill Climb.

SUNDAY, 9TH.

The Motor Cycling Club will meet at the "Cock," Epping, at 11 a.m., for a trip to Maldon.

FRIDAY, 14TH.

Race for the Kaiser's Prize on the Taunus Course, Germany.

SATURDAY, 22ND.

Southern Motor Club's open hill climb on Captain Kydd's Hill, East Grinstead.

TUESDAY, 25TH.

Scottish A.C. Reliability Trial.

JULY.

2ND.—A.C.F. Grand Prix Race on the Seine Inferieure Circuit, near Dieppe.

6TH.—Inaugural races on the Brooklands Track.

10TH.—R.A.C. South Harting hill climb.

13TH.—Entries for R.A.C. commercial vehicle trials close at ordinary fees.

20TH.—Motor Union meet at Southport.

AUGUST.

20TH.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

9TH.—Industrial Vehicle Trials commence.

LIGHTING-UP TIMES—LONDON.

May 25th—8.56 ... 27th—8.58 ... 29th—9.1 ... 31st—9.3
 „ 26th—8.57 ... 28th—8.59 ... 30th—9.2 ...

PUBLIC MOTOR SERVICES.

A DEPUTATION of motor-omnibus drivers and conductors from the principal Metropolitan omnibus routes has waited on members of the Labour Party in the House of Commons with a view to expressing their objections to the number of hours they work and to the deductions said to be made from their wages. It was also stated that the men's pay was insufficient to permit of 1s. weekly being deducted from drivers and 6d. from conductors to cover accidents, with a further liability to pay one-third share of the cost of accidents up to £10. On the question of double punishments the men asked for some right of appeal, pointing out that, after they had been fined by a magistrate, to suspend or revoke their licences for a long period meant starvation.

A NEW motor-bus is now in service with the Cardiff Tramways Company, Ltd.

A MOTOR SERVICE is being proposed between Fishguard and St. David's.

A ROAD motor service is desired by the St. Martin's (Oswestry) Parish Council, and the Great Western Railway Company is to be petitioned to establish one.

THE Willesden District Council is supporting the petition of the residents of Willesden Lane against the proposal to run a motor-bus service along their road to Kilburn.

THE General Purposes Committee of the Paddington Borough Council are recommending the Council to take proceedings against the promoters of certain motor-bus services running through its area.

LICENCES have been granted to three motor omnibuses to ply between Cardiff and Whitechurch.

THE motor-bus service between Herne Bay and Canterbury which was inaugurated last year is being resumed.

THE Mersey Railway Company have started a motor-bus service between Rock Ferry and Port Sunlight.

SOLDIERS AS CHAUFFEURS.

AN unusual motor-car prosecution was heard at Newcastle on Saturday. Colour-Sergt. H. Scott, of the Northumberland Fusiliers, was the defendant, and it was alleged that he drove a motor-car at Gosforth on to a footpath and into a wall, knocking down a boy named Lamb. Scott acknowledged the offence, and said he was learning to drive a motor-car in pursuance of the Army Council scheme. The day of the accident was the first on which he had been out with a car, and he was accompanied by a competent instructor. On a quiet stretch of road he took the car over, and the accident happened when he was trying to turn a corner. He took it too wide, and the instructor seizing the handle, wrenched it the other way, the accident being thus caused. James Elsey, the instructor, giving evidence, attributed the accident solely to Scott's error of judgment. His own action did not contribute to it in any way. In answer to the Bench, Scott said he had several years' service yet to run. If a conviction were recorded against him it would have the same unfortunate result as a conviction by a district court martial. On hearing this the Bench decided to dismiss the case on defendant paying costs.

BUSINESS NEWS.

DEMONSTRATIONS of the Harvey Frost vulcanising system will shortly be given at 27, Charing Cross Road, London, W.C.

BELSIZE MOTORS, LTD., Manchester, have recently shipped six 20-30-h.p. four-cylinder cars to India; they have also despatched a number of cars to Australia, and in the course of a few weeks will be sending a full consignment to New Zealand.

THE Electric Vehicles Development Company, Ltd., have recently opened new premises at Eaton Garage, Elizabeth Street, S.W., where accommodation for about twenty cars is provided. Six charging boards have been installed, and a separate battery room and workshops arranged.

GOOD progress is being made with the erection of the additional factory which Messrs. Hans Renold, Ltd., are building at Heaton Mersey, near Manchester, and it is expected that the machinery will be started within the next two months. The new establishment will be almost double the size of the present large works in Brook Street, Manchester, being 742 feet long by 222 feet broad, with a floor space of no less than 170,000 square feet.

MR. A. M. MILLS, an American motorist who is at present making a tour in England, has written a letter to Messrs. Sternberg and Eason, in which he states that "When I first decided to go in for motoring, I made careful inquiries as to what was the best car to buy, and was strongly advised to go in for a Buick, with the consequence that I bought one of the two-cylinder type. I can assure you I have never regretted my choice, for I have travelled 7,000 miles on my car, and have never had a mechanical hitch of any description. My repair bill has been practically nil with the exception of £8, that I paid for the vehicle to be overlooked previous to my bringing it to London."

MESSRS. HUMBER have received the following letter from Messrs. H. G. Norton and Co., of Cheltenham:—"We informed you in 1906 that a client of ours had completed 10,000 miles on his Coventry Humber, since July, without a hitch, and we are more than pleased to let you know that he has now completed over 25,000 miles, and car has not yet been overhauled."

THE Stepney Spare Wheel has obtained such a vogue that the most sanguine expectations of the company have been exceeded. Some of the contracts placed by leading motor-car concerns are sufficient in themselves to return the original shareholders a very handsome dividend.

It is noteworthy that English manufacturers are competing in racing events on the Continent this year to a far larger extent than before. Only recently the Daimler Company sent three of their newest type of cars to the Targa Florio race in Sicily. The Wolseley Company are now sending two cars to the Herkomer competition, and the Rover Company competed with a 6-h.p. Rover car in the small car trials in Germany, which have just concluded. The Daimler Company are now despatching three Daimler cars to the Kaiser's Prize race, and it is interesting to note that all these cars are fitted with Continental steel-armoured non-skid tyres.

THE Motor-Car Journal.

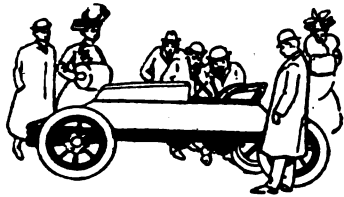
VOL. IX.]

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COMMENTS.



EVEN for such important gatherings as the provincial meets of the Motor Union there is often a difficulty in finding adequate interesting entertainment in the sporting section of the meeting. The assemblies of purely county clubs often create more interest owing to the personal note which usually runs through such events. Hence the man who can suggest some variant for the gymkhanas that now serve for the amusement of others will deserve well of the organisers of such events. In this connection we would commend the main feature of the joint meet of the Derby, Nottingham, Leicester, and Mid-Staffs Automobile Clubs to the attention of other organisations which arrange for their members to commingle in social intercourse. In the hill climb at Oakmoor the four visiting clubs were each at liberty to enter four cars. Each car having made the ascent against the watch, the sixteen were then drawn in pairs and handicapped according to their trial times, the eight winners going into the second round. In this the handicap was made on the shortest time made by the first round winners, and so the event was run through, the third round handicap again being taken on the best time made by the winners of the previous round, and so with the final heat. Each driver was honourably bound to do his best in the trial run, and although the majority of the cars did faster times on their subsequent trips, it was probably due to the fact that the drivers had become more familiar with the peculiarities of the hill. The close finishes that marked the proceedings fully justified this novel method of arranging a competition.

Public Trials on Public Roads.

MR. CATHCART WASON has returned to the campaign which he wages so persistently against the motor-car, and on Monday was to the front at Westminster with questions addressed both to the President of the Local Government Board and the Home Secretary. It appears that Mr. Wason had heard that there was recently a hill-climbing competition at Frome's Hill, and, according to the information which he seems to have received, some vehicles obtained a higher rate of speed than that with which he is familiar. Putting these two facts together he was able to propound a question with the added suggestion that in future competitions on public highways some regard should be paid to the provisions of the existing law. The reply of Mr. Burns should be reassuring to Mr. Wason, and at the same time satisfy motoring organisations which do not organise such events without first acquainting the local police and generally obtaining the co-operation of the district authorities. As the President of the Local Government Board stated, the administration in such matters is practically in the hands of the local authorities, and from his own information he knew that the police were present at Frome's Hill, and "that they took precaution to safeguard from danger the spectators, who were, moreover, aware that a competition was taking place." Mr. Burns declared that he was not in a position to take action in cases of that kind, although personally of opinion that except in very special con-

ditions, and early in the morning, no speed or other trials should take place on a public thoroughfare. Here again cold water was thrown on Mr. Wason, who wanted these events stopped altogether, the official view being that the police of each locality can very well safeguard the lives of those within their area without the intervention of Whitehall. Mr. Burns might have gone further to testify to the ability of the police to look after property within their districts, if they were not so generally occupied in trapping innocent motorists merely using the roads in an ordinary way without any suggestion of exceeding the legal limit.

Modern Motoring.

COMFORTABLY resting in a Florentia motor carriage we rode out to Ascot on Friday last by way of Hampton, Sunbury and Virginia Water. Comparisons may be as "odorous" as Mrs. Malaprop declared they were; but they are natural, and we could not forbear a mental glance to the early days when the motor-car was regarded solely as an open-air vehicle and the covered body was an unanticipated luxury. In showery weather the latter has its use, and it is becoming almost universal. At the Lincoln Meet of the Motor Union, for instance, the cars were drawn up in the formation of a square, and presented a very stolid array. But when the lawny glades of Canwick Hall were swept by east winds and accompanying rains, hoods and brougham tops went up, the gymkhana ground was not unlike a tented field. Now that the reliability of the car has been established the body builder is having a fine chance of distinction, and the modern motor-carriage has become almost a Road-Pullman. This can be enjoyed without detracting from the view—and what a view is now presented by the delightful highways of Berkshire, with their pathways carpeted with the fallen red and white May and their natural walls of horse chestnut, lilac and laburnum. Mr. Ballin Hinde, the treasurer of the Motor Union, who was of our party on the run to Ascot, has just returned from the glare of the eastern sky, and could, perhaps more than the rest of us, relish the greenery of an English landscape or the cool prospect of Virginia Water.

Technical Instruction in India.

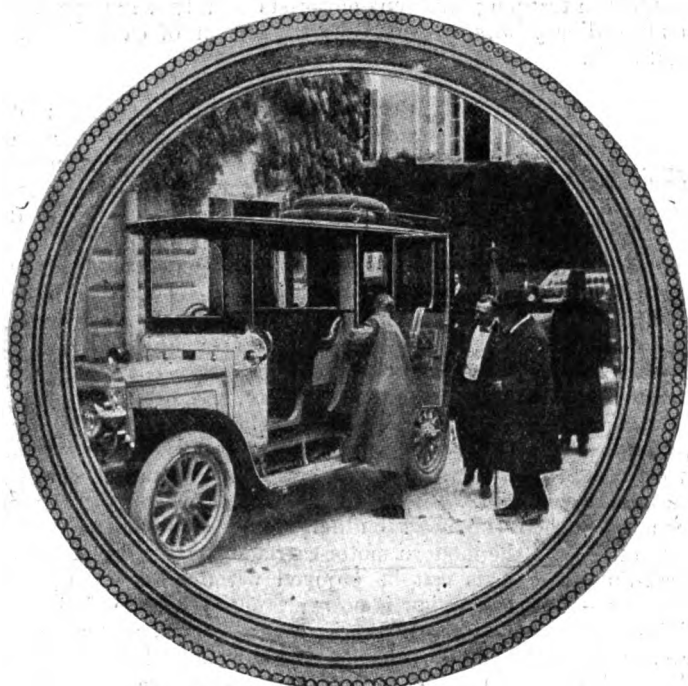
WITH a view to the development of the motor industry in the Presidency of Bombay the Governor has proposed the formation of a class of motor instruction at the Victoria Technical Institute at Bombay. A special grant has been placed at the disposal of the Director of Public Instruction, and this will be spent in the purchase of automobiles and the erection of the necessary shed in which to house them. The scheme has been well received, not only by private motorists, but also by the leading firms engaged in the motor trade of Bombay. The difficulty of obtaining intelligent drivers has hitherto retarded, to some extent, the sale of vehicles, and the new project of the Governor will probably induce a better class of men to come forward for motor driving. It is expected that, at first, there will be some difficulty in persuading the men to stay sufficiently long to be well qualified, so great is the demand—but this, of course, is a matter which will right itself in time. The fact that the Indian authorities are recognising the importance of having efficient

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drivers is certainly of interest, and may perhaps stimulate those responsible for technical education in Britain.

Cars in the Parks.

LONDON motorists have long experienced exclusion from the parks, and, despite the recent protestations on behalf of the petrol car, it would seem that they will have to keep outside the gates for some time to come. Now the idea is extending to the provinces, and we understand that the Parks Committee of the Bradford Corporation have decided to recommend the City Council to adopt the following bye-law:—"That no motor-car, motor carriage, motor-bicycle or tricycle, or other similar mechanically-driven vehicle, shall be allowed at any time to enter or pass through any of the parks in the city." Of course, local considerations must always govern these extradition orders; but they are sufficiently important to suggest that no authority should permit such an order to be made until the motorists' organisations have given the matter serious consideration. Otherwise much inconvenience may result in the future.



His Majesty King Edward entering his Daimler Car at Sorrento, Bay of Naples, during his recent visit to Italy.

In the Air.

It was an unusual sight that was witnessed at the Ranelagh Club Grounds on Saturday afternoon, when the Aero Club organised the great race for the Harbord Cup. The idea was that the aeronauts were to attempt the descent at a point indicated by the committee just prior to the ascent, and those coming to earth nearest the point were to be adjudged the winners. Goring railway station proved to be the designed meeting place, and about four o'clock the balloons, ranging in size from the Lotus and the Padsop No. 3, each with a capacity of 35,000 cubic feet, to the Aero Club No. IV., Enchantress and Diamond, each of 50,000 cubic feet capacity, set forth. Interest was keen—so was the wind, which rendered futile the efforts of some of the less practised airsmen. In the result Mr. F. H. Butler landed only 100 yards from the winning-post, with Col. J. E. Capper not far away, and the Hon. C. S. Rolls three-quarters of a mile off. While this event was in progress another incident of interest was taking place at the Wandsworth Gasworks, from whence a party of fifteen ascended in the "Mammoth"—the largest balloon ever sent up. It has a capacity of 108,000 cubic feet, and after an easy voyage descended gracefully near Basingstoke.

Haywards Heath.

WHEN in want of a motto to go around the Court House of Haywards Heath, the magistrates might well apply to motorists for the suggested lettering. Nothing could be more appropriate than the wording, "All hope abandon, ye who enter here." We do not recollect any case of a motorist summoned before the Petty Sessions there who has escaped conviction. If there be any such, we shall be glad to hear, and extend a meed of publicity to a *rara avis*. Last week's proceedings, when a batch of eight motorists were hauled before the Bench and all convicted, is very similar to scores of previous sittings. Sergeant Waghorn was the leading police witness in every instance last week, he having been in charge of the measured furlongs at New Timber and Friar's Oak, Clayton. Despite the declarations from defendants on oath and the evidence of their speedometers, Waghorn gave opposite testimony, and although some of the motorists were able to show that the time occupied by their journeys was well under the legal limit, the Haywards Heath magistrates accepted the police testimony and rejected any other. In the course of the evidence it transpired that one of the police was in cyclist's attire when engaged in the wretched business of setting traps, and altogether the whole farce was of a kind calculated to bring the English law into ridicule and disrespect. Cannot something be done to prevent travesties like this occurring in this particular county?

The Need of Unity.

"ALL your strength is in union," was the sage remark of a philosopher. It is very applicable to the motor movement, especially in view of impending legislation of a permanent character which cannot be long delayed. Hence we welcome the generous spirit in which Mr. C. D. Rose, M.P., referred to the courtesy of the Automobile Association in helping such of the members of the Motor Union as were going to the Meet at Lincoln from the south. There was, he observed, no question of friction; and it is to be sincerely hoped that the leaders of the various organisations will all work together for the common good. Here and there, it may happen, activities of one society may seem to imitate the energies of another. Let anything of that kind be called flattery; and regarded as complimentary rather than predatory. There are enough enemies outside the movement ever ready to pounce upon anything likely to fan the prejudice of the public; we do not want friction within, and the excellent tone of the speech of Mr. Rose should be appreciated and followed by all loyal motorists.

Police Traps.

FROM pigstye to church tower is a distinct elevation; and we should be glad to think that the notions of the police who have thus advanced in altitude had been similarly raised. In the early days the residential pen of porkers was a favourite hiding-place for policemen in charge of traps; then they came from their undignified positions and lurked behind hedges; and, latest move of all, a sergeant in Warwickshire has gone aloft to the church tower of Shipston-on-Stour, from whence to announce by signals to policemen below the approach of automobiles. We remember that, at Yarmouth, it was once the custom to scour the land by field-glass in order to scent the motorist on the road. Probably this invasion of ecclesiastical property would have proved remunerative to the county funds; but there are greater powers than the police in English villages, and the rector called upon the policeman to descend to earth and conduct his trapping exploits from the level ground. Really it would seem that the presumption of the police is on the ascending scale; but for the sense of fairness which leads others to secure the discomfort of the trappists. Meanwhile, the best way to circumvent this un-English attitude of the police is to acquaint our readers with the traps established

throughout the country, and that, with the help of loyal friends, we are able to do from week to week.

Dublin.

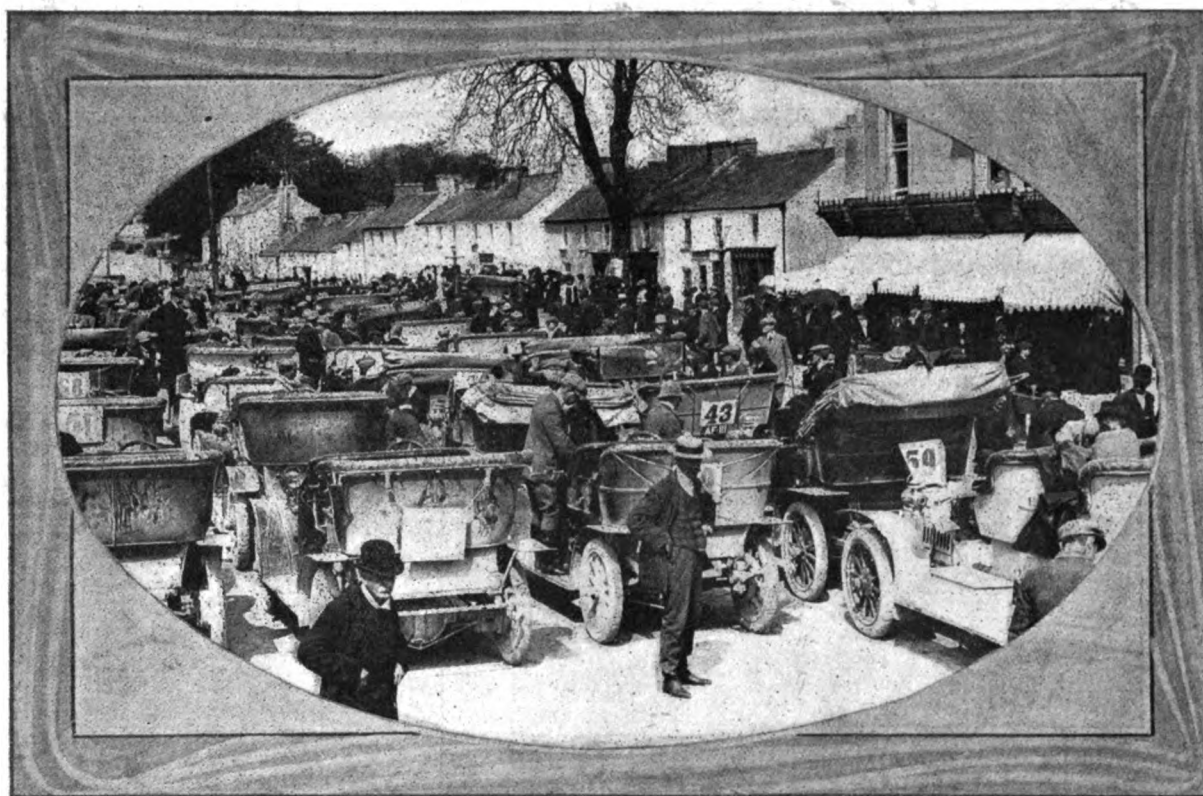
LAST week the Reliability Trials organised by the Irish Automobile Club were held, and many motorists from this side of the strip of water that divides the two islands renewed acquaintance with the roads of the Emerald Island.

In many places distinct improvement compared with the experiences during the Irish fortnight following the Gordon Bennett race of 1901 was observed, as far as the roads are concerned. This is all to the advantage of the country from a touring point of view. From Messrs. Methuen and Co. comes a reminder of another interesting aspect of Ireland, in the form of a new guide to Dublin, written by Mr. S. A. Fitzpatrick, whose encyclopædic knowledge has resulted in one of the best accounts of the ancient city on the Liffey that we have

clivities of the Royal Irish Constabulary again led to their encouragement of the competitors. Two or three distinctive points of organisation deserve merit, and the innovation of holding a class for amateurs as well as one for the trade appealed to a large circle of motorists who entered cars and went well through the Trial.

Notice of Prosecution.

ON Wednesday last week, at the Petty Sessional Court at Highgate, Mr. Sidney Smith was summoned by the police for driving a motor-car at the rate of thirty-five miles an hour. The police stated that defendant proceeded along the highway at the rate of thirty-five miles an hour, and that when a constable stepped into the road to stop defendant he went on and did not stop; that a constable called upon defendant a few days after and warned him of the prosecution. The defence was a denial that any constable stepped into the road or that the speed



The Irish Reliability Trials.—The Competitors at Abbeylisc.

seen. In fact, it gives an insight into the historical records of Ireland, as well as serves as a guide to the topographical features of Dublin. The volume should be read and studied before acquaintance is made with the city itself. Few places are so favourably situated from a motoring point of view as the "Dear, dirty Dublin" of Lady Morgan, for within a few miles are Kingstown, Dalkey and Bray, the bold cliffs of Howth, the beautiful coast scenery around Killiney and the wild defiles of the Wicklow mountains.

The Irish Trials.

IN 1906 the Irish Reliability Trials suffered from the fact that they were held on the same dates as the more trying event in Scotland. This year they have had the field all to themselves, with the result that success has attended the enterprise of the Irish A.C., which is to be heartily congratulated on the splendid result of their endeavours to promote a really enjoyable trial. For there were few misadventures to mar the pleasure of the journey to anyone, while the sporting pro-

alleged was accurate. It was further stated by Messrs. Kenneth Brown and Co. that Section 9 of the Motor Car Act provided that a warning of the intended prosecution must be given at the time the offence is committed, or sent to the owner of the car within twenty-one days. In this case no notice was given at the time, and the verbal warning by the police two days afterwards was ineffective, as the notice could only then be in writing. Further, that in point of fact the notice of the intended prosecution was served after the summons had been issued and served upon defendant, in that the summons was served in the afternoon and the notice in the evening. The Bench, after consideration with their clerk and the police, dismissed the summons, and we would advise motorists to take note of the case for reference should they ever find themselves in a similar difficulty.

AMONG the borough surveyors of the South of England, few have given such attention to the subject of dust prevention as Mr. W. H. Maxwell, A.M.I.C.E., of Tunbridge Wells, who does not regard the tar palliative, as it stands to-day, as a complete and final solution of the dust problem.

LAYING THE DUST.

At the Bucklow Council meeting, Mr. Egerton referred to the use of the roads by motor-cars, and said the Cheshire County Council were going to give the main roads a dressing of calcium chloride, which would involve an expenditure of about £3,000. This, he understood, would be met by the county paying one-third and the districts two-thirds. Were they justified in making the roads better for the motorists? It was absurd for them to widen roads and pay for the extra upkeep for the sole benefit of the owners of motor-cars. He proposed that they do not undertake to do it—a suggestion with which the Council concurred.

THIS report has come under our notice during the last few days. It represents a school of thought that now seeks to influence the road question in this country, the Bucklow Council accepting the horse-drawn traffic as the permanent condition of things; while the proceedings of a sensible body would have shown a desire for progressive development and an acceptance of no form of locomotion as final.

While each of these two views are finding sturdy advocates on local bodies, motorists themselves are doing something not

Friday.—Three miles of gravel road between Virginia Water and Reading at Ascot.

On the first day of the trials the King drove over the road that was being experimented with, and on Friday last quite a large concourse of experts watched the proceedings, while representatives of several Government departments were also present. The weather was hardly of an ideal character so far as the dust was concerned, but the judges were fairly well satisfied as to the conditions. The competitors were as follows:—

Aitken's patent pneumatic tar sprayer, which has hitherto been exclusively used in the county of Fife, and which discharges the tar from the spraying nozzles in a highly diffused state securing equal distribution and penetration of the surface.

Emulsifix, which has been at work in Lancashire and which spreads tar oils in a sub-divided state by means of emulsifying the same mechanically with water.

Johnston's Lassailly patent tar road binder, which employs two machines, a heater and a spreader, working simultaneously. This machine has treated seventy miles of road in connection with the Grand Prix race of the A.C.F.

Tarmaciser, the feature of which is the heating of the tar



The Tar-Spreading Trials near Staines.—One of the Machines at work.

only on their own behalf, but also in the interests of the country. On three days of last week, under the auspices of the Roads Improvement Association, and financed by the R.A.C. and the M.U.—initials intelligible enough to every loyal motorist—some experiments were conducted which may have an important bearing on what has become known in current conversation as the dust problem.

Starting from the basis that tarring is the best available palliative for laying dust, the Association has endeavoured to discover a machine which shall apply the tar in such a way that the surface of the road shall be welded together so as to prevent the disintegration often associated with traffic. In previous issues we have detailed the rules governing the trials which took place over three classes of road on three successive days, viz.:—

Wednesday.—Four miles of the Hounslow and Staines macadam road between Baber Bridge and the Staines boundary.

Thursday.—Two miles of the flint road between Twickenham and Kempton Park.

whilst it is being distributed, before being brushed into the interstices of the road.

Tarspra is the title of a tar-spraying machine drawn by a motor-vehicle. The tar is forced through pipes to the atomising nozzles at the rear of the appliance, where it is discharged in the form of a fine spray. This vehicle was entered in three sizes, of 200 gallon, 700 gallon, and 1,000 gallon capacity respectively.

The Thwaite anti-road dust system had a distinctive feature in raising the temperature of the tar to a degree to ensure that it will set like enamel on the materials of the road. The complete sequence of the Thwaite patented apparatus is intended to spray the tar in combination with the mechanical spreading of the sand.

Considerable interest was taken in the method of applying the various machines, and also in laying the dozen preparations submitted to the test. Some time will elapse before really effective judging can be given; but meanwhile the experiences of readers travelling by car over any stretches of the roads upon which the experiments were carried out will be useful reading.

THE LATE MR. A. GOVAN.



IT is with feelings of great regret that we have to chronicle the death of one of the leaders of the British motor trade—a talented pioneer of the movement, and one of its most capable administrators. Mr. Alexander Govan, whose death, while still on the right side of forty, thus removes one of the most respected motorists from our midst, was a man of sterling worth and sound judgment, and the British automobile industry has lost one of its great forces in our deceased friend.

Mr. Govan's name will always be associated with the development of the great works at Alexandria, of which he was the managing director. He was a native of Glasgow, and learned practical mechanics in Bridgeton, gaining the theory in the Technical College. Originally interested in the cycle business, he, with Mr. W. A. Smith, acquired bicycle works in Glasgow late in 1899, and commenced there the Hozier Engineering Company in 1900. With keen prescience they recognised the future of the motor-car, and Mr. Govan produced his first Argyll car in 1901—a 3½-h.p. vehicle that, even at that date, gave promise of greater things. These came when the Automobile Club trials took place in that year in connection with the Glasgow Exhibition, and the Argyll won distinction and attained a reputation which it has not only maintained but increased under Mr. Govan's guiding hand.

So well did the business prosper that the turnover in the succeeding five years rose in the proportion of 100 to 1,751, and even that was nearly doubled in the following twelvemonth. Tangible embodiment of the success attained was evidenced in the erection of the great works at Alexandria, which were formally opened in June of last year, although they had been in partial operation some time before.

All through the removal of the factory from Glasgow to the town under the shadow of Ben Lomond Mr. Govan had borne the heat of the day, and his decease when in the prime of life, and when beginning to enjoy the harvest of the strenuous labours of the last decade, is almost a tragedy of human hopes and aspirations. He was in his usual state of health a few days ago, but while lunching was attacked with ptomaine poisoning and died, after ten days' illness, in the early hours of Monday last. The event not only cast a gloom over the town of Helensburgh, where he resided, but a deep shadow over Alexandria, which owed so much to his enthusiasm and energy.

Mr. Govan had the quality of tenacity, as well as of tact, and though success came to him at a comparatively early age, it never spoiled the frank nature and cordiality of the man. Unobtrusive with regard to his work, he associated little with motoring organisations, although ever ready to encourage the formation of societies of every kind among the workpeople. Esteemed by all, his memory will ever be recalled with admiration and regard—and this knowledge of the universal esteem in which Alec Govan was held will assuredly be a thought of consolation to his widow, to whom we tender our respectful sympathy.

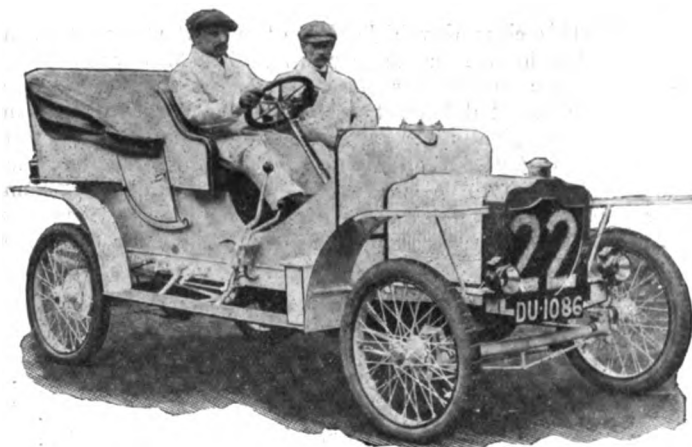
WHILE we naturally are most anxious that the dust nuisance shall be allayed, if it cannot be prevented altogether, we would advise those responsible for the conduct of experiments to ascertain the influence of the road dressing upon tyres and other substances that come into contact with the surface of the highway. The "Lancet" has been drawing attention to the dangers that lurk in the use of certain compounds in this connection, and while the objections to preparations which practically act as acids do not obtain with last week's trials, the subject has proved sufficiently important to warrant the notice of the "Lancet." Our contemporary trusts that the ultimate dust preventer on the roads may not prove to be a remedy worse than the disease—a wish that motorists will express with equal heartiness.

THE TOURIST TROPHY RACE.

DOUGLAS, Wednesday.

LOCAL feelings, coupled with the mishaps that have occurred, have led to many reflections among the visiting motorists; and the view has been expressed that the Tourist Trophy is almost spent, and that we shall see few more such events in the Isle of Man. The outcry that arose last year with regard to the way in which local feelings were disregarded in some respects led to the enforcement of very severe rules on the present occasion; and scarcely had the motorists been rehabilitated in the good opinion of the natives than a string of accidents occurred that has led some local public men to hope there will be no further permissions for the race to take place. But just now everyone is talking of the event that is to take place to-morrow, and the result of which will be known throughout the country by Friday morning.

One of the principal conditions with regard to the Tourist Trophy race is that the vehicles are required to run at least twenty-five miles per gallon of petrol, the spirit furnished having a specific gravity of from .715 to .725, as against .695 to .705 last year. The distance to be covered has been raised from 161 miles to 241 miles 5 furlongs 140 yards, or six laps of the course, but on the present occasion no limit has been placed on the chassis weight. The driving-wheels have not to be less than 32 in. in diameter, the wheel track not less than 4 ft. 6 in., the distance from the dashboard to the front edge of the back tyres

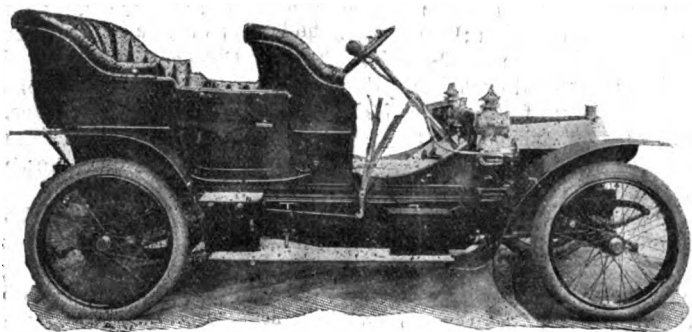


One of the Rover Tourist Trophy Cars.

not less than 5 ft. 3 in., the platform behind the dashboard not less than 7 ft. 6 in. long, and the body covering the whole area. The total load to be carried by the chassis is this year 1,400 lbs. as compared with 1,125 lbs. in the 1906 event, so that the task, in view of the petrol allowance being unchanged, is a more difficult one. The cars must be capable of being driven half-a-mile at a speed of 12 m.p.h., or less, on the level on the top gear without the manipulation of the clutch, and also capable of being stopped and re-started on a hill of about one in six. As will be seen from the table, which gives a full specification of the competing vehicles, the contest has this year attracted only thirty-one entries, as against forty-nine in the 1906 race, while the withdrawals that have taken place have reduced the probable starters to twenty-three.

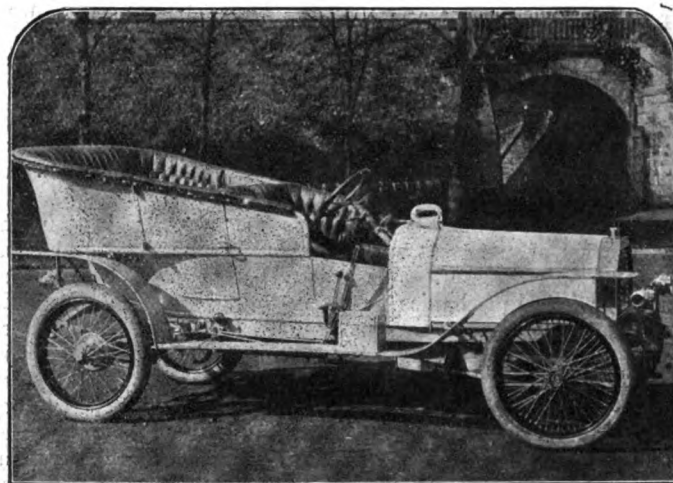
The Heavy Touring Car Race is an entirely new event intended for the development of ideal touring cars, such as are usually fitted with covered bodies. The horse-power, and consequently the speed of the competing cars, is limited by fixing a definite allowance of fuel for a given distance, viz., sixteen miles to the gallon, the petrol having a specific gravity of between .715 and .725 deg. F. As in the T.T. race, a minimum road wheel diameter is fixed, being in this case 36 in. The minimum distance from the dashboard to the front edge of back tyres has to be 5 ft. 9 in., and the platform behind the dash 8 ft. 6 in., the body to cover this area. The minimum total load to be carried by the chassis, including body, driver, mechanic, ballast, spare parts,

spare tyres, tools, luggage, and provisions, but not fuel, water, or oil, is 1 ton. Four speeds forward and a reverse are allowed, and each car must be capable of being driven half-a-mile at 12 miles per hour or less on level ground on the top forward gear without manipulating the clutch, and of stopping and restarting on a hill of about 1 in 6. A feature of the H.T. vehicles is the provision of a wind screen behind the front seats, as representing in some measure the resistance offered by the covered bodies usually



One of the 18-h.p. Star Tourist Trophy cars. The vehicles are built on the Star Co.'s standard lines, the only variation being that it is fitted with wire instead of wood wheels, shod with Dunlop tyres. They are fitted with handsome Roi des Belges side-entrance bodies, upholstered in best leather, and painted a rich dark red lined with black and yellow.

The way in which the rule with regard to punctuality was enforced last year had evidently been appreciated by the competitors, and only one was not in by the specified time—viz., Mr. Goodenough's Leader, which was three minutes late in arriving on the enclosure in Alexandra Drive, and consequently was disqualified.

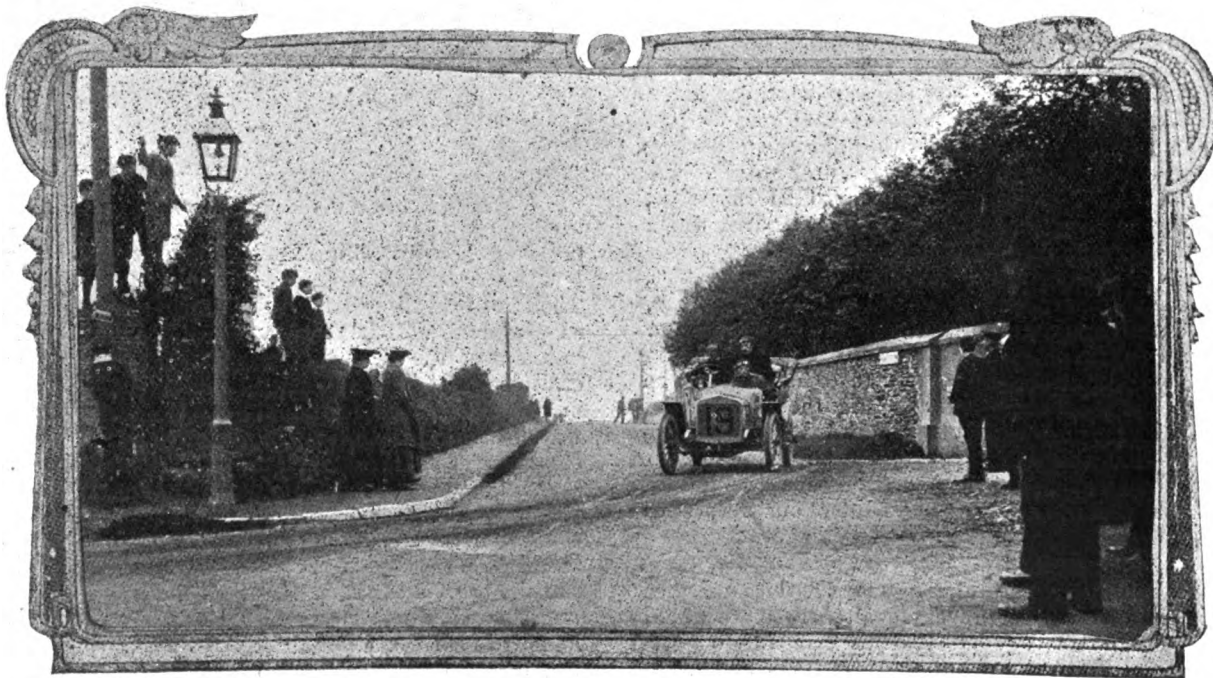


The Arrol-Johnston Tourist Trophy Car.

The engine, which is rated at 25-h.p., comprises four vertical cylinders, $4\frac{1}{2}$ in. bore by 5 in. stroke. Both high-tension battery and magneto ignition are fitted. The change-speed gear gives four forward speeds and a reverse, with direct drive on the top. The car has a wheel-base of 9 ft. $\frac{1}{2}$ in.

provided in this class of vehicle. The top of the screen has to be at least 8 ft. high from the ground and 5 ft. 3 in. wide. Sixteen entries were received for the Heavy Car race, but of these only nine are expected to start. The distance to be covered in this case was originally 200 yards short of 282 miles, or seven rounds of the course, but on Monday evening a meeting of the Competitions Committee was summoned, when a joint communication from the nine competitors was read, pointing out that, owing to the severity of the course and the excessive

It had been decided on the previous evening that the Slow Test should be from Braddan Bridge to Quarter Bridge, and that the test hill for the Hill Climb should be up the Alexandra Drive. Very few of the islanders were aware of these arrangements, with the result that the tests were carried through with only a few spectators. There is really nothing to



The Tourist Trophy Race.—The Vulcan Car at Bray Hill Corner.

weight carried, it would be impossible to complete the rounds in the time allowed by the Highway Board. Agreeing with this view, the Committee decided that there should be only five circuits, or about 201 miles.

Yesterday was a very busy day here, and although the weather has been fitful, we are hoping for a fine day to-morrow.

say about these preliminary events, as all the cars successfully passed both tests, and were driven into the enclosure, where the afternoon was spent in the official examination.

The Motor Cycle Trophy race aroused far more interest, and the event gave a capital beginning to the races of the week, although the cold, biting air was not agreeable

either to riders or observers. No fewer than twenty-five competitors faced the starter for the distance of 150 miles, and in the end the winner of the single-cylinder class proved to be C. R. Collier, on a 3½ Matchless, with J.A.P. engine. J. Marshall was second, and F. Hulbert third, both on 3½ Triumphs. In the twin-cylinder class R. Fowler was first on a Norton motor-cycle with 5-h.p. Peugeot engine, W. H. Wells second on a Vindco Special with 5-h.p. Peugeot engine, and W. M. Heaton third on a 5-h.p. Rex.

The Continental Tyre and Rubber Company will present a cup value 250 guineas to the winner of the Isle of Man Tourist Trophy Race, and another of the same value to the winner of the Heavy Car Race, if fitted with their tyres. It will be remembered that the first trophy was won by Mr. Napier on Continentals, which are fitted this year to two Berliets, two Arics, West, and Straker-Squire cars in the Tourist Trophy race, and to the 35-h.p. Daimlers, two Berliets, and others in the "Graphic" race.

PARTICULARS OF THE COMPETING CARS IN THE INTERNATIONAL TOURIST TROPHY AND HEAVY TOURING CAR RACES.

TOURIST TROPHY CARS.

Car Number.	Car.	Driver.	Stated h.p.	H.P. by R.A.C. Rating.	Wheel-base.	Track.	Tyres.	Price of Chassis with Tyres.	Bore and stroke of Engine.	Pressure or Gravity Feed.	Ignition.*	Number of Forward Speeds.	"Direct" on.	Power transmitted by†.
					ft. in.	ft. n.	mm.	£.	mm.					
2	Darracq ...	A. Lee Guinness	18	24.5	9 0	4 6	810 by 105	445	100 by 120	G	A & C, H M	4	3rd	P
3	Darracq ...	K. Lee Guinness	18	24.5	9 0	4 6	810 by 105	445	100 by 120	G	A & C, H M	4	3rd	P
4	Berliet ...	B. M. Porporato	22	24.5	9 5	4 6	875 by 105	540	100 by 120	P	L M	4	4th	C
5	Berliet ...	J. E. Hutton ...	22	24.5	9 5	4 6	875 by 105	540	100 by 120	P	L M	4	4th	C
7	Arrol-Johnston ...	E. J. Roberts ...	25	27	9 0½	4 6½	810 by 90 815 by 105	500	105 by 127	P	A & C, H M	4	4th	P
8	Arrol-Johnston ...	J. S. Napier ...	25	27	9 0½	4 6½	810 by 90 815 by 105	500	105 by 127	P	A & C, H M	4	4th	P
9	Métallurgique ...	O. Cüpper ...	24-23	26	9 0½	4 6	870 by 90 875 by 105	570	103 by 116	G	A & C, H M	3	3rd	P
10	Thornycroft ...	T. Thornycroft	14	22.5	9 6	4 6	875 by 105	550	96 by 96	G	A & C, H M	4	—	P
11	Scout ...	J. P. Dean ...	17-20	20	9 1½	4 7½	810 by 100	440	90 by 115	G	H M	3	3rd	P
12	Coventry-Humber	W. G. Tuck ...	16-20	38	9 2½	4 6½	810 by 100	775	124 by 121	P	A & C, H M	4	3rd	P
13	Beeston-Humber...	T. C. Pullinger	16-20	27.5	8 11	4 6	810 by 90 815 by 105	442½	105 by 130	G	H M	4	4th	P
14	Star... ..	H. Goodwin ...	18	25.5	9 2	4 6	875 by 105	425	102 by 127	G	A & C, H M	4	4th	C
15	Star... ..	G. Prew... ..	18	25.5	9 2	4 6	875 by 105	425	102 by 127	G	A & C, H M	4	4th	C
16	West-Aster ...	D. S. Hodges ...	16-20	19	9 6	4 7½	815 by 105	500	88 by 130	P	A & C, H M	4	3rd	P
19	Vulcan ...	T. Rimmer ...	20	25.5	9 0½	4 7	815 by 105	425	102 by 121	G	A & C, H M	4	3rd	P
20	Clément ...	G. Brand ...	18	22	9 4½	4 7½	815 by 105	530	95 by 130	G	H M	3	3rd	C
21	Gladiator ...	M. Ross Browne	18	22	9 4½	4 7½	815 by 105	530	95 by 130	G	H M	3	3rd	C
22	Rover ...	E. Courtis ...	20	23	9 0	4 7	810 by 90	400	97 by 110	G	A & C, H M	4	3rd	P
23	West-Aster ...	R. H. Collier ...	16-20	19	9 6	4 7½	815 by 105	500	88 by 130	P	A & C, H M	4	3rd	P
24	Hillman-Coatalen	L. Coatalen ...	20	28.5	9 8	4 6½	810 by 100	750	108 by 114	G	A & C, H M	3	2nd	P
25	Rover ...	E. R. Folker ...	20	23	9 0	4 7	810 by 90	400	97 by 110	G	A & C, H M	4	3rd	P
27	Leader ...	R. Goodenough	10-12	19.5	8 11	4 10	810 by 90	315	89 by 89	G	A & C, H M	3	3rd	P
28	Vinot and Deguin-gand ...	N. Littlejohn ...	24	27.5	9 10½	4 7½	870 by 90	595	105 by 140	G	H M	4	4th	C

HEAVY TOURING CARS.

1	Straker-Squire (C.S.B.) ...	L. R. Squire ...	25-30	30	10 1	4 7½	915 by 105 920 by 120	600	110 by 130	P & G	L M	3	3rd	P
2	Berliet ...	W. Watson ...	40	36	—	—	870 by 90 920 by 120	720	120 by 140	P	L M	4	—	C
4	Thornycroft ...	H. Niblett ...	30	32.5	9 10½	4 8	920 by 120	650	114 by 127	P & G	A & C, H M	3	3rd	P
5	Gladiator ...	G. Fenton ...	25	27.5	10 10	4 7	920 by 120	650	105 by 140	P	H M	4	4th	—
6	Ariel-Simplex ...	C. Sangster ...	30	45	10 3	4 10	875 by 105 920 by 120	670	134 by 139	P	A & C, H M	4	4th	P
8	Arrol-Johnston ..	E. H. Arrott ...	40	46	11 1	4 6½	915 by 105 920 by 120	750	136 by 152	P	A & C, H M	4	4th	P
10	Beeston-Humber ...	C. Cooper ...	20-30	36	9 8	4 6½	920 by 120	472½	120 by 140	P	H M	4	4th	P
12	Ariel-Simplex ...	A. E. Harrison	30	45	10 3	4 10	875 by 105 920 by 120	670	134 by 151	P	A & C, H M	4	4th	P
14	Beeston-Humber ...	G. P. Mills ...	30	36	9 8	4 6½	920 by 120	472½	120 by 160	P	H M & L M	3	3rd	P

Thirty-one cars were entered in the Tourist Trophy Race, and sixteen in the Heavy Touring Car Contest, the missing numbers in the table representing those which have been withdrawn. All the vehicles fitted with four-cylinder engines.

* IGNITION.—Type: L M=Low-tension magneto, A and C=Accumulator and Coil, H M=High-tension magneto.

† POWER TRANSMITTED BY.—P.=Cardan Shaft, C=Chains.

THE IRISH RELIABILITY TRIALS.

A GAIN have the Irish people shown themselves the sportsmen they proved to be during the famous Irish Fortnight of 1903. While the attitude of the hospitable residents of the Emerald Isle has remained the same, the manners of the motor-car may be said to have improved. Such a fact received demonstration in the Reliability Trials held from Wednesday to Saturday of last week, with Dublin as the pivot and the Irish Automobile Club as the controlling power.

Looking at the event from the chronological point of view, the Club adopted a proposal that has been urged in these columns more than once in connection with the Tourist Trophy event, viz., that the late comers, instead of being barred from the contest altogether, should be allowed to run on payment of a further fee. Thus accidental delays would not necessarily lead to disqualification; while the expense would deter entrants from unpunctuality. Although 3 p.m. on the 21st ult. was the fixed

from the mistake of losing the way indulged in by many of the drivers. Between 4 and 6 p.m. all the sixty-eight cars had finished the journey, fifty-seven of them making non-stop runs.

On the second day we lost one competitor before the start from Portrush, Mr. R. M. Inglis, who had driven a 12-14-h.p. Adams, not feeling well. The journey was a trying one of 170 miles, and, although there was not much rain above, the roads were very damp all the way back to Dublin, where the night was spent. Some variety was given to the day's experience by a speed trial being arranged on Magillan Strand, where the Ariel car made extremely fast time.

On the Friday the run to Waterford from Dublin was not so long as the second day's journey, but seeing that the route ran over the hills of Wicklow, the first part, at least, was severe enough. Despite this, however, forty-two of the fifty-nine that started in the morning reached the southern city by the evening, and a dozen others had only minor difficulties to contend with. The scenery was charming enough to satisfy the traveller, while

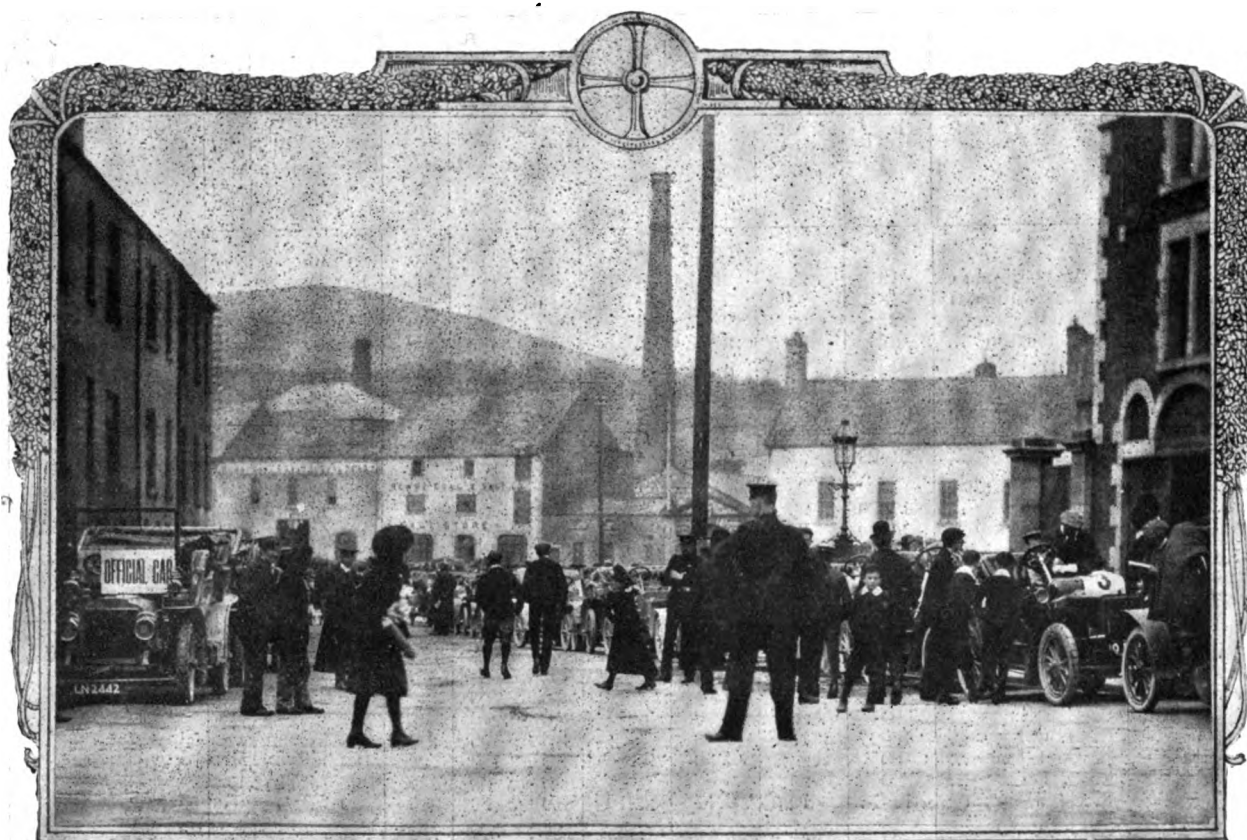


Photo by]

The Irish Reliability Trials.—The Cars at Newry.

[Chancellor and Son.

time for the arrival of competing cars at the official enclosure, a little grace was allowed on payment of a fee of £1, and this saved four cars from having to stand out altogether.

The start of one Trial is very much like the other, and the crowds very similar, whether in Glasgow or Dublin. There were seventy-one entrants for the event, three of which were non-starters, so that the actual number leaving the Irish capital on the 22nd ult. was sixty-eight. They had a fine run of 150 miles in good weather. Lunch was taken at Newry, and a chat among the competitors at Portrush in the evening disclosed only a few minor troubles. Changing a plug cost the 42-h.p. Brasier the loss of five minutes, as it did also a Coventry Humber. Choked fuel feeds affected the Adams-Hewitt, and the Chambers vehicles and a De Dion, a 16-h.p. Rover and the Vulcan each lost a mark or two through late starts after the luncheon hour. Mr. A. W. Inglis on his 9-10-h.p. Adams-Hewitt was the first at Newry, and Mr. T. W. Murphy's 8-h.p. Rover obtained the premier entry into Portrush, local knowledge having saved him

the hill climb towards the Wicklow Gap gave the opportunity of a wait in which to enjoy the scene. Here we had one of those long halts that have become unpleasantly familiar in the Scottish trials, and reflected on the advantage that would have been ours had the large and small cars been divided into two detachments with good intervals of time separating them from each other.

Fortunately the trials ended in sunshine and the weather was the best that had been allotted to the visitors throughout the trip. There was a hill climb at Graiguenamanagh, over a rise as long as its name; and again the cars demonstrated their capacity. Later in the day a reminder of the old Gordon Bennett days occurred as we reached Maryborough and ran across the Curragh—the scene of some memorable flights in 1903.

The first hill-climb took part on the third day, and was over a course of one mile seventy-one yards between Hollywood and Wicklow Gap. The gradient averaged one in fourteen. The second climb took place on the Saturday at Graiguenamanagh, the course being one of 1,718 yards.

At the end of the four days' run it was seen that fifty-nine cars remained in the competition, so that only nine had dropped out of the running—a very good performance having regard to all the circumstances of the event. Briefly summarised the results of the trial so far as they are at present revealed will be found in the following table, the asterisk denoting that the car made a non-stop run on all four days of the Trial.

With reference to the cars that are not credited with four non-stop runs, it is only fair to say that ill-luck was the cause of some of the omissions from this list of perfect running, and that the following had non-stops on three days of the trial, viz., the 7-h.p. Star, 15-h.p. Ford, 12-h.p. Singer, 20-h.p. Belsize, 16-20-h.p. Chenard-Walcker, 15-h.p. De Dion, 22-h.p. Orleans, 18-24-h.p. Austin, 30-h.p. Siddeley, 28-42-h.p. Brasier, 25-30-h.p. Austin, and 30-40-h.p. Ariel-Simplex.

Car.	Driver.	First hill climb. m. s.	Second hill climb. m. s.
6-h.p. Rover ...	R. G. Wilkinson...	7 30 1-5 ...	—
7-h.p. Star ...	W. D. Turner ...	6 43 3-5 ...	6 3 4-5
9-h.p. Adams-Hewitt ...	A. W. Inglis ...	4 52 3-5 ...	4 54 3-5
0-h.p. *Chambers ...	J. Hurst ...	6 17 2-5 ...	11 56 2-5
10-h.p. Cadillac ...	F. S. Bennett ...	5 37 4-5 ...	5 39
5-h.p. Ford ...	P. Perry ...	5 11 3-5 ...	3 51 1-5
10-h.p. *Swift ...	J. Lowe ...	4 16 4-5 ...	4 16 3-5
15-h.p. Ford ...	R. Archer ...	8 11 2-5 ...	5 11 3-5
10-h.p. *Swift ...	F. Carter ...	4 52 ...	5 49 4-5
10-h.p. *Chambers ...	J. H. Chambers ...	6 21 3-5 ...	6 4 4-5
10-h.p. *Cadillac ...	S. Stones ...	6 38 4-5 ...	6 23 4-5
10-h.p. *Chambers ...	C. E. Chambers...	6 38 2-5 ...	6 1 2-5
12-h.p. Singer ...	A. Alderson ...	4 20 2-5 ...	4 5 2-5
12-h.p. *Argyll ...	T. Naismith ...	5 39 2-5 ...	4 47
16-h.p. *Calthorpe ...	G. W. Hands ...	3 13 ...	3 11 3-5
15-h.p. *Humber ...	J. B. Dunlop, jun.	5 44 3-5 ...	5 30 1-5
15-h.p. *Unic ...	R. J. McCreedy ...	5 2 1-5 ...	3 28 3-5
10-h.p. Turner-Miesse ...	H. Pearson ...	4 41 ...	3 49 3-5
20-h.p. Belsize ...	R. Crossley ...	8 6 3-5 ...	3 1 2-5
15-h.p. Unic ...	E. M. Stirling ...	4 12 2-5 ...	3 59 2-5
15-h.p. *Clement-Talbot ...	H. G. Day ...	3 12 3-5 ...	2 40 2-5
20-h.p. Rover ...	L. Maberly ...	5 7 2-5 ...	—
18-h.p. *C.C.C. ...	A. Armitage ...	4 6 3-5 ...	3 42
14-h.p. Argyll ...	W. R. McTaggart ...	4 24 ...	3 45 4-5
14-h.p. Argyll ...	H. Kenny ...	5 42 2-5 ...	5 10 2-5
15-h.p. *Clement-Talbot ...	S. J. Robinson ...	3 5 3-5 ...	2 38 1-5
16-h.p. Chenard-Walcker ...	B. Taylor ...	4 27 4-5 ...	3 57 3-5
15-h.p. De Dion ...	G. B. Geake ...	5 18 ...	5 37 3-5
18-h.p. *Siddeley ...	A. Farrell ...	3 46 4-5 ...	3 38 1-5
20-h.p. *Clement-Talbot ...	F. Blake ...	3 38 4-5 ...	3 10
24-h.p. *Minerva ...	T. M. Greer ...	3 29 1-5 ...	3 13 3-5
30-h.p. Beeston-Humber...	G. M. Meares ...	5 44 1-5 ...	2 29 4-5
16-h.p. *Sunbeam ...	F. Eastmead ...	4 1 1-5 ...	4 39 1-5
22-h.p. *Berliet ...	F. Wilson ...	3 45 4-5 ...	3 11 3-5
15-h.p. Spyker ...	W. Couchman ...	4 16 2-5 ...	4 53
25-h.p. *Straker-Squire ...	S. Straker ...	3 22 3-5 ...	2 46 1-5
18-h.p. Austin ...	H. P. Wilson ...	3 47 ...	3 3 4-5
18-h.p. *Siddeley ...	— Page ...	3 39 2-5 ...	3 20 2-5
20-h.p. *Clement-Talbot ...	H. Robinson ...	4 4 2-5 ...	2 52 2-5
20-h.p. *Beeston-Humber...	G. Simmons ...	3 46 2-5 ...	2 39 4-5
40-h.p. *Ford ...	E. Anthony ...	3 50 3-5 ...	3 36 2-5
18-h.p. *Swift ...	R. Burns ...	4 1 3-5 ...	3 12
18-h.p. Austin ...	Harvey du Cros, jr.	3 37 4-5 ...	2 57
20-h.p. *Clement-Talbot ...	W. Sexton ...	3 13 2-5 ...	2 38 1-5
14-h.p. *Climax ...	C. H. Lamb ...	4 51 4-5 ...	4 20 3-5
25-h.p. *Brasier ...	T. M. Downey ...	2 50 4-5 ...	2 22 1-5
30-h.p. *Siddeley ...	C. W. Grazebrook ...	2 55 3-5 ...	2 26 2-5
32-h.p. Maxwell ...	H. B. Browney ...	3 40 4-5 ...	3 19 2-5
35-h.p. *Daimler ...	T. Henshaw ...	2 3 3-5 ...	1 49 3-5
28-h.p. *Ariel-Simplex ...	T. Cordery ...	2 30 1-5 ...	2 59
30-h.p. *Siddeley ...	A. Callam ...	3 0 2-5 ...	2 31
35-h.p. *Gladiator ...	W. F. Peare ...	3 8 2-5 ...	2 24
25-h.p. *Austin ...	W. du Cros ...	3 45 4-5 ...	3 14 1-5
25-h.p. Austin ...	S. Taylor ...	3 33 2-5 ...	3 5
28-h.p. Brasier ...	S. Sanderson ...	3 5 4-5 ...	2 33
30-h.p. *Ariel-Simplex ...	P. Lewis ...	2 25 4-5 ...	1 57 4-5
25-h.p. *Iris ...	A. C. Earp ...	3 47 4-5 ...	3 40 3-5
40-h.p. *Hotchkiss ...	E. A. Tubb ...	3 40 3-5 ...	2 59 1-5
22-h.p. Orleans ...	L. Knox ...	40 5 1-5 ...	5 43

At 3, Rushey Green, Catford, the Austen Motor Company of Lewisham, are about to open a new motor-car garage.

The premises of Messrs. Crabtree and Sons, at Wisbech, are being extended to cope with the requirements of the motor business they have developed during the last few years.

HORSE POWER RATINGS OF PETROL MOTORS.

It is not only in this country that the question of evolving some system with regard to the rating of petrol motors on a uniform basis is attracting attention. The matter has been for some time receiving the consideration of the Mechanical Branch of the American Association of Licensed Automobile Manufacturers. As is well known, the horse-power rating of an engine varies considerably, various formulæ for computing the same being used, no two giving the same results. After having the advisability of a universal rating under consideration for several months, the standards suggested by the above-mentioned society are to be taken from a brake test at the flywheel, in conjunction with a formula suggested by the committee. Two units are to be used, the lower being the actual rating from the brake test, as computed from an indicator at 1,000 feet per minute piston speed, and the higher number to be the maximum horse-power developed from superior workmanship or the results of a better type of motor. For example, in a 20-24-h.p. engine, 20 would be the actual horse-power at a piston speed of 1,000



Mr. E. Borde at the wheel of the 10-14-h.p. Ariel Car which he recently drove from Paris to Madrid in forty-four hours, notwithstanding the stormy weather and bad roads encountered in Spain.

feet per minute, and 24 the horse-power developed when not under normal conditions. Thus the lower of the two figures is to be regarded as the real measure of the motor's power and as a fair one, tending only to encourage the development of the greatest possible power at the normal piston speed designated and at an actual rotative speed suited to the tastes of the designer. However satisfactory the new departure may be, it is to be observed that the mere establishment of a formula without other safeguards cannot serve to guarantee even an "official rating," unless obtained under official supervision, and it has, consequently, been suggested that the Association should itself conduct tests of sample motors at its own laboratory, thus fixing the catalogue figure for each type produced by different makers.

A NEW motor repair shop has been opened at 69, Broad Street, Pendleton, near Manchester, by Mr. W. H. Smith.

A NEW motor company has been formed at Kidderminster, of which Mr. H. Charrington, the secretary of the Mid Staffordshire A.C., is one of the directors.

THE WEIGEL EIGHT-CYLINDER CAR FOR THE A.C.F. GRAND PRIX.

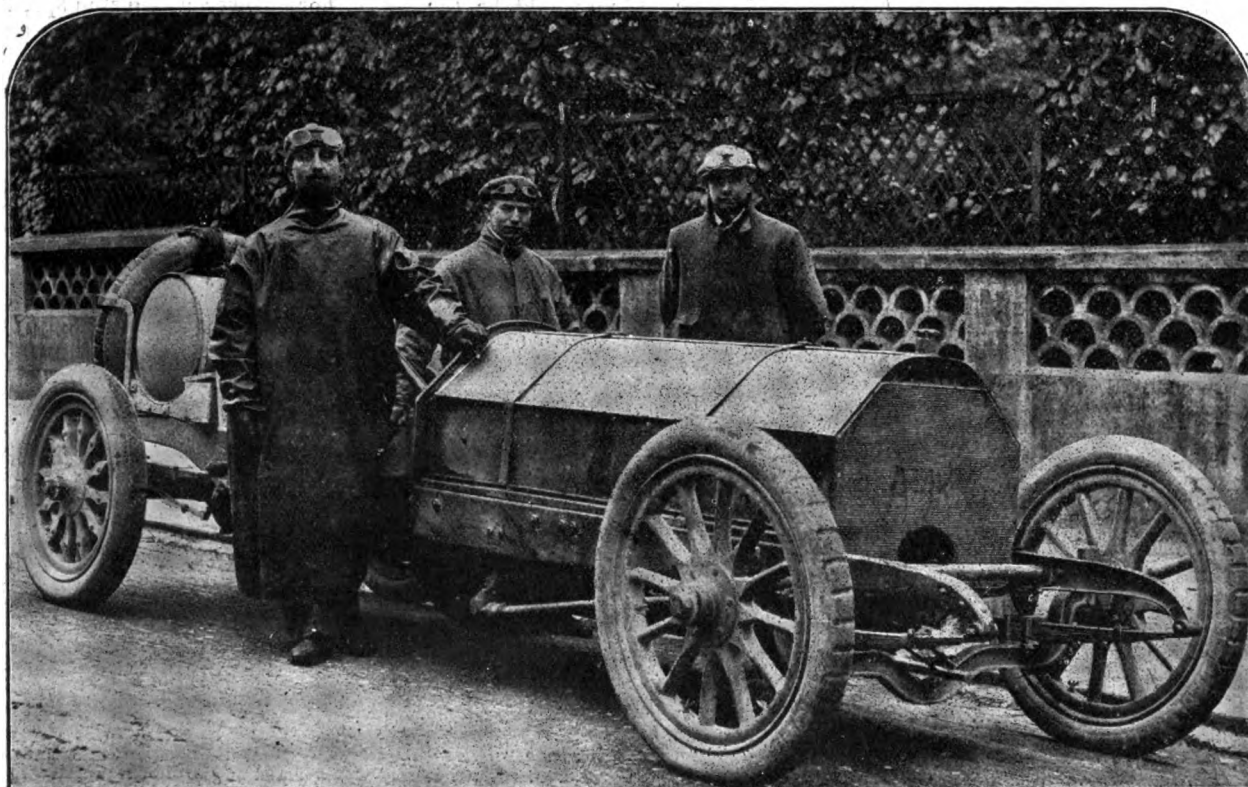
WE are able this week to give a photo of one of the two eight-cylinder racing cars Messrs. Weigel Motors, Ltd., have built for the A.C.F. Grand Prix race. The vehicles are of interest, not only on account of the number of cylinders, but also because of the fact that they will be the only two British machines in the international contest. The side members of the pressed steel frame are of a large depth, and to give additional strength are lined with wood. The great feature of the machines is the eight-cylinder engine, which is nominally rated at 80-h.p. at a speed of 1,000 revolutions per minute; the cylinders, which are built in pairs, are 130 mm. by 140 mm. stroke. The crank shaft has four throws, the two connecting rods of each pair of cylinders working on the same pin. Mr. Weigel claims that this is the first time that an engine has been built on this principle, or that eight cylinders have been erected in a row. The cylinders are fired in the following order—from the forward end of the motor—1-8, 4-5, 3-6,

SUBSTITUTES FOR PETROL.

SOME interesting experiments have recently been carried out, at the instance of Mr. S. F. Edge, to see how Benzol, a coal-tar product, compares with the ordinary petroleum spirit as a fuel for petrol motors. They were carried out with a standard six-cylinder Napier engine, and the results, which are given in the appended table, show clearly that for all practical purposes the b.h.p. of Benzol is as good as petrol, and although the former is very much heavier than the ordinary spirit, the engine appeared to start quite normally and easily.

	Spec. Grav.	Temperature of testing room.	Average of three tests b.h.p.
Ordinary petrol	... 687	... 67.1 Fahr.	... 64.25
" "	... 699	... 69.8 "	... 64.4
" "	... 713	... 65.3 "	... 64.4
" "	... 714	... 60.8 "	... 65.5
" "	... 759	... 67.1 "	... 63.5
Benzol	... 873	... 75.2 "	... 64.1

The tests were made with everything standard, no alter-



Mr. D. M. Weigel and the Eight-Cylinder Racer he will drive in the A.C.F. Grand Prix Contest.

2-7. The mixture is furnished by a single carburettor—the Weigel standard—this being placed in mid position, the inlet pipes being unusually large in diameter and length. The ignition is by low tension magneto, one being provided for each set of four cylinders. Only two forward speeds are provided in addition to the reverse, the drive being through a cardan shaft and bevel gear to a live axle. The car, which is geared to a speed of ninety-five miles per hour, is expected to run ten miles to the gallon of petrol, the regulations of the race stipulating nine and a-half miles per gallon. In the picture artillery wood wheels are shown, but for the race the cars will be fitted with wire wheels having rapidly detachable rims, shod with Dunlop tyres. We may add that the whole of the parts used, with the exception of the gear-box and the specially wide chassis, are the same as are employed on the Weigel 40-h.p. standard touring vehicle. The cars, which are also being entered for the Vanderbilt Cup race, will be driven in the Grand Prix by Mr. D. M. Weigel, who is seen in the foreground in the illustration, and Mr. Pryce Harrison, the reserve man being Mr. R. Laxon.

ation to the jet or carburettor whatever being made. As the latter was set to give the best results with petrol, it is quite conceivable that if it were specially adapted to the Benzol better results would be obtained. The samples tested included both American and Borneo spirit, of varying specific gravity. Mr. Edge, in sending us the particulars of the test, remarks that, "It seems to me that it devolves upon manufacturers who can supply Benzol spirit to tell motor users how and when they can supply it, and at what price, as it would seem desirable that a large number of motorists should try it and that all interested should hear the results of tests from different people."

MR. E. W. JACKSON, J.P., who has an extensive garage in Hallgate, Doncaster, is having a second establishment erected in Frenchgate, in the same town.

THE Aylesbury Motor Car Company are keeping their garage in Kingsbury Square, Aylesbury, open during the night as well as the day. They have excellent accommodation for a score of cars, and every facility for the repair of vehicles.

THERE are about 145 taximeter motor-cabs in operation in London.

VISITING cards with the best motoring route from the city to their residences printed on the reverse side is the latest fad that is said to have been adopted by residents in the suburbs of New York.

THE vice-president of the Swedish Automobile Club, Mr. C. Lyon, is making a tour of England.

H.H. THE MAHARAJAH OF PATNA has recently acquired a 40-h.p. Siddeley car for his personal use in India.

AN exhibition of motor drawings will open at the Ryder Gallery, 47, Albemarle Street, London, W., towards the end of the month.

THE Daimler Company are informed that at the baptism of the son of the Duke of Santonio the Duchess Montellano arrived in her Daimler car.

OWING to the reduction in the Canadian postage, the annual subscription to the *Motor-Car Journal* to Canada has now been reduced to 8s. 8d. post free.

ON his way to Newquay by motor-car Mr. A. J. Balfour lost his way and spent a couple of hours on the Bodmin moors before picking up the correct route.

THE Vulcan Motor Company have recently completed a 20-h.p. motor tower wagon for the Southport Corporation for use in connection with the electricity department.

ONE of Lord Rothschild's motor-cars caught fire while waiting at the entrance to Crewe Railway Station, and was almost destroyed before the fire could be subdued.

AMONG the recent purchasers of 60-h.p. six-cylinder Napier cars are Sir Montague Allan, of the Allan Steamship Line, Montreal; Major P. G. Shewell, of Cheltenham; and M. Henri de Malglaive, of Algiers.

THE body of the car driven by Mrs. Cohen, which took first prize in the appearance competition at the Bexhill meet, was finished in the paint shops of Messrs. E. and H. Hora, Ltd., in Peckham Road, London, S.E.

THE date of the Reading meet of commercial vehicles, of which Mr. Leo Harris, 379, Strand, W.C., is hon. sec., has been advanced by two days, and will take place on Monday, the 17th inst. Capt. H. K. Bagnall-Wild, of the War Office, and Mr. C. Wheeler, of the G.P.O., have been added to the organising committee.

A NEW record run between Monte Carlo and London has just been established by Mr. H. R. Pope, of Itala Motors, Ltd. Leaving the former town at 3.30 a.m. on Sunday last on a 40-h.p. Itala with three passengers and luggage, London was safely reached at 8.46 on Monday morning, the long journey being thus completed in 29 hours 16 min.

AWAKENED by a noise in her bedroom early on Saturday morning, Mrs. Milson, wife of a magistrate at Reading, saw a man standing by the dressing table. She gave the alarm, and the man decamped. Several motor-cars were requisitioned by the police for the pursuit, and the burglar was caught about five miles off. He was taken back by motor-car to Reading in charge of the police.

ALREADY the electric motor-ambulance which has been placed at St. Bartholomew's Hospital, London, has been in requisition. The experience on the first occasion led Dr. Macdonagh, the house surgeon, to express the opinion that it would be the means of saving many lives and preventing much suffering. There was scarcely any vibration, and the patient was inside the hospital in a quarter of the time usually occupied.

LAST week, under the heading "Exploring Africa by Motor-Car," we announced the departure of Mr. B. J. F. Bentley on an 18-h.p. Siddeley car for an overland trip to South Africa. We now learn that Lieutenant Graetz, of the Prussian army, is preparing to make an attempt to cross Africa by motor-car. He will leave Berlin in a few days for Dar-es-Salaam, on the east coast, taking with him a car specially constructed for the hardships and perils of the Dark Continent.

HERE AND THERE.

MITCHELL'S GARAGE, in Wardour Street, W.C., has been appointed as the official garage of the Motor Club.

A NEW garage has been erected at Carrick-on-Shannon by Messrs. Barrett and Co., who

also keep large stocks of accessories for the convenience of motorists in the west of Ireland.

THE Atlas Vacuum Cleaning Company, Ltd., of Leamington Street, Manchester, is making a special feature of the cleaning of the rugs and cushions of motor-cars from dust by their new patent process.

THE Mayfair Motor Company have placed at the disposal of the chairman of the East London Hospital for Children, a 6-h.p. Mayfair car, which is to be raffled for the benefit of the hospital fund. The vehicle will shortly be exhibited in the firm's showrooms at 22, Mortimer Street, London, W.

THE Daimler Company have now received further particulars of the noteworthy hill climb which took place in Spain during the Madrid Exhibition. Mr. E. M. C. Instone, in his 45-h.p. Daimler car, weighing 1,590 kilos unladen, climbed the Guadarrama Mountain in 8 min. 57 sec., and a 30-h.p. Daimler, driven



The Duke of Zaragoza at the wheel of a 45-h.p. Daimler.

by Mr. Graham, mounted it in 12 min. 43 3-5 sec. This last car weighed unladen 1,580 kilos. Although the ascent was officially timed, it appears that some doubt has been expressed, and consequently a further trial was made on the 2nd ult., in which Mr. Instone made the ascent in the remarkable time of 7 min. 20 sec., beating his own record by no less than 1 min. 37 sec. The time was taken by the Duke of Zaragoza, secretary of the Royal Automobile Club of Spain, and was witnessed by the Marquis de Tarazona, the Marquis de Valdaglesias, Count de Berberana, and many other prominent Spanish sportsmen.

A PLEASANT souvenir of the Frome's Hill climb comes to hand from Messrs. Tilley and Son, of Ledbury, who have published a set of eighteen picture postcards of that successful event.

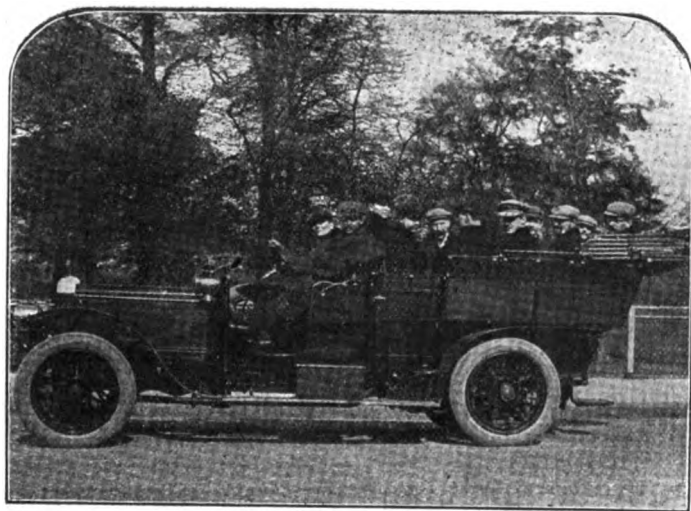
MESSRS. JONES AND LESLIE, LTD., whose works are at 7, Carlisle Street, Dean Street, London, W., are well equipped for the prompt carrying out of repairs to all types of motor-cars, special attention being given to the re-bushing of crank shaft and other bearings.

MESSRS. SMITH AND SONS, LTD., who are well known to motorists in connection with speedometers, &c., are introducing scarf pins and brooches which are exact models of the Daimler cars, and are produced in gold, diamonds and enamel. This jewellery is likely to find favour with Daimler patrons.

MR. P. L. HUSKINSON, who represents the Daimler Company in Nottingham, has his headquarters at 96-98, Derby Road.

ACCORDING to Mr. Gladstone, the Home Secretary, the number of accidents in London reported to have been caused in the streets by motor-cars, motor-cycles, and motor-omnibuses during the six months ended April 30th last was 4,451. Of these accidents personal injury resulted in 1,175 cases, and fatal injury in 41 cases.

We illustrate herewith a somewhat novel and interesting car, which has just been completed by Messrs. Sayers and Co., of Vauxhall, S.W., for the Maharajah of Dhar, for the use of His Highness and the British Resident, Major Dalley. The vehicle has many unique features, it having been specially designed and constructed to withstand the climatic conditions under which it will be employed. As will be seen, the body, which is mounted on a Daimler chassis, takes the form of a large shooting brake, seating twelve persons including the driver; the back part is arranged with two side entrances and one at the back, with side seats, in wagonette style, each individual seat being arranged to fold up separately, thus allowing good space for luggage. Further, if required to carry native servants of two distinct and separate castes, they can be separated by means of removable or sliding divisions. The framework of the body is built of teak, the panels being of mahogany; the whole is highly varnished in



natural wood finish, no paint being used except on the wings and wheels, which are painted a neat brown in keeping with the appearance of the car. The whole of the vehicle is covered with a specially large hood, devised on a new system, to allow it to fold down on the back in the same way as an ordinary double hood. It is fitted with side curtains all round, which completely enclose it, and would adequately protect the occupants of the caravan in the most tropical of rain storms. The upholstery of the car is done in cane seating, each seat being made up on a separate wooden framework with spiral springs, no horsehair being used.

REFERRING to the London to Monte Carlo record, Messrs. Ducros Mercedes, Ltd., stated to the Dunlop Company that the selection of their tyres had been fully justified, as they gave no trouble of any kind, but acted as considerable factors in achieving the excellent performance of beating the previous record by 4 hours 14 minutes.

MESSRS. TIMSON BROS., of Snow Hill, Birmingham, and Duke Street, Liverpool, send a copy of their Motor Catalogue for the season. This extends to fifty-two pages, and is practically comprehensive of everything that the motorist is likely to require in the way of lamps, oils, sparking plugs, horns, jacks, carburettors, lubricators, goggles, &c. Reference may also be made to the electrical accessories and to the high-speed trembler coils illustrated in the catalogue, which will be of considerable use to agents.

VISITORS to Woodhall Spa will be interested in the garage which Messrs. Campbell and Co. have opened at the Beaufort Works in that pleasant resort.

THE Parsons Non-Skid Company, Ltd., are moving to 210, Shaftesbury Avenue, London, W.C. These premises are opposite the Daimler Company's depot.

THE Continental Tyre and Rubber Company, Ltd., have renewed their offer of a cup, value 250 guineas, to the winner of the Tourist Trophy event, if the car is fitted with Continental tyres. A cup of similar value is also offered to the winner of the heavy touring car race, provided the car is fitted with their well-known make.

THE 14-20-h.p. Unic car belonging to Mr. T. H. Nash, of St. Paul's Cray, which took an appearance prize at the Bexhill meet, had a body fitted by Mr. J. C. Beadle, of Dartford and Foot's Cray, Kent. The car was supplied to the owner a year ago, and the way in which the paint and coachwork has stood the test of time is a tribute to British carriage work.

THE Reigate Garage and Motor Depot, of London Road, Reigate, are building a new six-cylinder car which is to be known as the Sweetzer-Baker. The engine, which is rated at 20-30-h.p., has a bore of 80 mm. and a stroke of 90 mm. The vehicle is being fitted with a Bradley multiple disc clutch, and a four-speed change-speed gear controlled by a "gate" lever.

TURNER'S Motor Manufacturing Company, Ltd., of Wolverhampton, have just issued a new catalogue of the Turner-Miesse steam cars. The list has been handsomely produced, the different types of carriage bodies which can be fitted to the chassis being shown by coloured illustrations. Full particulars are given of the various details, while a number of testimonials from users of these cars are also included.

AUTOMOBILISTS who intend to take their cars this season to Germany to attend the various races there, especially the Kaiser's Prize and Herkomer Competition, are invited to communicate with the Tourists Enquiry Department of the Continental Tyre and Rubber Company, Ltd., 102-108, Clerkenwell Road, London, E.C., who are in a position and prepared to furnish any information required with regard to roads, &c. The Handbook for Germany can also be obtained at the same time.

THE Bridgwater Motor Co., Ltd., Eastover, Bridgwater, send their first illustrated catalogue of motor-car accessories—a branch of their business which has developed to a considerable extent during the last few seasons. Here are illustrated the latest types of lamps, horns, pumps, electrical accessories, motor tool outfits, non-skidding devices, &c. Several pages are devoted to motor tyres, and the company are making a feature of re-treading motor covers and repair work generally. The list will be a convenient work of reference to motorists in the west country.

THE fittings of the motor-car of to-day compared with those of a decade ago are a distinct advance in comfort, and, it must sometimes be confessed, luxury. Mr. S. J. Clarke, of 6, Much Park Street, Coventry, is the agent for the Umbra hand screen designed for the convenience of lady motorists. By its use goggles can be dispensed with. The screen is adjustable, so that the height can be varied to suit individual requirements, and is held with the knob of the stick resting on the lap. As an efficient protection against wind, dust, and rain the Umbra screen has undoubted merits.

So far the Hotchkiss six-cylinder car which is undergoing a long distance trial under the auspices of the R.A.C. has done 3,519 miles in the United Kingdom, including the Irish Reliability Trials, and the total mileage of the vehicle up to date, including the 6,200 miles which it covered in France, is 9,719 miles. On its return from Ireland the car is visiting Wales, the south of England, and will then go up to Scotland to take part in the Scottish Reliability Trials. We believe this is the first six-cylinder car to have accomplished so long a trial, and also the first car of any sort to embrace the Irish Reliability Trials and the Scottish Reliability Trials in its programme. Up to the present time the whole distance has been accomplished without any mechanical trouble, the only mishap so far being a sprung carriage spring.

CONTINENTAL NOTES.

Substitutes for Petrol.

On the recommendation of the Marquis de Dion, the Committee of the French Automobile Club have adopted in principle, and have referred to the Technical Commission, the proposition that a competition should be organised of cheap substitutes for petrol while retaining the advantages of the latter, and being capable of use in the same engines. In order to further this movement some very influential support has been forthcoming from the leaders in the French motoring world, the Marquis de Dion having himself promised £200 on behalf of his firm, and further asked the A.C. to vote a sum of £400. The *Chambre Syndicale de l'Automobile* has already voted £200, and a similar sum has been subscribed by Baron Henri de Rothschild, with a proviso that the new carburant shall be put on the market at a fixed price. M. Deutsche de la Meurthe has put his name down for £800. The President of the Committee, in acknowledging the subscriptions, expressed the hope that the competition would be productive of results of supreme importance to the industry.

The Criterium of France.

The Mors Company has entered three cars for the A.C.F. Criterium de France, which is, after the Grand Prix, perhaps the most important event to be held in France this year. The rules provide that the cars will be allowed twenty litres of petrol for every 100 kilometres; the minimum weight will be 1,600 kilogrammes, including the passengers, but not including spares, tyres, and tools. The contest comprises an endurance trial extending over four days, in which the competitors have to cover about 1,600 kilometres. The cars which survive the eliminating trial will be subjected to a 400 kilometre speed trial on the fifth day. No extra petrol will be allowed for this event, the competitors having to take on board before starting the 80 litres allowed for the whole race.

Unofficial Runs.

At the last meeting of the Committee of the Automobile Club of France, a letter from the Royal A.C. was read proposing the disqualification of any manufacturer making records with his cars from town to town or country to country on unguarded roads, on the ground that the making of these records involves a rate of speed in excess of that allowed by law. The Committee of the A.C.F. thereupon passed a resolution disapproving entirely of these attempts at making records and of the publicity ensuing therefrom, and decided that very severe measures should be taken to prevent such attempts in the future.

The Kaiser's Prize Race.

It has been definitely decided to hold the eliminating contest for the Kaiser's Prize Race on the 13th inst. The trial will, however, not be one to eliminate cars, but firms, and it has been resolved that it shall be optional with the successful manufacturers whether they put in the same car and driver in the actual race as competed in the eliminating, or whether they select one of their other cars and drivers. The decision has already brought in further protests, as it is held that the new arrangement gives an advantage to those makers who have entered several cars over the smaller firms which have only built one car, and which, if successful in the eliminating contest, will have little or no time to get their vehicle prepared for the actual race.

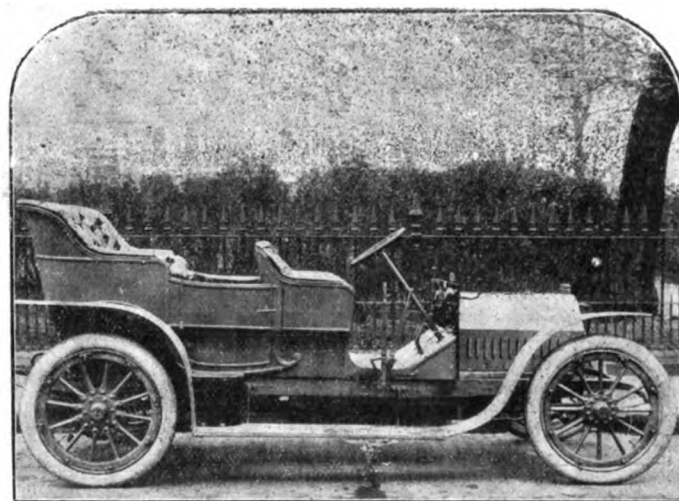
A French Reliability Trial of Heavy Vehicles and Town Cars.

Under the auspices of the French Automobile Club a reliability trial of heavy vehicles and covered town cars commenced on Monday of last week, and will continue until the 10th inst. Forty-eight entries were received in the heavy vehicle class, and of these the following forty were duly weighed:—One each Mors, Prudhomme, Cohendet, Turgan, German Daimler, and Gullierme; two each Orion, Latil, and Panhard; three each Delahaye, Aries, and Saurer; four each Peugeot and De Dion; five Brillies, and six Darracq-Serpollets. Out of the six town cars entered only three turned up, viz.,

two De Dions and a Vinot-Deguingand. The heavy vehicles are divided into the following four classes:—(1) Cars capable of carrying up to 500 kilogs.; (2) ditto, from 500 to 2,000 kilogs.; (3) ditto, from 2 to 3 tons; (4) ditto, over 3 tons; and (5) public service vehicles, carrying at least ten persons. The cars in the first four classes will be required to make twenty daily runs averaging 150 kilometres, and the fifth class an equal number of trips extending to 200 kilometres, all starting and finishing in Paris. These will serve as a test of endurance, the vehicles surviving it being subjected for a final classification to a fuel consumption trial. The regulations with regard to the town carriages are the same except that carburetted alcohol must be used as fuel, and that the total weight of the vehicle has to be in proportion to the piston area of the engine.

The Flat Grand Prix Racing Cars.

The Fiat racers for the A.C.F. Grand Prix Contest are, we learn, the same vehicles as were used last year; they have, however, been overhauled and improved in some of the details, specially as regards the carburettor. The engines comprise four cylinders, 180 mm. bore by 160 stroke, the normal rating being 130-h.p. The ignition is by Simms-Bosch low-tension magneto, and the clutch is of the Hele-Shaw multiple disc type. The vehicles will be driven by Lancia, Nazzaro and Wagner.



One of the 22-h.p. Berliet Tourist Trophy cars.

An International Automobile Conference.

As has already been mentioned in the *M.C.J.*, the next meeting of delegates of all the recognised national automobile clubs is to be held at Homburg on the 15th inst., on the occasion of the Taunus race meeting. It is proposed to discuss at the conference not only racing matters, but also questions of international traffic, such as the handling of cars on the frontiers, uniformity in numbering, official examination of types of vehicles, taxation of foreign cars, &c.

Miscellaneous Items.

An international motor-car exhibition is to be held in Ostend from July 10th to 17th.—The Automobile Club du Rhone is organising a series of flying kilometre speed trials for the 23rd inst.—The Kaiser has just placed an order for an Opel 50-h.p. car with limousine body.—The Prefectural Authorities of the Seine, in Paris, are organising a competition of chassis suitable for use as motor ambulances, as well as one for the best form of body to be fitted to the vehicles.—A Motor Volunteer Corps has just been organised in Switzerland.—The first Brasier six-cylinder car in Austria reached Vienna a few days ago.—A Motor Cab Company has just been formed in Lyons.—The municipal councillors of Manchester and Salford, who paid an official visit to Lyons last week, also journeyed to Grenoble, where they were taken for an automobile tour by the members of the Automobile Club du Dauphiné.

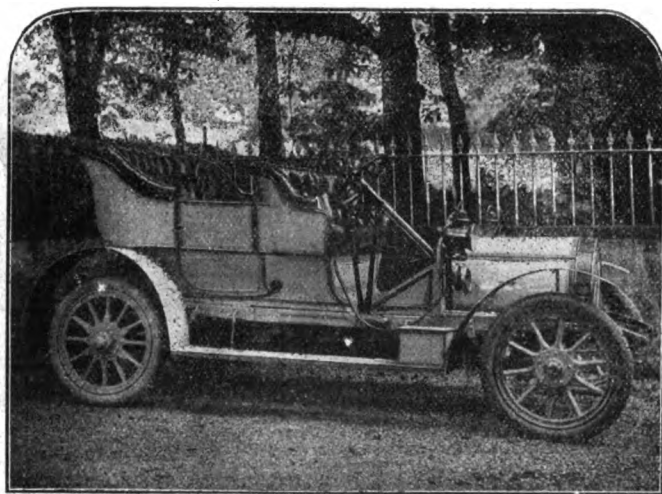
CORRESPONDENCE

[Letters to the Editor should be addressed to the offices
27-33, Charing Cross Road, W.C.]

HAS THE TOURIST TROPHY BENEFITTED THE INDUSTRY?—A SUGGESTED SIX DAYS' RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The first part of the heading of this letter can at once be answered by an emphatic negative. The firms who have won the race for the two years it has been established might well assert to the contrary; but, as matters stand at present, the prevailing impression amongst the general motoring community is that the heavy expenditure incurred by the Automobile Club provides only a splendid advertisement for the leading cars in each contest. Whatever may have been the aims of the original promoters, most people have the idea that the Tourist Trophy was meant for the encouragement of the moderate priced car that could average a speed of about legal limit with four persons aboard. Commencing with a fuel limit of 22½ miles to the gallon, this was reduced last year to 25 miles to the gallon, and looking at the results attained by the finishing cars in the last contest it was safe to assume that the petrol consumption would be again cut down for 1907—but the Races Committee thought otherwise—and that the object could be better achieved by increasing the minimum total weight.



The Leader Tourist Trophy Car, to which a special interest attaches in so much that it is the smallest-powered car entered for the contest. The vehicle is one of the standard vehicles of the New Leader Motors, Ltd., with practically no alterations or additions whatever except that the body has been built to comply with the regulations. Unfortunately, it arrived too late at the Club Enclosure. (See page 288.)

Now this carrying of additional weight cannot very seriously affect results, for amongst the vehicles that completed the distance were some whose weight was considerably in excess of the conditions, and the others carried tyres, tools, and spares that were not absolutely essential. Yet we find in one case a competitor finishing at what would have averaged very close to the winner's speed in miles per hour but for sundry mishaps, still with over 1½ gallons of fuel unconsumed. With these experiences behind them, competitors, by shaving just within all the rules as to weight and body dimensions and proportionately cutting down tyres and tools, can be on the starting mark with practically the same total weight as in 1906. The increased height of the tops of the seats from the ground may make a slight difference, but nothing that will be very appreciable.

The question of the genuine touring vehicle versus the so-called freak has been threshed out until it is quite threadbare, and we are still no nearer a recognised definition that would be acceptable to all those who are interested. These are mere surface details when compared with the more important consideration as to whether real and lasting improvements have been involved or incorporated with the stock article vended to the public. It is true that what are euphemistically termed "Tourist Trophy models" can be purchased at fancy prices, yet it is questionable in how many respects these would conform to the vehicles that actually competed. Certain sections of the trade have already arrived at the same conclusion, and, having clamoured with strength, have prevailed upon the Club to institute another race for their especial benefit, and so urgently necessary was the heavy contest required for the improvement of design that the enormous number

of fifteen cars have entered at ordinary fees! Maybe the speed reducer in the form of a wind screen eight feet high from the ground has preyed upon the nerves of some of those who hoped to overshadow the performances of the smaller vehicles in respect to speed and thus surround their own machines with all the kudos and glory attaching.

One point that does not seem to be grasped by those who may be influenced in purchasing a car by a performance in any Tourist Trophy event is the ability of one man to so drive as to attain results impossible of achievement by ninety-nine out of every hundred average drivers. The personal equation is more prominent in this contest than in any other event of the year, and manufacturers have to use just as much judgment in the selection of the driver as they employ in the design and construction of the vehicle placed in his control.

Automatic carburetting devices have hitherto not contributed very much towards the positions of the leading cars, momentary variation by hand of the fuel supply at the spraying jet and the amount of air mixed therewith being the factors that have led to success. Over such a course as that in the Isle of Man, a skilful driver can, comparatively, humour an engine with mere whiffs of petrol for the best part of the course, the seven miles climb from Ramsey to the Bangalow on Snaefell causing the largest drain on the fuel supply. Given a similar machine to the majority that competed in 1906, no ordinary driver can possibly run twenty-five miles to the gallon of fuel, and he can reckon himself pretty smart if he manages seventeen miles for the same quantity. This is, of course, a matter with which we were all fairly conversant before the Trophy was instituted, and it would be futile to suggest that the contests have evolved anything new or startling in petrol saving methods.

We can fairly credit the Tourist Trophy races with having resuscitated tangent-spoked wire wheels, but, although interest has been renewed in these fittings, the experiences of competitors only confirm knowledge gained twenty years ago. Users of the old "ordinary" or high bicycle proved that the lighter the driving wheel could be built the better the machine would travel, and these same conclusions were more than confirmed with the safety pedal bicycle. Fashion plays a larger part in the design of saleable articles, whether they be motor-cars or suites of furniture, than does the actual fitness for a particular object in view, and no better proof of this statement can be adduced than the fact that present-day purchasers of cars do not want wire wheels, and would not have them even by the inducement of lower initial cost. They are infinitely stronger and more suitable in every respect, but it is waste of energy to endeavour to educate the motoring public into such a belief.

Can we learn anything that may tend to improve frame and body construction? The duration of the race is not sufficiently long to provide informative data on either of these points, and at no part of the course is the speed very much higher than is reached by the average touring car on unfrequented stretches of road. A four hours' trip at forty miles per hour over decent surfaces cannot impose any sort of strain on the machine, and is quite a regular performance for light touring cars on the Continent. Perhaps if the race was run for eight hours on six successive days the weaklings would inevitably be eliminated and the survivors could certainly claim to have done something remarkable that would be worth a considerable amount of advertising to blazon forth to an admiring world. This may appear an impossible sort of scheme, but when existing facts are taken into account is worth consideration. The Isle of Man authorities have already consented to close some of their roads for nearly the whole of three days this present May, and the majority of the inhabitants there have the real sporting instinct so ingrained in their character that the establishing of a full racing week might be easily accomplished. Each year that the event has been held much money has in consequence been distributed throughout the island, and where only a few hundred persons are tempted to cross for the sake of witnessing a half-day's racing at present, many thousands would undoubtedly be attracted by the sustained interest, in a six days' event. The Manx people are never averse to turning an honest penny, and they make no secret of their desire to induce visitors to spend as much money as possible. Prove to these wideawake business men that the Tourist Trophy races on the lines here suggested would cause ten times more cash to be expended than the 1906 event brought along, and the combination of good sport and easy money making would successfully overcome any scruples that might otherwise be engendered.

Run in this way, the contest would resolve itself into a racing reliability trial, and we should then be able to discover the practicable touring machine. The popularity of the Scottish reliability trial is sufficient proof that manufacturers are only too eager to enter cars in a competition where, as far as human foresight can provide, the regulations automatically tend to reject the elements of luck. We should still have makers building special engines, but, with the knowledge before them of having to sustain the stress of forty-eight hours' travelling under racing conditions, there would be a greater disposition to test out every possible device to ensure no part being unnecessarily weakened. From the advertising point of view, a reliability race would be of infinitely larger value than the existing half day's scramble, and the cars that could emerge successfully from such a search out of their weak points would be fully entitled to all the patronage that must follow. This is not the place to discuss motoring politics, yet the thought must be expressed that by an extended scheme of the character roughly sketched above the Royal A.C. would retrieve some of the laurels our Scotch friends have secured.—Yours truly

STREATHAM.

THE CONTROL OF MOTOR RACE MEETINGS.

TO THE EDITOR OF *The Motor-Car Journal*.

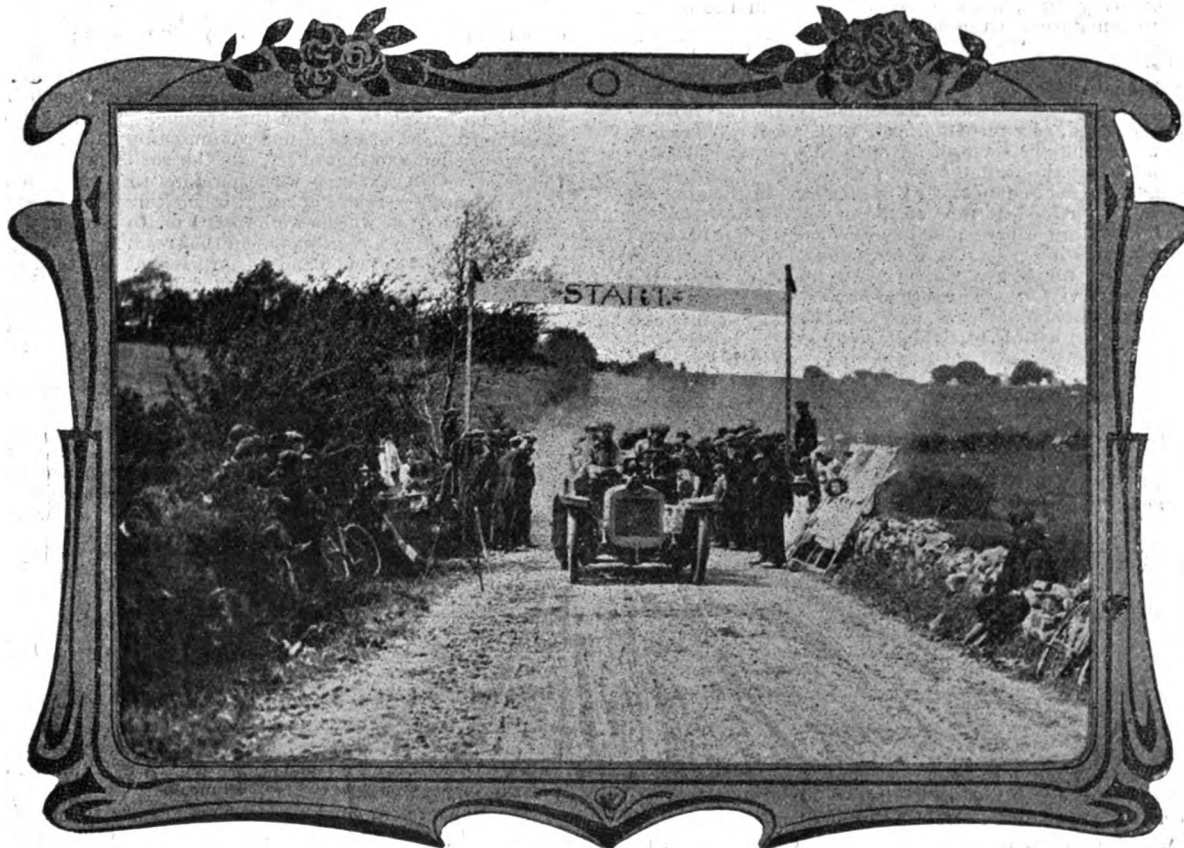
SIR,—If an example were needed for the necessity of the formation of a strong body to absolutely control every automobile race meeting held in the United Kingdom, such an example has been provided in the Bexhill meeting on Whit Monday, announced as being run by the Crystal Palace Automobile Club. In my opinion, the Royal Automobile Club should immediately take steps to prevent a repetition of such a meeting, and, furthermore, should frame rules and regulations governing all meetings which are run by clubs, or otherwise, in connection with which outside entries from the trade and private users—other than members of the club itself—are solicited. The top speed contest, held by the Crystal Palace Club, a little time ago, had a semblance of being organised for the benefit of a particular firm, but the Bexhill meeting went much farther than this.

The "Sussex Daily News" of the 21st ult. start their report of the meeting by saying that "the first day's race meeting at Bexhill was the worst farce ever conducted in the name of a motor-car race meeting." I personally should have liked to have believed that much of the muddle and confusion which existed at the meeting was due to the incompetency of the officials, but this, I am afraid, would hardly be

ever, that this handicap had been altered, and the Germain actually had to give the smaller car 9 seconds, but this alteration was made after the printing of the programme, as were most of the other events, and of these alterations most of the competitors knew nothing.

I noticed in this competition that a 14-h.p. Spyker with 80 mm. bore by 110 stroke had to give 34 seconds start to the winning car, and as the winning car actually covered the distance from scratch in 46.2-5 sec., it meant that the Spyker car had to cover the half mile—this was apparently the distance of the race—in 122-5 sec. in order to equal the performance of the actual winner; whereas the single-cylinder Sizaire would have to cover the distance in 28.2-5 sec. in order to get home, equivalent to something over sixty miles an hour—rather a hard task for a single-cylinder car. It was announced that the starts had been allotted by the Royal Automobile Club, but at the same time there is not the slightest doubt but that the Club intended the times in question should be added on to the actual running times of the cars, and the way in which this event was carried out by the officials of the Crystal Palace Club was undoubtedly grossly improper.

In any race run under the Royal Automobile Club formula, weight and wind resistance have to be set forth in order to allot the starts. No attempt was made by the promoters of the meeting to have this done, or to check the body dimensions of the cars, or to ascertain the windage



The Irish Reliability Trials.—Graiguenamanagh Hill Climb.

accurate. Perhaps, in order to put the matter more clearly, it would be well to deal with the programme.

The first event announced to take place at 2.30 on the Whit Monday afternoon was a handicap race for touring motor-cycles. This was run off with some little delay, but without special incident. Event No. 2 was a handicap open to cars whose cylinders D.N are under sixty-five inches, and in the programme was set forth a so-called handicap allotted by the Royal Automobile Club. The handicap was set out with the handicap time against each name. Whether the time placed against each name was the time given to each car by way of a start or not was not vouchsafed in the programme, but it was eventually interpreted by the officials to mean that the start in question was the time which each car had to allow to the limit car. Nothing was stated in the programme as to the distance of the race. The results worked out in a ludicrous fashion. For instance, the little 9-h.p. Sizaire with one-cylinder, with 120 mm. bore, weighing 13 cwt., was placed on the same mark as an 18-22-h.p. car with four-cylinders, 85 mm. bore by 120 stroke, and, by some generosity of the handicapper, received 3.3-5 seconds start from a four-cylinder 15-h.p. car with 95 mm. bore and 120 stroke, whilst another single-cylinder car with 125 mm. bore actually received 15.2-5 seconds start from the Sizaire, and the winner of the competition, a car with single-cylinder, having 118 mm. bore, actually received 18 seconds start from the Sizaire cars. The 14-h.p. Germain four-cylinder, 92 mm. bore by 112 stroke, was by the programme set forth as receiving from the little single-cylinder Sizaire 16 seconds start. I was informed afterwards, how-

ever, that this handicap had been altered, and the Germain actually had to give the smaller car 9 seconds, but this alteration was made after the printing of the programme, as were most of the other events, and of these alterations most of the competitors knew nothing.

There is one thing I would like to ask for, however, in connection with this particular meeting, and that is the production of the original entry forms of competitors. These forms were sent in, with the dimensions and weights set out, to the Secretary of the Club, and it would be interesting to know whether any additions to, or alterations thereof, were made in the same, prior to their being laid before the official handicapper. I think in cases where the details in connection with all cars in each handicap are not published, that the entry form should be sent direct to the Royal Automobile Club, otherwise there is nothing to prevent alteration being made in the forms, and the competitor has no knowledge on what basis he has been handicapped against his fellow-competitors, and on what points he has been penalised. It would have been less important had the procedure which was adopted at Frome's Hill and in connection with the Nottingham Club's speed trials at Welbeck been carried out, because there qualified and expert officials were appointed to check the weight of each car and the area of windage, and no competitor was allowed to vary his car after such dimensions had been taken.

Event 3 was the titbit of the afternoon. This was a race in which each competitor had to cover "a quarter of a mile flying start, 110 yards slow speed on top gear, and a half a mile standing start on top gear." The subtlety of this race, arranged for the special benefit of powerful six-cylinder cars, is very clear. The 110 yards slow speed on top gear was evidently inserted with the sole object of preventing very powerful four-cylinder cars taking part, and, as there is practically only one firm making very powerful six-cylinder cars who could possibly enter, the result was certain, even before the race was run. It was amusing, however, to see the failure of the six-cylinder competitors as well as the four-cylinder competitors, in this slow speed farce. It is unnecessary for me to burden with wearisome details, but the fact remains that in the final of this competition cars took part which had hopelessly failed in connection with slow speed contests and had been disqualified. I do not know how it was done, but the fact remains that they were in the final. I heard one discontented competitor enquiring the reason why he was not in the final after apparently having done well in the preliminary heats, and I heard a wonderfully ingenious explanation being given to him, but he did not understand it, and I most certainly did not, and it was obvious that the other bystanders were equally in the dark. The worst of it was that none of the competitors, and most of the officials, did not know what they were doing or what was taking place. One individual on the course appeared to be very clear on every point, and the result was seen in the official results, which were announced on the following day.

Event 4 was interesting, "Scratch race for touring cars, chassis price over £700," as four cars of one make were the only entrants. Two other cars of another make were in the programme, but they were put in—so the entrant informed me—without his authority, the cars in question being actually entered, so I was informed, in Class 7. Therefore, we had the very interesting spectacle of an open race confined to one make of car. What credit the winning of a gold medal or any other medal would be under these circumstances I fail to see. In the dimness of the evening the start for the last race of the day was made, but at 7.30 I retired to the hotel for dinner and have no knowledge of what took place, although I was informed that cars were still endeavouring to eliminate themselves to allow the announced winner to gain the expected and well-earned victory. The second day's proceedings I know nothing of. One day was enough for me, and I curtailed my holiday and returned to town disgusted with the whole proceedings.

Now, Sir, what I do say is, that there is yet a considerable amount of life in the sport of automobilism; but, if life is to be maintained, the holding of meetings by clubs of mushroom growth under their own rules and regulations, for the favouring of their own particular friends, should they so desire, should be immediately stopped. Apparently an important matter in connection with the running of an automobile sales department will be the running of an automobile club to hold meetings for the special benefit of one's own particular cars. I am sure, anyhow, that any further efforts of the Crystal Palace Automobile Club to obtain open entries for any of their gymkhana races will be rewarded with the success they so richly deserve after the display last week. One thing is perfectly clear in my mind, after witnessing the so-called open race meeting at Bexhill, and that is, that unless the Royal Automobile Club—which is the proper body under the circumstances—takes the question of regulations and rules, and classification of cars, under its direct control, every sporting automobilist, including those in the trade interested in automobile racing, will become disgusted and the sport absolutely killed.—Yours truly,

CHARLES JARROTT.

THE R.A.C. AND UNOFFICIAL TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—You will, no doubt, remember that some considerable time ago the Automobile Club passed a resolution as follows:—"Any owner, manufacturer, dealer, agent, or driver taking part in, or directly connected with any trial or competition, otherwise than under regulations made by the Club, and obtaining extensive advertisement therefrom, shall be deemed to be guilty of a breach of these rules." It is most extraordinary that, with this resolution still unrescinded, manufacturers are still able to take these unofficial runs and have the greatest publicity given to them in the Press.

On February 15th it will be remembered that there was a run from London to Edinburgh, in which three cars took part, two of them under official observation of the Royal Automobile Club and the other not officially observed, and yet the newspapers reported the three in exactly the same way, as if they had all been under the same observation. Although the Royal Automobile Club's attention was drawn to this, nothing has been done so far as one can find out. Again, some recent runs from London to Monte Carlo have been made without Club sanction, or official observation, and still no comment is made by the Club.

It seems to me that if these various records are to be kept clean and above suspicion, the Royal Automobile Club ought, in justice to itself, to make it abundantly clear what records are officially certified by them, and when other uncertified records are claimed, either act in accordance with their rules, or admit at once that they have not the power to carry out the rule they themselves passed; and that all and sundry are free to make records, publish them in the Press, and claim them, and that the Club has no jurisdiction in the matter whatever. The present arrangement is unfair to those firms who are loyal to the

Club, as it goes without saying that unofficial trials, as a whole, must be more successful than official, which have all the details of the results published, whether successful or unsuccessful, the unofficial runs being only published when success is claimed.—Yours truly,

S. F. EDGE.

EFFECT OF WHEEL ALIGNMENT ON TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—From time to time we have noticed in your valuable columns that you have drawn attention to the importance of keeping the front wheels in alignment. Apart from the danger of the steering-gear breaking down owing to the great strain there is thrown upon it, there is also the question of the heavy wear on tyres. This matter has been brought before us prominently of late.

As you are aware, some time back we placed the "Garantire" tyre upon the market, the feature of this tyre being that owing to our having perfected the design and using only the finest material, we are able to give a guaranteed mileage of 4,000 miles.

So far, we have had four tyres returned to us as not being up to the minimum mileage. In the first case, our client wrote stating that his tyre had not only worn unduly, but had burst at 3,000 miles, and under our bond required a new tyre per return.

Another informed us that although he had only run his car a little over 1,000 miles he was already upon the canvas; he likewise wanted a new cover "by return," and so wrote the others, giving varying distances, but all far short of even the guaranteed distance.

In each case we wrote for the covers. As each tyre arrived it needed no expert to discern the trouble. The treads clearly showed that the front wheels were not running in parallel. That being so we wrote our clients to that effect, and the replies we received all disputed the point. Our next step was, therefore, to assure each of our clients that his wheels were out of truth, by making actual tests. In each case we found the front wheels were from 1 in. to 2 in. out of line, so that a constant skidding action was upon the tread.

Our clients were one and all surprised at the turn of events, though not the less pleased at having the fault pointed out.

We think the point is interesting to even those manufacturers who are not in a position to guarantee their goods, for with a non-alignment of the front wheels there must be undue wear of tyres and hard remarks upon the poorness of quality of the material, and, having no further claim upon the maker once the tyre is paid for, a customer is naturally reticent to write and complain. Consequently a maker is blamed for faults for which he is in no wise responsible, and it behoves car-owners to assure themselves by periodical tests that the front wheels of their car are in alignment, as a bad rut in the road, or even a gentle collision with a kerb in approaching it diagonally, may cause a slight distortion, which will play havoc with the front tyres in the course of a few hundred miles.—Yours truly,

THE PROPRIETORS OF THE MOTOR HOUSE,
PERCY EASTON, Director.

A SIMPLE HUB BRAKE AND HOW TO MAKE AND FIT IT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice with interest Mr. Tom Williams's remarks on the above subject. If mere repetition is proof, a simple hub brake is of no value. On reading his condemnation of it, a paraphrase of a well-known piece of Dryden suggested itself to me.

"And your correspondent may aspire to gain renown,
By writing himself up and pulling others down."

But has this gentleman given proof of what he alleges? In fact, has he brought forward any one argument? No, he merely states it is no good; leave all such things to the makers, and if their production fails, I presume the coroner will have to settle on whom the responsibility rests. The proof of the pudding is in the eating, and I am prepared to hold by a simple hub brake. I therefore suggest that Mr. Williams select a hill and accompanies me in my car, if he will honour and trust me. He can dismount on the hill, and if the brakes do not hold on that hill—of his own choice—in both directions, I am willing to give £5 to any charity he names, providing he will give a tenth of that amount in what I know he must consider an absolute impossibility, namely "the holding of a simple hub brake."—Yours truly,

CHARLES T. W. HIRSCH.

A TRIBUTE TO SLOUGH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—While the A.A. does not pretend to act as a censor of motor-car manners, and while we are content for our badge to be honoured without flaunting it as indicative of so-called considerate driving, I beg the hospitality of your columns to appeal on behalf of the town of Slough. For the past few months we have had a patrol on special point duty at each end of that town to regulate, and, when necessary, restrain the speed of cars through the streets. This with the cordial co-operation of both the local council and police. Many of the complaints which led to our action were against what are known as red letter cars, i.e., those bearing trade identification marks.

I have discussed the subject with several gentlemen of note in Slough, and hasten to pay tribute to their fair and sportsmanlike attitude towards automobilism. Indeed, it is no breach of confidence to assert that on the open roads of Berkshire one may drive at quite nineteen miles per hour without persecution, if only the villages and towns are treated gently. Surely this is fair. What matter if a gentle amble through Slough does involve an extra five minutes? In those minutes a considerate motorist—badge or no badge—will make ten times five converts to automobilism, and this, after all, is important.

Prevention is better than opposition; the A.A. patrols are obviating the necessity for a special speed limit through Slough, which without any doubt would have been applied for and granted ere this. I ask the friendly aid of motor-car firms, and suggest with all diffidence that managers might more carefully select the routes along which drivers are ordered to "test" cars. Mileage, speed, petrol and consumption are frequently reckoned without sufficient consideration being given to the number of towns through which the men have to pass. I submit with even greater diffidence that it has seldom occurred to the gentlemen to make special allowance for town driving, on the principle of controls in long distance road contests.

The sportsmanlike spirit displayed by Slough administrators cannot be too highly praised. Fair runs and no favour are too few and far between; it may be hoped, therefore, that our patrols' efforts to prevent furious driving through Slough will not be disregarded.—Yours truly,
STENSON COOK.

HEDGE CUTTING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is very necessary, in the interests of the safety of the public, that hedges, at corners and cross-roads, should be cut or trimmed so as to give drivers and others a view of the approaching traffic. The Motor Union appeals, therefore, to local authorities to exercise their powers under Section 65 of the Highway Act, 1835, to cause any tree or hedge that obstructs the view at cross and side roads to be cut or pruned. Members of the public are requested to draw the attention of occupiers and the local authorities to cases where such action is necessary.—Yours truly,

W. REES JEFFREYS.
Sec. Motor Union.

TOP GEAR DRIVING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There seems to be a widely-held belief amongst motorists that there is some special virtue in being able to drive continuously on the top gear. Many drivers are so reluctant to use the change-speed lever that they will keep on "top" until practically the last gasp of the motor. I, for one, fail to see where the merit is in remaining upon this gear with the motor knocking and hammering, straining itself and every part of the car by its jerky action. It is, of course, conducive to fuel economy that a car should be operated upon the top gear up to its full load—that is, up to the point at which it begins to slow down noticeably under full throttle; but nothing is gained, not even economy in fuel, by allowing it to slow down to the point at which the revolutions become jerky. Even speed is sacrificed, for the car will frequently make better time if a change is made to the next lower gear. To many it is a matter of pride to say that they have traversed certain hills on the high gear. With such it often happens that "pride goeth before a fall," for a broken crankshaft or badly loosened bearings generally results from an adherence to the practice of "worrying" over hills on the top speed, rather than drop to "third" or even "second."—Yours truly,

CORINTHIAN.

THE MOTOR UNION HANDBOOK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am sorry that I cannot commend the Handbook Committee of the Motor Union on its promptness in getting out the annual handbook. Here we are with almost half the year gone and yet no handbook. If it is delayed much longer it might as well be left over and got ready for the 1908 season, so that it might be sent out early in January next. Perhaps Mr. Rees Jeffreys, the secretary, will say when the work may be expected to be issued, as the touring season is now rapidly approaching, when one may have occasion to refer to the book.—Yours truly,

A YORKSHIRE MEMBER.

TRIP TO PENZANCE.—A correspondent who proposes to take a seventeen days' motor trip from Hastings to Penzance on an 8-h.p. car wishes for information as to the hotels, &c., en route, via Portsmouth and Exeter and returning via Bath and Reading.

ON Sunday last, a large quantity of spare parts, tools, &c., fell out of a 40-h.p. Weigel car between London and Brighton. Messrs. Weigel Motors, Ltd., will be obliged if anybody finding same will communicate with them.

CARS FOR SOUTH AMERICA.—One of our South American readers, Senor Mariano Rostey, of E. Matto Grosso, Corumba, Brazil, writes that he is anxious to receive catalogues—in Spanish or French where possible—from motor-car manufacturers.

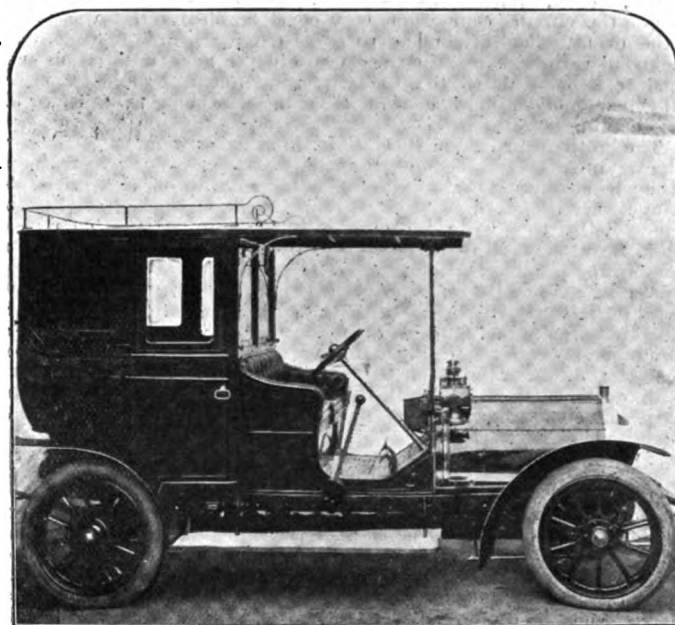
CLUBS AND ASSOCIATIONS.

R.A.C.

A J.P. and two members of the Metropolitan Police Force have been awarded driving certificates as a result of the examination held at the Clubhouse on the 18th ult.

THE AUTOMOBILE ASSOCIATION.

THE A.A. patrols have been out in force at week-ends since the holidays at Whitsuntide. Practically every main road round London was dealt with in addition to several long stretches in Yorkshire and Huntingdonshire, and one or two outposts in other parts of the country. For the Motor Union Festival at Lincoln and the races at Bexhill the expenses of a special deployment on the roads to both these towns increased the A.A. wages bill by more than £50. General approval was expressed of the practical utility of the yellow badged cyclists, and the kindly reference which Mr. C. D. Rose, M.P., Chairman of the Royal Automobile Club and Motor Union, made in his speech on the Saturday has aroused much appreciation among the supporters of the A.A.



The 25-h.p. Speedwell Car, fitted with landaulet body, just delivered to the Right Hon. Viscount Colville of Culross by the New Speedwell Motor Company, Ltd.

COMMERCIAL MOTOR USERS' ASSOCIATION.

New members of the Commercial Motor Users' Association include leading firms in the iron, brewery, dairy, piano, druggist, milling, furniture, and other industries. In view of the forthcoming trials a large influx of new members is expected.

NORTH EASTERN ASSOCIATION.

THE Year Book of the North Eastern Automobile Association for the current season is extremely comprehensive, and reflects credit on those who have been responsible for its compilation. In addition to the usual information for club members, there is a list of the leading hotels in Northumberland and Durham as well as of the retail dealers of petrol and garages in the two counties. The maps showing the roads out from Newcastle, Sunderland, Durham, Darlington and Stockton are extremely good, indicating the locality of leading garages as well as sharp turns. Following the rules of the North Eastern Automobile Association are those governing the local clubs affiliated thereto, and also a list of members, including a dozen M.P.'s who are honorary members. At the end of the book we notice several ruled pages for memoranda and particulars of motor runs during the season.

ESSEX MOTOR CLUB.

To encourage light car owners and makers, this club is including a class in their 200 miles non-stop reliability trial on June 22nd for cars

selling price of which does not exceed £250. The competition will take place on a quiet course in Essex, having its base at Ongar, and will consist of 100 miles non-stop in the morning and 100 miles non-stop in the afternoon, the cars being under official observation the whole of the time, and no adjustments being allowed during the luncheon interval. Flexibility in the form of a slow speed drive on top gear will be included in the points for finding the winner. Full particulars can be obtained from the assistant honorary secretary, Mr. Ernest Bass, of Ongar.

CARDIFF MOTOR CLUB.

THE reliability run inaugurated by the above club took place on Wednesday, last week. The competitors, numbering about a dozen, started off from Roath Court at 10.30 a.m., the route being to Ross, via Usk, Raglan, Monmouth, and Pendergalt, and with the exception of one car, which lost time owing to punctures, all the entrants arrived within the scheduled times. After lunch the judge (Mr. H. Hall, Ross) restarted the party home, the route being via St. Owen's Cross, Marslow, Whitechurch, Monmouth, to Raglan, where a halt was made and the times checked by Mr. T. Savary (Usk). Tea was here partaken of, after which a start was made for home, which was reached about 8 o'clock, six cars completing the journey without losing a mark. Those who lost marks were chiefly troubled by punctures. Mr. S. Hall (Cardiff) took the times at the home control.

LINCOLNSHIRE MOTOR-CYCLE CLUB.

THERE were twenty-five starters in the Reliability Trial of the Lincolnshire Motor-Cycle Club, and twenty-one finished the difficult course of ninety-five miles, which took in the towns of Sleaford, Boston, Spilsby, Louth, Wragby and Lincoln. The riders started from any town on this circular course, and very considerable interest was taken in the event. Each rider had to make out a schedule of time, and, checked at various points, the rider who did the most meritorious performance, keeping closest to his schedule, was to win the splendid silver challenge cup offered for the event, silver medals being awarded to all riders making non-stop runs.

The brothers E. R. and H. G. Cole, Roxholme, went out together, and, carrying a time-table on their handlebars, only deviated 2½ min. in the whole ride, and that between Sleaford and Boston, eighteen miles, during a very bad storm. They therefore tie for first place, and are to decide whether they will run it off or one withdraw. E. R. Cole rode a 3½-h.p. Brown, and H. G. Cole a 3½-h.p. N.S.U. Alan L. Shaw, Grantham, riding a 3½-h.p. Minerva, came third, his total deviation being only 5 min.; A. D. Bates, Lincoln, four-cylinder F.N., was fourth with a total deviation of 9 mins.; H. Mills, Grimsby, 2½-h.p. De Dion, fifth, with 14 min.; J. W. Porter, Grantham, 2½-h.p. Minerva, was 15 min. outside his schedule time; A. C. Mackenzie, Lincoln, 5-h.p. twin Rex, 21 min.; J. A. Mettham, Grantham, 3½-h.p. Minerva, 21 min.; C. Moore, Lincoln, 5-h.p. twin Rex, 22 min., and J. Kirby, Lincoln, 3½-h.p. Lincoln Elk, 28 min. These all stand for non-stop medals, subject to checking.

BLACKHEATH.

A PAPER chase was held by the Blackheath A.C. on Saturday, and the novelty of the event was much appreciated by the members present. Professor Carlton J. Lambert, M.A., was the hare, and, although not allowed to exceed an average speed of fifteen miles an hour, successfully eluded capture. About forty members and friends arrived to tea at Down. Among those present were:—Messrs. W. F. Butcher, H. Beadle, L. Beadle, H. J. Fisher, O. V. Flather, A. Jackson, Professor C. J. Lambert, Messrs. T. Marshall and W. Whiteway.

MOTOR UNION.

MR. HAROLD BREWER was recently summoned at Raglan for driving a motor-car to the danger of the public, the case being ultimately dismissed. It is interesting to note that Mr. Brewer, who is a member of the Motor Union, was carrying the Motor Union car badge at the time of the occurrence, and instructed Mr. F. C. Shackel, of Cardiff, one of the local solicitors of the Union, to defend him. As the Union are satisfied that Mr. Brewer did not in fact drive to the danger of the public, he is entitled to have one half of his legal expenses refunded, which will be forwarded to him by the Union in due course.

SOUTHERN MOTOR CLUB.

THIS club was fully represented by its delegates at the Motor Union meet at Lincoln. At the gymkhana, Mr. S. W. Phillpott was most successful, taking three prizes in three events. The delegates and members rode direct from Lincoln through to Bexhill, being the official club rendezvous, where thirty other members were met, and the trip was thoroughly enjoyed by everyone.

On the return journey information was received of a police trap on the Dicker road, and, after a careful watch, an electrical timing trap was discovered. The trappists were discovered behind a thick coppice, and it was only by sound that the cars were timed. The members stopped all cars and showed the occupants the spectacle of the gentleman in blue quietly reading novels behind the hedge.

The competition for the Gamage cup will take place to-day (Saturday) on the Bath road; meet at Berceley Arms, Hole, Cranford

Bridge, and not on the 8th, as previously noted. There will be a picnic on Sunday, the 2nd inst., at High Wycombe, meet at Chequers Hotel, Uxbridge, at 11.30 a.m. On the return journey tea will be taken at Marlow.

Entries are now coming in for the climb on the 22nd inst. at Kydd's Hill, East Grinstead, and the event promises to evoke widespread interest, especially in the motor-bus class and that for the lady drivers, some prominent names having been received.

THE MOTOR CLUB.

THE first motor run in connection with the above club will take place on Sunday, June 9th, assembling in Coventry Street, London, W., at 10.30 a.m. The run will be to Brighton, where luncheon will be provided at the Royal York Hotel.

The Motor Club is moving rapidly. Though scarcely seven weeks old, the membership now stands at over eight hundred, and there is a waiting list of one hundred more. The club will hold a gymkhana at Hastings later in the season.

MANCHESTER.

LAST week the Manchester Motor Club had a very interesting reliability trial. The route on the first day (Thursday, 24th ult.), was from Manchester to Aberystwyth, through Stockport, Warrington, Chester and Wrexham. Twenty-one cars started. No mishap occurred on the early part of the journey, but the occupants of two cars took refuge from the rain at Ruabon, and as they stopped their engines they were booked by the judges for an infringement of the rules. Lunch was taken at Bala, and the journey resumed through Dolgelly to Aberystwyth. The following claimed non-stop runs:—J. Higginson (Hollinrake De la buire), P. Bell (Bell), E. Jones (Horbiok), V. New (Siddeley), Butter (Humber), V. Grey (Allday), T. Garner (Singer), T. Garner (Darracq), Cranham (Horbiok), Wright (Humber), M'Neill (Cottareau), J. Newton (Scat), F. C. Hunt (Humber).

The trials were continued on Friday, the destination being Stratford-on-Avon, by way of Builth, Hereford, and Tewkesbury. The last day's programme of the Manchester Motor Club's reliability test was entered upon on Saturday morning from Stratford-on-Avon. It consisted of a speed test on Sunrising Hill, between Stratford and Banbury. The two preceding days had been severe tests of reliability, made more difficult by the rain and the bad state of the roads, and this influenced the committee in deciding to allow all cars to be tuned up before the third day's test. Out of the twenty-one cars which started in the trial seventeen successfully climbed the hill. The official results will be made known in a few days.

MOTOR-CYCLE CLUB OF VICTORIA.

THE Motor Cycle Club of Victoria (Melbourne) held their 100 mile road race on April 22nd, on a twenty-five mile course a few miles outside Melbourne. The course included two very stiff hills to be taken twice, and the race was run for the greater part during some severe showers of blinding rain. Despite this, Mr. H. F. Hall, on a 5-h.p. Peugeot, did the first fifty miles in 1 h. 12 min., and the full 100 in 2 h. 26 min., thereby winning the first trophy, a trophy for fastest time, and the 100 miles road record, equalling 43.3 miles per hour. Mr. J. R. McKenzie, on a 3½-h.p. Peugeot, was second, 2 h. 41 min., and Mr. E. Brown, 3½-h.p. Peugeot, third, 2 h. 49½ min.

There were twenty starters, and, despite the inclement weather, a large number of visitors watched the race and cheered the winner at the finish. A large number of motor-cars and motor-cycles were also on the road. The arrangements were ably carried out under the direction of the hon. secretary, Mr. McArthur.

THE ROAD IMPROVEMENT ASSOCIATION.

IN connection with the trials organised by the Road Improvement Association, and referred to on another page, the numerous company adjourned to lunch, at the invitation of the Berkshire A.C., at the Grand Stand luncheon room, Ascot, on Friday, where Major E. R. Portal, the President of the Berkshire Automobile Club, was supported by Mr. C. D. Rose, M.P., the Hon. Arthur Stanley, M.P., Col. Bosworth, Sir George Livesey, Sir H. Praed, and many of the city and county surveyors of the country. After the loyal toasts had been honoured Dr. Guglielminetti proposed the toast of "The Roads Improvement Association," referring to its work as essentially in keeping with the practical spirit of the English people. He said that in Paris they were organising for Christmas next a great anti-dust congress, from which important results were anticipated. As illustrating the international character of the road question, he went on to say that while we owed good roads all over the world to two Englishmen, Telford and Buchanan, it was to the French that the experiments with regard to tar were pioneered.

Response was made by the Hon. Arthur Stanley, M.P., who referred to the vexed question as to whether the keeping of roads in order should be a matter for the local authorities or for the nation. The experiments which they had seen were necessary, and it was obvious that no Government or county authority could undertake such work; hence the value of such an Association, which, with the help of the R.A.C. and the Motor Union, has been able to carry out experiments that would be for the benefit of all classes of users of the road. It was to the advantage of the movement that these should be undertaken by an

Association which embraced all classes rather than by any organisation definitely devoted to automobilism. It was worthy of note that this question had been removed from the "taint of the motor" and they were then meeting at the headquarters of the equine. It was often said that they could not have all this new traffic on the roads because they were not suited for it; but that was not the position which Telford and his immediate successors had taken up. They saw that better means of communication were necessary and set to work to find them. That was the position which was taken up by the Roads Improvement Association, the toast of which had been so well proposed by D. Guglielminetti.

Mr. C. D. Ross, M.P., Chairman of the R.A.C., proposed "The road authorities of the United Kingdom," and paid a tribute to the good work which was being done by the road surveyors and other experts. He hoped that the experiments they had been able to carry out would give results which would assist these authorities in allaying the dust trouble, from which motorists suffered as well as other people. There were great difficulties in the way of preparing a scheme which would adequately safeguard the local authorities in the matter of the control and maintenance of the roads, but doubtless a solution would be found, and in the meantime they heartily recognised the good work that was being done by the existing authorities.

Response was made by Mr. C. A. Ferard, the chairman of the Highways Committee of the Berkshire County Council, who referred to the revolution which had taken place in the road traffic within the last six years. A new condition of things had been created which was not contemplated by the original builders of the roads, and inequalities had arisen which were particularly hard on counties like Berkshire,

CASES UNDER THE MOTOR CAR ACT.

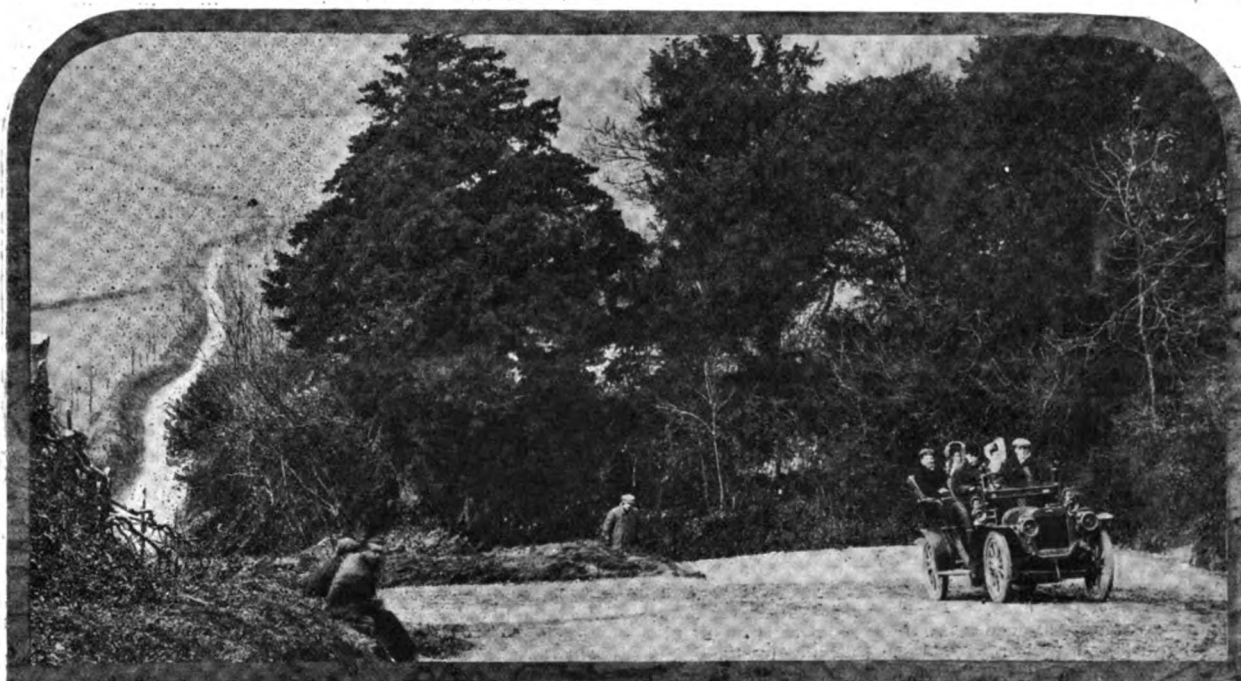
DISMISSALS.

Col. Chalener Knox has been charged at Dublin with driving a motor-car at an excessive speed. After hearing the evidence the magistrate said he did not think this was a case for a conviction, or even a caution. It was a proper case for the police to bring, and on Colonel Knox paying the police expenses, 17s. 3d., he would dismiss the summons.

At the Uckfield Petty Sessions, Wm. Conlan, Lewes, successfully contended that the accident which was responsible for his appearance in Court was the result of a side-slip, and was not caused by any negligence on his part. In opening, Mr. Lawson Lewis, who appeared for the police, stated that defendant attempted to drive between a cart and a three-horse wagon on the road leading from Sheffield Park Station to the Sheffield Arms, with the result that he collided with a wheel of the former vehicle. This statement was borne out by several witnesses, all of whom expressed the opinion that the car was driven recklessly. Without retiring the Bench decided to dismiss the case.

Charles Andrews, Pemberton Gardens, London, was summoned at Hove County Bench for negligently driving a motor-car on the London Road, Patcham, on April 28th. The magistrates, after hearing the evidence, retired to consider their decision, and, on returning, said they considered the case not proved and dismissed it.

Fines amounting to £51, exclusive of costs, were imposed at Lancaster on eight motorists charged with exceeding the speed limit.



An Argyll climbing Cudham Hill, Kent.

where a rate of 1d. in the pound did not produce more than £4,000. They were far removed from the source of the road materials, and thirty-eight miles of the Bath road ran through their county, which was largely used by motorists who were not licensed within that area.

Mr. Robert Todd, in proposing the toast of "The competitors," said that it spoke well for the future success of the tar treatment of roads when, although the system had only been in use a little time, they had been able to get so many machines to compete, and so many preparations to be tested.

The toast of "The Berkshire Automobile Club" followed, and then the company returned again to the roads, where the experiments were continued.

THE new club rooms of the Western India Motor Union have been opened with a reception, at which opportunity for gauging the enterprise of the organisation was taken advantage of by many leading motorists in the Dependency.

UPON the occasion of his visit to Hatfield on Saturday last, Prince Fushima and suite made use of two Daimler cars placed at their disposal by the Brompton Motor Company.

THE Maudslay Motor Company (1907), Ltd., are removing their London depot from 213, Knightsbridge, S.W., to more commanding premises at 60, Piccadilly, W., where, after the 1st inst., a selection of their latest models will be on view.

The fines on motorists at Haywards Heath on Wednesday of last week amounted to £81 9s. 5d. including costs.

For travelling at a rate exceeding twelve miles an hour a motor-bus driver has been fined £3 and costs at the Lambeth Police Court.

DANGEROUS DRIVING.

The Bingham magistrates have had before them a Newark motor-car driver, summoned for driving a car at a speed and in a manner dangerous to the public at Gamston, on May 5th. The defendant was Arthur J. White, of Portland Street, Newark, and he pleaded not guilty. Police-Constable Hollis deposed that about seven p.m. he saw defendant driving a motor-car towards Nottingham at a dangerous speed. Harry Spencer said the car passed him at a tremendous speed. He estimated it at forty miles an hour, and he reported the matter to the police. William Henry Johnson, of the Milton's Head Hotel, Nottingham, said he hired the car to go to Southwell. He did not consider White drove the car recklessly or at a dangerous pace. It took an hour and three-quarters to come from Southwell via Newark to Parliament Street, Nottingham. A fine of £5 was imposed on the charge of driving at a speed dangerous to the public.

A TRIPLE CHARGE.

At the Thames (London) Police Court, Henry Annett was summoned for unlawfully driving a motor-car without a licence, and further for fraudulently using a driver's licence under the Motor Car Act; and Robert W. Chapman, of Ley Street, Ilford, was also summoned for allowing Annett to use his licence. On behalf of the defendant, counsel said

that Annett was a mechanic, and as a motor-car had broken down at Croydon, Messrs. Webster sent him there on another car driven by Chapman, to repair it. He did so, and on returning found there was heavy traffic in the Mile End Road. Being a more experienced man than Chapman he drove the car, although he had not got a licence. Just as he did so a boy rushed into the car and was killed, but it was proved no blame attached to Annett. When the latter was asked for his licence he produced the one issued to Chapman, his excuse being that his wife was very ill and that he wished to save her worry. On the first summons Annett was fined 10s. and 30s. costs, and 30s. on the second one. Chapman was ordered to pay 30s. and 10s. costs, and his licence was endorsed.

NO LIGHT.

The Aberdeen police are watching the lights of motorists, and in a case just heard the Sheriff said it was a misfortune that the light should have gone out in the particular case before him; but the law compelled the possession of a light, and the delinquent driver was fined £1, with the alternative of three days' imprisonment.

EXCEEDING LEGAL LIMIT.

At the Spittlegate (Grantham) Petty Sessions a motor driver, employed by Mr. Burnside, at Tollerton Hall, Notts, was summoned for driving a motor-car at a dangerous speed at Manthorpe, on the 28th April last. Defendant pleaded guilty. P.C. Aldenby said on the date named he was in Manthorpe, when he saw a car coming from the direction of Grantham. It was travelling at such a furious rate that he was unable to see how many occupants there were in it, or the number in front. He afterwards got the number from the back. A fine of £5, and costs £1, was imposed.

AUTOMOBILE ACCIDENTS.

A CAR with the identification plate L.C. 5,877 was proceeding along Roehampton Lane on Sunday afternoon, when it failed to take the curve at the village end of the road, and crashed into the wall of Manresa House, the Jesuit College. Owing, perhaps, to the fragile character of the obstruction, nobody was injured, but a considerable stretch of the brick partition was demolished.

A MOTOR-CAR crashed into a milk cart at the corner of Uxbridge Road and Bath Road, at Slough. The car, which was owned by Mr. Arthur Lu Cior, of Regent Street, was considerably damaged.

THE Langholm and Carlisle mail gig was approaching Longtown late on Monday when a motor-car dashed into the rear of it. The gig was upset, and the two occupants thrown out and seriously injured.

At the White Horse Inn, Mare Hill, Pulborough, on Saturday afternoon, Mr. F. W. Butler, the West Sussex coroner, held an inquest on the body of Emma Leadbetter, who died on the previous Thursday from injuries received through being knocked down by a motor-car, owned and driven by Mr. James H. Deakin, of Hollingbourne, Kent. After hearing the evidence, the jury returned a verdict of accidental death and exonerated the driver from all blame in the matter.

A REMARKABLE accident occurred on Saturday afternoon at Gordon Road, Camberley. Colonel Ruxton was driving a spirited horse in a dog-cart when he met Major Buckley's motor-car, driven by his chauffeur. The horse became unmanageable, and jumped through the plate glass wind shield of the motor-car. Colonel Ruxton was thrown out into the road, and received an injury to his shoulder. The chauffeur escaped with a few scratches. The horse had its throat cut by the glass, and received several deep cuts on the chest. One of its shoes was also torn off, and it will probably have to be destroyed.

MR. J. T. MILBURN, a Cardiff stockbroker, his wife, two daughters, son, and chauffeur were seriously injured in a motor accident at Coedkernew, near Newport, on Saturday evening. To avoid a horseman, some dogs, and a trap, the car was diverted sharply to the side of the road, and running up a bank it turned right over.

TWO men travelling to Alnwick on a motor-cycle and trailer met with a serious accident at Felton Bridge. The cycle struck the parapet of the bridge, and the rider was thrown over the wall and fell into the river below, a distance of 25 feet. He was got out and taken to a doctor, who found that he was suffering from a fractured knee-cap.

THE London to Brighton postal motor-van met with an unusual accident the other morning. While proceeding through Burgess Hill, the steering apparatus failed to act, and the vehicle crossed to the off side and collided with a street watering post. It then dashed into a brick wall, which was knocked down, and the motor-van came to a stop in a flower bed outside the house occupied by Mr. T. H. Jeffries, who was awakened by the noise. He hastily dressed and procured the assistance of some workmen in the village. After an hour and a half the motor-van was got into the road, and proceeded to Brighton with the mails. The driver and sorter escaped injury.

THE business of Messrs. Docker Bros., who are well known as manufacturers of paints, varnishes, &c., is being converted into a limited liability company with a capital of £150,000. We understand there will be no initial public issue.

ONE of the latest cars delivered by the Wolseley Tool and Motor Car Company is a 45-h.p. six-cylinder Siddeley landaulet. The purchaser is Mr. W. T. Madge, of "The Globe" and "The People," whose satisfactory experience of an 18-24-h.p. Siddeley induced him to order the more powerful and modern vehicle for touring.

A JOINT MEET AND HILL CLIMB.

By the invitation of Mr. F. A. Bolton, J.P., of Moor Court, Oak-amoor, the president of the Derby and District Automobile Club, the members of the Nottinghamshire, Derby and District, Leicestershire, and Mid-Staffordshire Automobile Clubs had a joint meet in the wilds of North Staffordshire on Saturday. From Derby, Ashbourne, and Leek the roads were quite busy with motor traffic, and there were about eighty cars with their passengers present.

The primary object of the gathering was to have a hill-climbing competition, for which each club was permitted to nominate four of its members, the trophy at stake being Mr. Bolton's silver challenge cup. Each of the sixteen competitors had a trial run up the hill, in which he was in honour bound compelled to do his best. The cars were then drawn in pairs, and handicapped according to their trial times, the object being to provide close and exciting finishes. In the subsequent rounds the handicap was reframed. There was one particularly exciting heat in which Mr. Charles Hardy, on his 45-h.p. Daimler, was called upon to give 1 min. 21 sec. to Mr. A. H. C. Wenger, on an 18-22-h.p. Beeston Humber, and the scratch car just caught and passed the other a few yards from the post. The winner of the cup was Mr. J. B. Marsden Smedley, of the Derby and District Club, on a 24-h.p. De Dietrich, Dr. R. G. Hogarth, of the Notts. Club, being the runner-up on a 12-16-h.p. Talbot. The times in the trial spins, on which the handicaps were framed, and the results of the various heats, are appended:—

DERBY AND DISTRICT CLUB.

	M. S.
Mr. Arthur Ford, 30-35-h.p. Daimler	1 31
Mr. J. B. Marsden Smedley, 24-h.p. De Dietrich	2 31
Mr. L. P. Mell, 15-h.p. Darracq	3 27
Mr. George B. Fletcher, 10-12-h.p. Humber	5 10

NOTTINGHAM CLUB.

Mr. C. Hardy, 45-h.p. Daimler	1 19
Mr. H. Bowden, 30-h.p. Darracq	2 22
Dr. R. G. Hogarth, 12-16-h.p. Talbot	3 49
Mr. A. N. Lee, 10-12-h.p. Humber	4 15

LEICESTER CLUB.

Mr. W. Coltman, 12-14-h.p. Fiat	3 32
Mr. J. A. Doran, 24-h.p. Minerva	1 55
Mr. J. A. Harper, 15-h.p. Humber	2 50
Mr. R. Herbert, 14-h.p. Vulcan	2 59

MID-STAFFS. CLUB.

Mr. C. H. Riley, 18-22-h.p. Daimler	2 27
Mr. A. H. C. Wenger, 18-22-h.p. Beeston Humber	2 40
Mr. G. F. Brindley, 12-14-h.p. Clement-Talbot	2 46
Mr. F. W. Podmore, 10-12-h.p. Coventry Humber	3 30

In the first round Mr. F. W. Podmore, beat Mr. Arthur Ford; Mr. J. B. Marsden Smedley beat Mr. L. F. Brindley; Mr. A. N. Lee beat Mr. L. P. Mell; Mr. R. Herbert beat Mr. G. B. Fletcher; Mr. Chas. Hardy beat Mr. A. H. C. Wenger; Mr. W. Coltman beat Mr. H. Bowden; Mr. J. A. Doran (holder) beat Mr. C. H. Riley; Dr. R. G. Hogarth beat Mr. J. A. Harper.

In the second round Mr. A. N. Lee beat Mr. R. Herbert; Dr. R. G. Hogarth beat Mr. W. Coltman; Mr. J. A. Doran beat Mr. F. W. Podmore; Mr. J. B. Marsden Smedley beat Mr. Chas. Hardy.

In the semi-finals, Mr. J. B. Marsden Smedley, 24-h.p. De Dietrich (45 sec. start), beat Mr. J. A. Doran, 24-h.p. Minerva. Time, 2 min. 41 sec., and Dr. R. G. Hogarth, 12-16-h.p. Talbot, beat Mr. A. N. Lee, 10-12-h.p. Humber (40 sec. start). Time, 2 min. 20 sec.

The final resulted: Mr. J. B. Marsden Smedley, 24-h.p. De Dietrich (11 sec. start), beat Dr. Hogarth, 12-16-h.p. Talbot. Time, 2 min. 16 sec.

The officials were:—Judge, Mr. F. A. Bolton; timekeeper, Mr. Charles J. Allin (Derby A.C.); starter, Mr. G. H. Kirk (Notts. A.C.); clerks of the course, Messrs. Alan McAlpin (Leicester A.C.), Booth Granger (Notts. A.C.), and J. Cornes Nevitt (Mid-Staffs. A.C.).

Following the hill-climb the motorists adjourned to Moor Court for tea, and Mr. Bolton handed the cup to Mr. Smedley, who suitably responded.

PUBLIC MOTOR SERVICES.

MR. C. CHAPMAN'S new motor char-a-banc has made its first public journey from Grassington. It is intended for service between Grassington Station and Buckden. The makers of the engine and chassis are Commercial Cars, Ltd., and it was supplied through Messrs. Grace and Sutcliffe, of Keighley. The body was locally built by Mr. W. V. Patrick, of Grassington.

In consequence of a complaint by carriage proprietors that the new motor char-a-bancs were plying for hire without being licensed, the motor vehicles at Llandudno are to load only on private land.

A NEW motor-omnibus service has been inaugurated between Cricklewood and Victoria, London, S.W.

The stringent action of the Metropolitan Police with regard to the motor-buses plying for hire is occasioning much concern among the owners of such vehicles. No fewer than sixty-five of the Vanguard line are in garage undergoing alteration with a view to their quieter running

to meet the objections of the police. At least two other companies have been ordered to take practically all their vehicles off the streets.

A PUBLIC motor service, with cars of 30-40-h.p., has been inaugurated for tours in the Snowdonian districts. The excursions include the loop tour and Snowdon, and one to the famous marble church at Bodelwyddan.

A DAILY motor service has been established between Chatham and Rochester.

A new char-a-banc, by Messrs. Durham, Churchill and Co., is about to be put into service by the Penrith and District Motor Service Company, Ltd.

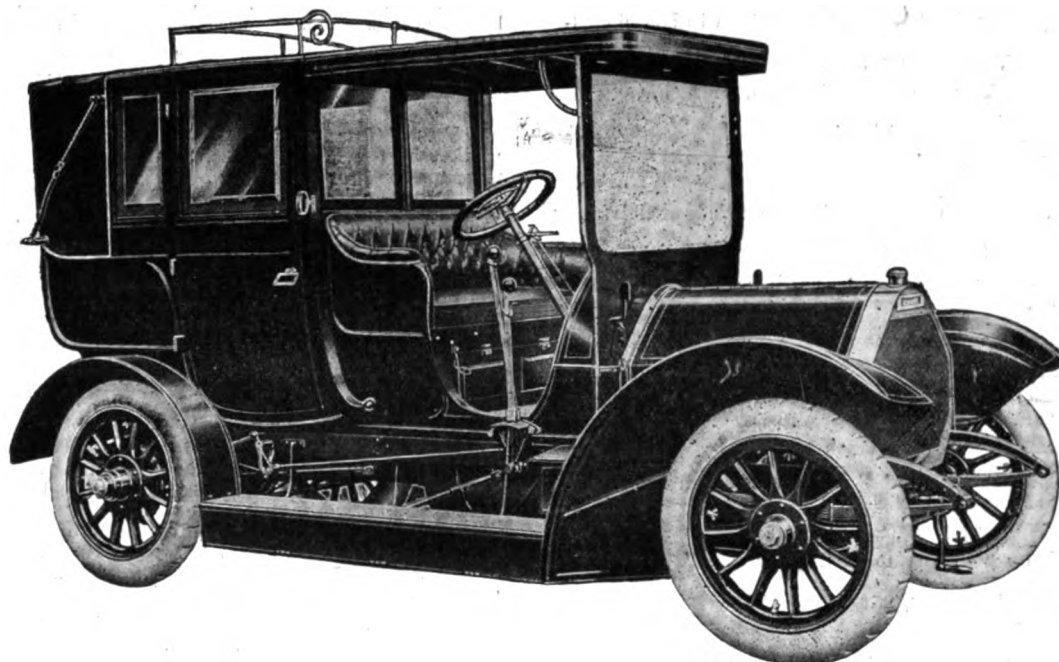
COMPANY NEWS.

NEW COMPANIES REGISTERED.

FORS ACCUMULATOR COMPANY.—£10,000. To acquire patent No. 17,238 of 1905, for improvements in electrodes for secondary batteries, and to adopt an agreement with Mr. H. F. Joel, A.M.I.C.E. No initial public issue. Table A mainly applies. 110-11, Strand, W.C.

WICK MOTOR ENGINEERING WORKS.—£5,000. To acquire the business of the Wick Motor Engineering Works and Garage, now carried on by Mr. R. T. Gill, at D'Avigor Road, Hove. First directors: Messrs. R. T. Gill, R. W. R. Gill, and R. D. Rason. D'Avigor Road, Hove.

HODGES AND MASON.—£2,000. To take over the business of motor and cycle dealers carried on at High Street, Christchurch, as Hodges and Mason, 31, High Street, Christchurch, Hants.



The 30-h.p. six-seated Beeston-Humber Landulet supplied to Lord Justice Bomer. The car is of the standard type in every respect, and his lordship has expressed approval of its satisfactory running.

THOMPSON-BENNETT, LTD.—This company has just been registered with a capital of £5,000 in £1 shares, to adopt an agreement with Messrs. J. A. Thomson, P. F. Bennett, and J. H. Chambers, and to carry on in England and elsewhere the business of manufacturers of and dealers in all kinds of component parts, accessories, and fittings used in the construction and propulsion of motor vehicles. Mr. P. F. Bennett, who was with the Electric Ignition Company, Ltd., will be the managing director, and Mr. J. H. Chambers will be manager of the works, which are located in Heneage Street, Birmingham.

CLEVELAND CAR COMPANY.—£35,000. Manufacturers of and dealers in motors, motor engines, &c. No initial public issue. First directors: Messrs. C. F. Dixon, O.B. Pease, and C. G. Huntriss. Smithfield Road, Darlington.

PETER LEE AND SONS.—Registered, with a capital of £5,000 in £1 shares, to acquire and carry on the existing businesses of oil refiners and motor spirit merchants. Registered office: 7, High Street, Glasgow.

DEVON AUTOMOBILE AND CARRIAGE COMPANY.—£20,000. To take over the business of motor manufacturers and agents, carriage builders, &c., carried on at Exeter as Standfield and White. First directors: Messrs. S. M. White (managing director), A. B. Bramwell, and A. H. Gibbs. 8, Sidwell Street, Exeter.

BOON AND PORTER.—£9,000. To acquire the business carried on at 161, Castelnau, Barnes, as Boon and Porter, to take on lease or sub-lease certain premises connected therewith, and carry on the business of motor engineers, &c. First directors: Messrs. C. W. Drabble, E. G. Drabble, A. Boon, and J. H. B. Porter. 161, Castelnau, Barnes.

ROAD REPORTS.

ROYSTON.—Following on the recent fatal motor-car accident at the cross-roads at Royston, the Royston Urban Council have determined to apply for an order limiting the speed of motor-cars through the town to eight miles an hour.

WITHINGTON (LANCS.).—Alderman Copeland presided at a meeting of the Withington Special Committee of the Manchester City Council. The excessive speed of motor-cars passing through the district was complained of in a letter from the Chorlton-cum-Hardy Ratepayers' Association, which stated its willingness to support any action of the committee in obtaining through the Local Government Board a fixed speed limit within its own area. This is now being asked for.

BECKENHAM.—Arrangements have been made for the spraying of the Beckenham roads with tar as soon as the weather is convenient. Beckenham was one of the foremost towns to try experiments in overcoming the dust nuisance, and as a result came to the conclusion that of the materials at present available, tar which had undergone a rough process of distillation was the best.

THE THAMES TOWING PATH.—The Local Government Board have fixed June 5 as the date of the public inquiry, at Hampton Wick, in connection with the proposal of the Office of Works to prohibit the driving of motor-cars along the river-side towpath between Hampton Court and Kingston bridges.

SCOTLAND.—Applications for the ten mile speed limit have been made to the Scotch authorities by the Town Councils of Grantown-on-Spey, Forbes and Penicuik.

ASHFORD.—The County Surveyor of Kent has arranged for a warning sign to be put up at Potter's Corner, Ashford, where the road is banked the wrong way for turning, so that a car going more than twelve miles an hour is unable to keep to its proper side of the road.

DERBY.—In connection with the question of signs in the borough of Derby, the Derbyshire Club has decided that a letter should be sent to the Highways Committee of the Derby Town Council, asking if they would support the erection of warning triangles in the town, thus bringing to the notice of strangers passing through the various dangerous and congested places.

WE learn that Mr. George J. Nearing has resigned his position as works manager with Messrs. Huntley Walker and Company. **VAUXHALL MOTORS, LTD.**, have appointed the Glasgow Automobile Company, of 83-85, West George Street, Glasgow, as the sole agents for Scotland for Vauxhall cars.

THE reliability of the "Brown" motors was again proved in the London to Edinburgh run promoted by the Motor Cycling Club, when a Brown 25-30-h.p. car, driven by Mr. R. B. Banks, and two Brown 5-h.p. twin-cylinder motor-bicycles did the whole journey without mechanical troubles of any kind. The Brown was the first car to arrive at Newark, Wetherby, Leavenhall, and Edinburgh.

THE Valor Co. have received an order from the Royal Automobile Club for a dozen of their three-gallon size "New Era" petrol fire extinguishers, for the equipment of the new garage in Brick Street, Piccadilly, W.

FORTHCOMING EVENTS.

MAY.

THURSDAY, 30TH.

R.A.C. Tourist Trophy and Heavy Touring Car Races.
The Great Yarmouth M.C.C. 75 miles Penalty run under Auto Cycle Club's rules. Entrance forms from the secretary, Mr. F. Worts, Somerton, Yarmouth.

FRIDAY, 31ST.

R.A.C. Graphic Tourist Race.

JUNE.

SATURDAY, 1ST.

Entries close for Henry Edmunds Challenge Trophy.
Cleveland Branch of Yorks A.C. run to Rokeby.
Motor Cycling Club's hill climb at Sharpshoe.
West Essex A.C. run to Blackmore.
Reliability run of the North-East Lancashire A.C. to Carlisle.
Derby A.C.'s Gymkhana at Coventry.
Motor Yacht Club races.

SUNDAY, 2ND.

Meet of the Motor Cycling Club at Frensham Ponds.
Southend M.C. run to Colchester.

MONDAY, 3RD.

Motor-boat race at New York for Gordon Bennett Cup.

TUESDAY, 4TH.

The cars in the Herkomer Touring Trophy Competition will be weighed-in at Dresden.

WEDNESDAY, 5TH.

Start of Herkomer Touring Trophy Competition from Dresden.

SATURDAY, 8TH.

R.A.C. Henry Edmunds Hill Climb.
Gymkhana of the Coventry M.C.
Hill climb of the Blackheath A.C.
The Kensington A.C. will hold a Gymkhana in the grounds of Chiswick House, Chiswick.

SUNDAY, 9TH.

The Motor Cycling Club will meet at the "Cock," Epping, at 11 a.m. for a trip to Maldon.

FRIDAY, 14TH.

Race for the Kaiser's Prize on the Taunus Course, Germany.

SATURDAY, 15TH.

Conference of officially recognised automobile clubs at Homburg.
Commercial vehicle meet at Reading. Mr. Leo Harris, hon. sec., 379, Strand, London, W.C.
The children of the Leicester Cripples' Guild will be taken for a drive by the members of the Leicestershire A.C.

SATURDAY, 22ND.

Southern Motor Club's open hill climb on Captain Kydd's Hill, East Grinstead.

TUESDAY, 25TH.

Scottish A.C. Reliability Trial.

WEDNESDAY, 26TH.

Hastings Automobile Meeting. Appearance Competition and Gymkhana, organised by the Automobile Association and the Motor Club.

THURSDAY, 27TH.

Newcastle Motor Club's run to Edinburgh and back.

SATURDAY, 29TH.

Aero Club race for the Hedges Butler challenge cup.

JULY.

2ND.—A.C.F. Grand Prix Race on the Seine Inferieure Circuit, near Dieppe.

6TH.—Inaugural races on the Brooklands Track.

10TH.—R.A.C. South Harting hill climb.

13TH.—Entries for R.A.C. commercial vehicle trials close at ordinary fees.

15TH TO 18TH.—The annual automobile meeting at Ostend.

20TH.—Motor Union meet at Southport.

27TH.—Commercial vehicle meet at Maidstone.

AUGUST.

20TH.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

9TH.—Industrial Vehicle Trials commence.

OCTOBER.

19TH.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

LIGHTING-UP TIMES—LONDON.

June 1st—9.4	...	3rd—9.7	...	5th—9.8	...	7th—9.10
„ 2nd—9.6	...	4th—9.8	...	6th—9.9	...	8th—9.11

POLICE TRAPS.

THE East Sussex police have been busy with their patent electrical timing apparatus, and three traps have been set for motorists at Newtimber and Clayton, near the South Downs.

THERE is a motor trap in the Kennington Road, London, S.E.

A POLICE trap has been set up on Bromley Common, Kent.

DRIVING from Carlisle to Glasgow, a Cumberland reader has found a new police trap at the village of Kirkpatrick, eleven miles from Carlisle. The trap is being worked by two plain-clothes constables with a third man in uniform, and is in daily operation.

THERE is a police timing arrangement along the London road, leading from Ware to Hoddesdon, a distance of about three miles.

A MEASURED distance is being worked (both ways) seven miles east of Cholesford, on the Cholesford and Newcastle road (Roman road). It is 300 yards long, and is situated just where the Corbridge road turns off.

THE police are watchful at Cublington, and three motorists were fined the other day at Milverton in consequence.

MOTORISTS about Woodford on the last two Saturdays have found police activity very keen, traps having been laid in the High Road and also at Epping New Road. The trap set up at the latter point on the 18th ult. resulted in five victims being summoned at Stratford Police Court on Saturday last.

IN a stretch of four miles on the south side of Lancaster the police have eleven traps for motorists, some of them overlapping.

BUSINESS NEWS.

THE "Garantire" tyre, which has been well placed on the market by the Motor House, 314-316, Euston Road, London, N.W., is guaranteed for 4,000 miles.

AMONGST recent purchasers of Clyde cars through the Century Motor Company, of Holland Gate, W., are Dr. J. T. Tasker-Evans, of Hertford; the Rev. W. Jackson, of Maidstone, and Captain Niblock, of Greenwich.

THE Law Car and General Insurance Corporation, Ltd., 4, St. Paul's Churchyard, London, E.C., have issued a pamphlet of handy notes for employers in connection with the Workmen's Compensation Act.

IN the face of the recent performances of Rover cars in open competitions, they must be admitted to be amongst the least expensive in upkeep of any cars on the market. In the Albert Brown Trophy, on the 11th ult., their petrol consumption was remarkably low, being 41½ for the 6-h.p. vehicle, and 35½ for the 8-h.p., and in the Hertfordshire Club's Consumption Trials the 20-h.p. Rover scored with 30.4 miles to the gallon, the second car only averaging 20½ miles.

THE purchase of a Daimler car by the Duke of Zaragoza is extremely important from the fact that this nobleman is regarded as one of the leading authorities on engineering subjects in Spain; moreover he is a director of the Northern Railway of Spain. In addition to the sales to the Spanish nobility already chronicled, further successes of the Daimler Company in Spain consist in their having been awarded a silver medal at the exhibition for their coach-work, and a bronze medal for stand decoration.

WE learn that the coil used in connection with the ignition on the Siddeley 40-h.p. long distance trial car was one of the Electric Ignition Company's manufacture, and that it gave every satisfaction.

EARL Russell has just taken off the off-side front wheel of his 30-h.p. Daimler, which was fitted with Palmer tyres. The car weighs about two tons with passengers in running order, and has been driven over all sorts of roads, so that the performance of running 12,240 miles without a puncture is remarkable.

SIR KENNETH MATHESON last week ordered a 24-h.p. De Dietrich from Messrs. Jarrold and Letts, Ltd., who also sold a 40-h.p. de Dietrich and a 24-h.p. of the same type to Mr. J. Bliss and Mr. C. Braun respectively. The week's business of the firm included the disposal of a 40-h.p. Crossley car to Mr. A. Barclay Walker.

ARIEL Motors, Ltd., inform us that arrangements have been made for the Ariel-Simplex cars to be manufactured in Coventry, where the manufacturing facilities will be trebled or quadrupled to what they have ever been before, while the business is to be much more vigorously pushed than hitherto. The company has opened a large depot at 101, New Bond Street, London, W., the premises occupying the whole of a five-storey building, where the latest models of the Ariel-Simplex cars can be inspected.

CAPTAIN DEASY has resigned the chairmanship and joint managing directorship of the Deasy Motor Car Manufacturing Company, Ltd., but remains on the board as an ordinary director.

MISS VESTA TILLEY's chauffeur fitted a Dunlop grooved tyre to the rear front wheel of the popular artiste's 24-30-h.p. Panhard car, and which, although run considerably over 6,000 miles (en route Miss Tilley's London and provincial engagements), has never given him a moment's trouble. He examined the tyre the other morning, and was surprised to notice how little of the tread had worn away. The cover looks good enough for another 2,000 miles before it will want re-treading.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, JUNE 8, 1907.

[No. 431.]

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COMMENTS.



BOTH the Rover and the Humber companies, whose cars did so well in the Isle of Man last week, are to be heartily congratulated on the success of their entries. The race was a trial for the drivers as well as the vehicles, and Mr. E. Courtis and Mr. G. P. Mills, who steered

the cars to victory in the Tourist Trophy race and in the Heavy Touring Car race, deserve to be associated with the praise of the cars. Speed was out of the question on such a day as Thursday, when the mountain was hung with mist and the roads made as heavy going as could be imagined. But the consistent running of the winners and some of the other competitors was a feature of the event which should satisfy critical observers as to the touring qualities of the cars. With regard to the races themselves, there seems a consensus of opinion that just as the value of the Gordon Bennett race was lost in the improvement that so rapidly took place in cars, so the Tourist Trophy event has been lessened in value by the development that has taken place in car construction—and, it may be added, the importance of the Scottish Reliability Trial. It will be interesting to watch the next meetings of the Races Committee of the Royal A.C., with a view of discovering the official estimation of the criticisms that have been levelled at the races in Manxland.

Police Uniforms.

To render the Army indistinguishable to the enemy on the veldt soldiers were dressed in khaki for South Africa. A similar idea may, perhaps, underlie the intention of the Standing Joint Committee of the Dorset County Council, which is supplying grey uniforms to the county constabulary. It is, however, officially announced that this change of uniform has been made owing to the clouds of dust which were thrown up on to the blue-black coats of the police; the less sombre hue is calculated to render the police of a less dusty appearance; but they will not be so easily apparent to passing motorists. Fortunately the county of Dorset has not yet shown any desire to compete with Surrey in its detestation of the car and its driver.

The Brooklands Motor Track.

THE issue of the regulations in connection with the Brooklands Motor Course, near Weybridge, reminds us that preparations are well forward, and that the trade and the public will soon have an opportunity of enjoying speed trials under private auspices. With the exception of the days upon which racing is to take place, the course will be open for motor-cars of a maximum axle weight of 2,700 lbs. on week days. The admission of cars will entitle them to drive at any speed on a left-handed course round the oval part of the track. The speed will be recorded for any distance not exceeding five miles, and for this certificates of performance will be given. Racing will only be permitted after the necessary arrangements have been made with the officials, and drivers will be required to drive as close

to the inner edge of the track as the speed at which they are travelling will admit without putting a side-strain on the wheels. Doubtless many makers will avail themselves of the opportunity thus presented of gauging the speed of their vehicles under conditions that will not cause any risk to the public, and which may, at the same time, provide spectators with a new sporting interest.

The Road Conference.

ON Monday and Tuesday next, at the Institution of Civil Engineers, the adjourned conference of road makers and road users will meet, when important resolutions will be submitted, not only by the Roads Improvement Association, but also by some of the county surveyors and others whose practical experience should be exceedingly helpful to the meeting. Mr. E. J. Lovegrove, the borough engineer of Hornsey, will propose the formation of a State Highway Commission or Department to classify roads, and formulate a scheme for the maintenance and improvement of new national arteries. The Roads Improvement Association propose that a committee should be appointed to wait upon the Government to submit the resolutions arrived at, and urge that the State should contribute more largely than heretofore to the cost of construction of main roads. There are important organisations outside the automobile movement which will be represented, and the conference should prove a good basis upon which to build up a movement for the improvement of the main highways of the country.

The Weather and Trade.

ACCORDING to the calendar, Saturday last was June 1st, and summer was upon us. Those who ventured forth on their cars must have felt they were back again in March, or transported forward to October, so cutting was the wind and so heavy the rainfall. Verily, the English climate is maintaining its character of inconsistency and unsettling industry with a vengeance. The prospective motorist delays his trial trip from day to day; the dealer scarcely dare go forth in search of customers, and, it must be confessed, there is a quietness about business that must be disconcerting to all except those who have booked orders far ahead. Firms who showed at the recent Exhibition and secured the inquiries of the visitors to the Agricultural Hall are congratulating themselves on having been saved from some of the anxiety that has been brought upon the trade by the vagaries of the summer—we had almost written winter—of 1907.

A Notable Trio.

THIS is the season for trials. Ireland has just had hers—in an automobile sense; England has transferred her tests to Manxland; and Scotland will have her trial at the end of the month. In connection with the latter event, which seems, by the way, to grow in importance every year, a notable contest will run concurrently with the main test. Only three drivers have driven in each of the two preceding trials without absolute loss of marks. They are Mr. H. Ramois (Germain), Mr. R. Crossley (Belsize), and Mr. F. S. Bennett (Cadillac), thus

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bringing the cars of Belgium, England and America respectively to the front. This is a distinction both for driver and vehicle, and as the trio has again entered for the Scottish Reliability Trial, their repeated success would be generally popular.

A Trial in India.

FURTHER evidence of the position that automobilism is winning for itself in India comes in a letter from Mr. N. M. Marshall, of 1, Esplanade Road, Bombay, who is inviting the support of British manufacturers for the reliability trials which the Motor Union of Western India intends to hold during the Christmas week of the present year, covering a distance of 600 to 700 miles. He will be pleased to receive entries from home motorists. "I am making a great endeavour to place the Motor Union of Western India in the most prosperous condition," says Mr. Marshall, "and since I have taken its secretaryship we held a gymkhana, the first of its kind in India, and have established club rooms in the finest position in Bombay, as well as forwarding the interests of motoring in this presidency in a manner that has not been previously done." It is also proposed to hold an exhibition in February next.



Mr. F. E. Carter, of Sunderland, on the Swift 10-12-h.p. Car which he drove in the Irish Reliability Trials, and which made a non-stop run throughout.

Motor-Car "Principles."

THE publication of new works on the motor-car would seem to be unnecessary and almost impossible. But Mr. W. Whitman has contrived to write a volume which occupies its own niche in the library of the motorist, and to run on lines dissimilar to any of the many publications that have been devoted to the automobile. The object in view is clearly defined as being "to explain the principles that underlie automobile construction and operation, and to illustrate the movement and mechanical combinations adopted in present day practice." This idea is kept well in view throughout the volume of 250 pages, which is embellished with fifty diagrams, and made easy of reference by a capital index. The description of the "gasolene" engine indicates the author's acquaintance with American practice, and the use of the word "petrol" might be of service. The arrangement is excellent, Mr. Whitman dealing firstly with the four cycle engine, its various parts, the question of carburation—why "carburetor" is thus spelt we know not—ignition, transmission, running gear, &c., are all dealt with, and then follows a chapter on Troubles, followed with another on how to locate the

same. This volume not only explains the principles of the car and the functions of its various parts, but it has a practical aspect in assisting the motorist who may be in difficulties. Mr. Sydney Appleton is the publisher, and the work will be of value to everyone about to take flight into the world of mechanical carriages on common roads.

The Irish Trials.

LAST week we gave the times in the two hill climbs which formed an interesting feature of the Irish reliability trials; now we are able to know the official results of the speed test over a three miles course on the Magilligan sands. In Class A the 6-h.p. Rover was the only entrant, and did the trip in 7 min. 32 2-5 sec.; in Class B the speediest vehicles were the 9-h.p. Adams-Hewitt (5 min. 13 1-5 sec.), the 15-h.p. Ford, jun. (5 min. 25 3-5 sec.), and the 10-12-h.p. Swift (5 min. 33 2-5 sec.). The 10-h.p. Chambers excelled in Class C, and the 16-20-h.p. Calthorpe was the fastest in Class D with 4 min. 11 2-5 sec. to its credit. As has been the case so often this season, the 15-h.p. Clement-Talbot was conspicuous in its class, as was also the 20-h.p. Rover and the 15-20-h.p. Unic. Class F was a very strong class, and again the Clement-Talbot car occupied premier place, followed by the Beeston Humber and the 25-30-h.p. Straker-Squire. In Class G two Ariel Simplex cars tied for first place, and a car of the same type was also first in Class H.

Railway Charges on Motor Bodies.

RECENTLY we referred to the interview between a deputation from the Institute of British Carriage Manufacturers, the Motor Section of the London Chamber of Commerce, the Society of Motor Manufacturers and Traders, and the railway companies at the Railway Clearing House, with reference to the carriage of motor-car bodies. The points raised by the deputation have since received the consideration of the goods managers of the railway companies, and Mr. H. E. Perrin, the secretary of the first-named association, has been informed that the following classification charges are now being adopted:—"Carriage bodies, unfinished, in the white or lead coloured state, without underframes or wheels, minimum weight 5 cwt. per carriage body, Class 4. Motor-car bodies, unfinished, in the white or lead coloured state, as carriage bodies. Minimum, 5 cwt. per consignment." The companies regret that they have not been able to make any alteration in respect to the other points raised by the deputation.

A White Car Performance.

THE 30-h.p. White steam car has been granted the R.A.C. certificate for a 1,871 miles long distance trial. There were no stoppages *en route*, although this included twelve days' run over such trying stretches as have been familiarised in the Scottish Reliability Trials. In addition it may well be noted that the total time spent in adjustments to the vehicle while in the garages during the period was 1 h. 2 min., or at the rate of 5 1/4 min. per day. The car ran 1,511 miles without any overhauling prior to its run of 1,871 miles under Club supervision, while the petrol only worked out at 9.12 miles per gallon or 18.89 ton miles per gallon. We understand the actual distance travelled, as shown by the speedometer, was greater than the route mentioned by the Club to an extent which made the car show about nine and a half miles to the gallon fuel consumption. When we consider the condition of the roads, the character of the route, the fact that Mr. Coleman had steel studded tyres on the back wheels, the weight of the car and the Cape hood, raised some of the time, the result is very satisfactory indeed. The car was loaded down so that it weighed 33 cwt., that being about the weight of one of the standard 30-h.p. White landaulets. Furthermore, luggage and passengers were carried so as to make the total weight of the car 41.4 cwt.

On the completion of the run the car was dismantled for examination, and the Technical Committee of the Club found the parts in generally good order.

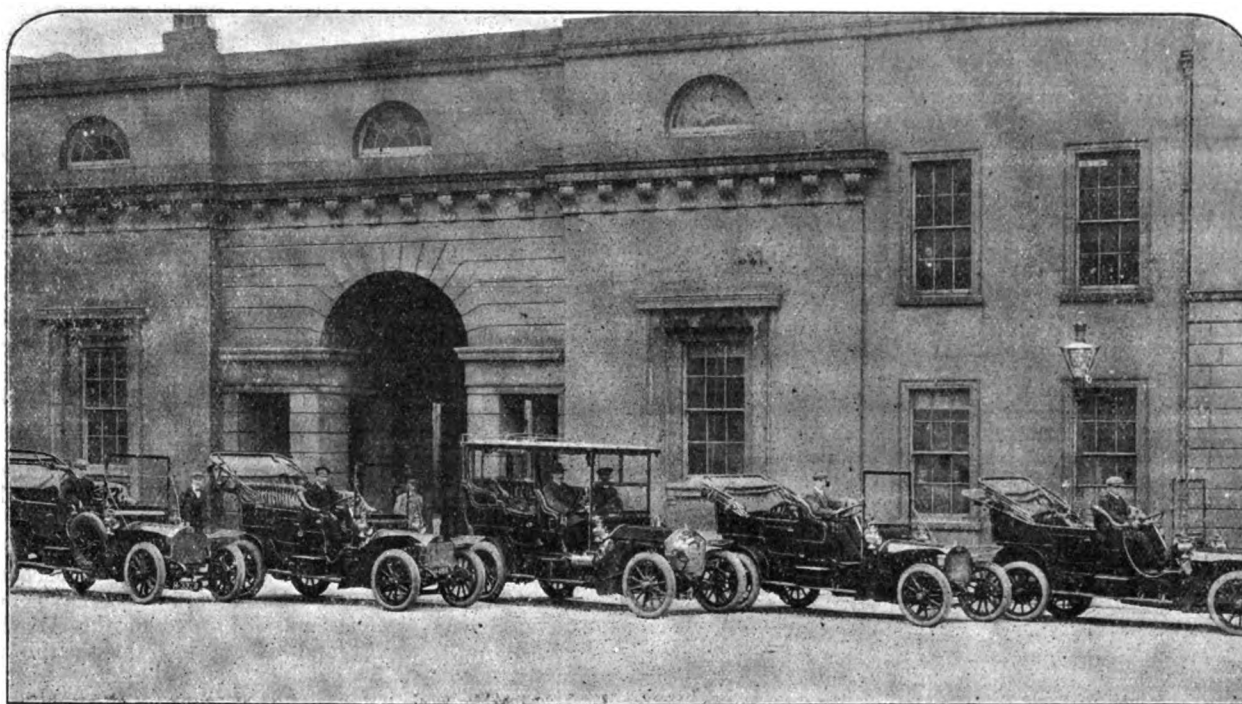
Motor-Car Work.

ANCIENT quarrels between workers in various trades have not been wholly quelled, and now and again they threaten to revive in the automobile business. The other day at the Irish Trade Union Congress the representative of the coachbuilders proposed:—"That Congress is of opinion that the coachmaking parts of motor-cars exclusively belongs to members of the coachmaking trade, and would strongly condemn any infringement by the members of other trades; and further, this Congress appeals to the gentry and motor-car agents of Ireland to have their car bodies made, painted, and trimmed at home." The chairman moved the motion out of order, so that the world has not heard the last word on the subject. The motor-car industry has not yet been restricted to

the Bench was that he had no one to leave with the animal while he was absent delivering goods. In reply the magistrate held that it was the duty of the company to provide such a person—a suggestion that might well be made whenever carters or drivers are similarly summoned before the Bench. The dangers of runaway horses were sadly illustrated in several places last week-end, and such instances should convince magistrates of the dire consequences of leaving horses without anyone in charge. The uncertain temper even of the best regulated equines in public is a factor that should be acknowledged by all having dealings with such animals.

Unauthorised Restriction Signs.

WE recently referred to the practice which had unfortunately grown up in one or two Scottish counties, where the central body had declined to grant permission for the restriction of motor-car speed, and where the local surveyors had actually erected signs imposing such limitations entirely contrary



The Fleet of Brown Cars which is at present being used by the Commission on Congestion in Ireland. The photo from which the illustration is reproduced was taken in Dublin Castle Yard, and shows four 20-22-h.p. four-cylinder vehicles and (in the centre) a 40-h.p. six-cylinder.

any narrow limits so far as the overlapping of the various branches is concerned, nor has any insular patriotism restrained, to any such degree as was indicated in the Irish resolution, the business in motor-car bodies. This can only come about when the supply exceeds the demand—and that is not necessarily dependent upon the Irish Congress.

Unattended Horses.

OFTEN have we referred in these columns to the dangers connected with horses being left unattended by their drivers when the latter are looking after business or are otherwise engaged elsewhere. Even when such cases are rightly brought before the police courts, the magistrates have generally shown a leniency that has been wholly lacking when motorists have been in question. Hence we are glad to observe that at length some of the judicial authorities are beginning to recognise that this offence must be punished with greater severity if the nuisance is to be stopped. An employee of a railway company has just been charged at Altrincham with leaving his horse unattended in the street. His explanation to

to the wishes of the Secretary for Scotland. It would appear that the northern part of the kingdom is not alone in this presumption on the part of officials. It will have been noticed that some of our contemporaries have reported that the speed of motor-cars at Milbourne Port (Somerset), had been fixed at six miles per hour. It is true that signs have been erected in the village giving notice to this effect, but they have not had the sanction of the Local Government Board, and we are glad to learn that Mr. Rees Jeffreys is in communication with the Whitehall authorities with a view to securing the removal of these irregular signs. Motorists are under no obligation to pay any attention to such notices or to similar intimations which, we understand, have also been put up in and near the town of Warwick. Local bodies should certainly remember that the Motor Car Act reserves to the central authority the right to impose such limitations, and no local council has any right to erect these signs without such permission.

TOURISTS in the Highlands who are without cars, and who wish to see how the cars perform in the forthcoming Trials, will be interested in the new official guide of the Highland Railway.

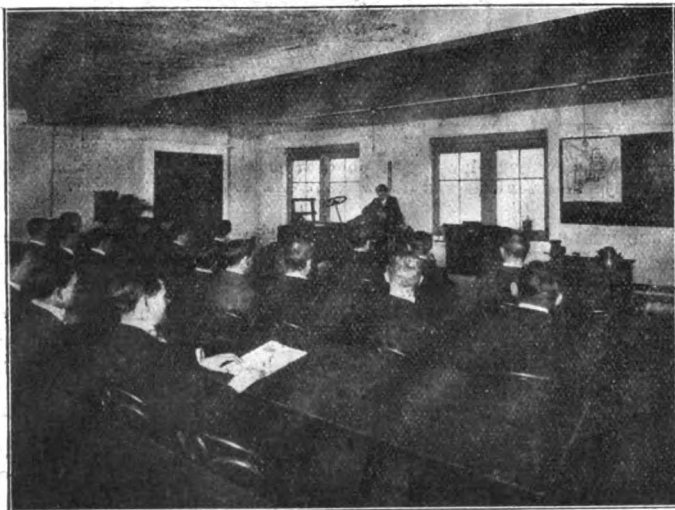
THE ARGYLL SCHOOL.

THERE are drivers, and drivers. Some go over objects that come their way; others avoid them. Therein lies a difference that means much, in cash, time and temper, to the person who has occasion to employ such folks. These reflections are true with regard to methods of equine locomotion; they are doubly accurate in matters of mechanical traffic, and are occasioned not only by coroners' remarks but also by judicial dicta as directed at motorists in court of late.

Mechanical knowledge, and a certain quality of nerves, are indispensable to the man or woman who will seek to drive a motor-car. Much of the latter can be attained by practice; all that is necessary of the former can be gleaned in the Argyll Motor School which Mr. Eustace H. Watson has established in Newman Street, London. This has already developed a proficiency in many novices who have found favour with owners of cars in several mansions of the country. Hence the difference between this really practical academy and some other establishments that take the maximum of fees and gives the minimum of instruction. For, as everyone in London knows, the Argyll School has credentials that few other institutions possess. Then, too, its facilities for overhauling cars in the garage and workshop, teaching driving in busy traffic, as well as upon the silent highway, under efficient supervision, are of very high order indeed.

Mr. W. A. Higgs is in charge of the instruction, and his experience in various institutions has enabled him to admirably qualify himself for teaching. Many can theorise; but Mr. Higgs aims at combining practical with academic knowledge, and thoroughly equipping his pupils for any emergency. The schoolroom is equipped with lantern and blackboard for demonstration purposes, and the presence of a chassis, which is dismantled, on the premises is evidence of the thorough character of the mechanical training that is given. The other morning we called at the school and listened to half-an-hour's lucid explanation of the work and details of the carburettor—the scientific "whys and wherefores" being explained in simple language, in which technical terms were gradually introduced, thus familiarising the audience with the necessary vocabulary of their craft.

This was part of a course which is being pursued for about

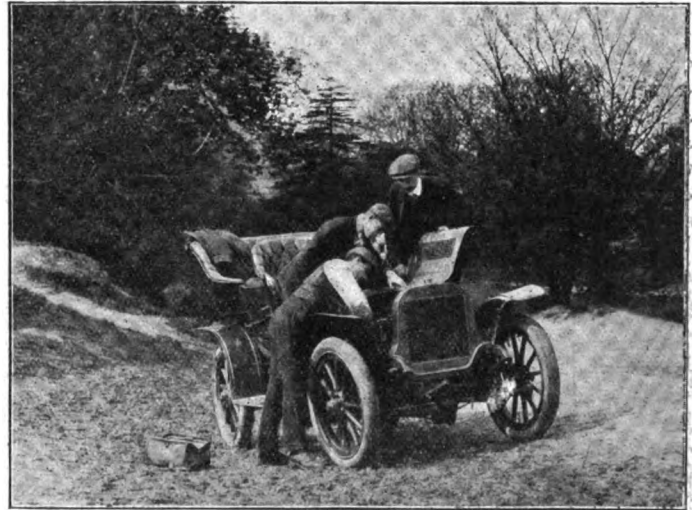


Pupils Attending the Lectures in the "Argyll Schoolroom."

a month—the morning being spent, in such lectures together, the pupils handling various parts and catechising Mr. Higgs and his assistant. Then in the afternoon the learners are taken into the garage, where habits of orderliness are instilled and precautions for safety duly emphasised. From this they go upon the road in charge of competent instructors who are specially set apart for this duty. This is no fair-weather course, and the students are instructed in all conditions of weather, so that

when they become responsible for the driving of a car greasy roads and heavy traffic are not likely to disconcert them.

It is just a year since the school was started, and an average of forty pupils in attendance testifies to the good work being done. Failures have been rare, owing, we believe, after examination of the actual methods of training, to the care taken by Mr. Higgs, who seeks to give confidence to otherwise nervous people, and encourages his proteges in estimating speed, judging distance, and other necessary factors in the perfect driver.



A Practical Demonstration on the Road.

Instruction is begun on the 10-12-h.p. two-cylinder car, and finished on a four-cylinder vehicle of higher power; and, to meet the convenience of those who wish to become expert drivers, the courses are arranged so that the afternoons and evenings can be selected by private owners for instruction, and the mornings by those who intend to make their living by driving. Special classes are also being provided for ladies, while opportunities can be obtained for individual instruction so far as the technics of the matter are concerned. Varied are the pupils—comprising mechanics and coachmen, the latter with a knowledge of the road but little inkling of mechanical theory, the former *vice versa*. Chauffeurs who have not had the advantage of systematic training go to the Argyll school for "finishing courses," and others begin with the rudimentary instruction.

It is very clear that the Argyll school is doing a useful work, and, more than that, it is doing it in a thoroughly sound way, contributing to the ranks of motorists and chauffeurs men and women who know what they are about, and therefore likely to do much in the conversion of the public to a friendly regard for the car.

THE gold medal in the North-East Lancashire A.C.'s reliability trial has been won by a 30-h.p. Siddeley car.

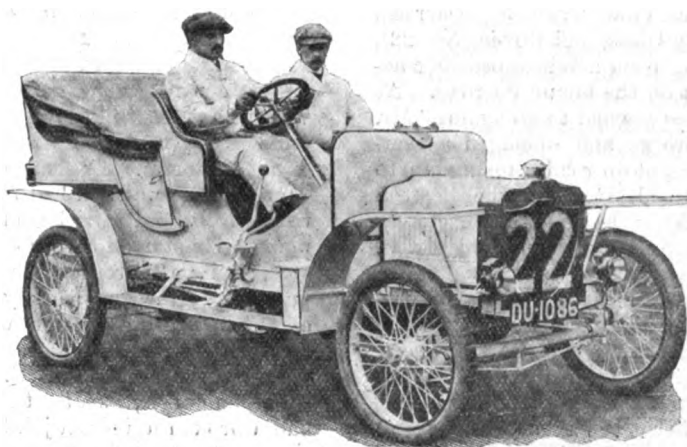
THE Rover car on which Mr. Courtis won the Tourist Trophy, and the "Matchless" motor-cycle on which Mr. C. R. Collier won the Auto Cycle Tourist Trophy, were both fitted with the Bowden system of control.

THE Secretary of State for the Home Department has made arrangements with the German Consul-General in regard to formalities to be observed by British motorists who intend to use their cars in Germany. The only thing now required is that every motorist should carry a copy of the entry of registration of the car in the register kept by the local authorities, and also of the driver's licence. Each of these documents must be authenticated by the Home Office and also at a German Consulate. As far as the Home Office is concerned, this will be done free of charge. The fulfilment of these formalities does not, however, exempt motorists from any charge imposed under the German Customs or motor tax laws.

The Tourist Trophy Race.

DESPITE the efforts of the Royal Automobile Club, annually renewed and annually less inciting to the motor industry, the Tourist Trophy race has not shown itself of vital importance or even possessed of the elements of permanence. Compared with 1905 the entries, starters, and finishers have all decreased, and the attempt to infuse interest into the event by running a "bigger brother" concurrently with the Tourist Trophy race made for confusion rather than excitement. The decadence of the event, upon which one of our correspondents had a very suggestive article last week, is brought out with greater lucidity by the following figures than any mere words can convey.

	Starters.	Finished.	Winner.	Speed.
1905	42	18	18-h.p. Arrol-Johnston Mr. G. S. Napier	33.9 m.p.h.
1906	29	9	20-h.p. Rolls-Royce Hon. C. S. Rolls	39.5 m.p.h.
1907	22	2	20-h.p. Rover Mr. E. Courtis	28.3 m.p.h.



Mr. E. Courtis at the wheel of the Rover Car on which he won the Tourist Trophy Race.

were to be wider and the load increased to 1,400 lbs. But these were all of minor degree when compared with the change in the weather. Water all around is what is expected on an island; but there is no general desire that it should cover the land as well. Yet that is what the rain did on Thursday last week.

At the start it was noted that many of the cars were provided with non-skids, a wise precaution, the value which was quickly apparent, as other vehicles side-slipped along the course at intervals.

The first car despatched by Messrs. Ebbelwhite and Glazebrook was the No. 2 Darraq,

driven by Mr. A. Lee Guinness, and then the others. Within an hour we got news of the contestants, Mr. J. Reid, who drove in place of Mr. T. C. Pullinger, being second at Ramsey, although he had started eleventh. The best running, however, was made by Mr. L. Coatslen, who ultimately made the fastest round of the day, reaching a speed of 37½ miles per hour. Unfortunately for him a leaky petrol tank was an early



The Tourist Trophy Race.—The Scene at the Starting Point.

Even the weather clerk added to the mystification of competitors, and the good weather of 1905 and 1906 deserted the course. Many alterations had been made with regard to the race, petrol of a higher specific gravity was allowed, two more circuits than last year had to be travelled, the tracks of cars

signal of distress. All the starters managed to complete the lap, the fastest in 1 hr. 4 min. 39 sec., and the slowest in 1 hr. 55 min. 41 sec. At the end of the circuit, Mr. J. E. Hutton on his Berliet abandoned the attempt, owing to the delay occasioned by repairs, consequent on losing an oil plug

out of the differential casing. The undershield had been previously removed and the mud thrown up from the road caused the change-speed control to jam.

In the second round the spectators in the Club enclosure had a little excitement when the Vinot (No. 3), Darracq, Ariel-Simplex (No. 12), in the Heavy Class, and Rover (No. 22), came along in racing style, all having been handicapped, in common with the other cars, by the mist on the mountain road. At the beginning of the lap circumstances seemed to go against Mr. Coatalen, who skidded at Quarter Bridge and damaged a rear-spring, which finally broke on the mountain road, causing him to relinquish the race altogether. Mr. J. Reid on the Beeston Humber again showed up well, taking leading place, closely followed by Mr. J. S. Napier on the Arrol-Johnston, and Mr. O. Cupper on the Metallurgique.

Despite several incidents which were almost of an exciting character, there was only one absentee in the official record of the second round, that was the 18-h.p. Star driven by Mr. S. Prew. On nearing Quarter Bridge, when beginning the lap, the wheels of his car failed to keep to the ground and the vehicle charged the parapet of the bridge with such force that the axle was bent and the car totally unable to continue in the running. At first it

times of some competitors indicated troublous journeys. Mr. Napier lost an hour owing to a choked petrol pipe. The Beeston-Humber was again credited with the fastest run, Mr. Tuck on the Coventry-Humber being second.

Four cars fell out in the fifth round, viz., the Berliet driven by M. Porporato, 24-h.p. Vinot and the 16-20-h.p. Coventry Humber. The former had been much delayed by the change-speed control mechanism becoming jammed. The Humber, which had steadily improved its position on each round, damaged a wheel and was delayed by tyre troubles; and the Vinot unfortunately ran out of petrol. In this round the Metallurgique, which had run very consistently, came bounding to the front and Mr. E. Courtis on his Rover got into the fourth place. He started eighth on the first round.

Excitement rose above the rain as the sixth round was in progress. News came early that Mr. Cupper had been stopped on the Metallurgique for want of petrol, the Clement's supply gave out at Peel, Mr. A. L. Guinness was stranded at Hillberry corner, Mr. J. S. Napier's Arrol-Johnston suffered the same fate, while that driven by Mr. E. J. Roberts had a broken universal joint, necessitating the abandonment of the effort. The Thornycroft was stopped by a broken coil. We

TOURIST TROPHY CARS.

Car number.	Car.	Driver.	Stated h.p.	Time of each Lap.																	
				1st Circuit.			2nd Circuit.			3rd Circuit.			4th Circuit.			5th Circuit.			6th Circuit.		
				h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.
2	Darracq	A. Lee Guinness	18	1	20	22	1	20	30	1	23	20	1	25	50	1	24	54	—	—	—
3	Darracq	K. Lee Guinness	18	1	27	34	1	24	52	—	—	—	—	—	—	—	—	—	—	—	
4	Berliet	B. M. Porporato	22	1	25	35	2	47	27	1	27	3	1	30	52	1	48	52	—	—	—
5	Berliet	J. E. Hutton ...	22	2	27	9	2	27	5	—	—	—	—	—	—	—	—	—	—	—	
7	Arrol-Johnston ...	E. J. Roberts ...	25	1	18	7	1	13	8	1	13	5	2	14	19	1	14	44	—	—	—
8	Arrol-Johnston ...	J. S. Napier ...	25	1	40	29	1	19	15	1	18	47	1	19	18	1	19	31	—	—	—
9	Métallurgique ...	O. Cüpper ...	24-23	1	19	5	1	14	55	1	20	39	1	23	8	1	33	4	—	—	—
10	Thornycroft ...	T. Thornycroft ...	14	1	40	54	1	21	46	1	23	3	1	23	35	1	40	1	—	—	—
11	Scout	J. P. Dean ...	17-20	1	55	41	1	52	40	2	59	14	—	—	—	—	—	—	—	—	—
12	Coventry-Humber ...	W. G. Tuck ...	16-20	1	20	8	1	17	29	1	19	23	1	20	25	—	—	—	—	—	—
13	Beeston-Humber...	J. Reid	16-20	1	13	52	1	14	29	1	16	22	1	15	56	1	54	40	1	39	57
14	Star... ..	H. Goodwin ...	18	1	26	18	1	26	57	1	37	2	1	55	16	1	46	52	—	—	—
15	Star... ..	G. Prew	18	1	25	36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16	West-Aster	R. H. Collier ...	16-20	1	26	11	1	26	24	—	—	—	—	—	—	—	—	—	—	—	—
19	Vulcan	T. Kimmner ...	20	1	32	15	1	32	39	1	33	6	1	37	6	1	37	28	—	—	—
20	Clément	G. Braud	18	1	30	21	1	28	16	1	32	39	1	35	45	1	33	29	—	—	—
21	Gladiator	M. Ross Browne	18	1	31	1	1	32	5	1	34	13	1	38	2	1	42	33	—	—	—
22	Rover	E. Courtis ...	20	1	22	25	1	21	46	1	20	58	1	23	0	1	27	25	1	27	50
23	West-Aster	P. Lamb	16-20	1	27	46	3	12	28	3	5	34	—	—	—	—	—	—	—	—	—
24	Hillman-Coatalen	L. Coatalen ...	20	1	4	39	1	23	56	—	—	—	—	—	—	—	—	—	—	—	—
25	Rover	E. R. Folker ...	20	1	50	21	1	26	4	1	36	36	1	39	44	1	39	53	—	—	—
28	Vinot and Deguin- gand	N. Littlejohn ...	24	1	16	53	1	25	9	1	18	6	1	18	43	—	—	—	—	—	—

was reported that the mechanic was hurt, but this proved to be an exaggerated statement. The second round was more evenly contested than the first, there being only a difference of less than 40 minutes between the 16-20-h.p. Beeston Humber, which obtained second place, and the 17-20-h.p. Scout of Mr. Percy Scout.

The third round began to tell on the competitors and weeded them down to 15. After doing very well in the first laps Mr. K. Lee Guinness had the misfortune to break a wheel in his differential gear near Ramsey. Mr. R. H. Collier's West Aster overturned in the mist on Snaefell and two wire wheels were fractured after two rounds of consistent timing, and Mr. P. Lamb slid down the mountain side owing to a skid and was in trouble. Mr. L. Coatalen was the other starter who was missing at the end of the third round. As already mentioned, he had had to contend with a leak in his petrol tank, and in the second round had skidded into a bank. Damage repaired after a quarter of an hour's delay, he went forward with a rush and was going gamely when a broken spring compelled his retreat in the third circuit.

The fourth round was maintained by all who had gone safely through the third, and none failed, although the slow

were officially not fit that the Vulcan, Gladiator, Star (No. 14) and Rover (No. 25), had been stopped on the fifth round, and then came the message that the Rover was in sight, and, 8 hrs. 23 min. 27 sec. from the start, Mr. Courtis was acclaimed the winner, Mr. J. Reid following on the Beeston Humber, the time for which being 8 hrs. 48 min. 17 1-5 sec.

HEAVY TOURING CAR RACE.

SHORTLY after the last of the Tourist Trophy cars had been despatched the first of the Heavy contingent went on its way, and it soon became difficult to follow the fortunes of the separate events. Last week we gave full particulars of the cars that were regarded as probable starters, and these were all at the starting line, being despatched in the order given. Below we give the table of times, showing the progress of the event lap by lap, and the way in which the various cars ran through the four laps was really remarkable. There were few incidents in the event. The first was provided by Mr. E. H. Arnott on the Arrol-Johnston, whose front axle was found to be bent near Peel on the first round, and no time was recorded. The two Ariel-Simplex cars ran well together, that driven by Mr. C. Sangster making the quickest.

time. The second lap was the fastest of the day in this competition, and the car driven by Mr. A. E. Harrison proved most speedy, followed by the Berliet and Mr. G. P. Mills, on the 30-h.p. Humber, who, starting last, got into third place on the second circuit. In the next round Mr. Mills got into the second position, with Mr. Sangster first, the latter retaining his lead in the fourth lap, where the other Ariel-Simplex followed him closely. Unhappily, however, for the success of the Ariels, one ran out of petrol before reaching the mountain on the final lap and Mr. Harrison was also brought low from the same cause. Mr. L. Squire ran carefully every round, having regard to his petrol consumption, but was debarred from going on the fifth owing to the expiry of the time limit. Mr. C. H. Cooper on the Beeston-Humber, Mr. W. Watson on the Berliet, and Mr. H. Niblett on the Thornycroft, all failed on account of their petrol supply being exhausted, their times being given in the following table:—

HEAVY TOURING CARS.

The following table sets forth the cumulative running times

and Mr. G. Fenton on the Gladiator being second in 7 hr. 31 min. 35 sec.

As in the Tourist Trophy event both the cars that finished were fitted with Dunlop tyres, that thus secured a notable victory.

THE "GRAPHIC" TROPHY.

This was presented by the proprietors of the "Graphic" and "Daily Graphic" for international contests of tourist cars carrying four passengers (including the driver). It will become the property of anyone winning it three years in succession, but until so won it remains in the custody of the R.A.C. The trophy was won for the first time at Castlewella, Ireland, in July, 1903, by Messrs. Humber, Limited, and for the second time in the Isle of Man, in September, 1906, by Mr. C. A. Glentworth with a 50-h.p. Napier. The race this year started on Friday, the 31st ult., from the foot of Slein Lewaigne Hill, near Ramsey. The length of the hill as from Balline Bridge (electric railway crossing) to the "Rest and be Thankful" public-house is about 2,550 yards, and the gradient between these places is 424 ft. The



The Tourist Trophy Race.—Mr. E. Courtis finishing the Contest on the winning Rover Car.

for four circuits. Mr. G. P. Mills on the 30-h.p. Beeston-Humber won the race, his total time being 7 hr. 11 min., an average speed of 28.1 miles per hour. The 25-h.p. Gladiator driven by Mr. G. Fenton was the only other car finishing the fifth round:—

No.	Car.	1st Lap.	2nd Lap.	3rd Lap.	4th Lap.
		h. m. s.	h. m. s.	h. m. s.	h. m. s.
1	25-30-h.p. Straker-Squire	1 49 19½	3 35 33	5 24 45½	7 23 19
2	40-h.p. Berliet ...	1 22 14½	2 44 11½	4 10 34	5 51 6½
4	30-h.p. Thornycroft ...	1 47 0½	3 28 2½	5 4 44½	6 44 39½
5	25-h.p. Gladiator ...	1 25 39½	3 2 34	4 34 38½	6 4 45
6	30-h.p. Ariel-Simplex ...	1 13 54	2 49 37½	4 1 37½	5 15 31
8	40-h.p. Arrol-Johnston ...	—	—	—	—
10	20-30-h.p. Beeston Humber ...	1 20 5½	2 40 52	4 12 16	—
12	30-h.p. Ariel-Simplex ...	1 14 17½	2 29 44½	4 25 28½	5 42 15
14	30-h.p. Beeston Humber	1 29 32½	2 54 11	4 18 48	5 45 6½

In the fifth round only the Beeston-Humber and the Gladiator remained, the former driven by the old racing cyclist,

steepest part occurs half-a-mile before the public-house is reached, and is 1 in 12.

There were fourteen entries, and at the start Mr. S. F. Edge's 45-h.p. Napier was disqualified. This car was made as light as possible by taking away as much superfluous metal as could be done without, whilst the dashboard was little more than a metal plate. The chassis was built on the girder principle. The car, after examination by the Committee of the Royal Automobile Club, was disqualified, and although the driver lodged an appeal it could not be considered in time to allow him to compete in the race. Another non-starter was Mr. G. S. Barwick's 35-h.p. Daimler, which met with an accident a few days previously, and on Friday morning last only seven cars were present at the start, the result of the race being as follows:—

- 1, 60-h.p. Berliet, Mr. J. E. Hutton, 3 min. 40 2-5 sec.
- 2, 40-h.p. Berliet, Mr. W. Watson, 3 min. 45 3-5 sec.

3, 35-h.p. Daimler, Mr. T. Henshaw, 3 min. 54 3-5 sec.
40-h.p. Junior, Captain W. E. D. Owen, 4 min. 10 sec.; 30-h.p. Ariel-Simplex, Mr. C. Sangster, 4 min. 13 2-5 sec.; 40-h.p. Berliet, M. Porporato, 4 min. 31 4-5 sec.; 20-h.p. Hillman-Coatalen, Mr. L. Coatalen, 4 min. 37 4-5 sec.

The 1st, 2nd, 3rd, 4th, and 6th of the cars in the above list were fitted with Continental tyres, which, altogether, gave a very satisfactory account of themselves in the Island last week. In the Tourist Trophy and in the Heavy Touring Car race Continental tyres established a new record for durability, because none of the cars which were fitted with this make were delayed through tyre troubles.

It is worthy of note that both the Rover cars in the Tourist Trophy race were the same vehicles that were unfortunately shut out from the enclosure last year.

Among interesting points with regard to the cars in the Tourist Trophy race we may mention that the Humbers that won and came second in the H. T. and T. T. race respectively were fitted with the Eisemann magneto, supplied by the United Motor Industries, Ltd.

The Hillman-Coatalen car which made the fastest round in the Tourist Trophy race was fitted with the Castle coil and L.M. sparking plugs.



The Main Assembling Shop at the Perfect Speed Indicator Factory, Watford.

At the end of the Tourist Trophy race the winning Rover had 32 ozs. of petrol and the Beeston-Humber 2½ ozs. In the Heavy Car race the winning Beeston-Humber had 142 ozs. left, and the Gladiator 232 ozs.

THE inquiry into the proposed prohibition of motor-cars on the tow-path from Kingston Bridge to Hampton Road commenced on Wednesday.

UNDER the title "The Care of the Car," Argylls London, Ltd., have just issued a new catalogue, which is amongst the most complete publications of the kind we have so far received. The work opens with a very complete description of the extensive works of the Argyll Company at Alexandria, N.B., this being followed by an equally interesting account of the very complete depot of the London concern in Newman Street, W. Then follows an interesting article on "The Argyll Car: How it is Constructed, Maintained, and Driven," by Mr. Eustace H. Watson, this giving full particulars of the cars as well as very clear illustrations of the more important details. Then follow the specifications and prices of the various Argyll models, with illustrations of the different forms of bodies with which they can be fitted, and a series of testimonials from satisfied users. Altogether the book is one worthy of the Argyll concern, and is one which will be found of interest by all motorists.

A VISIT TO THE "PERFECT" SPEED INDICATOR FACTORY.

NOW that the silent testimony of speed indicators is frequently accepted by magistrates in preference to the uncorroborated evidence of police constables in furious driving cases, the question of the accuracy of these useful instruments is one of paramount importance. With the view of demonstrating the care and attention given to this point in the manufacture of the "Perfect" speed indicators, Messrs. S. Smith and Sons, Ltd., last week invited a number of Press representatives to inspect their factory at Watford. The visit was preceded by an excellent lunch at the Trocadero, after which a fleet of cars, comprising a Daimler, two Florentias, and a number of Renault cabs, conveyed the party by road to the works, which we found to be exceedingly compact and well-arranged; moreover they are pleasantly situated, and, what is of great value to the workers, are well lighted.

Accustomed as we are to the tools employed in motor-car factories, the small and delicate tools necessary for the manufacture of the speed indicators came upon us somewhat as a surprise, and, like many others of the visitors, we spent considerable time in watching the various work in progress in the small parts shop—particularly the making of small worms, return springs, counting wheels, the alternate teeth of which are partly cut away, and small screws, these being threaded and the slot cut in the head at the same time. Other departments which are all well equipped with suitable plant include the automatic machine shop, the pattern making shop, the main assembling room and the examining and calibrating shop. Of interest in the last-named section was the special machine on which the indicators are tested and calibrated. This consists of a large electrically-driven disc, against which a small friction wheel is set at right angles in such a way that its position on the face of the disc and consequently its speed can be varied as desired. To the spindle of the wheel is attached on either side a flexible shaft; one end drives a standardised indicator, while the other operates the instrument under test, the dials being accurately marked off to suit each particular apparatus. The works, which have already been twice extended, being now three times their original size, give employment to over 100 persons, and are capable of turning out about 150 instruments per week—speed indicators, milometers, combined speed indicators, motor-watch and communicators, and the "Perfect" taximeter. The latter is one of Messrs. Smith's latest productions, and comprises a number of improvements, among which are a blank space on the dial until the cab is engaged, and a record of fares for the proprietor, which is accurately kept at the back of the instrument, and which includes the extras. The drive from the road wheel is also by a new method, adding greatly to the durability of the connection. We may add that every part of the various instruments is manufactured in the factory; cases are planed and polished, dials are marked off and painted, all the nickelling is done on the premises; indeed, the whole apparatus from start to finish is completed within the works.

Altogether the visitors had ample evidence afforded them that Messrs. Smith, whose business was established some seventy-five years ago, are leaving no stone unturned to ensure for their indicators and other motor-car accessories an equally world-wide reputation as that obtained by their high-class watches, and we were pleased to learn that so great is the demand both at home and abroad that a factory has recently been established in the United States to supply the American market.

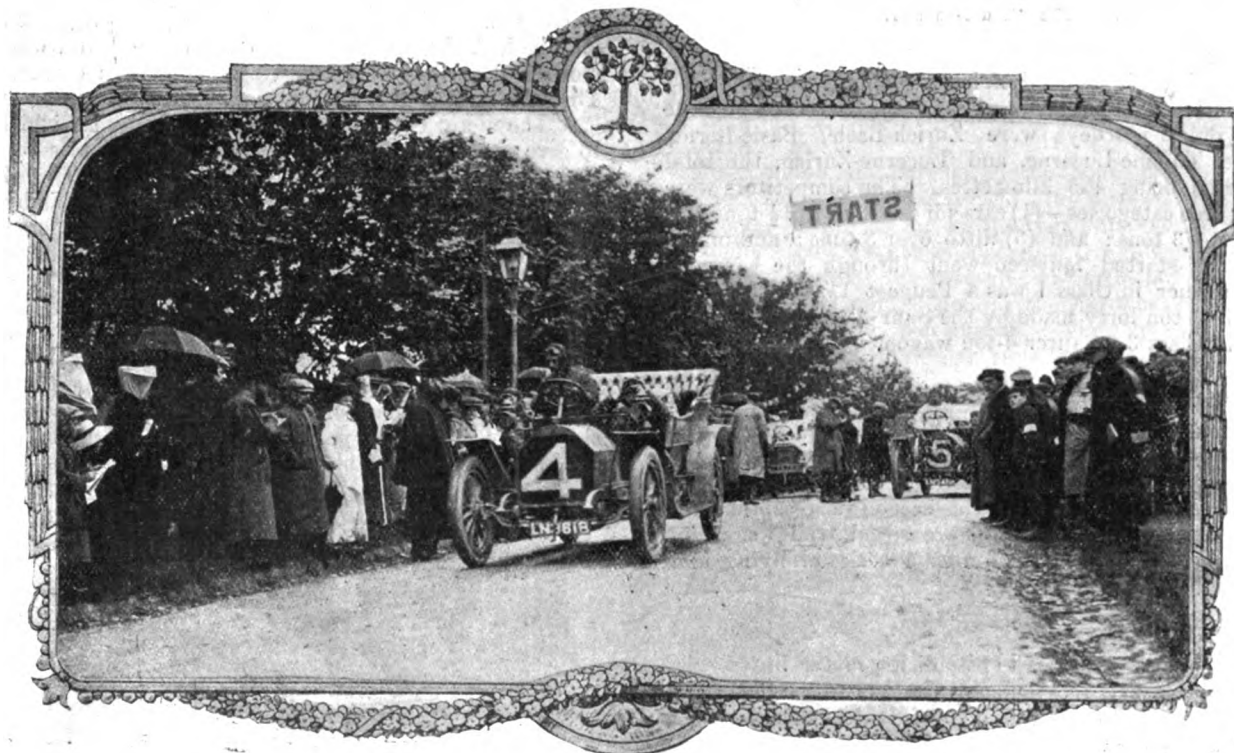
FROM Messrs. Montague Hawnt and Co., of Clerkenwell Road, London, E.C., we have received a copy of their latest catalogue of motor-car accessories. This is a very complete production, extending to close upon 120 pages, and gives particulars, prices, and illustrations of everything that a motorist is likely to require in connection with his car. We might add that Messrs. Hawnt are now keeping a stock of all the leading sizes of Stepney spare wheels, for which they report an increasing demand.

CONTINENTAL NOTES.

A French View of the Tourist Trophy Race.

The success for the third time of a British-built car in the International Tourist Trophy race is attracting rather more than passing notice in France. Writing in the "Auto," M. Faroux says:—"We (France) must admit ourselves beaten, and this in a test the regulations of which are admitted by universal consent to be the best so far devised. We cannot even urge that we were badly represented, for the cars which defended French interests were among the best known. Why was France beaten—by excess of confidence and by treating the matter too lightly. English makers, who have made great progress during the past year, recognised that the conditions required careful study, and that equal care was required in building cars to comply with the same, while we have been content to compete with ordinary stock cars. The English market is such an important one for the French industry that we have no right to compromise our supremacy, especially as it is no secret that hitherto we have profited by the relatively small production of English makers, a

peting cars in Dresden. No less than 189 entries have been received, and while the majority of these are German, the international interest taken in the competition is shown by the fact that several Belgian, Swiss, French, Italian and British cars are competing. This country's representatives included Mr. Robertson Grant on a new four-cylinder Argyll (120 mm. bore by 140 mm. stroke), Miss Dorothy Levitt and Mr. Cecil Edge on six-cylinder Napiers, Mr. Lionel de Rothschild and Mr. V. Ker-Seymer on six-cylinder Siddeleys, and Mr. F. Loeser on a six-cylinder Belsize, but only the first three are actually competing. The majority of the cars entered put in an appearance, and were subjected to close inspection by the officials to see that they complied with the regulations. A large number were disqualified owing mainly to unsatisfactory body work, with the result that the number of actual starters has been reduced to 134 vehicles. The trial comprises six daily runs, a speed trial in the Forstenrieder Park, near Munich, and a hill climb on the Kesselberg. The first day's journey, on Wednesday, was from Dresden to Eisenach, on Thursday from Eisenach to Mannheim and on Friday from Mannheim to Lindau. Fetes and entertain



The Tourist Trophy Race.—M. Porporato starting on the Berliet.

consideration which will next year have lost much of its importance."

The A.C.F. Grand Prix Race.

The start for the Grand Prix race has been fixed for 6 a.m., competitors leaving at minute intervals. In the case of the cars entered for the Coupe de la Commission Sportive event, these will be started at 9 a.m. on the same day at five minute intervals. Altogether about 4,000 foot and 400 mounted soldiers will be engaged in protecting the course on the day of the race, in addition to 700 policemen, 400 of whom will be mounted. The soldiers will be located at intervals of 100 metres (328 yards), while first-aid depots will be established at d'Ancourt, Envermeu, Douvrend, Wanchy, Capval, Londinières, Fresnoy, Folny, Mesnil-Réaume, Eu, Criel, Saint-Martin-en-Campagne, and at the fork near Dieppe.

The Herkomer Touring Trophy Competition.

The annual competition for the Herkomer Touring Trophy, organised by the German Imperial and Bavarian Automobile Clubs, commenced on Tuesday with the reception of the com-

ments for the visitors are being organised at most of the places at which the competitors rest over night.

The Provence Sportive Hill Climb.

A hill-climbing competition organised by the "Provence Sportive" of Marseilles, was held on Sunday last on a 500 metre course on the Platrières hill. The competitors were divided into fifteen classes, the best time of the day being made by M. Cottin on a Cottin-Desgouttes car, who climbed the hill in 44 3-5th sec.

Apparatus to prevent Cars from being Stolen.

The French Association Générale Automobile is organising a competition of apparatus which will prevent motor-cars from being stolen or used after leaving the hands of the owner. The contest is of a practical and useful character, for the stealing of cars when left temporarily in the street unattended is nowadays far from being uncommon, and most automobilists have a strong objection to allowing their cars to be taken surreptitiously out of garages by their mechanics or others, who run risks for which the owner of the car is himself responsible. The Association Automobile has therefore decided upon carrying out a trial

of devices which can be adapted to a car to prevent its being driven unknown to the owner. The awards will be based upon the ease with which the device can be fixed, its price, weight, and dimensions, its invisibility, and quickness of action. No charge is made to enter the competition, but entries should be sent to the Secretariat, Association Générale Automobile, 8, Place de la Concorde, Paris, before the 31st July.



Fig. 1.—The "Auto-Carrier."

A Swiss Heavy Vehicle Trial.

A five days' reliability trial of heavy vehicles has just been held in Switzerland under the auspices of the Swiss Automobile Club. The daily journeys were Zurich-Basle, Basle-Berne, Berne-Thoune, Thoune-Lucerne, and Lucerne-Zurich, the total distance covered being 423 kilometres. The competitors were divided into three categories—(1) cars for loads up to $1\frac{1}{2}$ tons; (2) ditto from $1\frac{1}{2}$ to 3 tons; and (3) ditto over 3 tons; and of the seventeen which started fourteen went through the complete trial. The winner in Class 1 was a Peugeot $1\frac{1}{2}$ ton lorry; in Class 2, a Safir 3-ton lorry made by the Safir Automobilfabrik of Zurich, and in Class 3 a Saurer 4-ton wagon.

The Ostend Automobile Meeting.

It is announced that the annual automobile meeting at Ostend is this year to be held from July 13th to 16th. On the first day there will be an exhibition of the competing cars and a carriage body competition; on the second a reception and banquet; on the third a five-kilometre speed trial for racing and touring vehicles; and on the fourth a series of flying kilometre and standing mile events.

Public Services in Germany.

Arrangements are in hand to establish a motor-bus service between Weissensee and Lichtenberg, near Berlin. A company has also been formed to run a number of motor-buses between Geestemünde and Stotel.

Miscellaneous Items.

The late Professor Poirier, who was one of France's leading physicians, has bequeathed his car to his chauffeur in remembrance of the latter's faithful services.—The first motor-car exhibition in St. Petersburg was opened on Saturday last, and will continue until the 17th inst.—A motor-omnibus service has just been started between Aix-en-Provence and Greoulx-les-Bains.—With a view to abating the dust nuisance, the roadway of the Avenue du Bois de Boulogne, Paris, is to be given a tar coating.—The Geneva section of the Swiss Automobile Club is organising a hill-climbing competition from Gex to the top of the Faucille mountain for the 23rd inst. The distance is $10\frac{1}{2}$ kilometres, and the average gradient one in fourteen.—The Automobile Club of Barcelona, Spain, is organising a hill-climbing competition for the 15th inst., to be held on the San Cugat del Valles road.—It is announced from Lisbon that a co-operative society is being formed to introduce motor-buses into the Portuguese capital.—The Automobile Club Bourguignon held a hill-climbing competition over a 3.8 kilometre course on the Val-Suzon hill, near Dijon, on Sunday last. The best time of the day was made by M. Mottard on a De la Buire car, 3 min. 5 sec.

THE "AUTO-CARRIER."

WE illustrate herewith a three-wheel delivery van, which, in view of its extreme handiness and relatively low cost, should meet the requirements of a very large number of tradespeople. While the general design is that of a tri-car, the construction is on somewhat more substantial lines. The main frame consists of ash members, reinforced by strong side panels of birchwood. The engine is carried by a small tubular frame supported in clips from the ash side-members, which it serves to keep square and rigid. The motive power is supplied by a 5-h.p. single-cylinder engine, fitted with two large external flywheels, which give great flexibility and steady running at low speeds. The flywheels are cast with the spokes in the form of fan blades, for effectually cooling the motor. Both valves are mechanically operated, and the lubrication of the engine is automatic from a reservoir in the crank-chamber, which holds sufficient oil for a day's work. Ignition is by coil and accumulators, although a magneto can be fitted if desired. An interesting feature of the ignition and throttle levers is that they are automatically adjusted to the proper position when the starting handle is engaged. They are also so arranged that they may be locked together so as to form one lever, when the one movement performs the following functions in correct sequence: Throttle, ignition adjustment, exhaust valve opener and switch.

The motor is located under the driver's seat, which is hinged to give access to the various parts. The drive is by a Renold chain direct from the engine to a multiple-disc clutch and two-speed gear, all carried on the back axle. The steering is by a tiller at the side, and double brakes are provided, these having a neat and quick form of hand adjustment. The machine, which has a wheel base of 5 ft. and an overall length of 8 ft., weighs only 3 cwt., yet is able to transport a load of 5 cwt. We have had an opportunity of inspecting the machine, which is also made as an ordinary tri-car with passenger body interchangeable with trade carrier, in operation, and were somewhat surprised at the slow speed at which it could run on its top gear, this being due to the heavy flywheels provided. Another advantage of the

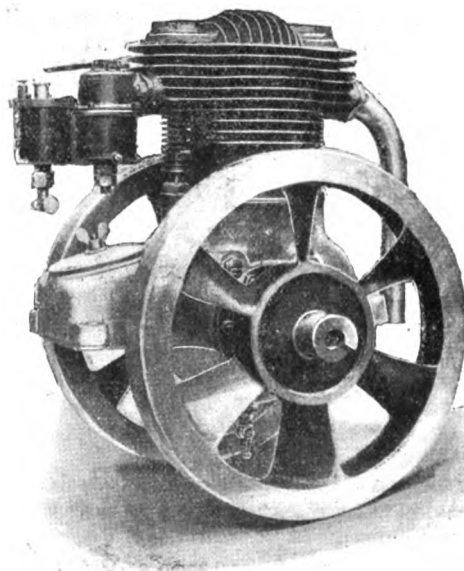


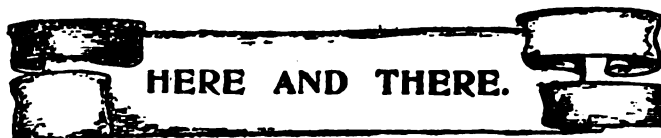
Fig. 2.—The Engine of the "Auto-Carrier."

machine, which has been put on the market by the Autocars and Accessories, Ltd., of West Norwood, S.E., is its ability to turn in a very small circle.

A BRIGHT show-card illustrating their motor hoods and wind screens has been issued by Messrs. Lowe, Bevan and Co., of Clarence Works, Birmingham. The "Pioneer" is one of their leading types of wind screens, its method of attachment having many points of excellence.

THE annual subscription to the *M.C.J.* for Canada is now 8s. 8d.—a matter of considerable interest in view of its growing circulation in the Dominion.

SIR WM. EVANS GORDON has just acquired a 12-h.p. Star car from the Star Motor Agency. The vehicle is being fitted with a detachable side-entrance body so that it can be used when desired as a two-seater with luggage space at the rear.



Mr. P. Lewis on the 30-40-h.p. Ariel Simplex Car he drove in the Irish Reliability Trials, and which has also been entered for the Scottish Trials.

MR. R. BLEWITT is now the proprietor of the Beetle and Wedge Hotel, Moulshford, Berks, which has facilities for repairs to motor-boats as well as a garage for motor-cars.

THREE chauffeurs have been remanded at the Marylebone Police Court. They were discovered by the police in a Paddington garage, having got a large car from its place, preparatory to having a midnight spin, which was prevented by the action of the police.

MOTORISTS at St. Anne's, near Blackpool, on Saturday afternoon, found that a large quantity of wire nails had been carefully arranged on the roadway on the Headroomgate Road. Enquiries discovered four boyish delinquents, and the authorities are considering what steps should be taken to prevent a recurrence of such a dangerous practice.

AT the annual meeting of the Salmon and Trout Association last week a committee was appointed to communicate with the R.A.C. with reference to the effect following the tar treatment of roads. It was alleged that the surface water on the highways thus treated has had the effect of killing the fish in many rivers in which anglers are interested.

SCARCELY a week passes without bringing with it a warning as to the dangers of glass shields. Last week a car collided with another, and one of the drivers was cut about the face with broken glass; this week comes the report of a horse rushing towards a car, smashing the glass shield and doing much injury to the people in the vicinity. To lessen the risks of the ordinary glass Messrs. Pilkington Bros., Ltd., of St. Helens, have adapted their patent polished wired glass to the purposes of motor-car screens. This gives strength, does not obtrude itself upon the vision, and provides a new measure of safety to the passengers. If fractured in an accident it cannot fall out in pieces, and altogether can be well commended. It is manufactured in any length and width. The wire is introduced in such a way as to practically become an integral part of the glass, giving strength and not losing in transparency. Hence its value in motor-car wind shields—an important use in view of the Employers' Liability Acts, as well as on the score of immunity from danger, being given by its use.

MESSRS. McDONALD AND SON had a successful auction of motor-cars at the Great Eastern Motor Mart, Annandale Street, Edinburgh, the other day.

IN the motor-cycle Tourist Trophy race in the Isle of Man the winning "Matchless" machine was fitted with a Gillett-Lehmann controller to the carburettor, which Mr. Collier found to be eminently satisfactory.

AT the Clerkenwell Sessions, George Stephenson, who, in 1905, was sentenced to imprisonment in connection with a bogus motor school, has just been ordered eighteen months' hard labour for having defrauded various persons in connection with a motor-car instruction syndicate in London.

MR. EDWARD WILLIAM WILLARD, of 32, Paradise Street, Birmingham, is well known in the motor trade, and his specialities in motor-body fittings, hood fittings, glass screens, &c., include some really good points. The "Forward" hood joint and extension is a well-made and excellently-finished device likely to be of service; while a large section of our readers will be interested in Slack's studs for non-skidding bands. These are being stocked by Mr. Willard, and can be fitted to any make of tyre, leather band, or garter. They are interchangeable, and motorists who have suffered inconvenience from the studs of their bands coming loose will appreciate these advantages.

THE London and Parisian Motor Company, Ltd., inform us that the week ending Friday, the 31st ult., was one of almost monotonous success as far as the reliability trial of the 40-h.p. six-cylinder Hotchkiss car is concerned. The vehicle arrived in Holyhead on Sunday, the 26th ult., having completed the Irish trials successfully, and on Monday the run was to Liverpool via Conway, Chester and Warrington. Tuesday and Wednesday were spent in making circular runs round the neighbourhood,



The Hotchkiss Six-Cylinder Car at Menai Bridge.

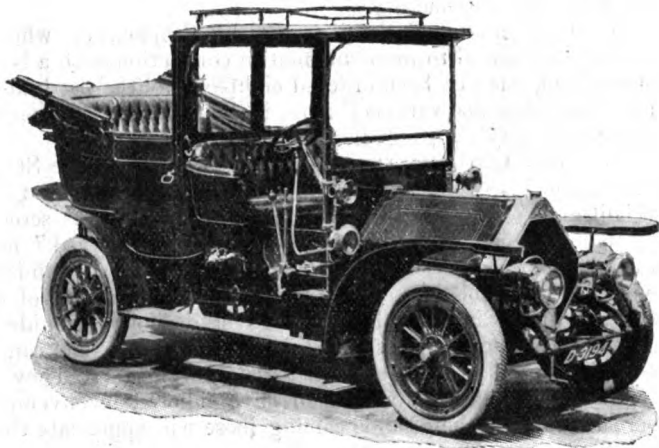
and on Thursday Liverpool was left for Manchester, running via Chester, Whitechurch and Stafford, a most disagreeable day, as the rain never ceased falling in torrents. The car, however, ran through without any involuntary stop. Friday was just as bad as regards weather, when the run was also chiefly in Cheshire. Saturday saw the car in the neighbourhood of Preston and Kendal, and on Monday a start was made for Wales, where the best part of the week has been spent, finishing up in London to-day (Saturday), prior to visiting the south coast. Up to the 1st inst. the car has covered 4,468 miles in England,

It is reported that the tollgate in the College Road, Dulwich, is to be abolished.

A NEW garage has been opened in the Nethergate, Dundee, by the Rossleigh Motor Company, Ltd.

THE Sheppey Motor Company have acquired the business of Messrs. G. E. Gibbs and Co., of Thomas Street, York.

MRS. BROWN-POTTER has recently acquired an 18-22-h.p. Horch car, which she is taking with her to South Africa.



The 35-h.p. Iris Car with landaulet body recently supplied by Iris Cars, Ltd., to Mr. W. Willis, of Brasted, Chart, Kent.

COMMENCING in July, General Booth, of the Salvation Army, will have a fourth motor-car tour for evangelistic purposes.

A RAFFLE for an Argyll motor-car, arranged by the Hon. Lois Buller, has produced £577 for the Brixham Cottage Hospital.

THE 20-h.p. Belsize car made the ascent of Hollywood Hill, in the Irish Reliability Trial, in 3½ min.—not the time originally reported.

MESSRS. PRIDEAUX AND SONS, of Barnstaple, are giving attention to the motor-car business, and had several vehicles on view at the Devon County Show recently held at Bideford.

THE arrangements at Pitlochry for the housing of the cars taking part in the Scottish Reliability Trials will be in the hands of Mr. W. Blues, motor agent, who has arranged for the erection of a large marquee, where they will be housed during the night of the 28th inst.

LAST week a cyclist lost his head and ran immediately in front of a Deasy car driven by Miss Hind, who, to avoid a collision, steered into a bank and luckily suffered very little beyond upsetting the steering gear. The Deasy Motor Company ask us to contradict a rumour that has got abroad that the steering gear was the cause of the accident.

MR. ALFRED BUTT, the managing director of the Palace Theatre, London, who is, by the way, a keen motorist, made elaborate preparations for his bioscope staff to photograph the races in the Isle of Man. Notwithstanding the miserable weather, some excellent results have been obtained.

THE Motor Repair and Supply Company have recently opened a garage and repair shop at 107, Bridge Road, Hammersmith. The premises, which are situated at the foot of the north end of Hammersmith Bridge, are well adapted for the purpose, and the plant which has been put in will enable all classes of repairs to be carried out. The equipment includes an accumulator charging plant and also a tyre vulcaniser, while a couple of inspection pits are available.

THE report that one of the West-Aster cars which ran into the bridge at Sulby, in the Isle of Man, was seriously damaged, was somewhat exaggerated, not in respect to the damage to the bridge, which was charged diagonally, and, unhappily, not in respect to the mechanic, who was seriously hurt, but the car itself suffered but little, and was soon on the road again. Fortunately the wheels (Rudge-Whitworth detachable wire wheels) stood up perfectly and saved the wholesale scrapping that a collision with a wall usually occasions.

A NEW garage for motor-cars has been opened in Cheshire Street, Market Drayton, by Messrs. Halloway Bros.

SEVERAL White steam cars are about to be sent off to India for the service of the Punjab Motor Transport Company.

THE Wilts County Council is applying for a regulation prohibiting the driving of motor-cars along Crab Lane, Mere.

THE stipendiary magistrate of Leeds, in a case heard the other day, stated that in law there was no right or wrong side of the road.

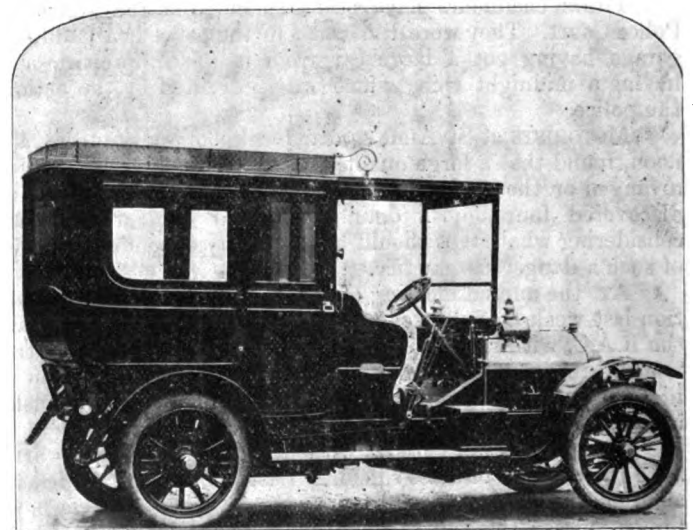
THE Motor Union Insurance Company, Ltd., have prepared special policies for amateur motor-cyclists, including insurance against third party claims.

ILLUSTRATIVE of the signs of the times, we may mention that at the Richmond Horse Show next week there will be an enclosure specially reserved for motor-cars.

THE members of the trade in Dublin are urging the Port and Docks Board to relax the present regulations relative to the shipment of motor spirit at the port of Dublin.

CONSEQUENT on the death of Mr. A. Govan his colleagues on the board of Argyll Motors, Ltd., have asked Mr. W. A. Smith, the chairman, to add to his present duties those of managing director, and he has agreed to act provisionally in that capacity. Mr. E. H. Watson, the chairman of Argylls London, Ltd., has accepted the vacant seat on the board; Mr. A. M. Thomson will continue as general manager; Mr. Allen Coats has been appointed assistant manager; Mr. R. McCormick has been appointed assistant secretary in order to aid Mr. Cruickshank in his largely augmented duties; Mr. McKay will continue as works manager. All these appointments have been made from the present staff, and reliance may be placed upon the continuity of the policy of the company.

AN ingenious vulcanising equipment for garage use has been introduced by Messrs. Harvey Frost and Co., Ltd., embodying the H. F. "Car" vulcaniser, which has been materially improved. This appliance, however, will also be sold separately as previously. The complete plant consists of two independently operated vulcanisers fitted to a light portable stand. By means



The 30-h.p. Siddleley Car recently delivered to the Countess of Bessborough.

The body, which is of the limousine type, built by Hooper, is fitted with a speaking tube, electric lights inside, luggage rack on top of body, and patent leather wings.

of this complete apparatus repairs to the inside of a tyre cover, as well as repairs to the outside, can be effectively carried out simultaneously when desired. Recent users of the "Car" vulcaniser can adapt it to the new apparatus without any difficulty. As we announced last week, Messrs. Harvey Frost and Co., Ltd., have taken premises at 27, Charing Cross Road, for the purpose of demonstrating the equipment, which, in its complete form, has undoubted advantages.

THE COST OF MOTORING.

MUCH has been said and written on the subject of what it actually costs to run a motor-car, but rarely has such conclusive evidence been given as that forwarded by Mr. A. N. Lee, of Cavendish Crescent, South, The Park, Nottingham, who has kept a complete and exact record of what it has cost him to run his Coventry-Humber from October 10th, 1905, to May 9th, 1907, a period of nineteen months. Mr. Lee accompanies his statement, which we reproduce herewith, with the following letter:—"It shows the cost per month since October 10th, 1905, to May 9th, 1907, viz., nineteen months, and also the total running expenses, including new tyres and anything else that I have had new. I can substantiate my statements by the production of receipts where necessary, which tally with my daily record of running. In the trials at Welbeck, for which I entered, I did the flying kilometre in 1 min. 5 1-5 sec., which will tell you my speed per hour. In the standing start mile I covered the distance in 2 min. 3 4-5 sec., which is about 28 miles an hour. These times pretty well prove that there is not much the matter with the car, which has done 8,000 miles. I have the same commutator and sparking plugs as were sold on the car when new. The trembler screw points I have had re-platinumed. The blades are the same as bought. I do not keep a chauffeur, and for the speed trials I did not get anyone to tune up the car, but simply ran it as I should have done had I been going out for an ordinary run. I am so pleased with

	Month to 31/10/05	Second Month	Third Month	Fourth Month	Fifth Month	Sixth Month	Seventh Month	Eighth Month	Ninth Month	Tenth Month	Eleventh Month	Twelfth Month	Thirteenth Month	Fourteenth Month	Fifteenth Month	Sixteenth Month	Seventeenth Month	Eighteenth Month	Nineteenth Month	TOTAL
MILEAGE	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	2,000
FUEL	10 galls. 1 5 0	10 galls. 1 4 0	10 galls. 1 4 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	10 galls. 1 5 0	100 galls. 15 0 0
OIL	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	10 0	100 0 0
REPAIRS	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	10 0 0
TYRES	—	5 0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5 0 0
SPARKING PLUGS	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
COMMUTATOR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SCREWS	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	21 10 0	210 0 0

the car that I shall not sell it, although I had thought I would get a higher powered engine. I may add that I am now on my second set of tyres only."

It will be seen that the total cost, including every possible item, for nineteen months, is £61 5s. 4d., which is at the rate of rather less than £40 per annum and just over 1 1/2d. per mile. These are the actual figures of a private user, and offer a most valuable evidence of the cost of running a car. The Coventry-Humber is, of course, well known as an inexpensive car to maintain, and this, as well as its low original cost and reliability, has been one of the secrets of its success. The record of petrol is shown as paid for, not as used. Up to the date of the record 386 gallons had been used, the remaining 3 gallons being in the tank, working out approximately at 19.5 miles to the gallon. On long continuous journeys the car will run 24 to 26 miles per gallon.

THE Irish Motor Directory for 1907 is just to hand from Mr. W. Tempest, of Dundalk, who has certainly succeeded in producing a very comprehensive list of owners of cars in the Emerald Isle. The directory is classified into owners of cars and also motor-cycles, and extends to 100 pages. Following these are 70 pages of information with regard to legislation, hotels in Ireland that cater for motorists, and also agents for petrol and repairers of vehicles. Mr. Tempest also sends a pamphlet on the Law and the Motorist, giving in a handy form some of the information which is included in the larger work, which contains names and addresses of more than 4,000 motorists in Ireland.

A SOUTH GERMAN RELIABILITY TRIAL FOR TOURING CARS.

THE Frankfort, Alsace Lorraine, Baden, Rhenish and Wurttemberg automobile clubs are organising a reliability trial for touring cars, which will extend from August 27th to September 1st next, and which will be open only for members of the clubs named. The competing vehicles will be divided into three classes:—(1) Cars with engines having a cylinder capacity of from 2 1/2 to 5 litres; (2) cars with engines having cylinder capacity of from 5 to 8 litres; and (3) cars with engines having cylinder capacity of from 8 to 11 litres. The competition comprises a tour of South Germany, a hill climb and a speed trial, the programme being as follows:—August 27th: Reception of cars at Frankfort-on-the-Main; August 28th: Frankfort-Stuttgart-Triberg; August 29th: Triberg-Basel-Mulhausen-Strasbourg; August 30th: Strasbourg-Hagenau-Baden-Baden-Karlsruhe-Mannheim; August 31st: Hill climb on Königsstuhl, near Heidelberg; September 1st: Speed trials on the level between Seckenheim and Mannheim. The cars must be fitted with touring bodies having four seats, bonnet, mudguards, &c., and be driven by petrol without admixture. At Frankfort both the radiator and the bonnet will be sealed, and at the end of each day's tour the driver, who must be an amateur, will have the right to remove, under surveillance, the seals, for the purpose of taking in petrol, oil and cooling water. Competitors are to do their own controlling, each receiving sixty seals for bonnet

and radiator, the penalty being ten points for every seal used up. At the same time secret flying controllers will keep a sharp lookout for any car which is travelling with the seals removed. The first prize is a work of art known as the Taunus Wanderpreis, worth £1,250, and must be won twice by the same competitor before becoming his own property. Besides this the winner will secure another prize of honour worth £500, and an additional sum of £2,500 lies at the disposal of the committee for prizes. Every competitor who goes through the whole trial will receive a silver cup. The chauffeurs, too, are not being overlooked, money prizes ranging from £15 to 30s. being offered in connection with the first fifteen cars.

WE have received from Mr. J. G. Moody, motor engineer, Harpenden, Herts, a sample tin of a new dressing for clutches which he has just placed on the market. The dressing, to which the name "Velvine" has been given, is guaranteed not to contain resin or any sticky substance, or anything injurious to the finest leather. It is the result of considerable experiments extending over two years, brought about by the numerous complaints of Mr. Moody's motor clients as to their clutch troubles. The maker informs us that it has been thoroughly tested by many motorists, and in no case has it failed to completely remove the trouble—that is, providing the clutch leather was not hopelessly burnt. We may add that arrangements have been made with Messrs. Montague Hawnt and Co., of Clerkenwell Road, E.C., to supply the preparation to motor-car agents.

CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

HAS THE TOURIST TROPHY BENEFITED THE INDUSTRY—A SUGGESTED SIX DAYS' RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with great interest the letter in the last issue of the *M.C.J.* with regard to the Tourist Trophy. I quite agree with your correspondent that the Tourist Trophy races are no test for a car, and as only the slowest paces were done, owing to the petrol consumption limit, by all the cars concerned, they were only subjected to ordinary touring conditions. I do not agree with your correspondent that it is necessary to race for six days in order to show which car is the best. I think if we had a race with a given cylinder capacity limit, without any petrol limit, and the fastest car to win, that the weak spots would very quickly be discovered. It is quite certain there is no test so severe on a motor-car as a speed race, as it means the frequent employment of brakes, and the quickest acceleration possible, the whole time, and this means a great strain on any car. I myself on my 24-28 h.p. Metallurgique in the Tourist Trophy race never even used my accelerator pedal, as I wished to cut petrol down as far as possible, and hardly used my brakes. As I

Car race, the suggestion he makes is worthy of serious consideration. At the same time I do not personally agree with his solution—that of an eight hours' race on six successive days. What I would suggest is the adoption of similar rules to those which have been agreed upon for the forthcoming Criterium de France. In this event, which is for touring cars of a minimum weight of 1,600 kilogrammes, including the passengers, but not spares, tyres, tools, &c., there is a fuel allowance of 20 litres per 100 kilometres, equal roughly to 14·3 miles per gallon. These are details which may be changed to suit either the Tourist Trophy or Heavy Touring Car trials; the point to which I wish to draw attention is that the Criterium consists of a four days' endurance trial, averaging 250 miles per day, and it is only the competitors who survive this who will be permitted to take part in the final event—a 250 mile speed trial—still with the fuel limit, on which the result of the contest will be decided. This seems to me an ideal competition, and one which should try the endurance qualities of motors to the utmost.—Yours truly,

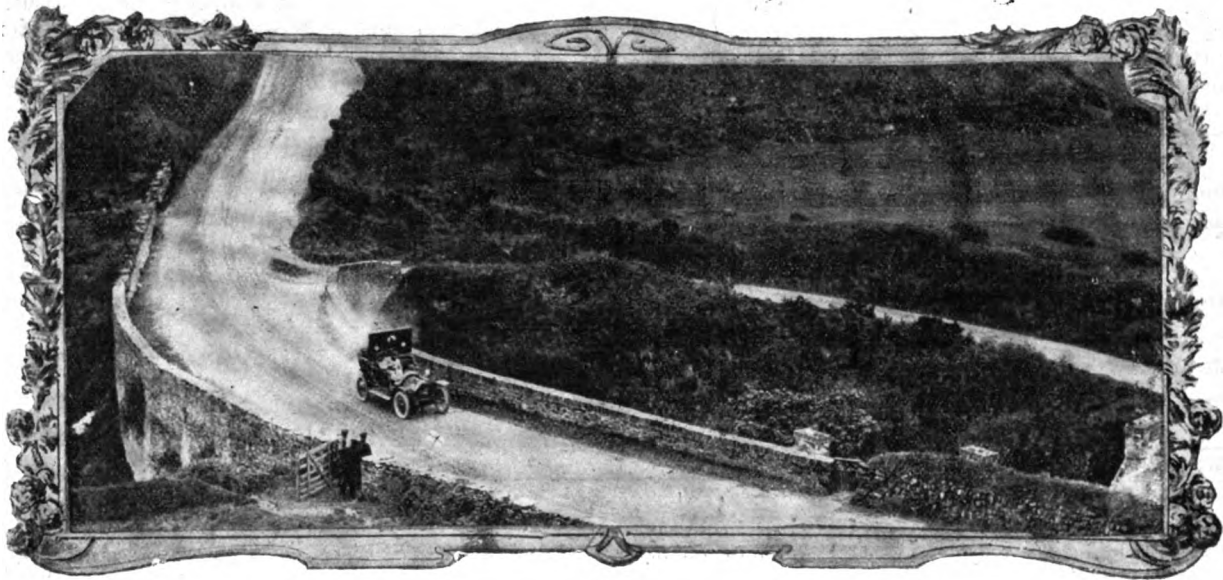
C. J. COOPE.

THE RACES AT BEXHILL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My committee have carefully read your criticism of the Bexhill meeting and agree with you that the trials on Monday were too protracted. After the experience Tuesday's events were run through with everybody's approval, in fact, many people said that the meeting was too short. We welcome the straightforward criticism from your paper.

On considering an "Unsuccessful Competitor's" letter my committee have different feelings. They consider that Mr. Jarrott's attack on the R.A.C. handicapping formula is most unsportsmanlike, as it must be well



The Heavy Touring Car Race.—Mr. G. P. Mills on the victorious Humber Car at Glenmoor.

used an absolutely standard car, and as this is fitted with only three speeds, I was put to a great disadvantage in comparison to other cars which had four speeds, and were mostly so high-g geared that it was said on all sides that most of the cars competing in the Tourist Trophy race and the Heavy Car race were not capable of climbing a hill of one in six, which we were supposed to take according to the regulations. The cars for some reason or another were not subjected to this test; in other words, the gearing was especially made for that particular circuit, and most of the cars competing in the Tourist Trophy races were certainly geared in such a way as would not recommend itself to the ordinary buyer.—Yours truly,

OSCAR CUPPER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter in the last issue of the *M.C.J.* on the subject of the suggested six days' race for the Tourist Trophy, this would no doubt be an interesting event if it could be arranged on proper lines, but at the present time it would be rather difficult, I think, to get the drivers to undertake anything of the kind, with the gruelling of Thursday last week so fresh in their memory.—Yours truly,

THE ROVER COMPANY, LTD.,
H. SMITH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very much interested in the letter from "Streatham" which appeared under this heading in the last issue of the *M.C.J.* In view of the decreasing entries which are being received for the Tourist Trophy race, and the apparent lack of interest in the Heavy Touring

known to Mr. Jarrott that Col. Holden has given a very large amount of time and energy to initiating a handicapping formula that shall be fair to all. This formula has now been tried three times, once at Frome's Hill, once at Nottingham, and once at Bexhill.

Mr. Worby Beaumont, who worked out the handicap on behalf of the R.A.C., did his work conscientiously and accurately, and Mr. Jarrott's criticism of a single-cylinder car having to give a start to a large four-cylinder car is strange, considering that the very car which he mentions, the little car in which he is interested, actually beat the four-cylinder under the handicap, and, as Mr. Jarrott knows, his little car did very well in the first and second rounds and probably would have done very well in the final but for it breaking down. My committee can only assume that Mr. Jarrott can never have read the R.A.C. handicapping formula, or he would understand that wind resistance and weight are quite as important factors as horse-power and number of cylinders.

If he knew so much about the way to handicap, why did he not ask his partner, Mr. Letts, who had accepted a position as an official of the meeting, to place before my committee Mr. Jarrott's knowledge on the subject. But if my committee may be allowed to say so, they think the R.A.C. quite a sufficiently strong body to control race meetings, that their rules are exceedingly adequate and complete, and that the handicapping formula, thanks to the honorary work of Col. Holden, is far in advance of anything that has been done previously. It may not yet be perfect, but why does not Mr. Jarrott give the R.A.C. the benefit of his handicapping knowledge, so that they may improve their formula? Criticism is exceedingly cheap.

Mr. Jarrott's statement that the Club intended that the starts should have been added to the actual running times is incorrect. The officials authorised by the Club to deal with this matter did so on the correct basis and in accordance with the R.A.C.'s regulations. My

committee suggest that they would like to receive from Mr. Jarrott particulars of the officials who carried out their duties in a grossly improper manner, as Mr. Jarrott suggests.

In regard to Mr. Eason's letter my committee would like to point out that the Serpollet steam car record has stood, although attempts were made to beat it by the Mercedes in 1904 and the Daimler, 1905, so it is hardly correct to say that any high powered present day touring cars could beat it. Mr. Eason evidently forgets that when M. Serpollet made his record he had the advantage of nearly half a mile longer track than exists at the present day. Regarding his complaint that Mr. S. F. Edge should have beaten this record, he has evidently forgotten that invitations were sent to Messrs. Jarrott and Letts for a speedy De Dietrich car, and invitations were sent to other owners of speedy motor-cars, but of the five invitations sent out Mr. Edge was the only one who accepted, and my committee's thanks are due to him for carrying out this item on our programme.

Dealing with Monday's meeting as a whole, my committee admit there were two serious delays, first in regard to Event 3, in which the entries were considerably more numerous than they had anticipated; this particular competition was novel and difficulties undoubtedly did arise. The second serious delay arose through a driver being seized with a fit on the mark as he was going to start, and he had to be laid on the track for some considerable time, while medical aid was summoned. My committee wish to draw attention to the fact that the whole of the criticism has arisen from unsuccessful competitors.

It is only fair to my committee that it should be made very clear that Tuesday's meeting met with all-round praise both for interest and the expediency with which all the events were run off.—Yours truly,

HENRY HOLLANDS.

THE R.A.C. SIDE-SLIP COMPETITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In furtherance of my letter on the Royal Automobile Club Side Slip Competition, which you kindly printed in your issue of April 20th, I enclose you copy of a report by Mr. Worby Beaumont on the Hartridge tyre.

In view of the award by the Royal Automobile Club, it is a strange coincidence that "the lengthy series of experiments carried out by Mr. Worby Beaumont in compliance with the instructions of the Hartridge Tyre Syndicate" covers exactly the same period of time as the inception and completion of the trials instituted by the R.A.C., viz., November, 1906, to April, 1907. This, in itself, would occasion no surprise, but it happens that Mr. Worby Beaumont is consulting engineer to the Royal Automobile Club, and one of the judges at the trial, in which the certificate and prize of £100 was awarded to his clients.

The obvious conclusion is, I am afraid, the only explanation to the facts as stated in my former letter. It is certainly to be hoped that the Royal Automobile Club (if they do not reconsider the report and recommendations in question) will endeavour to prevent coincidences of this kind at any of their running or future competitions.—Yours truly,

G. SIMPSON TAYLOR.

THE TOURIST TROPHY ARRANGEMENTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I beg to point out that the arrangements for the accommodation of the Press at the Tourist Trophy and Heavy Car races at the Isle of Man might easily be improved upon. The Press tent in the R.A.C. enclosure during these races, on Thursday last, was invaded by a crowd of spectators, for whom no shelter from the continuous rain had been provided.

There were two scoring boards, one for each race: that for the Heavy Car race was hidden from view by the judges' box, which, by the way, was a fine weather erection, and its occupants suffered considerably during the day; the times on the other scoring board were rendered indistinct by the rain, and frequently obscured by spectators and officials. As notes are sent to the board markers giving competitors' times and positions in each round, it would considerably help the Press representatives if duplicates of these notes were also at the same moment sent to them, and provision made for sheltering chattering spectators and gentlemen intent on engineering sweepstakes elsewhere.—Yours truly,

J. B. KING.

THE CONTROL OF MOTOR RACE MEETINGS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in reference to the Bexhill meeting that Mr. Jarrott has been at some pains to explain his views to the public through the medium of your valued columns, and cannot understand how he can have so misread the handicap as to have made the glaringly inaccurate statements which he has done. In reference to Event No. 2, he states that the 9-h.p. Sizaire car with one cylinder, having a bore of 120 mm. and weighing 15 cwt., would have had to cover the distance, namely half a mile, in 28.2.5 sec. in order to have equalled the 10-h.p. Adams car which won the gold medal in this event. Such, however, I fail to find proved by the figures.

Taking the times as stated in the Press, I find that in heat 4 the published time of the 9-h.p. Sizaire is 63.4.5 sec. Now surely Mr.

Jarrott does not think that these times were the actual running times from start to finish. If so, does he realise what they mean, namely that the Adams car covered half a mile from a standing start at an average speed of thirty-nine miles per hour? Obviously absurd.

For Mr. Jarrott's enlightenment, the actual figures should read as follows:—10-h.p. Adams: 46.2.5th sec., plus the handicap, namely 34 sec., equals 80.2.5th sec., or an approximate average speed of twenty-two and a half miles per hour. Whereas that of the Sizaire works out as follows: 63.4.5th sec., plus 18 sec. handicap, equals 81.4.5th sec.

I think that generally a lot too much has been said about the handicapping at Bexhill, and certainly I cannot help thinking that a very false impression has been created in the public mind by the statements that have been made.

Mr. Jarrott further states, in reference to the 14-h.p. Spyker car, that it would have been necessary for this car to have covered the distance in 12.2.5th sec. in order to have equalled the performance of the Adams car, which is equivalent to something over 150 miles per hour. Such is not the case. The actual time in which the Spyker would have had to cover the distance would have been 46.2.5th sec. which is equivalent to just under thirty-nine miles per hour, quite a different matter. In conclusion, it seems to me a most extraordinary thing that, no matter what the event may be, so long as it is connected



The Heavy Touring Car Race.—One of the Ariel-Simplex Cars on the Horse Shoe Curve at Glencarn.

with automobilism, there is at the tail of it a string of protests and grumblings as to what should or should not have been, with a long list of invidious comparisons.—Yours truly,

R. R. SMITH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We had the pleasure of hearing Mr. Jarrott's comments on the sporting character of the Frome's Hill Climb, and feel certain that all entrants, winners and otherwise, endorsed his views. The very opposite, however, must be said of the Bexhill meet. We venture to say that had any horse race meeting been held under the same circumstances, the onlookers would have broken up the whole show from the palings to the judge's box; as it was, the public showed their contempt of the whole meeting by leaving the course.

The lack of organisation and want of knowledge on the part of the handicappers was deplorable, and the least said on this subject the better. We understood from the invitation form that all events were open ones. May we therefore ask why Mr. S. F. Edge was alone invited to attempt to beat the previous Bexhill records for touring cars, namely that of 54.53 miles per hour by M. Serpollet on his steam car, which was made five years ago? Surely any present day high-powered touring car would have no difficulty in beating this! And it seems to us the whole meeting was arranged for the benefit of one particular make of car, and we consider that it is very hard that makers should go to the big expense and needless worry for a one-horse show, which sentiment we feel sure will be endorsed by all other competitors. Moreover, it is surely against the rules of all sporting contests for a competitor to act in an official capacity, and have power to disqualify any of his opponents.

In our opinion all motor race meetings should be controlled by a committee approved by the Royal Automobile Club, and not by local

motor clubs. This would not only bring the motor races to the same level as that of other sporting events, but would be of the greatest benefit to both the public and the manufacturers, as such a committee would see that every competitor had a proper sporting chance.—Yours truly,

F. EASON.

TYRE CUT STOPPING PREPARATIONS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—For several years I used, with excellent results, some stuff called Parocert, rubber dissolved in sulphide and sold in collapsible tubes, like Pneu-cure, and a more solid material called Westwood Tyre-stopping, both made by the Westwood Tyre and Rim Company, of Birmingham. Used according to directions these two completely stopped any small cut in the tyres and seemed to amalgamate with the rest of the tyre, and I understand the Westwood Tyre and Rim Company are not now in existence, and I cannot get anything that answers so well for the purpose. It seems a pity that so good a thing should be completely lost, so I am writing to you hoping that you will publish a query about it, which may catch the eye of some of the people responsible for its manufacture, and it may be made again. The two had to be used in conjunction according to directions, and the result was really splendid.—Yours truly,

H. L. L. A.



The Tourist Trophy Race.—The two Star Cars at Kirkmichael.

A SIMPLE HUB BAND BRAKE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very much interested in Mr. Hirsch's letter with illustrations of an effective brake in your issue of the 18th ult., as the same is very applicable to my small car, which could easily be altered, the lever, rods and drum being similar. If not troubling Mr. Hirsch too much, would he kindly inform me if the brake band is lined, and the dimensions of the rocker, also what part of the spring is the bracket clipped to, as of course the body clips the top of spring. My brake drum is flanged, and is 1½ in. wide and 9 in. diameter.—Yours truly,

H. S. BALDWIN.

THE BIRDLIP HILL CLIMB.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As you are probably aware, we have arranged for our annual hill climb to be held at the well-known Birdlip Hill on Saturday, June 29th. The competition is open to members of the Bristol and Gloucestershire Automobile Club and to motorists residing within the city of Bristol and the county of Gloucester; but it has been arranged for a sub-committee meeting to be held a few days before the race to elect, on payment of the ordinary fees, any gentleman residing outside these districts who desires to enter for the hill climb. There will be fourteen classes, and I shall be happy to send full particulars to any lady or gentleman desiring the same, on application to me at 37, Baldwin Street, Bristol. Last year we received complaints concerning the practising of cars on the hill, and we have made a rule that no practising whatever shall be allowed on the hill, and the police have been requested to report any car found so doing.

I might add that we in Gloucestershire are on exceedingly good terms with the police, and up to now have never had such a thing as a police trap throughout the county, and we feel, therefore, more disposed to fall in with any of their desires, especially as we have received their official sanction for the holding of the climb.—Yours truly,

E. H. ATCHLEY,
Hon. Sec.

THE TREND OF MOTOR-CAR DESIGN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The progress of automobilism during the past decade has been rapid, and the great strides made both in the design and construction of motor-cars is marvellous. Ordinarily there is no end to innovations, but, so far as the automobile is concerned, a point seems to have been reached when radical changes are things of the past. That there will be changes each year goes without saying; yet, although the car of 1908 will differ but slightly from the car of this season, and the car of 1912 will differ little from the vehicle of 1911, there will be a marked difference between the car of 1907 and that of 1912, the changes coming about through the ordinary means of evolution. The sensible manufacturer of to-day is not seeking for radical departures, he is out to make money, and so long as he can stick to a model year after year, providing it is reasonably up-to-date and in keeping with the public demand, there is no need for material changes and innovations, for it is better to perfect a good thing than to experiment with something that the public may not want. Not only so, but in following this plan he will be better able to meet the increasing demand for a reliable vehicle at a moderate price.—Yours truly,

J. H. R.

CHANGING ENGINES ON A CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. Gipps's letter in the *M.C.J.* of the 25th ult., it is quite possible and fairly easy to replace a two-cylinder engine by a four-cylinder. I make a speciality of this, and have two in negotiation at present. The new engine should give the increased power at about the same revolutions as the old one, otherwise the speed of car will be affected. In the case mentioned I should say that a four-cylinder 3½ in. by 4 in. giving 14-16 h.p. at 1,000 revs. would do. This engine would occupy about 25 in. in length, exclusive of flywheel. The cost would depend on work in fitting, but probably between £40 and £50 would cover it.—Yours truly,

A. SAUNDERS.

THE BADGERED MOTORIST.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—So much fun has been cast at the motorist who, being a member of several organisations, loyally decorates his vehicle with many badges, that I cannot forbear to tell my confreres of the real value of such a device. Mr. Harold Brewer, a member of the Motor Union, was recently summoned at Raglan for driving his car in a manner dangerous to the public. He instructed Mr. F. C. Shackel, the Union's solicitor at Cardiff, to defend him, and the summons was dismissed. The circumstances were reported to the Union, who are satisfied that Mr. Brewer did not, in fact, commit the offence with which he was charged. As he was carrying the Motor Union car badge on his car at the time of the occurrence, he is entitled to one half of his legal expenses, which will be refunded to him by the organisation in due course. Evidently the wearing of the badge is, after all, a means towards the economical running of the car.—Yours truly,

F.

MR. STENSON COOKE, the secretary of the Automobile Association, will be pleased to hear from motorists whose chances of appeal from police court decisions have been upset by magistrates inflicting fines of an insufficient amount for that purpose.

THE R.A.C. AND UNOFFICIAL TRIALS.—Mr. S. F. Edge writes:—"Referring to my letter in reference to the forgotten R.A.C. rule, there is a sentence which reads as follows:—'There has only been one of these runs that I could find was done in a manner beyond suspicion,' which should have read 'there was one of these runs done in a manner beyond suspicion.' The matter may not seem of much moment, but, reading it as originally sent you, it read as if Mr. Paul's was the only drive above suspicion, whereas, of course, it is quite clear that Mr. Jarrott drove from London to Monte Carlo, and his run was independently verified."

THE ARCHIBALD PATENT WHEELS.—We have an enquiry for the name and address of the maker of these wheels.

A DAIMLER axle cap has been found by Mr. Cox, of Swanley, Kent, who will be pleased to return it to the owner.

MR. W. A. VINCENT, of Gamage's, Holborn, will be pleased to have the name and address of the gentleman who left his sample of tyre stopping with him for testing recently.

MR. SYDNEY HYMAN, 29, Leicester Square, W.C., lost a new Collier cover, which skipped off the top of his car on the 25th ult., between London and Winchester, which road he travelled via Kingston, Staines, Bagshot, and Basingstoke; he is offering a reward of £2 for the recovery of the cover.

CLUBS AND ASSOCIATIONS

AUTOMOBILE ASSOCIATION.

AMONG the 170 members elected at the last meeting of the Automobile Association Committee were the Duchess of Marlborough, the Hon. Mrs. Sergison, General Sir C. J. Burnett, the Earl of Huntingdon, Col. P. E. Monckton, Col. R. Pilkington, Col. Heyworth-Savage, Capt. H. H. D. Tothill, R.N., Major S. F. Williams, R.E., the Hon. Mrs. R. A. Smith, Major W. A. Robinson, Viscount Colville, Lord Rossmore, Capt. Arthur Ritchie, and Major G. Kynaston Cockerill.

The A.A. patrols were on special duty for the Tourist Trophy Race, an exceptionally long stretch of road being covered, viz., from London to Liverpool and Leeds to Liverpool.

LADIES' A.C.

THE members of the Ladies' Automobile Club have again this year been invited by the Committee of the Grosvenor Club to visit that club's enclosure at Henley during the regatta week.

For the convenience of members of this club the Grosvenor Club have arranged that as each car enters the car enclosure its driver will be given a number, which will have to be returned before the car can be taken away.

The L.A.C. Committee have arranged for the cars of members to be garaged during Ascot week at the Ascot Motor Works, Ltd., Windsor Road, Ascot.

There are at the present time 380 members of the L.A.C., and among those who have been elected this year are Mrs. C. Briddington, Miss B. C. Burns, Mrs. Cator, Mrs. Pickersgill Cunliffe, Lady Emily Dyke, the Countess of Dysart, the Hon. Mrs. Asheton Harbord, Lady Louise Loder, the Dowager Duchess of Manchester, the Hon. Lady Miller, the Hon. Mrs. George Napier, Mrs. Newton, Miss Beatrice Savile, Mrs. Frame Thompson and the Hon. Mrs. G. Williams.

WELSH A.C.

A HILL-CLIMBING competition was promoted by the Welsh Automobile Club at Llangennech (Carmarthenshire), on Saturday. Twenty-six cars competed for a challenge cup presented by Capt. Hughes-Morgan, of Brecon, who, according to the award, had the car of highest efficiency himself. He withdrew his claim, however, and the cup will go to another competitor.

Llangennech Hill provides in its length of 3,000 ft. variations of gradient calculated to provide a test as thorough as it is severe, with its total rise of 190 ft., an average gradient of 1 in 15, and 1 in 8 at the steepest part; and there are ample facilities for a flying start.

The following are the results, with the best times made. The actual times on the run are not officially given, but the speeds made are indicated by putting the time of the fastest car at X, and giving all the other times as X plus the number of minutes they were behind that time:—

		Plus.
	X	m. s.
Capt. D. Hughes Morgan's 28-h.p. Daimler	...	0 0
Mr. Basil Valentine's 30-h.p. Beeston Humber	...	0 8 4-5
Mr. T. P. R. Richards's 24-h.p. Minerva	...	0 16 1-5
Mr. Cory Yeo's 28-h.p. Darracq	...	0 47
Mr. F. E. Jacobs's 20-h.p. Darracq	...	0 49 2-5
Mr. S. Williams's 10-h.p. Alldays	...	0 56 4-5
Mr. Geo. Ace's 15-h.p. Coventry Humber	...	1 1 2-5
Mr. Evan Williams's 10-h.p. Alldays	...	1 3 1-5
Mr. E. M. Player's 14-h.p. Thornycroft	...	1 14 2-5
Mr. E. Miller's 20-32-h.p. Darracq	...	1 15 2-5
Mr. W. T. Farr's 16-18-h.p. Darracq	...	1 15 3-5
Mr. J. S. Brown's 12-h.p. Darracq	...	1 23 1-5
Mr. R. L. Sail's 10-12-h.p. Coventry Humber	...	1 32 2-5
Mr. John Player's 7-h.p. Panhard	...	1 32 4-5
Mr. W. Thomas's 8-10-h.p. Lecorte	...	1 33 4-5
Mr. Gregor's 10-12-h.p. Darracq	...	1 34 1-5
Mr. Hubert S. Thomas's 10-12-h.p. Argyll	...	1 43 2-5
Mr. A. E. Reynolds's 12-16-h.p. Talbot	...	1 53
Mr. H. Solomon's 10-12-h.p. Beeston Humber	...	1 54 2-5
Mr. D. Harries's 10-12 h.p. Coventry Humber	...	2 9 1-5
Mr. A. A. Jones's 10-12-h.p. Argyll	...	2 17
Mr. M. Whittington's 8-h.p. De Dietrich	...	4 29 3-5

The above gives the order in which the cars covered the hill in point of time, taking the best time given in the two runs allowed. The formula for handicapping cannot be worked out for a day or two, and then before publication will have to come before the committee, which will have to interpret one of the rules, which, it is said, as it stood on the day of the contests, did not quite conform with those of the Royal Automobile Club.

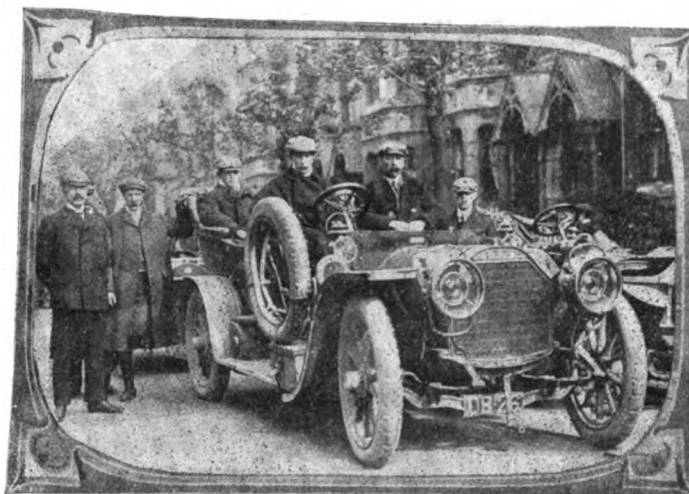
It was Mr. Morton Evans who suggested that Llangennech Hill should be the scene of the contests, and Mr. Basil Valentine (the president) and the committee of the Welsh Automobile Club readily adopted the suggestion. Mr. and Mrs. Morton Evans dispensed hospitality at their charming residence, Plas Issa, most lavishly. The officials were:—Mr. C. H. Harvey (the hon. secretary), Mr. A. G. Moffet (the marshal), Mr. James Livingstone (the judge), Mr. T. Herschel Jones (the starter), Messrs. W. H. T. and S. H. Webber (the timekeepers), Mr. Tom John (the clerk of the scales), and Mr. H. Marshall and an array of other clerks of the course.

MANCHESTER AUTOMOBILE CLUB.

THE Manchester A.C. held the fifth run of the season on Saturday. The meeting-place was the Izaak Walton Hotel, Dovedale, but the weather being exceedingly bad the turnout was much less than usual. Leaving Manchester, a drizzly rain was falling, and the sky remained obstinately overcast the whole afternoon, while the limestone roads in the neighbourhood of Buxton were in a slippery condition. Those who took the route via Macclesfield and Leek fared much better and obtained tolerably good going. Among the members present were Messrs. J. A. Morris, A. E. Jones, B. Heywood, Parry, Woolley, G. J. Crawford, and Young.

MANCHESTER MOTOR CLUB.

THE reliability trial of the Manchester M.C., reported in last week's *M.C.J.*, was won by Mr. H. Hollingdrake's 35-50-h.p. De la Buire car, of which we give an illustration. The full number of marks were 500 for reliability, 100 for hill-climbing, and 100 for petrol consumption, and the



Mr. H. Hollingdrake on the De la Buire Car which won the Manchester Motor Club's Reliability Trial.

De la Buire car was awarded the full number of marks. The first day run was from Altrincham to Abergwith, a distance of 126½ miles. The second day's run was from Abergwith to Stratford-on-Avon, a distance of 146 miles. The petrol consumption was 13½ gallons, or over 20 miles to the gallon, and the car with its load of passengers and luggage weighed about two tons.

COMMERCIAL MOTOR USERS' ASSOCIATION.

THE first of the provincial meets of commercial motor vehicles, which are being held under the auspices of the Commercial Motor Users' Association, will be held on Monday, the 17th inst., at Reading. The support of the Mayor of Reading and other local gentlemen has been obtained, and it is expected that makers of commercial motor vehicles will take advantage of the opportunity afforded them of demonstrating the efficiency of their vehicles. The cars will assemble in the Market Place, Reading, at 11 a.m., and will be conducted through the principal thoroughfares in processional order, with the Mayor and members of the local committee at their head. The entry fee for each vehicle is one guinea, which includes admission to the official luncheon at the Reading Town Hall, at the conclusion of the procession. Full particulars of the meet, together with entry forms and order forms in respect of seats at the official luncheon, may be obtained on application to the hon. secretary of the meet, Mr. L. O. Harris, 379, Strand, London, W.C., or the secretary of the Commercial Motor Users' Association, Mr. Rees Jeffreys, 1, Albemarle Street, Piccadilly, London, W.

SUSSEX A.C.

A MOTOR gymkhana was arranged by the Sussex A.C. at Worthing on Saturday in aid of the funds of the Worthing Hospital. It was extremely unfortunate that the weather was so unfavourable, as the Club Committee and Mr. F. H. Nye, the secretary, had worked hard to make

the gymkhana a success, and a pleasant afternoon would have been ensured under brighter atmospherical conditions.

The clerks of the course were Messrs. A. Scrase-Dickins, H. S. W. Eyre, and J. P. Cockerell; Mr. C. F. Frowd was the starter; Mr. C. Haines timekeeper; the judges, Earl Russell, Messrs. E. E. Miller, C. E. Collins, E. H. Myddeton-Gavey, and E. E. Braby; and the marshals, Messrs. V. R. Lucas, M. F. Mievill, and W. H. Tribe. The following are the results of the events decided:—

BENDING RACE.—1, Mr. G. Hill, 8-h.p. Darracq; 2, Mr. S. A. Jones, 10-h.p. Darracq. Also competed: Mr. Scrase-Dickins, 9-h.p. Talbot; Mr. H. Musker, 35-h.p. Daimler; Councillor G. H. Warne, 28-h.p. Daimler; Dr. J. Nodes, 10-h.p. Humber; and Mr. W. H. Tribe, 40-h.p. Peugeot. The winner's time was 1 min. 32 sec.

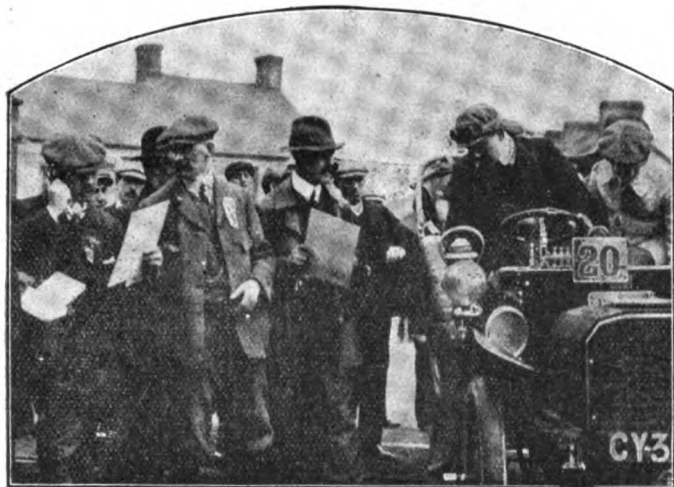
SLOW RACE.—1, Mr. G. Hill, 8-h.p. Darracq; 2, Mr. S. A. Jones, 10-h.p. Darracq. Time: 1 min. 3 2-5 sec.

MOTOR CYCLING CLUB.

THIS club held a climb on Sharpshoe Hill, near Luton, on Saturday, and although the awards have yet to be made, the following times will be of interest. All the other classes were for motor-cycles.

- 1, S. F. Edge, 80-h.p. Napier, 51 2-5 sec.
- 2, P. Graham, 24-h.p. Deasy, 1 min. 12 1-5 sec.
- 3, F. J. Jenkins, 16-20-h.p. Rover, 1 min. 25 sec.

There also ran J. W. Stocks, 24-h.p. De Dion, 1 min. 43 4-5 sec.; E. Perman, 16-h.p. Bell, 1 min. 47 3-5 sec.; C. A. Vandervell, 17-21-h.p. Daimler, 1 min. 54 sec.; J. van Hooydonk, 8-h.p. Phoenix, 2 min. 4 4-5 sec.; F. R. Johns, 16-20-h.p. Rover, 2 min. 42 2-5 sec.; S. H. Fry, 6-h.p. Rover, 2 min. 50 sec.; and J. Platt-Betts, 6-h.p. Rover, 2 min. 53 sec.



The Welsh Automobile Club's Hill Climb.—A View at the Starting Point.

NORTH-EASTERN A.A.

IN our issue of the 11th ult. we gave a profile of Ragpath Hill, where the North-Eastern A.A. will hold open and closed hill-climbing competitions on Saturday, the 15th inst. Forms of entry will be supplied by Dr. J. McHaffie, the hon. sec. of the competition, Talbot House, Tyne Dock, South Shields, to whom they must be returned by noon on Tuesday next. The hill is sixteen miles from Newcastle-on-Tyne, *viz* Burnopford and Aynfield Plain.

SCOTTISH A.C.

THE first issue of the Scottish Club Handbook is now in the printers' hands and will be issued to the members in the course of the next few days.

A considerable proportion of the members of the club have applied for the badge, which can now be had on demand. It is available both in brass and nickel silver to suit the mountings of the car, and its design has met with very general approval.

Last week, at the suggestion of the Secretary for Scotland and in lieu of a public inquiry on the subject, the Club secretary drove Mr. Alex Stuart, advocate, the Commissioner for the Secretary for Scotland, to Castle Douglas, where, in company with an official of the burgh, an inspection was made of the roads upon which the Town Council desire to have ten miles per hour restrictions.

BEDFORDSHIRE.

AT the inaugural meeting of the Bedfordshire A.C., held at the Swan Hotel, Bedford, last week, it was agreed to ask Lord Amptill to be president, and Mr. W. A. Attenborough, Mr. Percy Barlow, Mr. Gny Pym, and Sir Julius Wernher were elected vice-presidents. The following were elected to serve on the committee:—Messrs. W. H. Allen

Adams, Browning, Brackenbury, Colby Sharpin, Archdale Sharpin, Parbury, Hope, Jessop, Wells, R. Allen, Rev. C. B. Hulton, Dr. Bower, Dr. Smithson, and C. R. S. Payne.

JUNIOR AUTOMOBILE CLUB.

THE committee of this club have decided to hold, at an early date, a 200 miles reliability trial, in which entries will be limited to cars selling at or under £300. As the amateur element predominates very strongly in this club, the tentative entrant has no cause to apprehend that he will be handicapped by being expected to meet on equal terms the drivers of motor firms. Mr. S. C. Darrington, "Oakthorpe," Brownlow Road, New Southgate, N., is the hon. sec. of the event.

MR. HOLMES KINGSTON has been appointed secretary of the Motor Club.

CASES UNDER THE MOTOR CAR ACT.

DAINGEROUS DRIVING.

A schedule of times prepared on a motor tour from South to North Wales proved a novelty in a motoring prosecution before the Llangollen magistrates on Monday, when Mr. A. K. Reese, Victoria Road, Penarth, was charged by Sergt. James Wyse, Llangollen, with (a) driving a motor-car at a speed dangerous to the public, and (b) with refusing to stop his motor-car when requested. Mr. S. Lloyd Carter (Carnarvon), pleaded not guilty on behalf of the defendant. After hearing police evidence, Wm. Hughes, Penarth, said he was an electrical engineer and district manager of the Westinghouse Company. He accompanied Mr. Reese and his guests, and they were on a tour throughout Wales. To make the tour more interesting witness along the route kept a correct record of all stoppages and starting times. He worked out the average times and found that in the six days' tour of 529½ miles they did 12·6 miles an hour. They left the Raven Hotel, Shrewsbury, at 12 noon, and arrived at Llangollen at 4.30 p.m. (30½ miles). Their speed at Llangollen was under 10 miles an hour. The prosecution had no idea of speed. The car was not capable of the speed cited of 25 miles an hour. The Bench after a lengthy private deliberation said they considered the evidence conflicting about dangerous speed, and the first charge would be dismissed. The Bench were quite clear there was a refusal to stop the motor-car when requested, and they had to convict on the second charge, but thought the case would be met by the defendant paying the costs.

NOT GIVING WARNING OF APPROACH.

At Bromley (Kent), on Monday, Robert Veitch, chauffeur to Lady Angela Forbes, was summoned for negligent driving though Beckenham, and, further, with not sounding bell, horn, or other instrument to give sufficient warning of his approach, on May 22nd. Police-constable 140 P said he saw the defendant driving a car about ten miles an hour up High Street in the direction of Southend Road, over the railway bridge. At the same time a young lady cyclist, who had turned out of Albemarle Road, was riding in the same direction. The cyclist was going up the rise of the bridge, and about 3 ft. from the kerb, when the motor-car, without giving any warning, dashed into her back wheel and threw the young lady on to the path. He was fined £3 for negligent driving and £2 for not giving warning of his approach, and costs. Defendant gave the name of his employer as surety, and was allowed time in which to pay.

EXCEEDING THE SPEED LIMIT.

At the Arundel Borough Bench, on Monday, four cases were heard against motorists for exceeding the legal limit. Fines ranging from £5 to £8 were imposed in each case. On the same day four cases were heard at Worthing with similar results, and another at Eastbourne.

The Earl of Carnarvon has been fined £5 and costs for exceeding the legal limit at Walton-on-Thames.

A Birmingham motorist has been fined £10 and costs at Market Drayton for recklessly driving a motor-car. The defendant ran his vehicle into a flock of sheep, killing two outright.

MR. J. W. H. DEW informs us that he has resigned the works management of the New Speedwell Motor Company, and is now practising at 100, Rushtall Avenue, Chiswick, W., as an automobile designer and consulting engineer.

MESSRS. HUMBER, LTD., desire to thank the very large number of their agents who have sent congratulatory messages on the performance of the Humber cars in the Isle of Man. As it is quite impossible for Messrs. Humber, Ltd., to separately acknowledge the hundreds of these telegrams which were received on Friday last week, they desire to take this opportunity of expressing their thanks.

At the Madrid Exhibition, the Palmer Cord tyres fitted to the 40-h.p. Iris car, by their excellent appearance after the run from London to Madrid, became quite an attraction. His Majesty King Alfonso showed great interest in them, making a careful examination, while the King's sister, the Infanta of Spain, favoured the Palmer Company with an order for a set for her own use.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

BRIXTON MOTOR WORKS.—£3,000. To adopt an agreement with Mr. H. F. Harding for the acquisition of the business carried on by him as the Brixton Motor Works. First directors: Messrs. H. F. Harding and S. Arnott. 283A, Brixton Road, S.W.

THE DUMFRIES MOTOR COMPANY, LTD., to acquire and carry on the whole business of dealers in motor-cars and motor-car accessories, &c., now carried on at 78, High Street, and 93, English Street, Dumfries. Capital £7,000.

MERO, LIMITED.—This company has just been registered, with a capital of £20,000 in £1 shares, to manufacture, let on hire and deal in motors, launches, flying machines and vehicles, and to adopt an agreement with Messrs. E. G. Meyer, F. A. Kelley, J. H. Kelley, A. J. Mudford, S. Mudford, S. A. Steel, and J. H. Rothardt. Registered office: 3, Central Chambers, High Street, Sheffield.

THE NATIONAL MOTOR MAIL COACH COMPANY, LTD.—The subscription list of this company has just closed so far as 100,000 of the ordinary shares of £1 each are concerned. It has been formed to take over certain postal contracts now enjoyed by Mr. G. H. Hayes, of Plumstead, and to develop the same. Sir Martin Conway is chairman of the company, of which the Hon. F. W. Stanley, Messrs. H. A. Johnson, W. E. Pountney, and Major Vereker are the other directors. The offices are at 71 and 72, Strand, W.C.

BROUGH'S PNEUMATIC SYNDICATE.—£2,000. To acquire and turn to account any inventions connected with pneumatic springs for motor-cars and other vehicles, and to adopt an agreement with Mr. W. Brough, Rowland House, 6, Eldon Street, E.C.

on at Barcelona and at Queen Anne's Chambers, Westminster, as the Belmont Tyre Protector Company, and to adopt an agreement with Emilio Rodriguez, Pauline Rodriguez, W. Murdock, and Miguel Franquet. Linden Arcade, High Road, Chiswick.

BRITISH MOTORIUM.—£100 (£1). Agents for and manufacturers of motor-cars, &c. First directors: Messrs. B. M. Goode and F. Goode.

DALMER MOTOR TYRE SYNDICATE.—£400. To adopt an agreement with Mr. R. Dalmer for the acquisition of certain patents relating to motor-car wheels, tyres, and apparatus, and machinery therefor, including patents for Germany, the United States of America, France, Italy, Belgium, and Austria. 36, Camomile Street, E.C.

A. PULVERMAN AND COMPANY.—£5,000. To take over the business of motor accessory dealers carried on by Messrs. A. Pulverman and Company, at 30, Red Lion Square, W.C., and elsewhere. No initial public issue. First directors: Messrs. A. Pulverman and G. E. Browne.

ASHWORTH AND WILSON, LTD.—This company has been registered with offices at 265, Deansgate, Manchester, and a capital of £10,000, to act as agents for dealers in motor-cars, &c. Among important agencies held by the company are those for Berliet and Stella cars.

MEETINGS AND REPORTS.

A. W. GAMAGE.—The tenth annual general meeting of A. W. Gamage (Limited) was held recently. Mr. A. W. Gamage, who presided, said the directors were pleased to meet the shareholders again with a satisfactory report. Their business had been forging ahead for some years. The goodwill stood at something like £40,000, but it was worth at least £100,000. He believed they were going to have a brilliant year in 1907. Up to the present date of the current year the turnover showed a considerable increase. Mr. J. S. Parker seconded the motion, and the report was unanimously adopted.



The Tourist Trophy Race.—The Weighing-in Enclosure.

CREWE MOTOR COMPANY.—£100. Copthorne House, Audlem, Cheshire.

AUTO-VAPOUR SYNDICATE.—£5,000. To acquire certain inventions and processes relating to the vaporisation of petrol and other fluids, and to adopt an agreement with the Agency and Finance Syndicate, Ltd.

VICI MOTORS (1907) (LTD.).—This company has been formed for the purpose, primarily, of taking over as a going concern and extending the undertaking of Vici Motors (Ltd.), and to provide the further working capital found necessary by the estimated increase in the business. The capital of the new company is £60,000.

ARGYLLS, HAMPSHIRE.—£10,000. To adopt agreements (1) with the Argyll Motors, Ltd., relating to the appointment of this company as selling agents in Hampshire, (2) with Mr. G. H. Cox, as liquidator of the G. H. Cox, Southsea Cycle Company, Ltd., for the acquisition of the business carried on by that company at Portsmouth, and (3) with Mr. G. H. Cox and Mr. P. H. Goodman for the acquisition of the business of motor factors and agents carried on by them at Castle Road, Portsmouth. No initial public issue. 41, Castle Road, Southsea.

HUMPHREY AND LIWENTHAL.—£750. To acquire a certain invention in respect of which British letters patent have been applied for, with right to apply for patents in certain foreign countries, to adopt an agreement with Messrs. A. Liwenthal and E. J. Humphrey, and to carry on the business of manufacturers of and dealers in motors.

SUN GAS COMPANY.—£10,000. To acquire patents and other rights for improvements connected with the manufacture of acetylene or other hydro-carbons from carbide and by-products thereof. No initial public issue.

BELMONT TYRE PROTECTOR COMPANY.—£5,005. To take over the business of manufacturers of the "Belmont" tyre protector carried

BELSIZE MOTORS.—The first annual meeting of the Belsize Motors, Ltd., was held at the Midland Hotel, Manchester, on Wednesday last week. The Chairman (Mr. G. P. Dawson) called attention to the fact that early in the financial year large additions to both the buildings and the plant had to be undertaken, in order to cope with the heavy increase in trade, and later on further extensions and additions were found to be necessary, mainly on account of the success of the new model 20-h.p. four-cylinder car placed on the market by the firm. The state of the order-book was most satisfactory. The gross profit on the year was £15,139, out of which provision must be made for interest on debentures (£918) and depreciation (£4,410). The meeting decided to pay a dividend at the rate of 5 per cent. per annum, free of income tax, which, after paying directors and auditors' fees, will leave, approximately, £5,168 to be carried forward. The retiring directors (Mr. G. P. Dawson and Mr. G. Higginbotham) were re-elected.

The Daimler Company are advised by the De Luca Daimler Co. that Count Florio bought one of the three Daimler cars which made such excellent showing in the recent Taras Florio race.

We learn that the Rover car which won the Tourist Trophy race was fitted with C.A.V. accumulators. This is particularly gratifying to Messrs. C. A. Vandervell and Co., as it puts the finishing touch to quite a long list of successes recently gained by well-known cars with their accumulators.

MR. HARRY SMITH, the managing director of the Rover Company, Ltd., writes:—"I shall be glad if you will kindly allow me to thank, through the medium of your paper, the numerous friends who have wired and written congratulating us upon our success in the International Tourist Trophy Race."

ROAD REPORTS.

WARE.—The most direct route for motor-cars passing through the town of Ware to and from London is by a bridge over the railway line about 250 yards on the London side of the crossing in question. Drivers of motor-cars are apparently unaware of this route, as it is not shown on the maps.

WIMBLEDON.—At a meeting of the Wimbledon Town Council the Surveyor reported that the use of calcium chloride for dust prevention had proved successful during last summer. It had been efficient for the purposes for which it was used, and had reduced the cost of repairing the roads, while it had effected a saving in watering of about £160. It was decided to provide a sum of £120 in the current half-year's estimates for the purchase of calcium chloride for use on the roads during the coming summer.

SOMERSET.—The Motor Union are asking the Milbourn Port (Somerset) Parish Council why they have fixed up notices at the chief entrances to the village restricting the speed of motorists to six miles an hour.

NORTH WALES.—A representative conference of North Wales authorities last week pressed for Government aid in the settlement of the motor dust question.

BEDFORDSHIRE.—In the county of Bedfordshire, Mr. W. H. Leete, the Surveyor, is adopting tar macadam where an entirely new surface is needed, whilst other sections of the roadway are being tar painted as a palliative for the dust nuisance.

ISLE OF ELY.—An experimental length of tar macadam is being laid in the Isle of Ely by Mr. Perkins, the County Surveyor. In his district granite screenings are now being used in place of road scrapings as a binding material for the surface of the highways.

HAYWARDS HEATH.—Motorists passing through Haywards Heath a few days ago complained of punctured tyres, and further investigation has discovered several sharp-pointed nails strewn about the roads for a considerable distance. We trust that the perpetrator of such a dastardly freak may be discovered.

HERTFORD.—In the Fore Street, Hertford, is a short stretch of tarred road which has proved the efficacy of its treatment from the point of view of allaying the dust. On account of the short streets in the town, motorists should drive with particular care.

LLANDUDNO.—The asphaltting of the parade road has greatly mitigated the motor dust nuisance. About five miles of the streets are being tar-painted. Until recently highways leading to Llandudno were all narrow country roads, and unsatisfactory as to gradients. Now one excellent road has been provided, that *via* Deganwy and Llanrhos, and others will be improved as soon as possible.

TARSPRA.—The following particulars relating to the "Tarspra" method are of interest at the present moment. The total mileage completed and on order by the Tarspra Company exceeds eighteen hundred miles. Kent is responsible for 165, Newcastle 24½, Westmorland 10, Chester 10; Sheffield, Nottinghamshire, Birmingham, Hull, and Nuneaton divide 100 miles between them; while Glamorganshire, Bridgend, Swansea, Neath, Bristol, Essex, Taunton, and Weston-super-Mare are responsible for many more.

AUTOMOBILE RACING IN MEXICO.

The first automobile race meeting in Mexico was held on the 12th ult.; it was organised by the Automobile Club of Guadalajara, on a 35 kilometre course near the town of Guadalajara. The race, which was for "La Copa Jalisco," was over a distance of 177·7 kilometres, representing roundly five laps, the contestants being required to come to a full stop at the completion of each round, all repairs and time lost in taking on fuel and the like counting as running time. The start and finish was near Casa Fuerte, an old fort on the hill-side overlooking Guadalajara, where a big grand stand was erected. To prevent accidents from spectators overcrowding the course the promoters had secured a detachment of mounted federal and state troops to patrol the course. The competitors were:—Galheri (120-h.p. Mors), Berrito (30-h.p. Packard), J. L. Lawrence (25·30-h.p. Pope-Hartford), and Bassini (Welch). Of the above the first and last only succeeded in covering three laps. The winner was J. L. Lawrence, who on the Pope-Hartford covered the total distance in 3 h. 17 min. 54 sec., Berrito (Packard), taking the second place in 3 h. 53 m. 9 sec.

On the following day two races for ordinary touring cars were held on the same course, the distance being, however, reduced to two laps, equal to 71 kilometres. In the first event there were five competitors—A. Thomas, a Packard, a Mors, and two Fiats; the event was won by A. F. Lornellera on the Packard, in 1 hr. 2 min. 5 sec., Juarez being second on the Mors, in 1 hr. 23 min. 10 sec. There were only three competitors in the second race—two Buicks and a Haynes, the winner being Dees on a Buick. Time, 1 hr. 33 min.

SINCE taking the Mills at Harpenden, the New Motor and General Rubber Company, Ltd., have laid down an entirely new plant for tube vulcanising, and are now in a position to treat over 1,000 tubes per week.

"HENRY EDMUNDS" TROPHY.

FOR the "Henry Edmunds" Challenge Trophy and the Carter's Hill Cup, to be contested to-day (Saturday) at Carter's Hill, Underriver, Kent, the entries number fifteen and sixteen respectively. For the first event the entries are Messrs. George S. Barwick (30-h.p. Daimler), J. E. Hutton (40-h.p. Berliet), W. Hillman (Hillman-Coatalen), John S. Napier (40-h.p. Arrol-Johnston), Paul Brodtmann (30-40-h.p. Daimler), Frederic Coleman (30-h.p. White Steam), W. T. Clifford-Earp (26-30-h.p. Nordenfelt), Montagu S. Napier (40-h.p. Napier), K. O. Kura (24-h.p. Fiat), Arthur E. Perman (35-h.p. Iris), Capt. G. Hinds Howell (35-h.p. Iris), L. Carle (45-h.p. Mors), E. Herington (30-h.p. Ariel-Simplex), G. Stanley Monck (35-h.p. Horch), A. C. Hills (24-h.p. Martini).

For the Carter's Hill Cup race the cars to take part will include:—24-h.p. Junior, 22-h.p. Berliet, 12-16-h.p. Vauxhall, 20-24-h.p. Talbot, 12-16-h.p. Clement-Talbot, 25-h.p. Arrol-Johnston, 24-28-h.p. Metal-lurgique, 18-28-h.p. Clement, 22-h.p. Minerva, 14-h.p. Thornycroft, 20-h.p. Westinghouse, 17-20-h.p. Scout, 20-h.p. Talbot, and 18-h.p. Germain.

AUTOMOBILE ACCIDENTS.

MR. WILL EVANS, the comedian, had a narrow escape from serious injury whilst returning home from one of the music-halls on Thursday of last week. As his motor-car was proceeding along the Bayswater Road its passage was suddenly stopped by a brougham which emerged from a side drive. The chauffeur ran the car on to the pavement, but in so doing it struck the back of the brougham, knocking the driver off his seat into the roadway. The car was pulled up between a pillar-box and the railings, and Mr. Evans was thrown to the opposite side of the vehicle and seriously shaken.

A SAD motoring fatality, the second in the city within a week, occurred on Saturday at Nottingham. The victim was Doris Egglestone, the four-year-old daughter of a working jeweller, who was attempting to cross a busy thoroughfare when she was knocked down by a motor-car owned by Mr. Groves Hind, of the Park, Nottingham, which was proceeding very steadily. She died shortly after her admission to the infirmary.

POLICE TRAPS.

A MOTOR trap has been discovered at Killinghall, near Harrogate. Visitors to that resort by the Ripon road should exercise care or their pasture may become expensive.

THE police in the district of Wharfedale, and particularly about Ilkley, are said to be eagerly watching motorists of more than dismal speed.

A POLICE trap has been established near Colchester, and the Watch Committee have provided the police with stop watches to be used in connection with the same.

MOTORISTS proceeding through Canterbury are warned to be careful, the local authorities having apparently started a crusade against drivers of motor-cars passing that way.

AMONG the towns where the police are very active just now are Arundel, Lewes, Maidstone, St. Albans, Halifax, Lancaster, Canterbury, and Harrogate.

ON Monday the Beckenham Council resolved to draw the attention of the superintendent of police to the dangerous speeds at which many motor-cars are being driven through Beckenham, Bromley, Croydon, Wickham, and other roads, and agreed that special efforts shall be made on the part of the police to carry into effect the provisions of the Motor-Car Act.

ON the Chester road, between Thingwall and Neston, is a police trap six miles long.

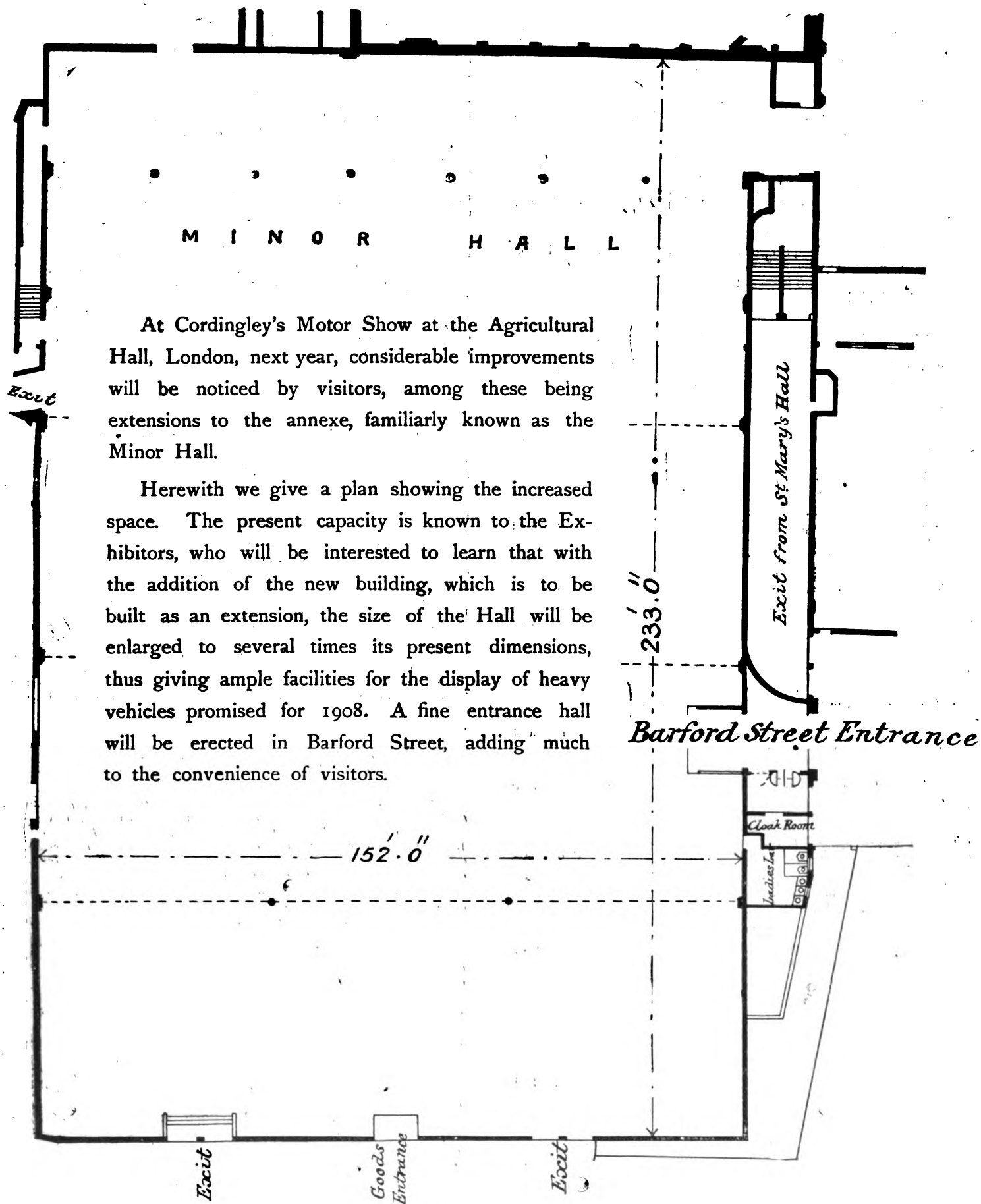
AERONAUTICS.

AT Chichester, on Saturday, the Hon. C. S. Rolls made a balloon ascent from Colonel Daniell's place, Oaklands Park, accompanied by Sir Hugo de Bathe, the ascent being made in aid of the funds of local charities. Mr. Rolls intended to make Sir John Shelley's seat at Avington Park, near Winchester, and by a careful selection of the currents this was accomplished so exactly that the balloon was brought down on the lawn in front of the house, the occupants alighting not twenty yards from the front door. The prize for the motor capturing the balloon was won by Mr. H. Humphry, of the Farrington Works, South Street, Chichester.

SIR HUGO DE BATHE has commissioned Messrs. Short Bros., of Battersea, who were exhibitors at the recent Agricultural Hall Show, to build him a balloon.

THE Monarch Motor Accessories and Gear Case Company, Clarence Street, Coventry, have taken up the manufacture of radiators, bonnets, tanks, &c. They are fitting up their factory with up-to-date appliances under the supervision of Mr. F. J. Page, late a company director with the Doherty Motor Components, Limited, who has had ten years' experience in this branch of trade.

The Extension of the Agricultural Hall.



FORTHCOMING EVENTS.

JUNE.

SATURDAY, 8TH.

At C. Henry Edmunds Hill Climb, Carter's Hill, near River Hill.
 Gymkhana of the Coventry M.C.
 Hill climb of the Blackheath A.C.
 The Kensington A.C. will hold a Gymkhana in the grounds of Chiswick House, Chiswick.
 Speed judging contest at Cranford Bridge, two miles from Hounslow on the Bath Road, between the Southern M.C. and the North London A.C. for the Gamage challenge cup.
 Annual Gymkhana of the Hertfordshire County A.C. at the Grove, Watford.
 Derby and District A.C. Hill Climb.
 Joint Meet of the East Surrey and Kent Clubs.

SUNDAY, 9TH.

The Motor Club's run to Brighton.
 The Motor Cycling Club will meet at the "Cock," Epping, at 11 a.m., for a trip to Maldon.

MONDAY AND TUESDAY, 10TH AND 11TH.

Conference of the Road's Improvement Association at the Institution of Civil Engineers, 11 a.m.

THURSDAY, 13TH.

Notts A.C. Crippled Children's Outing.

FRIDAY, 14TH.

Race for the Kaiser's Prize on the Taunus Course, Germany.

SATURDAY, 15TH.

Conference of officially recognised automobile clubs at Homburg.
 Commercial vehicle meet at Reading. Mr. Leo Harris, hon. sec., 379, Strand, London, W.C.
 The children of the Leicester Cripples' Guild will be taken for a drive by the members of the Leicestershire A.C.
 Joint meet of the Bristol and Gloucestershire and Hereford A.C.'s at Cheltenham.
 Hill Climb of the Ipswich and East Suffolk A.C.
 North Eastern A.A. Hill Climb, Ragpath-side, near Lanchester.

SATURDAY, 22ND.

Yorkshire A.C.'s meet at Saltburn.
 Southern Motor Club's open hill climb on Captain Kydd's Hill, East Grinstead.
 Kettleby hill climb of the Derby, Leicestershire, and Notts A.C.

TUESDAY, 25TH.

25-29.—Scottish A.C. Reliability Trial.

WEDNESDAY, 26TH.

Hastings Automobile Meeting. Appearance Competition and Gymkhana, organised by the Automobile Association and the Motor Club.

THURSDAY, 27TH.

Newcastle Motor Club's run to Edinburgh and back.

SATURDAY, 29TH.

Aero Club race for the Hedges Butler challenge cup.
 Birdlip hill climb of the Bristol and Gloucestershire A.C.
 Joint meet of the Liverpool, Manchester, N.E. Lancs., Sheffield and Yorkshire Clubs at Buxton.

JULY.

2ND.—A.C.F. Grand Prix Race on the Seine Inferieure Circuit, near Dieppe.

4TH.—International cross Channel race for motor-boats from Dover.

6TH.—Inaugural races on the Brooklands Track.

10TH.—R.A.C. South Harting hill climb.

13TH.—Entries for R.A.C. commercial vehicle trials close at ordinary fees.

15TH to 18TH.—The annual automobile meeting at Ostend.

20TH.—Motor Union meet at Southport.

27TH.—Commercial vehicle meet at Maidstone.

AUGUST.

20TH.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

9TH.—Industrial Vehicle Trials commence.

OCTOBER.

19TH.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

Cordingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

June 8th—9.11	...	10th—9.13	...	12th—9.14	...	14th—9.16
„ 9th—9.12	...	11th—9.14	...	13th—9.15	...	15th—9.16

BUSINESS NEWS.

WE understand that Mr. F. F. Wellington's agreement with the British Automobile Commercial Syndicate, Ltd., expired on the 31st ult. His numerous friends will be glad to know that he has taken over the management of the Spyker business from June 1st, and all personal correspondence should now be addressed to him c.o. the Trompenburg Manufacturing Company, Amsterdam.

A LEAKING petrol pipe connection is unfortunately a somewhat common trouble when travelling, and many have been the devices introduced from time to time to render the motorist immune from such annoyances. Among the really successful inventions the flexible tubing and unions of E. M. Bowden's Patents Syndicate, Ltd., holds a prominent place. It requires care in fitting, but, once properly attached, the motorist is not likely to be troubled much with leaky pipe connections afterwards.

J. C. LYELL AND COMPANY, LTD., of 55, Victoria Street, Westminster, S.W., have opened a branch office at 84, Rue de Richelieu, Paris.

THE Glasgow Automobile Company, Ltd., West George Street, Glasgow, have been appointed agents for the Iris cars in Glasgow and the West of Scotland.

THERE seems to be an erroneous impression abroad with regard to the Maudslay Motor Company (1907), Ltd., owing to announcements having appeared in the Press relative to the old company (i.e., the Maudslay Motor Company, Ltd.), having gone into liquidation, without any mention of their having transferred the business to the new company, which is now actively carrying on the same.

ORDERS have been received by the Daimler Company from the Right Hon. Earl of Dartrey and Lieut. the Hon. A. Strutt, the latter having ordered a 30-h.p. car of 8½ ft. wheelbase fitted with five-seated body, and the former an open carriage of the Rugby type.

PUBLIC MOTOR SERVICES.

BROADSTAIRS is being suggested locally as a convenient centre for the establishment of a motor-bus service, and we understand that the District Council have expressed their willingness to give all possible facilities for the establishment of such an enterprise.

HAVING regard to complaints made to the Brighton Town Council with regard to the motor-buses in the town, the Watch Committee have suggested to amend the regulations so that that referring to this matter shall read, "The machinery of the motor-omnibus shall be so constructed, used, and maintained, as to prevent, so far as practicable, noise, the emission of smoke or vapour, and the dropping of oil on to the roads, and effective means shall be taken to prevent, as far as practicable, the splashing of mud by the wheels."

THE Sheffield Corporation Tramways Committee is putting several types of motor-buses to the test.

A MOTOR-BUS is now running between Rochdale and Bacup.

A MOTOR-CAR is being run by the Anderson Autocar Co., of Greenock, between that place and Inverkip during the summer months.

AT the last meeting of the Court of Common Council of the City of London, a letter from the borough of Camberwell was read on the subject of motor-omnibuses. The matter has been referred to the Streets Committee for full consideration.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

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COMMENTS.



THE conference of road users and road makers, held under the auspices of the Roads Improvement Association, on the first two days of the present week, has served to bring into prominence the demand for greater encouragement from the State in the construction of the main roads throughout the country. In the old days before railways, applications in this direction were more recognised than has since been the case, but the opening up of the new means of locomotion has again brought the matter to the front. Practically all the speeches on Monday were directed towards this end, the reasonableness of which is apparent on a moment's reflection. Motorists who take out their registration in one county probably do less travelling in that district throughout the year than they do in other counties towards the maintenance of whose roads they have contributed nothing; so that the system of county registration works out very inequitably, and gives force to the arguments of the surveyors of Middlesex, Lincolnshire, Norfolk, Hornsey, and other places, who have been urging that something more than local effort is needed to secure uniformity in the upkeep of the great main arteries of the country. The Chairman presented a report from the National Dustless Roads Committee, and it was decided to ask the Board of Trade to use its influence to secure a grant from the Treasury in order that experiments might be carried out. It was stated that the committee had £50 in hand with which to do £3,000 worth of work. It was decided to wait upon the Government, and a deputation was appointed, the members of which include Sir John Wolfe Barry, Lord Montagu of Beaulieu, Lord Lovat, Sir John Thornycroft, the Hon. Arthur Stanley, M.P., Major Coates, M.P., Sir W. Bull, M.P., Mr. Robert Todd, Colonel Crompton, Dr. Hele-Shaw, Mr. C. D. Ross, M.P., Messrs. Howard Humphreys, E. J. Lovegrove, J. A. Brodie, Douglas Mackenzie, H. T. Wakelam, E. G. Mawbey, H. P. Maybury, and representatives of societies and institutions interested in the question.

Legalised Highwaymen.

ON a wide road, not intercepted by crossways for a distance of a few miles, and with no houses in the locality, the police were operating near Handcross on Sunday. Sergeant Waghorn, who, with Superintendent Marks and Inspector Jarrett, form a trio of well-known antipathy to motorists, was in command—not on the high road, but lurking somewhere behind the hedges, as is the manner of the police of that part of Sussex. There was no traffic about, and along the stretch where operations were carried out neither cyclist nor pedestrian was in view. A car with wind shield and a heavy top was proceeding leisurely along, the occupants chatting and smoking on their way. Suddenly the two arms of a man were seen waving in the air, and the car stopped—a very easy thing to do having regard to the pace at which it was going. The occupants were surprised to find the cause of the halt was a policeman, who commanded them to wait the arrival of the sergeant from behind the hedge. A summons was promised, and this will be returnable at Haywards Heath court, from which no motorist

escapes. Thus is the safety of the public highway disregarded by the police, who seem more often engaged in such pursuits than in guarding the lives and property of the residents on the roads from London. The matter has become a scandal, and the time has come when the antics of the police should be raised in the House of Commons—if the County Councils will not move in the matter. Had life been endangered by the orderly travelling of Sunday at the particular point to which we refer, a very different view would be taken; but under the circumstances this action must be regarded as un-English, and not unlike the legalisation of highway robbery.

Dust and the Fishes.

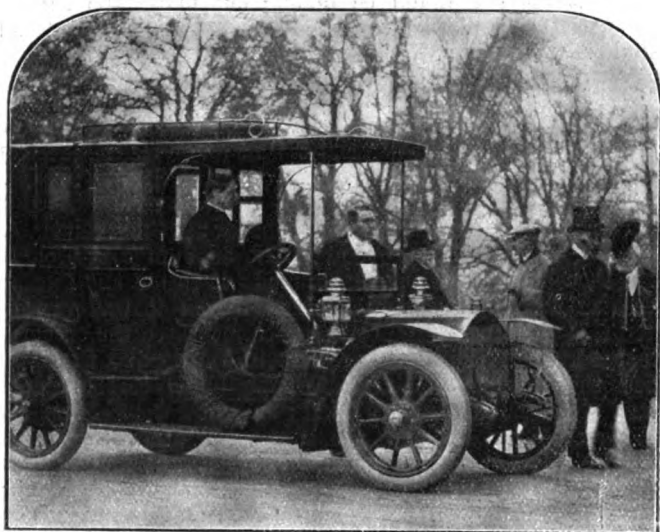
SIR H. M. PRAED, keen sportsman that he is, has sent us an excellent letter in reply to the recent strictures that have been made on the use of dust preventives. Whenever anything calculated to prove of public advantage is brought forward there are always opponents ready to throw any kind of missile at such improvements. Last season it was gravely asserted that the dust raised by motor-cars injured the orchards of Kent, although the apple growers of Devon and Somerset ascribed the freedom of the trees from blight to the kindly offices of the skimming of the road; and now that efforts are being directed to assuage the nuisance, other folks are denouncing the new means with vigour, if not always with reason. It has been said that the dust preventives now being applied to the roads will be washed by the rain into the rivers, and that fish will be poisoned in their retreats. To this charge Sir H. M. Praed replies in a letter of such moderation as to carry conviction to every reader.

On the Towing-path.

THE proposal to close the Barge Walk, along the side of the Thames from Kingston Bridge to Hampton Court Bridge, to motorists was supported by three district councils at the inquiry held last week by Mr. F. G. Willis on behalf of the Local Government Board. In addition to this number of local public authorities, the officials of the Office of Works and Public Buildings also raised their voices, and the Hon. Sir Schomberg McDonell was particularly averse to the presence of motor-cars on the path where the track was, he said, only nine feet wide in parts. Another of the officials of the Office of Works, who was, by the way, unable to suggest any accidents which had occurred, raised the point that the dust caused by motor-cars was a great nuisance to persons in small boats on the river. It appears that on the 25th and 26th ult. a census of vehicles using the towing-path was taken, which showed that on this particular Saturday and Sunday it was used by 72 motor-cars, 12 motor-cycles, 997 bicycles, and 89 horse-drawn vehicles. Mr. Rees Jeffreys represented the R.A.C. and the Motor Union as well as the West Surrey Automobile Club at the inquiry, at which considerable testimony in favour of closing the path to motorists was tendered—in fact, the weight of evidence being so considerably in favour of the proposal that motorists will await the result of the inspector's personal visit and inspection with some anxiety as well as interest.

Legislation.

MR. H. C. BRODIE, M.P., has been inquiring of the President of the Local Government Board whether it is the intention of the Government to introduce legislation with a view to put into effect the recommendations of the Royal Commission on Motor Cars, whose report has now been before the country a good many months. In a printed reply Mr. John Burns has referred to the recent announcement by the Prime Minister with regard to the state of business in the House of Commons as justifying the decision not to introduce any new Bill with regard to motor-cars this year. Certainly, in view of the pressure of Government measures, there would not be any opportunity for adequate thought, and we recognise that when any change in the present statute is proposed considerable discussion will be raised in Parliament. Under the circumstances it is probably as well for the future of the industry that legislation is thus postponed, as time is on the side of the motor movement, and every week brings with it new converts swelling the volume of public opinion in favour of, and lessening the opposition to, the advance of the new locomotion.



Prince Fushimi arriving at the Argyll Motor Works at Alexandria, N.B., on the 20th ult.

Dust Competition.

THE views of the motor-car trade have now been obtained on the Dust Competition proposed to be held by the R.A.C. towards the end of the present month on the Brooklands motor track, and the majority of the replies received are extremely favourable, so that it is hoped a large entry will be secured. Prizes will be given to the best cars entered by makers, and there will also be a few private cars which will compete separately. The Club would welcome the entry of any car specially designed or fitted with special designs for dustlessness, even if not already on the market, but all cars entered must be of ordinary working types, and with ordinary working bodies. The Club has pointed out to firms in the industry the great benefit to the trade generally of anything that decreases the public prejudice which is undoubtedly due to the dust nuisance, and, secondly, the distinct trade value of having a car well placed in the competition. The placing of the cars will be done from photographs—a method which has been found extremely accurate, and has given satisfaction when previously employed at the Crystal Palace. There will be two runs for each car at eighteen and thirty miles per hour, and any cars having, in the opinion of the judges, specially interesting points will be tried further as far as time permits. There will also be a standing trial of exhaust dust-raising, and any other trials which time will allow.

Motor-car Imports and Exports.

ALTHOUGH still in advance of last year, May proved a rather quiet month as regards the importation of foreign motor-cars and parts into the United Kingdom, the returns just issued showing that the number of vehicles which reached this country was 363, their value being given as £172,204. Parts were responsible for an additional £224,421, which gives a total of £394,625, as against £393,803 in the corresponding month of last year. For the first five months of the current year the figures are:—Number of cars imported, 2,401; value of same, £984,726; imports of motor parts, £1,102,164; total, £2,086,890. For the similar period of 1906 they were:—2,687 cars of a value of £1,059,670; parts, £861,424; total, £1,921,094. Turning to the exports of British motor-cars and parts, the number of cars shipped during the five months ending with May was 762, of a value of £297,936; to this have to be added parts estimated at £201,730, which gives a combined total of £499,666, as contrasted with only £255,556 in the corresponding five months of 1906.

Tit for Tat.

A FEW days ago when the Home Secretary, replying to a question in the House of Commons, stated that the number of accidents caused by automobiles during six months ending April 30th last was 4,451, a great outcry was raised by those who would seek to continue the reign of the horse. These good folks will find further food for reflection in the number of street accidents caused by horse-drawn vehicles during the same period, the return of which has been presented by Mr. Gladstone at the instance of the member for South-west Ham. During the same period there were no fewer than 9,951 such accidents, in 2,892 of which personal injury was caused. This habit of raising a hue and cry in connection with motor-car accidents is sensibly declining, but is unfortunately still existent, and it is well sometimes to be reminded of the dangers connected with horse-drawn traffic.

The Winning Rover.

THERE was a "sound of revelry" in the proceedings at the complimentary dinner which was given to Mr. E. Courtis, in Coventry, last week. He has attained much distinction as the winner of the Tourist 'Trophy race on a 20-h.p. Rover, which made such a capital showing in that event, for, while others fell out by the way, the Rover ran well to victory. Col. Wyley, the chairman of the Rover Company, presided, Messrs. Harry Smith, A. H. Griffiths, F. Ward, F. J. Jenkins, W. B. Goodwin, and other well-known Roverites being also present. Mr. Harry Smith announced that the same cars and drivers would again compete for the Trophy in 1908—a statement received with enthusiasm, as a second win for the Rover would make a record in the history of the race. Last year the identical Rover that won on May 30th arrived at the enclosure too late for participation in the race, so that its win this year was all the more noteworthy.

Lady Motorist thanked by the Bench.

IN a case heard at Cambridge a motorist has been charged with driving a motor-car in a manner dangerous to the public at Drayton. Mrs. Burkett stated that she was motoring from Bedford to Cambridge. When nearing Drayton her chauffeur drove to the side of the road to allow two cyclists to pass who were coming towards them. She was surprised to see the cyclists go on to the grass track till she saw another car, with a great noise, rush by her own, striking it as it went past. Her own car was going from fifteen to twenty miles an hour. The other went by like an express train. Witness added that she was giving evidence because she did not think other motorists should be classed with the road bullies who went about in motors. The lady was

publicly thanked for giving evidence, and the defendant was fined £5. The incident should do something to convince the public that motorists do not, as a body, condone the discourtesies that occasionally occur on the road, but that they have regard for the comfort and convenience of others. After all, the use of the roads must be a matter of give-and-take between the various classes of traffic on the highway.

The Motor Club Run.

CONFORMING to the original intention that the Motor Club was to be an association of sportsmen concerned mainly with the pastime rather than the politics of automobilism—the initial club run was organised for Sunday last. It was the second day of summer—a season which did not commence until Saturday—and about fifty cars were officially recorded as starting from the clubhouse in Coventry Street for the run to Brighton, *via* Crawley, when a short halt was made by the majority of the participants. The way was led by Mr. C. Jarrott on his 40-h.p. De Dietrich, with Colonel W. J. Bosworth, the

the letters A-J 1-5 maintained a position along the centre of the roadway a considerable distance, and whenever a car wanted to pass the driver never budged, despite the long-continued hooting of the horn and shouting of the passengers close behind the first vehicle. The driver of the latter waved his hand when nearing Crawley, evidently signalling the second car forward, but when the latter drew up the first continued in its track, nearly sending the other vehicle on to the path. Ultimately it did give way a little just before the town was reached, but the incident was one of those irritating occurrences that dispel the freemasonry of the road and give colour to some of the aspersions cast at motorists by opponents.

Tramcars v. Motor-Buses.

WITH a view to secure the most modern method of locomotion in the city, the Tramways and Electric Power and Lighting Committee of the Liverpool Corporation have been considering the respective merits of tramways and motor-buses. They obtained information with reference to the latter vehicles



The Run of the Motor Club to Brighton.—Some of the Cars at Crawley.

club's genial chairman, as his passenger. Incidents were few, showers were sharp and sudden, and the weather added to the pleasure of the trip, the Automobile Association's scouts having evidently kept an eye on the Clerk. Unfortunately the road was not wholly clear of police traps, Sergeant Waghorn being located in the grounds of a private house on the London side of Handcross.

The Use of Traders' Numbers.

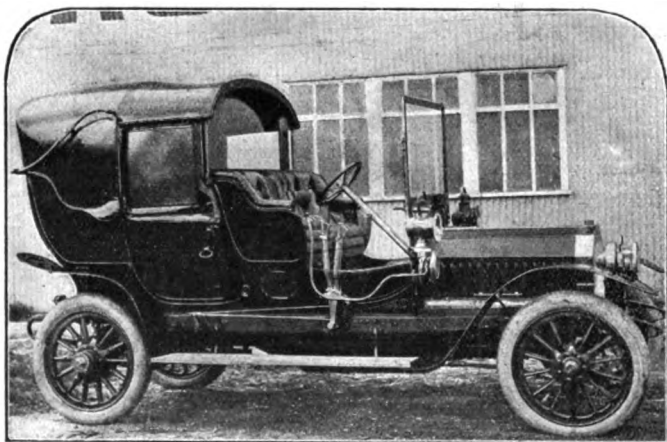
THE use of the traders' identification mark should be jealously guarded by the firms to whom they are assigned, for, it must be confessed, many of the incidents that have produced bad feeling against motorists might be traceable to the drivers of vehicles carrying such signs. The intention of the authorities with regard to such marks is quite clear, and on club runs, such as that of the Motor Club last Sunday, they should be conspicuous only by their absence. Certainly, if they do appear, the drivers should have regard to the wishes of other users of the road, and not imitate the manners of the carters and drivers of lumbering vehicles, of which complaint has often been made by motorists. Some miles from London a car bearing

from the general managers of various tramway undertakings, and, as a result, have come to the conclusion that motor-buses cannot as yet be operated in Liverpool with any hope of financial success. The ordinary person might have imagined that direct testimony from the motor-omnibus people would have better enabled the committee to have come to a decision, but apparently the advisers of the Liverpool Corporation in this matter have been content to ascertain the views of the tramway authorities. Anyhow, we learn that a comparison has only to be made between a tramcar capable of carrying seventy-three passengers, earning 11.17d. per car mile over the whole tramway system, as against a motor-bus having a carrying capacity of about half that of a tramcar, with an earning capacity in the same ratio, the operating and maintenance charges being much higher. The fare chargeable on the bus would, therefore, require to be about double that charged on a car in order to make the earning capacity equal to that of the latter. If, however, the same progress that has been made during the last twelve months should continue, and the operating and maintenance costs are reduced, the question of motor-buses might be considered at Liverpool at a future date.

THE ANATOMY AND PATHOLOGY OF FRICTION-DRIVEN PUMPS.

BY CHARLES T. W. HIRSCH.

THE water circulation of many cars is still effected by a pump driven by friction off the fly-wheel, and the disturbed functions of this method of preventing over-heating is such a source of annoyance and delay that a few notes on the subject may be of interest. As, before considering the morbid affections of any part, it is essential to understand the normal appearances, I propose firstly to briefly discuss the physiology or healthy structure of this important part of a car. Roughly, it consists of, usually, a gun-metal casing in which a circular metal disc provided with grooves is made to revolve rapidly by means of a steel spindle, to the other end of which is keyed a friction wheel, kept in contact by a spring or springs with the flywheel of the engine. The back of the casing is concave on the inside, and the ridges on the disc are cut to the same cone; the inner side of the casing is prolonged in the shape of a tube, thus forming a bearing for the spindle, a lubricator being provided. On the more recent patterns the end of the tube has a packing gland to prevent leakage. The water coming from the tank is spun in a screw fashion by the pump wheel through the cylinder jackets and radiator, and then back to the tank, from whence it starts on its journey once more.



We illustrate above a new model Dennis Car recently completed by Messrs. Dennis Bros., Ltd.

The hood has been specially constructed so that it allows no wind or draught to the occupants when it is closed, as shown in the picture, and when the hood is down it is an entirely open carriage. The chassis is fitted with a 30-35-h.p. engine of Messrs. Dennis's own construction, having a bore of 120 mm. and a stroke of 130 mm. This vehicle has a four-speed gear-box, with a highly-g geared fourth speed to reduce petrol consumption, and a direct drive on the third, with no gears in mesh, changing being effected by a "gate" control.

When the pump does not work the water does not circulate, with the result that over-heating troubles, with consequent pre-ignition and loss of power, may occur, if, indeed, not more serious complications, such as burning up of the lubricant in the cylinders, seizing of the piston, &c. Difficulties connected with the water circulation can be divided into two classes: (a) the functional, in which no actual lesion can be found, and (b) the organic or structural, in which a definite morbid change has taken place. Dealing first with (a) functional disturbances, these being due to (1) obstruction in the circulating pipes, such as air locks or kinks in the rubber tubing connecting the metallic pipes. Occasionally in connecting a piece of rubber hose to the metallic tube the outer layer only is pushed on, while the inner portion forms a sort of valve-like obstruction to the passage of the water. As to (b) organic causes, these may be taken under three groups: (1) due to obstruction in the circulating pipes, (2) non-action of the friction wheel, (3) indisposition of the pump wheel. In addition to the functional causes mentioned under a, there may be deposits of lime, due to hard water, in either the pipes or the cylinder jackets themselves,

which might more or less prevent or impede the passage of the water; foreign bodies, such as dust or grease, may do the same.

Non-action of the friction wheel.—To use an Irishism, the wheel may act but not act, that is, seem to go round perfectly, but still not drive the spindle, the key fixing it to the latter having come out or been sheared off, and the wheel going round on the spindle instead of driving it. The friction wheel may be held up by the cap of the packing gland working loose and catching in the wheel. The leather or fibre forming the periphery of the wheel may be worn out of truth, or be greasy and slip, and thus not rotate at sufficient rapidity to keep the water cool. Occasionally the wheel works off its key, and the nut holding it on the taper end of the spindle slips off and the wheel falls off and is lost, with resulting stoppage of the pump. The wheel is kept in contact with the flywheel by one or two bolts fastened to a rectangular shaped bracket suspended from the car frame, springs between the bolt head and the pump keeping up the tension. The bolts may fall out or the springs be too weak and thus the tension not be sufficient to cause the wheel to revolve. The spindle may itself seize as a result of want of lubrication.

The pump wheel.—The grooves on this may wear so that it does not form pockets when working and pressing against the inner side of the casing, and thus the action of the pump either ceases or is not sufficiently strong to keep the water circulating quickly enough. The same result will occur if the concavity on the inner surface of the casing is scored so that the wheel cannot come up flush when working. These are the troubles that may occur, and, excepting those enumerated in the last group, the diagnosis is easy; in fact, knowing what may occur, a careful examination will reveal all the causes except those connected with the pump wheel. Having excluded all but the last-named, the pump should be removed, opened up, and the pump wheel and spindle taken out, when, if the grooves are worn or the spindle has seized, an inspection will reveal the fact. The diagnosis having been made the treatment is simple.

In cases of an air lock, open the cock at the radiator, if there is one, otherwise break a water joint and run the engine until the air is driven out and the water comes. The new joint should be made with either rubber or asbestos. I always carry a piece of asbestos board for this purpose; that about $\frac{1}{4}$ in. thick is the best. For a kink or bend blocking a rubber tube a new piece should be used. Steam hose pipe is the best to use; copper wire may be employed to secure the hose to the metal tube, but the "Bell" water tube clip is safer and easier to apply. Deposits of lime are best prevented by using distilled water. This costs but a few pence a gallon, and saves no end of trouble. Deposits can be got rid of by washing the whole of the water system through with a strong solution of soda. A patent fluid is, I believe, sold, which I understand is most efficacious.

Much trouble will be avoided by keeping the friction wheel well on to its key or feather on the spindle with two nuts, and in addition by putting a split pin through the lock nut and the spindle. If there is a packing gland, the cap should be fixed by either a set screw or a spring catching in serrations in the cap. Fibre makes an excellent friction wheel. Of course it wears out, and a wood wheel $\frac{3}{4}$ in. wide fixed to the spindle by a $\frac{1}{4}$ in. steel bar passing through the wheel and the spindle is a good substitute. In this case the advantage is that "Frood's" patent brake lining can be fixed round the wheel by countersunk screws. It can be had $\frac{1}{4}$ in. or $\frac{3}{8}$ in. thick, wears well, always grips, and is unaffected by either water or grease. The bolts holding the pump to the supporting bracket should be held by two nuts with a split pin through the lock nut; this will obviate the possibility of losing the pump. The lubricator must, of course, always be kept full of thick grease. In case of wear of the pump wheel a new one can be fitted, in which case the inside of the casing may require refacing in the lathe. The packing gland should occasionally be repacked with either asbestos cord or hemp, well greased with candle grease.

ON Tuesday a beginning was made at Sheffield with tar-spraying six miles of road.

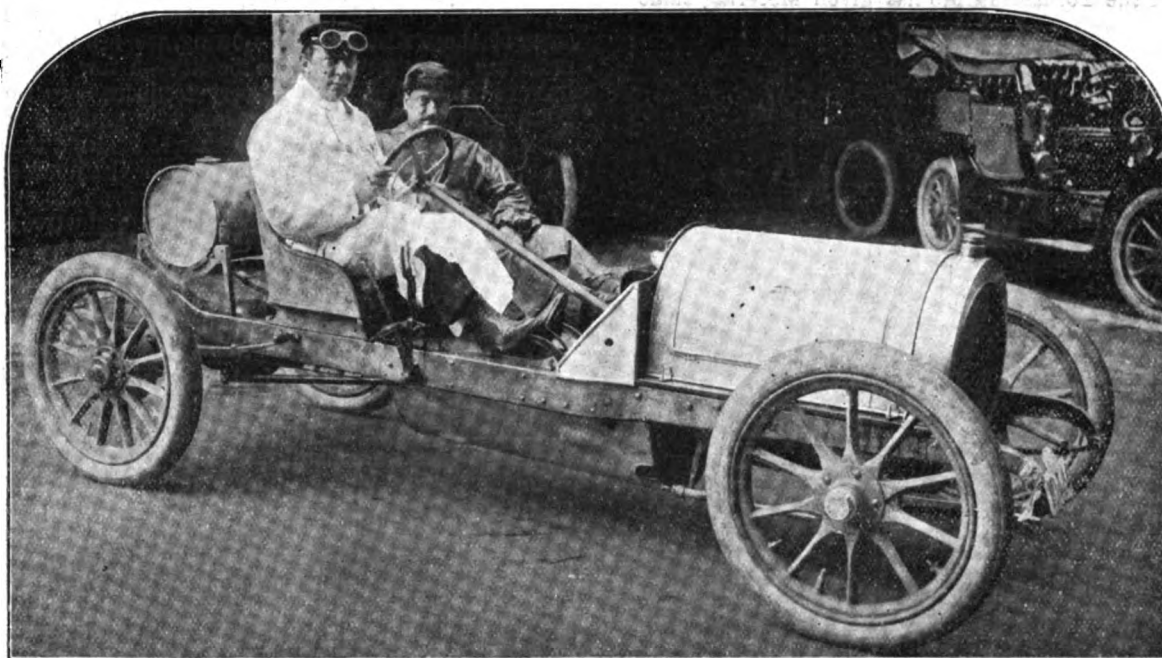
THE FUTURE OF THE TOURIST TROPHY RACE.

By T. C. PULLINGER.

AFTER carefully reading the letter by "Streatham" in the *Motor-Car Journal* of the 1st inst., with regard to the Tourist Trophy Race, I am sorry to say that I cannot endorse what he says in a good many instances. In the first place, I should think he has never driven a Tourist Trophy car himself, or he would not say that an average driver could only get seventeen miles to the gallon out of a Tourist Trophy car. Speaking personally, I am willing to wager that any ordinary driver will get nearer twenty-three or twenty-four miles to the gallon out of the Beeston-Humber Tourist Trophy car than seventeen miles, and this without any very skilful driving. To speak of humouring the engine with a mere whiff of petrol for the best part of the course proves that "Streatham" has not any very practical experience as to what an engine wants to get it to run. It is not by giving whiffs of petrol that you will get round the Isle of Man course on a day like the 30th of May at an average speed of twenty-eight miles

such is the case. As to learning anything that may tend to improve the frame and body construction, I do not know that a great deal has been done in this line, but certainly it has caused me to try different metals where I probably should not have done so had I not had the question of weight always before me, and I must say that I have been rewarded by being able to get a car much lighter than I should otherwise have done, and this same car has now stood well through the two races of 1906 and 1907.

As to running a racing reliability trial—I have no real objections to this, although I should think myself it would be quite impracticable to ask the Manx people to close their roads for six days consecutively; they might possibly be persuaded to do so for a few hours per day, and in this I think, with your correspondent, that the extra test of durability would be advantageous. What I should like personally to see would be a race pure and simple for cars of a maximum bore of, say, 100 mm. and a minimum chassis weight, leaving all the rest of the details to the manufacturer, and whether it is a race of one day or two or three consecutive days would not be of any vital importance as long as the distance was sufficient to give the cars a good



M. Degraix on the Germain Car he will drive in the A.C.F. Grand Prix Race. The vehicle is said to be fitted with a four-cylinder engine, 160 mm. bore by 150 mm. stroke and nominally rated at 105-h.p.

an hour. In fact, unless the carburettors had not been of infinitely better design and much more economical than those made some years back, the astonishing results obtained this year would never have been attained. Speaking again personally, although I have some fourteen or sixteen years' experience in motor-car designing, I must candidly admit that I have learnt more about carburettors during the last two years than I did in ten years previously, and this absolutely thanks to the Tourist Trophy Races.

I am not at all in favour of continuing the race under present conditions. I think that, from an advertising point of view, as "Streatham" points out, it is only the first car that gets the benefit, although the second and third, and for that matter the first ten, have put in a remarkably good performance and deserve a larger share of the credit. On the subject of wire wheels I am again not of your correspondent's opinion. I believe that it is the duty of the manufacturers to educate the public up to what is known to be the best thing, and if wire wheels are better than the ordinary artillery pattern—and this I believe myself to be a fact—then I think it is our duty to inform the public and to prove to them as far as is possible why

trial. It must be remembered that the Isle of Man course is a sporting one, it has its ups and its downs, its good and bad roads, and for a thorough test of a car it is what I consider an ideal circuit.

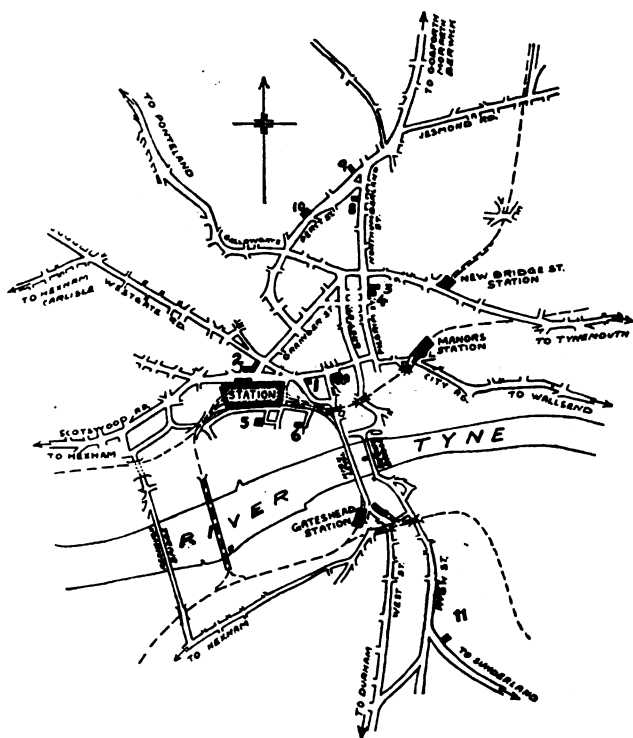
There is another point that I think should be taken into consideration, if possible, with these races and trials, and that is the selling price of the car. If one maker is capable of making a car which will win the Tourist Trophy race and sell it to the public at a price much inferior to his competitors, then I think that he ought to receive the support of the public to a far greater degree than another one who wins the race with a car that he is not capable of putting on the market except at a higher figure. I do not propose to suggest how this price factor could be made to enter into the rules of the competition in a practical manner, but no doubt the Technical Committee of the Royal Automobile Club could solve the difficulty. To resume, my opinion is that the Tourist Trophy races of the past have done an infinite amount of good in improving light tourist cars, including their carburettors, but that I should favour in the future a trial more of the nature of a race without limitations of weight to be carried by the chassis.

AROUND NEWCASTLE-ON-TYNE.

UNIQUE in its method of organisation, the North-Eastern Automobile Association has done much useful work for the automobile movement. It comprises a large and important area, and has branches at Berwick, Morpeth, Hexham, Newcastle, South Shields, Gateshead, Sunderland, Durham, Hartlepoons, Stockton, and Darlington. All these centres of activity can be influenced for mutual protection whenever local prejudice may threaten to assail the rights of motorists.

Fortunately, however, there is a considerable friendliness between the public and the motoring community of the north-east coast, and the motor gatherings organised by the Association are generally well supported by the localities. Last year, for instance, about 5,000 people attended the hill-climbing competition at Ragpath Hill, and the open contest—the committee have wisely extended the interest—there to-day (Saturday) will be the event of the year in that neighbourhood.

Tyneside has perhaps not received its deserved meed of favour from the motorists of other parts. The south-west and some portions of the east coast have been visited by the leading organisations, and the Yorkshire Club has given motoring fame



- | | |
|---------------------------------------|---------------------------------|
| 1. Business Headquarters, N.E.A.A. | 7. F. Little & Co.'s Garage. |
| 2. County Hotel. Social Headquarters. | 8. J. Duncan Hodgson's Garage. |
| 3. North Eastern Garages, Ltd. | 9. R. A. Young & Co.'s Garage. |
| 4. Kirsop & Co.'s Garage. | 10. Sanderson's Garage. |
| 5. George & Jobling's Garage. | 11. W. Galloway & Co.'s Garage. |
| 6. Rowland Barnett's Garage. | |

to Saltburn; but beyond that motorists have not gone in any preconcerted parties. Perhaps next year the Motor Union may be prevailed upon to visit the district; meanwhile, individual visits may be made enjoyable. The accompanying sketch map of the leading streets of Newcastle-on-Tyne, showing various points of practical interest to motorists, is taken from the Handbook of the North-Eastern Automobile Association, it having been placed at our disposal by Mr. J. E. Hodgkin, the hon. secretary of the Association.

The motorist fleeing from the smoke that overhangs Newcastle will have plenty of ways out of the city—either to the coast or to the beauties of Tyneside, full of their historical associations with a very distant past. Considerations of space prevent more than the briefest enumeration of these, but strangers going northward from the Ragpath Hill climb should not omit a run out to Tynemouth, Cullercoats, and Whitley, the

firm sands of the latter place providing good motoring experiences at times. Still further north an interesting expedition is that of tracing the Roman wall, extending from Wallsend to Bowness, on the Solway, a distance of about seventy-three miles. Travelling to the west of Newcastle it is a splendid run through Wylam, where George Stephenson's birthplace still stands; Prudhoe and its castle, where a romantic country is entered and the dark tones of the lower Tyne forgotten; Stockfield, where Watling Street falls into the high road and runs parallel with the railway towards Corbridge, a delightful little town, once a Roman settlement of great renown. From here there is a delightful run to Morpeth, with just a bit of a climb out of Corbridge, a descent into Milford, and a hill climb into Morpeth. A rich pastoral country is now entered, and at Hexham is one of the most picturesque towns in the district.

With regard to the roads, it may be assumed as generally accurate to say that they will be found in the most favourable condition for motoring in the spring or early summer, when the full benefit of the winter repairing can be enjoyed. From Newcastle itself there is the choice of a couple of good roads westward to Carlisle, one through Chollerford and Greenhead, the better one, however, being that to Hexham, indicated on the accompanying sketch map. Care, however, must be exercised in some of these districts, for—owing, we are told, to the speedy motoring of strangers to the locality—a few police traps have been established and are in very frequent operation. Between Newcastle and Morpeth there are two or three of such danger spots, notably at Stannington. There is also a trap in existence on the Newcastle-Chollerford road near the junction of the road to Corbridge, two miles west of Whittledean Reservoir. So far, however, these have not been greatly productive of revenue to the county.

SCOTTISH NOTES.

ON Tuesday, the 25th inst., the Scottish Reliability Trial for touring cars will start from Glasgow and occupy the remainder of the last week of the present month. Although the event will be on the same lines as those of 1905 and 1906, the routes to be followed will provide a severer test of the competing vehicles than those traversed hitherto. In a previous issue we gave a full *resumé* of the rules and conditions; it will now suffice to add that Class 4, which was for vehicles the selling price of which ranged between £400 and £600, has been divided into two sections, and the classification will now be:—Class 1, to £200; Class 2, to £300; Class 3, to £400; Class 4, to £500; Class 5, to £600; Class 6, to £800; Class 7, above £800. The meeting of observers will be held in the St. Enoch Hotel, Glasgow, at 5 p.m. on the 24th inst., on which day the cars will be weighed at the public weighbox, 409, Pollokshaws Road, Glasgow. Passengers, too, will have to be weighed by 7 p.m. on that day.

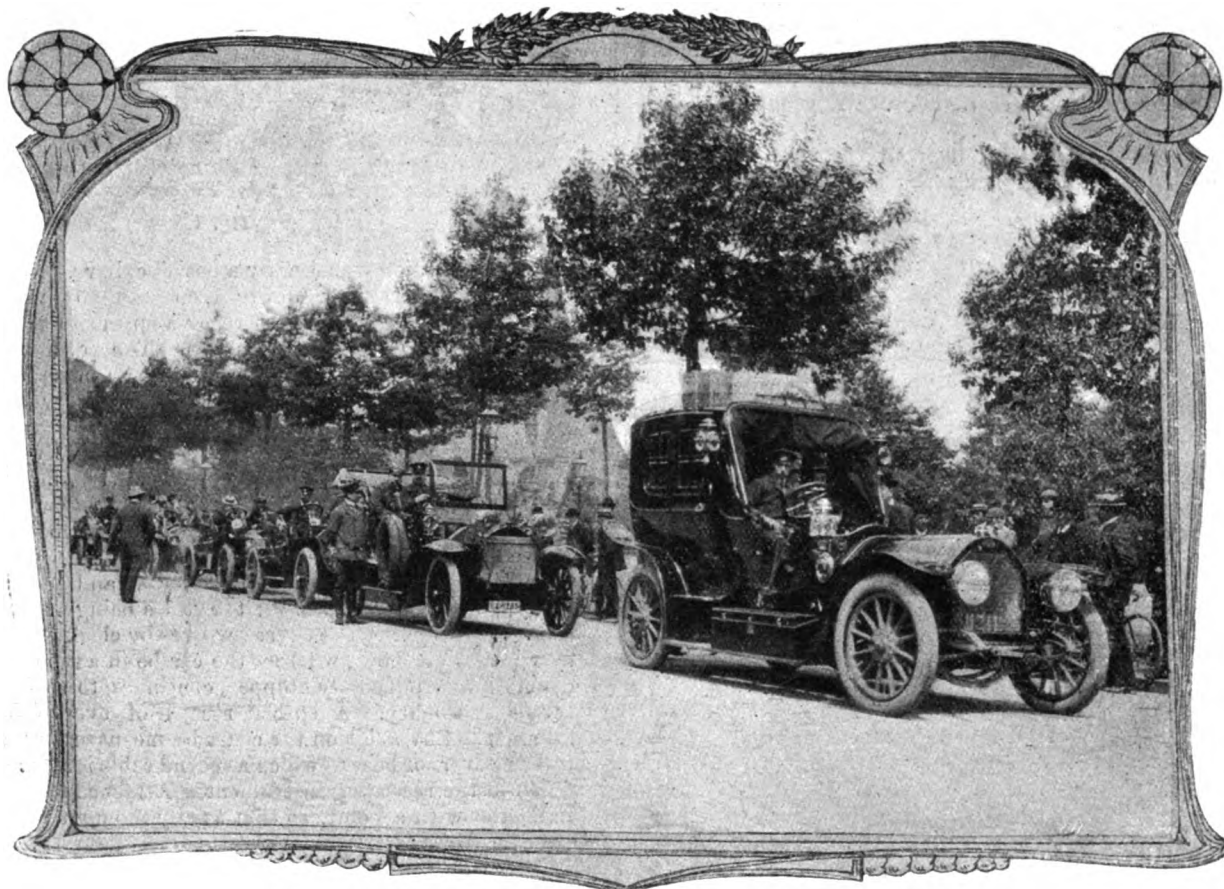
THE start will take place at Barrland Street, off Maxwell Road, Eglinton Toll, Glasgow, on the 25th at 8 a.m., an hour which will be kept for the start throughout the week. Mr. R. J. Smith's headquarters during the trial will be:—Tuesday, Station Hotel, Perth; Wednesday, Palace Hotel, Aberdeen; Thursday, Station Hotel, Inverness; Friday, Fisher's Hotel, Pitlochry. Storage depots will be established as follows:—Glasgow, the Kennedy Motor Company's depot, Barrland Street, and the Corporation Tramway depot, Albert Road; Perth, in the Little South Inch, Edinburgh Road, provided by Messrs. J. Pullar and Sons; Aberdeen, Messrs. Claud Hamilton's depot in Union Row; Inverness, Messrs. Macrae and Dick's depot, Academy Street; and at Pitlochry in a marquee on ground lent by Dr. Anderson.

OWING to the rebuilding of Advie Bridge it has been decided to continue the route of the Trials on the north-west side of the Spey, where it is joined by the south road beyond Craigellachie.

THE HERKOMER TOURING TROPHY COMPETITION.

AS was announced in our last issue, the start of the third annual contest for the Herkomer Touring Trophy took place at Dresden on Wednesday, the 5th inst. No less than 189 entries had been received, of which six were British, six Swiss, fourteen French, twenty-five Italian, and the remainder German. The reception of the cars on the 4th inst. proved mildly exciting, as the inspection committee exercised their duties rigorously. No less than 161 cars put in an appearance, and of these seventeen were rejected mainly because the body work did not comply with the rules. Loud protests were made, and eventually it was decided to allow the disputed cars to join in the run "*hors concours*,"—that is to say, they would

his steering gear. No. 13, a Stower car, was also disabled, it overturning owing to the driver taking a sharp turn too fast. Fortunately the passengers got off without serious injury. Herr E. Ladenburg (Mercedes), who won the Trophy in 1905, was the first to reach Mannheim, where 131 cars were entered at the control. As a result of the many accidents due to the excessive speed, the organising committee decided to disqualify all cars causing accidents, as a result of which five vehicles have been already put out of the trials. Up to this point Mr. C. Edge (Napier) had lost two marks owing to loss of pressure and Mr. Robertson Grant (Argyll) five points on account of a burst tyre, the other British car, driven by Miss Levitt, having a clean record. Lindau, 337 kilometres, was the destination on Friday, the start from Mannheim taking place at 6 a.m. The course included a very steep hill, extending over 5 kilometres of winding road, which tried the capacity of the cars, especially as it was also



The Herkomer Touring Trophy Competition.—The Cars leaving Würzburg.

be officially controlled like the others, but would not be taken into account as regards the award of the prizes. The first day's run, on the 5th inst., was from Dresden to Eisenach, via Zwickau and Leipzig, a distance of 358 kilometres, and of the 161 vehicles which started 141 completed the day's journey, during which several accidents occurred. In Freiberg a car ran over and seriously injured a man who was trying to save a dog. Another man was run over and hurt outside Freiberg, and a child was also knocked down and had to be taken to the hospital with both legs cut off. The cars arrived in Leipzig before they were expected, and ere the measures taken for keeping the course could be put into force. Sorel's De Dietrich car caught fire in the last named town and was considerably damaged. He, however, managed after a slight delay to continue the run. The three British cars did extremely well, the Napiers making non-stop runs, and the Argyll being delayed only by a puncture. On Thursday, the 6th inst., the run was from Eisenach to Mannheim via Würzburg, 337 kilometres. Dr. R. Stoess, the winner of the Trophy last year, had unfortunately to withdraw his Horch car owing to colliding with a bridge, which damaged

his steering gear. Of the 128 cars which reached Lindau only seven were reported to remain in with no lost marks.

Saturday's run was from Lindau to Munich (222 kilometres), and included a series of speed trials over a 6.9 kilometre course in the Forstenrieder Park, near the latter town. Several accidents occurred during the day, the most serious being that to a 40-h.p. Minerva, which was acting as the following official car, and which, to avoid a collision with a private automobile, was forced into the ditch. Captain Mormann, the hon. secretary of the Bavarian Automobile Club, received the worst injuries, as his left arm was broken in two places, besides being severely bruised. The driver and other passengers fortunately got off with minor hurts. In the speed trials marks were given to the cars according to the nearness with which they covered the measured distance, to a fixed speed ratio allotted per cylinder capacity, so that a car doing faster time than the theoretical basis received so many marks in that proportion, while those slower had a similar proportionate amount scored against them. The three fastest times were as follows:—

1.—Herr Willy Poge, Mercedes, 2 min. 51 3-5 sec. (+ 65 marks).

2.—Herr Hermann Weigand, Mercedes, 2 min. 57 3-5 sec. (+ 59 3-5 marks).

3.—Herr F. Erle, Benz, 2 min. 57 4-5 sec. (+ 59 3-5 marks).

Miss Dorothy Levitt (Napier), was tenth in 3 min. 9 sec. (+ 50 4-5 marks), and Mr. Cecil Edge twelfth in 3 min. 13 4-5 sec. (+ 46 marks).

Sunday was devoted to an exhibition of the cars in Munich and to a carriage body competition, while on Monday morning a start was made for Augsburg (221 kilometres), a hill climbing competition on the Kesselberg being included in the day's programme. There were several mishaps, but fortunately none of them had serious consequences. Much disappointment was caused by an accident to Herr Poege, who had been considered a warm favourite for the hill climb. He ran his Mercedes off the road at the double turn and broke the differential gear. Herr Flinsch's Mercedes also over-ran the road and broke a front wheel. Just outside Augsburg Mr. Cecil Edge is reported to have also broken a connecting-rod, thus leaving only Miss Levitt's Napier and Mr. Grant's Argyll as far as British cars are concerned. As regards the Kesselberg hill climb no official figures are so far available, although it is reported that Mr. C. Edge made the best time, viz., 5 min. 47 sec.

Only 110 competitors were left in at the start of the last day's run, on Tuesday, from Augsburg to Frankfort-am-Main.



The Herkomer Trophy.

Although the actual results of the contest will not be made known for a few days, it is unofficially reported that the winner is Herr Edgar Ladenburg, on a 70-h.p. Mercedes, who was also the victor in 1905. A Métallurgique is said to be second, with either an Adler or another Benz third. Miss Dorothy Levitt, on her six-cylinder Napier, was amongst the early arrivals at Frankfort, making a non-stop record throughout. Mr. Robertson Grant also finished on the Argyll.

HERR M. KRAYN, of Kurfürstenstrasse, Berlin, a well-known publisher of technical books, has just commenced the issue of a new series known as the *Automobiltechnische Bibliothek* or *Automobile Technical Library*. Copies of the first two volumes have reached us; one is from the pen of Herr W. Pfitzner and Herr R. Urtel, and deals in an exhaustive manner with the automobile motor and its construction, while the second, which is by Herr W. A. Th. Muller, deals equally thoroughly with the automobile train, with special reference to the Renard system. Both works are freely illustrated by clearly-drawn diagrams, and should prove of interest and utility to motor engineers.

THE HARTLEY SPEED AND MILEAGE RECORDER.

A SPEED and mileage recorder for motor-cars has been brought out by Mr. Henry Hartley, of 39, Corporation Street, Birmingham, which allows the motorist to know the distance travelled, the time taken to each mile, and the duration of each stop. The apparatus consists of a governor driven

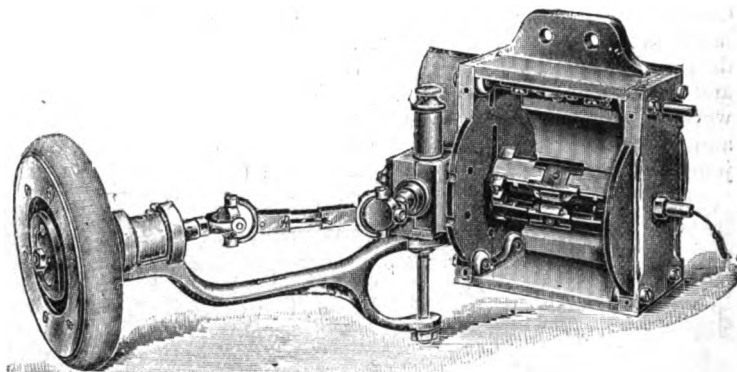


Fig. 1.

either by a friction wheel or by a positive drive. When driven by a friction wheel, as shown in Fig. 1, constant contact is maintained with the periphery of the tyre by a spring in tension, which is attached to the body of the chassis. The friction wheel, which has an unvarying circumference of eighteen inches, can be applied to wheel tyres of any diameter, and, as every second revolution counts one yard of travel, the mileage recorded is exactly that covered by a car wheel of any varying diameter. When the wheel is actuated by positive drive, fittings of various sizes are required to suit the different diameters of the car wheels. With regard to contact there is a direct pull by Bowden cable from the governor to the scribe, which actuates the latter; this, travelling on a worm, makes an indelible and permanent record on a revolving chart (Fig. 2); the scales being graduated both for time and distance. The chart revolves by clockwork at the rate of four inches per hour, whether the car be in action or not; as the drum, unless purposely stopped, continues to revolve while the car is stationary. A special record of every mile travelled is also marked by a dot on the chart by means of a cam and gearing in the governor box, to which a second cable is attached, actuating a pen in the recording instrument. Attached to the scribe is an indicator with a point, so that at any moment the rate of speed

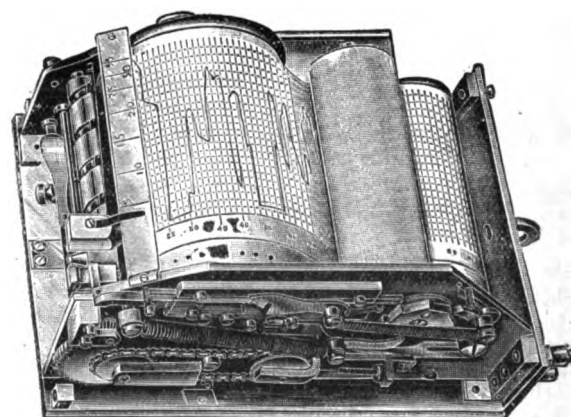


Fig. 2.

at which a car travels can be seen by the motorist, as the recording instrument is fixed on the dashboard directly under his eye; thus a twofold purpose, that of an indicator and recorder also, is achieved. Another important object is attained by an automatic adjustment, which can be set to operate at a maximum limit, in order to prevent the car exceeding the desired speed.

CONTINENTAL NOTES.

The Moscow-St. Petersburg Race.

Considerable interest was evinced in the race from Moscow to St. Petersburg, which, organised by the Automobile Club of Russia, was run off on Friday last week. The competitors, who numbered twenty-seven, were divided into three classes:—(1) Motor-cycles (eleven entries), (2) cars having engines up to 100 mm. cylinder bore (ten entries), and (3) ditto over 100 mm. (six entries). The actual finishing point of the race was at Tsarkoye-Selo, 425 miles from Moscow, the last 12½ miles to St. Petersburg being made in procession. The start took place at 2 a.m., the vehicles being despatched at two-minute intervals. The race, the first of the kind in Russia, was a victory for Duray, who, on a 60-h.p. De Dietrich, made the best time, viz., 9 h. 22 m., equal to a speed of 46½ miles per hour; Champoisseau, on a 30-h.p. C.G.V., second in 12 h. 53 min.; Folkin, on a Fiat, third, in 13 h. 14 min.; and Landon, on a 45-h.p. Mors, fourth, in 14 h. 4 min.

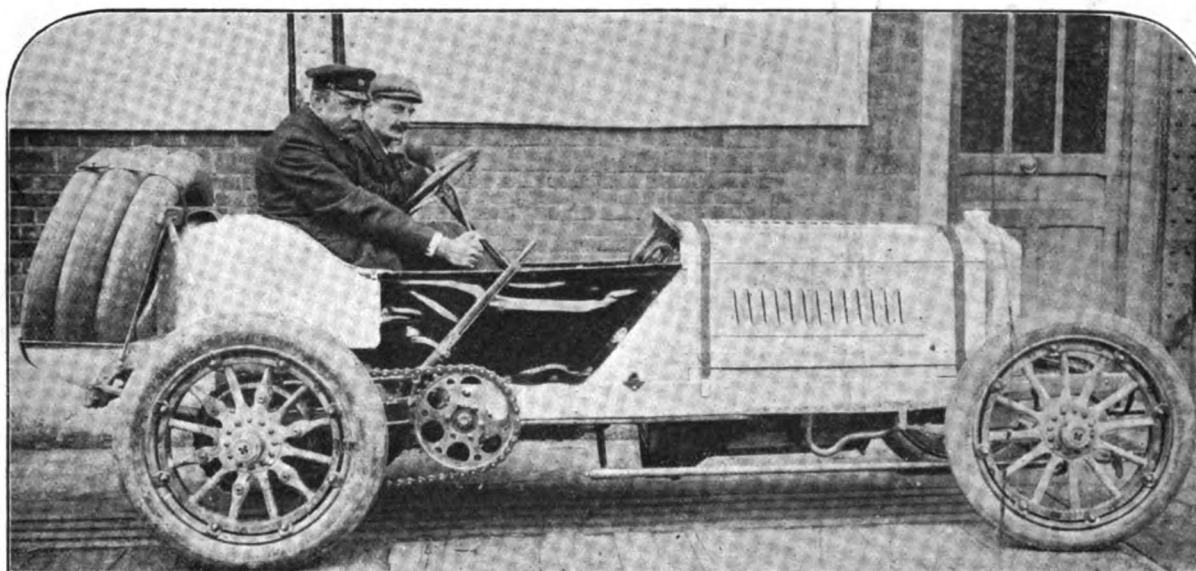
Motoring in Spain.

At Vittoria last week, on the occasion of the Corpus Christi festivities, an interesting competition reserved for touring cars

ninety-two entries were received for the event—thirty-two German, twenty-one French, nineteen Italian, ten Belgian, four British (three Daimlers and a Napier), three Austrian and three Swiss; and, in consequence of the German Government considering this too large a number of powerful cars to be allowed on the course at one time, the German Imperial Club were forced, in spite of protests, to resort to an eliminating contest. This was held on Thursday, the competitors being divided into two groups, the first twenty in each in a 240 kilometre trial—roundly two circuits—being eligible for the race proper, of which a full report will be given in the next issue of the *M.C.J.*

Military Motor Vehicles in Austria.

Some interesting trials have recently been made by the Austrian military authorities with two motor road trains, for the transport of soldiers and war material. One of the trains consists of a 30-h.p. combined trailer and lorry, with nominally two trailers, for a total load of three tons; the other is of 45–60-h.p., and, with three trailing wagons, can haul a total load of eight tons. In the trials above mentioned, which lasted three days, train No. 1 had three trailers, and No. 2 four, these being provided with rough seats for the soldiers. On the first day the vehicles were driven from Vienna-Neustadt, up the Semmering,



M. Baras on the Brasier Car he will drive in the A.C.F. Grand Prix Race. The vehicle is fitted with a four-cylinder engine, 165 mm. bore by 140 mm. stroke, nominally rated at 120-h.p.

was held on the road from Vittoria to Bilbao and back. The race was organised under the patronage of "Les Sports," and was won by Lomas on a 20–28-h.p. Darracq, who covered the 145 kilos. in 2 hours 8 min., which, considering the number of steep hills to be climbed, was a good performance; the second was Prado, also on a Darracq, time 2 h. 11 min.; the third, Luis Alfonso, on a Fiat, 2 h. 14 min.; fourth, Dumay, on a Renault, in 2 h. 14 min. 55 sec.

French Motor-Car Imports and Exports.

At the last meeting of the Chambre Syndicale D'Automobile de France it was announced that the imports of motor-cars and parts into France during the four months ending with April last had amounted to a value of £111,280, an increase of £6,920 over the corresponding period of last year. As regards similar exports from France, these reached a total of £2,077,520, an increase of £229,600.

The Kaiser's Prize Race.

With the completion of the Herkomer Touring Trophy contest on Tuesday, interest in German motoring circles became centred in the Kaiser's Prize Race, which is to be run off on Friday, the 14th inst., on the Taunus course. No less than

up which the annual hill-climb is held. On the second day a test was made on sharp curves and on rough ground, while the third was devoted to ascertaining the speed capabilities on the level. Altogether the authorities are reported to be well satisfied with the results of the trials.

Public Services in Italy.

Arrangements are being made to inaugurate a service of Darracq-Serpellet steam vehicles for the transport of goods between Milan and Genoa and between Verona and Milan.

Miscellaneous Items.

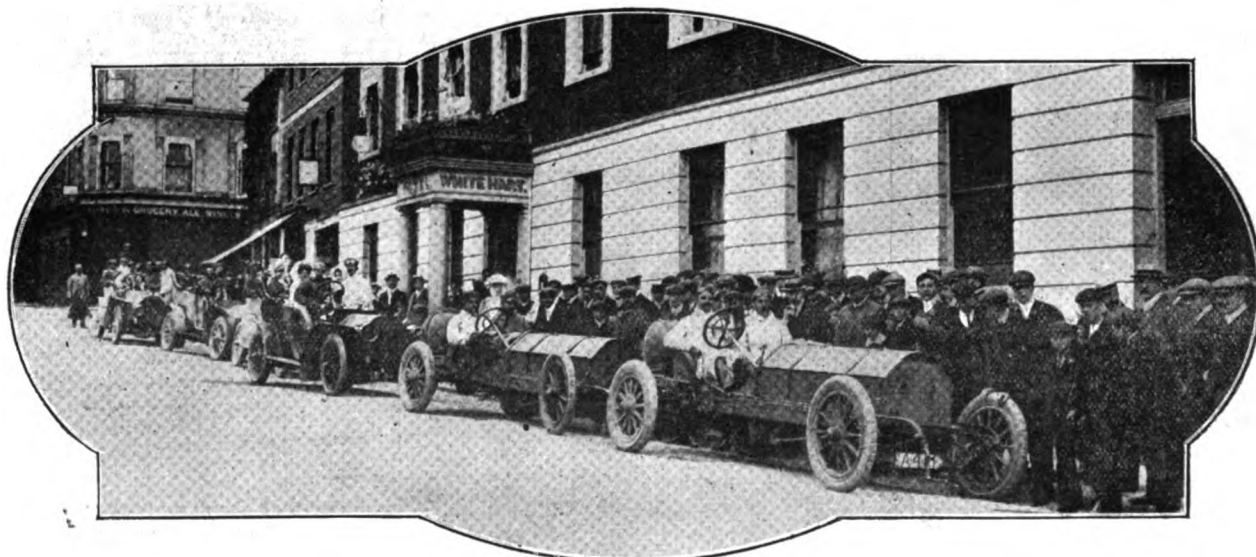
The Automobile Club du Rhone, of Lyons, is organising a series of flying kilometre speed trials on the road between Cheras and Anse for the 16th inst.—The Mont Cenis Pass between France and Italy has within the last few days been opened to motor-cars.—It is reported that the German manufacturers of motor tyres intend to raise their prices on the 1st prox. owing to the increased cost of raw materials.—It is expected that about fifty cars belonging to members of the Volunteer Corps will take part in the forthcoming German military manoeuvres.—A 20–30-h.p. Labor car was last week driven from Paris to Marseilles in 15 h. 45 min. by M. Hours.

A WEIGEL OUTING.

WE gave an illustration, together with some particulars, of the first 8-cylinder car which Messrs. Weigel Motors, Ltd., have built for the A.C.F. Grand Prix race, in our issue of the 1st inst. The second vehicle—a sister car—having now been completed, Mr. D. M. Weigel, on Sunday last, invited a number of Press representatives and friends to accompany him on a run to Brighton, in order that they might have an opportunity of watching the behaviour of the racers on the road ere they are taken over to France ready for the race on the 2nd prox. The party met at the Hotel Metropole, Northumberland Avenue, W., where a fleet of six 40-h.p. Weigel cars were in readiness for the visitors, and a little after the appointed time a start was made by a somewhat unusual route for London-by-the-Sea. Mr. Weigel led the way on the first of the racers, followed by Mr. Pryce Harrison on the other, and the relatively quiet manner in which the two low-built powerful machines wended their way through the traffic was astonishing. Passing through Hammersmith, Mortlake, and Richmond, a halt was made at Kingston in order to replenish the water tank of Mr. Harrison's car. The latter had only been completed on the previous day, and as this was practically its initial run on the road, sufficient time had not elapsed to get everything in

had induced him to enter for the Grand Prix race, although the late publication of the conditions had not enabled him to put in hand the special cars he desired, the two machines he had completed being each practically a couple of Weigel cars rolled into one. Mr. Weigel created a mild sensation when he announced that, provided the rules for the A.C.F. race are made known by the end of September next, he would build three special racers for the contest "which will win." He added that it had been finally decided he himself would not drive in the forthcoming contest on the Seine-Inferieure circuit, but that the cars would be driven by Mr. Pryce Harrison and Mr. R. Laxen, whom he had no doubt would do their best to bring the Grand Prix to England. Mr. Weigel also announced that the two racers will be entered for the Circuit des Ardennes and Vanderbilt Cup contests, these two, in conjunction with the Grand Prix, forming, in his opinion, the three principal contests of the year.

In the afternoon a start was made on the return journey to town, and, although the weather was not so propitious, the rain which fell had more than a counterbalancing advantage in the resulting freedom from dust. Beyond a halt at Crawley, where it was found that the police had been actively at work, our homeward trip, which was made on the car driven by M. Emile Brouard, was a non-stop, and proved an excellent



The Run of Weigel Cars to Brighton.—The two racing cars, with Messrs. D. M. Weigel and Pryce Harrison at the respective wheels, leading the way from Reigate. [Photo by] [Campbell-Gray.]

perfect running order. In this case it was the lubricator which was at fault, which had caused the engine to overheat slightly, the water in the radiator rising fountain fashion several feet high when the filler cap was cautiously removed. After a slight delay a fresh start was made, racer No. 1 going off as quietly and as easily as a touring car, while No. 2 proved somewhat stubborn and inclined to smoke much too freely for the comfort of the passengers in the succeeding cars. However, the trouble was of brief duration, and Mr. Harrison had coaxed his machine into good behaviour ere Reigate was reached, a brief stay being made at the town to allow the inevitable photograph to be taken. From this point onwards a good pace was kept up, the only trouble experienced being the blinding dust, which penetrated the most perfect of goggles. We had but brief glimpses of the racers, for, speedy as our car was, it was, of course, not able to keep up with the eight-cylinders; ever and anon, however, Messrs. Weigel and Harrison pulled up so that the party might gather together. The descent of Handcross Hill was safely made, and, following the usual road through Bolney, Patcham and Preston, Brighton was reached about 2 p.m.

At the excellent lunch which followed at the Hotel Metropole, Mr. Weigel, in responding to the toast wishing his ears success in the forthcoming event, outlined the reasons which

testimony to the speedy and quiet-running qualities as well as the reliability of the Weigel cars.

THE County Councils' Association is urging the Government to deal with motor-car legislation at an early date; but it is generally conceded that the present fulness of the Ministerial programme will prevent anything like prompt attention to this suggestion.

THE corporation of Henley have decided to re-open Henley Bridge to heavy motor traffic. During and since the extensive repairs made to the foundations of the structure the bridge has been closed to all heavy traction traffic, to the great discomfort of timber and brick hauliers, who have had, for at least six months past, to go as far round as Reading in order to cross the river.

A LIQUID metal polish known as Polysol has been placed before motorists by Messrs. Henkel and Co., who recommend its use in connection with the bright parts of motor-cars. It is not accompanied by any unpleasant odour, while its non-inflammability is another point in its favour. In quickly securing a polish Polysol does not scratch the surface of the metal, but gives it a durable gloss. The preparation does not corrode and rapidly secures the desired effect.

MR. ARTHUR MELLOR, in the extension of his works at Commonedge, Marton, Blackpool, has arranged for a motor garage.

THE road from London to Hastings, via Bromley, Sevenoaks, Tonbridge, Lamberhurst, Hurst Green, and Battle, will be specially patrolled by the scouts of the Automobile Association on the 25th, 26th, and 27th insts.



The 28-43-h.p. Limousine recently supplied by the Daimler Company to Sir Frank Forbes Adams.

THE United Motor Industries are about to transfer the manufacture of accumulators from Coventry to a new factory in London, where they will also make the Castle coils.

LAST year's report dealing with patents and trade marks has just been issued, and shows a large increase in the applications due to activity in the motor-car industry.

TEN entries have so far been received for the Commercial Vehicle Trials, as follows:—Milnes-Daimler, Ltd. (six entries); Halley's Industrial Motors, Ltd. (two); Messrs. Savage Bros., Ltd.; and Messrs. J. and E. Hall, Ltd.

ACCORDING to a dispatch from Pekin, five vehicles—a 40-h.p. Itala, a 15-h.p. Spyker, two 10-h.p. De Dions, and a 6-h.p. Contal tri-car left the Chinese capital on Monday in an attempt to carry through a race across Mongolia and Siberia to the European frontier and thence to Paris.

HODDESDON Urban District Council are about to apply to the Local Government Board for an order to limit the speed of motor-cars passing through the streets of the town to ten miles an hour. Other towns and villages in Hertfordshire are discussing the advisability of taking a similar step.

IN the Irish reliability trials the behaviour of the Royal Sirdar grooved non-slipping pneumatic tyres fitted with the patent non-nipping tubes was exceptionally good, and those motorists whose cars were thus equipped were able to go through the test runs with practically no sign of wear and very few cuts on their tyres.

MR. JOHN E. GIBBS has disposed of his works at Thomas Street, York, and has started under the name of John E. Gibbs and Maclean, at Fawcett Street, York. These are much larger premises, and a complete plant of high-class tools has been installed. A speciality will be made of repairing work, with a special department for steam cars.

ON Thursday last week Mr. F. F. Wellington, who has just severed his connection with the British Automobile Commercial Syndicate, Ltd., to take up the management of the Trompenburg Manufacturing Company, the manufacturers of the Spyker cars, entertained a party of friends to dinner prior to his leaving London to take up his residence in Amsterdam. The utmost cordiality prevailed, Mr. Wellington, in reply to the well-wishes of his guests, expressing the hope that he would still frequently see them, and inviting them to visit him at any time in the Dutch capital.

HERE AND THERE.

At a public meeting held in Bexhill condemnation of the motor races held in the town during the season has been strongly expressed.

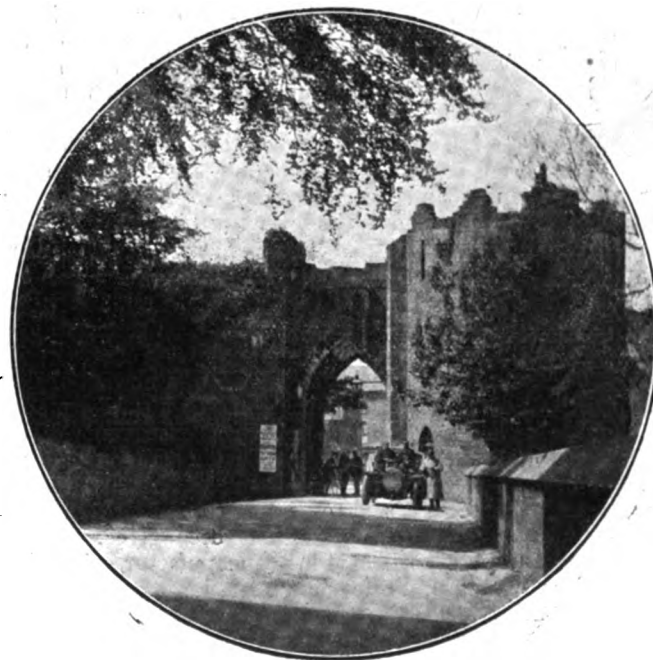
IN addition to their garage and works, the Halifax Motor Car Company have extensive showrooms at 44, Northgate, where they have now on view a set of the component parts utilised in the building of their new car, the County.

FROM Messrs. Sternberg and Eason, the British agents, we have received a copy of the new catalogue of Buick cars. This is a handsomely got up publication and gives particulars of the various models, including a 22-h.p. double-cylinder and 24-h.p. four-cylinder. The illustrations are very clear, and include not only general views of the vehicles but detailed drawings of the leading components.

BRITISH made Dunlop tyres were fitted to the winning cars in both the Tourist Trophy race and the Heavy Touring Car race. In addition, both the 16-20-h.p. Beeston-Humber, second in the light class, and the 25-h.p. Gladiator, second in the heavy class, together with all the cars which finished the course for the T. T. race, were shod with these tyres.

MESSRS. GILBERT AND SON, LTD., of the Lindum Works, Lincoln, will have the management of the motor-car garage in connection with the Royal Agricultural Show at Lincoln. The space at their disposal will be sufficient to provide accommodation for nearly 300 cars under cover. They will also have a repair department in telephonic communication with their own works.

ON Thursday, the 6th inst., the 45-h.p. six-cylinder Hotchkiss car completed over 5,000 miles in the 10,000 miles reliability trial under the official observation of the Royal Automobile Club, and up to the present has acquitted itself magnificently. Since April 29th this vehicle has completed daily journeys averaging 160 miles over all varieties of roads in England, Ireland and Wales, the daily runs being of almost monotonous success, without necessitating any mechanical adjust-



The Hotchkiss Six-Cylinder Car at Conway Castle.

ments. In addition to this performance this identical car went through a similar tour of 6,250 miles in France, taking all roads absolutely without any involuntary stoppage—an excellent testimony to the workmanship and material.

LORD PORTSMOUTH has, in the House of Lords, voiced the desire of the War Office to get into touch with such organisations as the Automobile Club, in order to find an outlet for the employment of those who leave the Army.

A MOTOR garage scheme is in contemplation for the city of York.

THE Schulte Cup, for the Edinburgh to London run, has been won by an 8-h.p. Rover.

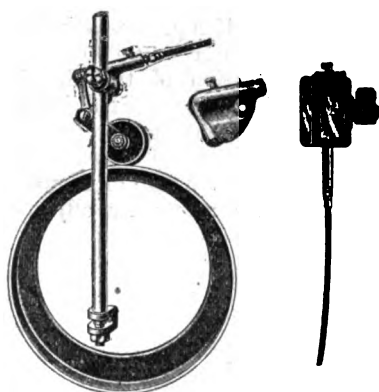
THE Crystal Palace A.C.'s hill climb on Captain Kidd's hill has been postponed to the 27th prox.

A MOTOR-CAR recently stolen from a Harrogate garage has been found on the road, near Thirsk, having been abandoned by the thief after a breakdown.

THE well-known White Lion Hotel at Cobham, on the Portsmouth road, is only two miles from the new Brooklands track—a matter of interest to motorists journeying thither from London via Kingston and Cobham.

FOR the "East Anglian Daily Times," the Derby race was reported by a correspondent who went from Ipswich to Epsom on a 14-h.p. Argyll car driven by Mr. W. H. Scottorn, of Messrs. W. H. Scottorn and Co., the well-known motor agents of the town on the Orwell. They travelled to Stratford, and thence, by way of Poplar, the Blackwall Tunnel, and Greenwich, contrived to escape the ordinary London street traffic before getting into the busy scenes on the road to the Downs. Messrs. Scottorn are prepared to run motor vehicles for public hire in connection with the Bury St. Edmunds pageant next month.

IN the advertisement of the Bowden Patent Mileage Recorder, which appeared in the *M.C.J.* of the 1st inst., a wrong block was inadvertently used, the illustration appearing therein being that of the well-known Bowden Carburettor Agitator. The accompanying illustration will give the reader an idea of the appearance of the Bowden Mileage Recorder, one of the leading



features of which is that it dispenses with the customary flexible shaft while retaining the much-favoured dashboard position. This is accomplished by utilising the Bowden wire mechanism to transmit the movement from the road wheel to the mileage dial. By way of short description we may explain that the eccentric flanged ring shown on the left is fitted to the hub of one of the steering wheels, the eccentric form of the ring causing the small

castor wheel to rise and fall at every revolution, thereby imparting a rocking motion to the lever to which it is attached, which movement is transmitted in turn to the dashboard mechanism shown on the right by means of the Bowden wire. That this form of transmission is thoroughly reliable would appear to be proved by the fact that it has been tested to over 80,000,000 movements before giving out.

A GOOD deal is at present being heard of a new smokeless fuel known as Coalite. It is manufactured by a special process from coal, in such a way that the valuable constituents of the latter, which in the course of ordinary burning are wasted, are converted into by-products of great commercial value. First among these by-products is said to be a new British-made motor spirit, to which the name Coalite has been given. As the results of exhaustive experiments in the manufacture of Coalite, made by Dr. S. Rideal, Professor Vivian Lewes, and Mr. T. Parker, M.I.M.E., M.I.C.E., it has been ascertained that, in treating 3,000,000 tons of coal, no less than 7,200,000 gallons of benzol, toluol, naphtha, &c., are obtained, a large proportion of which is admirably fitted for use as motor spirit. As the promoters of the new Coalite industry have laid their plans to handle the above quantity of coal at the outset, it will be seen that the general use of Coalite in place of coal would involve the production of a quantity of motor spirit far more than sufficient to meet the whole of the present demand. In fact, it is claimed that the supply of Coalite for London alone would mean the production annually as a by-product of 30,000,000 gallons of Coalite motor spirit.

MESSRS. GERHARD AND BACKIE have opened the Brooklands Motor and Cycle Works at 12, Deptford Bridge, S.E.

THE second place in the Manchester Motor Club's reliability trial was won by Mr. V. Foxwell Gray, on a 10-h.p. Alldays, who thus secured the silver medal.

MOTOR-CABS were conspicuous in the traffic going to the Derby, and it is estimated that about 200 vehicles belonging to the General Motor Cab Co. were thus engaged.

At the Bath and West of England Agricultural Show, Messrs. S. and A. Fuller, of Bath, had a good display of motor-car bodies. Motor-cars, including a 40-h.p. Siddeley with a three-quarter landaulet body, were shown by Messrs. Perry and Turner, Ltd., of Bristol and Cardiff.

MR. A. A. REMINGTON, who has been connected with the Wolseley Company since its formation, was married on Wednesday last week. His colleagues at Birmingham, London, and Crayford gladly availed themselves of the opportunity to show their regard and esteem for Mr. Remington, who has been responsible for both the designs of the Wolseley and Siddeley cars for many years.

LAST week we referred to the value of the motor-car in assisting the police of Reading to capture a burglar. We understand that the particular vehicle that was offered for the assistance of the authorities was driven by Mr. E. Stafford, the manager of Mr. Harry Julian's motor works in the Market Place, Reading. The thief when captured was conveyed back to Biscuitopolis on the car, and remarked that that was his first motor ride.

ELSEWHERE in the present issue will be found an article in which Mr. T. C. Pullinger, of the Humber Company, Beeston, expresses his views with regard to the future of the Tourist Trophy Race. Mr. Pullinger, who is well able to deal with the subject, in view of the success of his cars, not only in this event, but in the Heavy Touring Car Race, makes some interesting suggestions, on which we shall be glad to have the opinions of our readers.

IN a case heard at the Shoreditch County Court on Tuesday, the counsel against a motor-bus company unsuccessfully asked for a verdict in his favour, as under section 13 of the Locomotive and Highway Act of 1861 any vehicle propelled by an unknown force was a nuisance until it was scientifically tested. He submitted that the motor-bus was a nuisance, and had not been scientifically tested, and therefore should not have been put on the road. But the judge thought differently.

THE new list of the Talbot cars for 1907 is a good illustration of the advance that has been made in what we term the commercial literature of the Automobile. This is issued from the works of the Clement Talbot Company, at Barby Road, Ladbroke Grove, London, W., and its features include useful drawings of cars and their parts, with keys that will be of service to the novice. The prospective motorist will also be interested in the method adopted to show the four standard colours in which the cars are painted. The abridged specifications of 8-10-h.p., 10-12-h.p., 12-16-h.p., 15-20-h.p., 20-h.p., 35-45-h.p., and other cars are brightened with pictures showing the winners of various races of the past season where this type of vehicle displayed its excellence. Mr. T. H. Woollen, the general manager, is to be congratulated on the production of this list.

IN an appropriate white cover comes the latest publication of the White Company, of 35, 36, and 37, Kingly Street, Regent Street, London, W.—a list relating to the well-known steam cars popularised in this country by Mr. Frederic Coleman. Included in the contents is an authentic account of the recent 1,871 miles non-stop run of a 30-h.p. White car over the Scottish Reliability course and other equally trying routes, illustrated reports showing the appreciation in which the White car is held in the Dutch East Indies and in the Punjab, as well as records of the competitions in which the car has figured so creditably, including the Town Carriage competition of the R.A.C. The technical descriptions are concise and well illustrated by diagrams facilitating the comprehension of the points of simplicity and accessibility possessed by the working parts of a car which has come right to the front by merit, until, like Browning's hero, Mr. Coleman can say "I stand upon achievement."

CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

THE FUTURE OF THE TOURIST TROPHY RACE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have had the pleasure of addressing a letter, copy of which I enclose, to the Secretary of the Automobile Club of Great Britain and Ireland.—Yours truly,

COPY.

D. M. WEIGEL.

The Secretary,

The Automobile Club of Great Britain and Ireland,
119, Piccadilly, W.

Dear Sir,—Although not present at the recent Tourist Trophy race, I am given to understand by various members of the trade, and

attention of all foreign manufacturers, especially were they directly challenged to compete, and would also create great interest amongst all English and foreign motorists; in fact, it would be a race run upon similar lines as the Targa Florio, which has met with such universal success. I trust, Sir, that your committee will give my letter due consideration and I hope their reply may be satisfactory.—Yours truly,

(Signed) D. M. WEIGEL.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent who refers to the Criterium de France as a suitable model for the development of the Tourist Trophy idea need not have gone so far afield. In the old days the Scottish Trial consisted of a run from Glasgow to London, making halt at Leeds on the way. Could not we have a trial starting from London, making the Yorkshire town the objective of the first day's run, going on to Glasgow for the second, and then, covering the routes for, say, a couple of days in the present Scottish Trials on reliability lines, conclude with a race over the almost deserted highways of certain Highland districts for a final effort, allowing only cars that had attained a certain standard of performance in the first efforts to participate in the last day's run?—Yours truly,

T. JONES.



The Carter's Hill Cup Competition.—The scene at the foot of Carter's Hill, Underriever, Kent.

also private motorists, that the race lacked that enthusiasm so essential to a sporting event. Might I suggest that this is due to two causes?

1. The want of an International character in the race.
2. The difficulty and expense of complying with the intricate and peculiar character of the rules.

With due respect, I would suggest that there is a way to continue the races organised in the Isle of Man by creating greater interest, and yet limiting the speed, and confining it to touring cars and perhaps recalling all the advantages and interest of the old Gordon Bennett cup. I am prepared to offer a suitable trophy for a race in 1908, to be run on the following conditions:—1. To be limited to four-cylinder cars, the bore of each cylinder to be not more than 130 mm. 2. The weight of each car to be not less than 25 cwt., all on, but exclusive of oil, water and petrol. 3. Each car to be occupied by two passengers only, including driver. 4. There to be no other rules of any description as regards body, tyres, wheels, or anything else. 5. That two other firms outside my own firm compete on behalf of Great Britain, and those two firms to join us to be Daimler and Rolls-Royce, or, if the Club prefer it, there be an eliminating race, in which all English manufacturers can compete. 6. With the object of making it an international event, the Automobile Club of Great Britain and Ireland directly challenge any three makers of France, Germany, Italy, Belgium and America, to enter cars to compete against us.

I believe that a race promoted upon these lines would draw the

THE R.A.C. AND UNOFFICIAL TRIALS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Our attention has been drawn to a letter which has appeared in the motor Press, in which a correspondent finds fault with the Royal Automobile Club for their behaviour in connection with a top-gear, non-stop delivery, from London to Edinburgh and on to Dundee, successfully carried out by me on a 50-h.p. Thames six-cylinder car. According to this correspondent, the performance, regarded in the light of a "trial," was a contravention of one of the Club's rules, which lays it down that participation in any "trial or competition, otherwise than under regulations made by the club" shall be deemed a breach of the official rules, where "extensive advertisement" is obtained therefrom. He appears scarcely so well informed as he might be about what actually transpired between the Royal Automobile Club and ourselves. In order that no doubt on the subject may remain we shall be obliged if you will allow us an opportunity of stating exactly what did occur. Our attention was drawn by the secretary of the Club to the rule above mentioned, immediately after the delivery of the car, and an explanation was requested. In our reply, which was acknowledged as satisfactory by the Club officials, we simply stated the actual facts. The run in question was undertaken in no way as a competition or trial, but simply as the method of delivering the car selected by our customer in Scotland. Our customer's representative was on the car throughout the run, and,

naturally, both he and we were anxious to see what the car, with full touring equipment and limousine body, was capable of doing. We claim no "record" of any description whatever and are content that the existing record should still stand, although we are aware that it was made with a car which was specially prepared for the event, being fitted with a light open body, &c.—Yours truly,

W. T. CLIFFORD-EARP.

THE CONTROL OF MOTOR RACE MEETINGS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to the letter written by Mr. Hollands on behalf of the Crystal Palace Automobile Club in connection with the Bexhill farce, I would point out that I never questioned the excellence of Colonel Holden's formula, or the accurate manner in which the handicap was worked out by Mr. Worby Beaumont. I stated in very emphatic language that the organization of the meeting was disgraceful. None of the particulars supplied by various competitors on which the handicap was framed by Mr. Worby Beaumont were checked by the Crystal Palace Club, and even the handicap, as drawn by Mr. Worby Beaumont, was not adhered to.

I make no complaint as an unsuccessful competitor. I did not compete at the meeting and had no intention of competing, as I had had an opportunity of seeing exactly what would take place in connection with any competition promoted by the Crystal Palace Club in connection with the Bexhill topspeed trial. My sole object in criticising



Mr. Burnett Tabrum's 12-14-h.p. Argyll which won the Light Car Class at the Essex County A.C. hill climb at Laindon, on Saturday last.

was to warn would-be competitors in other events which might be run by this club of the sort of treatment they would expect to receive. I have no doubt that, for the purpose of the Crystal Palace Club, it is necessary that outside entries should be obtained in order to give the necessary veneer to the winning cars, but it is just as well that entries should be made with full knowledge. Mr. Smith's letter would be interesting if it were accurate. His figures are all wrong and I still adhere to the figures set out in my previous letter. Had he seen his own car on the track near the finishing post before the opposing vehicle was allowed off the starting line, he would have appreciated exactly the task which his opponents were set to do.

No, Sir! The Crystal Palace Automobile Club is flavoured too strongly with commercialism, and the sooner it stops trying to inveigle members of the industry into entering for "open events," the better it will be for the sport.—Yours truly,

CHAS. JARROTT.

THE HENRY EDMUNDS HILL CLIMB.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a competitor in the Henry Edmunds' Hill Climb held by the Royal Automobile Club on Saturday, I was astounded to find, on my arrival at the hill, that the entry of a certain steam car had been accepted to compete against the petrol cars, although the size of the petrol cars was restricted under the following formula:—

Cylinder diameter in inches squared multiplied by the number of cylinders must not exceed 100 inches.

To my astonishment, upon raising the matter with the officials of the Club, I was informed that the entry of the steam car was in order. The idea of putting steam and petrol cars together, relying on cylinder dimensions, seems to me to be so absurd that if it is persisted in it will mean that these club competitions will be looked upon with ridicule; I am certain that in France there will be much derision at such an idea.

Everybody knows that a steam car, with the aid of a specially large boiler (which would be quite unsuitable for an ordinary touring car) can obtain a very big head of steam, which will enable a car to rush up a short hill at a very high speed.

How the Royal Automobile Club could ever have imagined that the two types could be put together under such a very inadequate formula I fail to understand.—Yours truly,

L. CARLE.

APPEALS AGAINST TWENTY SHILLING FINES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice that attention has been drawn in the Press to the fact that under the present Motor Car Act magistrates, by inflicting a fine of 20s. and refusing to increase it to 21s., prevent an appeal against their decisions. This is an old question which three years ago occupied the attention of the Motor Union, who have carried the matter as far as it can be carried until the new Bill is introduced. The Union laid the facts in connection with the matter before the Royal Commission on Motor Cars (see my evidence, questions 587-590), and as a result the Royal Commission have recommended that there should be a right of appeal whenever the conviction has been endorsed upon the licence, irrespective of the amount of the fine. The Union go further, and in their legislative policy, which has been laid before the Government and Parliament, they propose:—

"That in view of the action of some magistrates in fixing the fine at twenty shillings and refusing to increase it to twenty-one shillings, so as to prevent an appeal, there should be a right of appeal in all convictions in connection with the use or ownership of a motor-car.

The question whether "costs" should be added to the fine for the purpose of arriving at the necessary minimum has also been raised in the King's Bench Division and settled. In the case of *Rex v. Novis*, May, 1905, it was held that the cost (18s.) could not be added to the fine (20s.), in order to give the defendant the right of appeal under Section 11.—Yours truly,

W. REES JEFFREYS,

Secretary Motor Union.

VARYING PETROL CONSUMPTION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of May 25th I notice a letter from "D. 2804" in which he mentions the petrol consumption of the 80-100-h.p. La Buire car in the reliability trials promoted by the Manchester Automobile Club, and compares this consumption with other cars of less horse-power which competed in this event, and particularly with a car of 7-h.p. that used practically the same quantity of petrol as the 80-100-h.p., viz., 16½ miles to the gallon. The writer points out the great discrepancies which occur, and states that some explanation will be satisfactory.

There are many points bearing upon petrol consumption, which I will give as follows:—1, perfect carburation. 2, economical transmission throughout from the engine to the road wheels. 3, flexibility of the engine, whereby you are enabled to run on your highest gear at very slow speeds, and 4, thorough knowledge of how to drive your car most economically.

The results obtained on the 80-100-h.p. La Buire in this competition rest, in the first place, principally with the unique carburettor fitted to the car, and, together with the other points I have enumerated, above all assisted to create the wonderfully low petrol consumption in this contest. I myself lately drove a 35-50-h.p. La Buire in a reliability trial with a petrol consumption of over twenty miles to the gallon (viz., Manchester Motor Club Trials, May 23rd to 25th). The 7-h.p. car "D 2804" mentions in his letter I believe is an old machine without any modern improvements.—Yours truly,

HENRY HOLLINGDRAKE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter of "D. 2804" in the *M.C.J.* of the 25th ult., as the owner of the 7-h.p. M.M.C., perhaps I can give some explanation which may elucidate the varying amounts of petrol used. The 80-100-h.p. De La Buire was one of the latest pattern cars, with a carburettor easily altered and adjusted to give different mixtures under varying conditions, and its owner had, by going over the course, previously carefully tuned it up, until he attained what must undoubtedly be called an excellent performance; every advantage was taken of the down grades to stop the engine and let the car run by gravity, starting again at the bottom. The 7-h.p. M.M.C. is an old car I have had five or six years, and has none of the fine methods for adjustment of carburation found in modern cars. The only alteration that can be made is by turning a tap to admit slightly more air, this adjustment being done when the car is standing. My man inadvertently left this closed, the result being we used even

more petrol than is usual for such a length of run. Over and above this, owing to the heavy state of the roads and the brakes being unprotected from the weather, the engine had to be run on the down grades and on the level the engine was kept at its utmost speed to enable the car to be got in the controls within its allotted time.

The 12-h.p. Lanchester mentioned did the worst of the three of that horse power, one using one gallon less and the other even better; the one alluded to is also an old car, whereas the 20-h.p. was entered by the representative of the Lanchester Company in Manchester, and doubtless he was doing all he knew all the time for low consumption, whereas to the purely amateur driver it is not a matter of such vital importance. Your correspondent is wrong, I think, regarding the petrol consumption of the 24-30-h.p. six-cylinder Belsize; it consumed rather more than the three-cylinder 18-24-h.p. car, viz.—8'46875 gallons for the former and eight gallons for the three-cylinder; the latter car is also an old pattern, and no doubt the better consumption of the six in comparison is brought about by improvements the Belsize Company have made in their later models.—Yours truly,

D. ADAMSON PARKYN.

DUST PREVENTIVES AND FISH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an ardent trout and salmon fisherman, and at the same time one who has been taking an active interest in the prevention of the dust nuisance, as well as in the permanent improvement of the roads, I wish to allay the apprehensions of my brother anglers, which have been caused by articles appearing in many of the daily papers. Undoubtedly there have been liquid preparations for application to roads which, when carried in sufficient quantity after rain to brooks and rivers, would poison or asphyxiate fish, and possibly might be injurious to human beings, animals, or birds, but, out of the numerous solutions for the purpose, I feel sure that some can be used without injurious results.

It is, however, on the subject of the use of tar itself, for the prevention of dust on roads, that I wish to say a few words. Tar has been, for a number of years, poured or sprinkled on roads, and afterwards distributed by hand labour, which necessitated such a quantity being applied that the surplus beyond what was required for saturating the material and forming a film on the surface might, and did, find its way into gutters, gullies, and water courses. Methods for applying the tar have, however, been improved, and, by means of machines recently invented, it can now be sprayed on to and into roads under very high pressure, in such a way that it forms part of the road itself, leaving no superfluity to run off or be carried away by water. It is calculated that not more than one-third of the tar previously used is now found necessary. This, of course, results in a great saving of the expense of treating roads, an economy still further increased by the rapidity with which the operation can be conducted, while expensive hand labour is replaced by scientific machinery and steam traction. The cheapness and rapidity of the process will enable highway boards to waterproof all, or nearly all, the main roads of the country in a comparatively short time.

I am informed that one company alone, established for this purpose, has already orders for more than 1,400 miles of road, which are now being executed as quickly as the weather will permit, it being essential that the road should be dried before the tar is applied. Mention has been made of the fact that gas works are prohibited by law from allowing their waste water to escape into streams, but the waste products are quite a different thing from the tar itself. It is a pretty good proof that tar is not harmful to fish when it is remembered that fish hatching boxes and nurseries are generally coated with tar. The Roads Improvement Association, assisted by two of the most important of the automobile associations, have been holding very exhaustive trials and competitions near Ascot, Staines, and Twickenham, with different preparations and machines for allaying the dust and improving roads. When their awards are made, and their authoritative report issued, it may be confidently predicted that they will not recommend the use of any substances that could be injurious to the health of either fish or animals, and there being among the judges some of the most eminent chemists will ensure their verdict being reliable.—Yours truly,

HERBERT MACKWORTH PRAED.

A SIMPLE HUB BAND BRAKE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am glad to hear that Mr. Baldwin is interested in this subject, and I have much pleasure in replying to his queries. 1. The brake band is lined. I use Flood's patent lining, one inch wide by a quarter inch thickness. 2. The rocker is well shown in the sketch published in the *M.C.J.* of May 18th. When in position it is practically an inverted Y piece; suitable dimensions of rocker for the drums mentioned in Mr. Baldwin's letter would be: Height over all 3½ in., thickness of material ¾ in., depth of boss, 1½ in., distance of boss to eyes for band attachment 1 in., and distance of boss to end of lever 2 in. My rocking piece was forged from a piece of 1½ in. square mild steel, and any blacksmith should be able to make one with these dimensions and the drawing on page 255 of the *Journal*. 3. The bracket is held in position on top of the centre of the spring by the U bolts holding the spring to the axle, and the vertical portion is forged

so as to clear the body of the car, and so that the band suspension bolt or pin is exactly over the centre of the brake drum.

Any other information I can give is at your correspondent's service.—Yours truly,

CHARLES T. W. HIRSCH.

TWO-CYCLE PETROL MOTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very pleased to read in a recent issue of the *M.C.J.* that the French Automobile Club is arranging to hold a competition of two-cycle motors, as it will undoubtedly have the result of drawing more attention to this type of engine, which has undoubtedly been somewhat neglected by automobile engineers in the past. Despite the advanced state of reliability and efficiency to which the Otto or four-cycle motor has been brought, there appears to be no question that it is not generally regarded as representing finality of design in this direction. With its more or less numerous moving parts of small size and its inherent defect of producing but one power stroke in every alternate revolution, it goes without saying that, from an engineering point of view, the four-cycle engine presents ample room for improvement. It has long been recognised by experts that the two-cycle principle offers the foundation upon which to build in this direction, and what is needed is investigation and experiment such as is at last being encouraged by the A.C.F. If half as many builders had been devoting their attention to the evolution of the two-cycle motor as has been the case with its competitor, it is safe to say that more would be known and heard of the former than is at present the case.—Yours truly,

TWO-CYCLER.



Mr. C. A. Glentworth on the 60-h.p. Six-Cylinder Napier he is driving in the Kaiser Prize Race in Germany.

Unfortunately the date on which the conditions of the race were made known to the British competitors was too short to enable Messrs. S. F. Edge, Ltd., to make a special car for it, and therefore they entered one of their 60-h.p. six-cylinder vehicles, 5 in. bore, 4 in. stroke, and endeavoured to lighten the car as much as possible by removing weight in frame and axles and fitting a special type of radiator.

ARE EXHAUST GASES POISONOUS?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have frequently seen it stated that the exhaust from petrol cars is poisonous and renders the air where automobiles are extensively used unfit for breathing. There is also considerable objection on the part of the non-motoring public to the unpleasant smell of the exhaust gases, and repeated attempts have been made of late to deprive the exhaust products of their objectionable qualities. The unpleasant effect of the exhaust gases on the olfactory is undoubtedly a less serious matter than their injurious effect on the breathing organs. That the exhaust under certain conditions has an intoxicating narcotic effect is well known. If an engine is operated for an extended period in a closed garage, persons within the room will experience a very severe headache and sometimes even become unconscious. This effect is undoubtedly due to carbon monoxide gas in the exhaust, which is highly poisonous and produces exactly the effect on the human system as is observed in such cases. It is only natural that when a motor is operated in the garage for the purpose of making carburettor adjustments, &c., the mixture should occasionally become too rich and carbon monoxide be produced. But in the regular operation on the road the mixture need never be too rich to any appreciable extent, as it is more economical to run on a mixture containing considerably less petrol than the theoretically correct amount, and as an excess of spirit is plainly indicated by a heavy black smoke in the exhaust. In any case the simplest method of avoiding the discharge of carbon monoxide into the atmosphere is to avoid its production by suitably adjusting the feed of

petrol and lubricating oil. There are, however, a number of methods of disposing of the carbon monoxide after it is produced. It may be absorbed by an acid or ammoniacal solution of cuprous chloride, or it may be transformed into carbon dioxide by some strong oxidizing compound, such as copper dioxide, lead chromate, &c. But it is hardly conceivable that any such chemical process can compete in practice with the simple mechanical adjustment of the fuel and lubricant, and it would be greatly to the advantage of the automobile movement if drivers in general paid a little more attention to these points.—Yours truly,

W. STEVENSON.

WIND SCREENS.

To THE EDITOR OF *The Motor-Car Journal*.

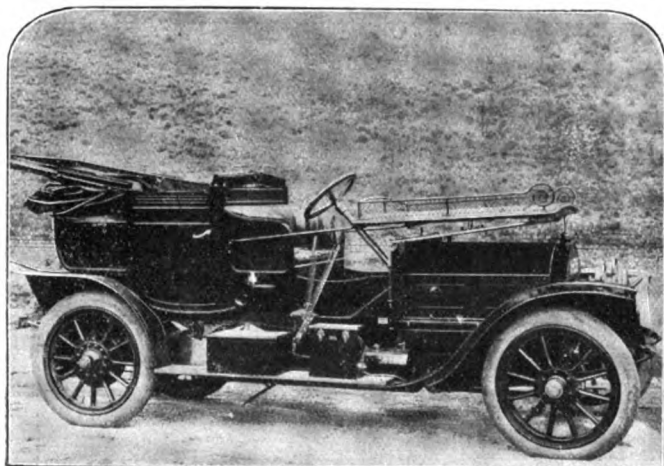
SIR,—With reference to making glass screens safe for use, my suggestion is that a glazier's diamond should be drawn along the glass on both sides of the glass on the lower side of the frame.

This will ensure that if anyone is by an accident thrown forward, the glass will give way all along the lower side, so that no stiff-pointed triangles will be left which may lacerate anyone coming down on the frame after being thrown through the glass.

If the scoring be done only on the lower sides of the sash, there will be no risk of the whole glass being thrown out by the shocks of the road, and there is no serious danger of injury to be guarded against, except from the weight of the person falling down on the frame.—Yours truly,

J. H. A. MACDONALD.

[The suggestion of the Rt. Hon. J. H. A. Macdonald, Lord Chief Justice Clerk of Scotland, is one worthy the attention of motorists generally.]



The 28-38-h.p. Ariel-Simplex Landaulet recently built by Ariel Motors, Ltd., for Mr. Caleb Smith, Liverpool,

In order to meet the regulations regarding the transportation of cars on the Woodside passenger steamers, which require motor vehicles not to exceed 6 ft. 8 in. in height and 6 ft. 6 in. in breadth over all, in order that they may pass under the captain's bridge, Mr. Smith's landaulet has, as will be seen, been provided with a special folding canopy.

OPENING FOR GARAGE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to "M. W.'s" letter enquiring where to open a garage and repair shop, I should certainly not advise him to open on any main road with the idea of catching passing motorists, as they are getting so experienced, and the average modern car carries all that is necessary for an ordinary day's journey. Most towns seem to me to be pretty well equipped with garages, &c.—Yours truly,

H. C. L.

SUBSTITUTES FOR PETROL.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—It may interest your readers to know that I and a few other motorist friends in Harrogate have been trying benzol in our cars of Panhard, Belsize, Decauville and Mercedes types, and, without any alteration to carburettors, find generally a decided increase in power, an increased mileage per gallon above ordinary petrol, and no particular difficulty in starting up. If any difference is observed, it is due to the higher specific gravity of benzol requiring more suction than petrol for the same air, but this is all right directly the engine starts up. The slightly lower thermal value benzol is said to have is more than compensated for by the economy in price and quantity used per charge being less on account of more air being required to meet its higher per cent. of carbon. It has also on this account a better cooling effect on the cylinder walls.

In every way, given a properly regulated air supply (say an auto-

matic extra air inlet for top speeds), there is nothing to prevent anyone obtaining improved results over petrol with increase of power at a much lower cost and no more nuisance of smell than with petrol. The brand of benzol we used was 90 per cent. distilled by the Whitwood Chemical Company, of Normanton, and gave every satisfaction.—Yours truly,

GEO. S. SAYNER.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was a little disappointed to read the result of Mr. Edge's tests on the brake horse-power given by benzol compared with petrol. We have been using benzol on one of our Milnes-Daimler cars for some little time, and with considerable economy in the quantity required per mile. Our loads vary from day to day, so that it is not possible to get comparable results so exact as one could wish, but, as far as we can see, the economy is between 20 and 30 per cent. The carburettor requires more air, and a cold engine is more difficult to start up, but this latter trouble can easily be obviated by squirting a little petrol into the compression cocks. As long as the engine is warm there is no difficulty whatever in starting or stopping with benzol. The spirit we use is a rectified one commonly known as "90s," and we can at our tar distilling works, Ordnance Wharf, Blackwall Lane, East Greenwich, supply it to any motorists who are interested in substitutes for petrol.—Yours truly,

CHARLES CARPENTER.

Chief Engineer, South Metropolitan Gas Company.

INCONSIDERATE DRIVING.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Knowing your feeling about cars driven at excessive speed to the danger of others, I would mention a case of which I was a witness. It might have been a serious accident to two bicyclists on Sunday last. A car bearing a London mark was coming along the road at high speed between Warrington and Rainhill, and passed between warning signs at four cross-roads without either reducing speed or giving any signs of its approach; it forced the two cyclists on to the side walk, otherwise they would have been run down. This is the sort of work that brings motor-ing into disrepute, and so those who have some consideration for others on the road are classed with such a road hog as was driving the above car.—Yours truly,

AN EYE WITNESS.

Fortunately such cases are, we believe, extremely rare. They deserve the reprobation of all who have the welfare of the industry and pastime at heart.]

THE TERMINALS OF COILS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you would kindly let me know why some induction coils have an earth terminal, and some not.—Your truly,

F. BECKER.

[Some induction coils are fitted with an earth terminal to facilitate testing, but the simplicity of the three terminal arrangement seems to have caused its almost universal adoption. When an earth terminal is fitted, the primary coil is connected between the terminal which goes to the battery and the terminal which is connected to the contact breaker. The secondary is connected to the extra earth terminal, which is then connected to earth, the other end of the secondary being attached, of course, to the high tension terminal and thence to the plug. The primary circuit is completed through earth when the contact maker connects it, and the secondary has its earth circuit quite separate. Modern practice has, however, dispensed with the extra terminal, and the secondary is connected to the terminal for the contact breaker.]

THE address of the Arco Rubber Flint Proof Tread Company is wanted by a correspondent.

REGAL CARS.—We have an enquiry for the names of firms stocking spare parts suitable for the 6-h.p. Regal cars.

TYRE CUT STOPPING PREPARATIONS.—Messrs. Joseph Bourne and Son, 7, St. Mary's Row, Birmingham, write, in reply to "H. L. L. A." that they have some Paracert and Westwood tyre stopping in stock.

MESSRS. WASTNAGE AND CO., LTD., of the garage, Kilburn Gate, N.W., ask us to say that their clothing stores were burglariously entered on Sunday, and chauffeurs are invited to inform the firm should any of the coats be offered for sale.

AT Corbridge-on-Tyne a brown canvas bag has been found containing tools, &c., dropped from a car going towards Newcastle. The owner should apply, giving description, to Mr. Mead, carrier, Middle Street, Corbridge-on-Tyne.

HUB CAP FOUND.—On Sunday a lad picked up in the road at Hurst Green a brass hub cap marked "Rochet-Schneider," which the owner can have on application to Mr. W. Hartnup, of the Ivy Motor Agency, Hurst Green, Sussex.

LOST, on June 9th, between Dunmow, Braintree, Colchester and Clacton, a motor-car tyre pump, believed to have been lost one mile out of Colchester on the Clacton road. If this should come under the notice of the finder, Mr. W. A. Bruce, 116, Golden Lane, E.C., would be glad to hear from him.

CLUBS AND ASSOCIATIONS.

COVENTRY M.C.

A CAPITAL afternoon's sport was provided by the Coventry Motor Club on the cricket ground at Coventry on Saturday. The Tourist Trophy Rover car was on the ground, and its progress round the course elicited much cheering from the ring of spectators.

There were seven events on the programme, the results being as follows:—

Motor-bicycle slow race.—First, Mr. Geoffrey Smith (3½-h.p. Triumph); second, Mr. H. R. Fowler (5-h.p. Norton).

Obstacle race for cars.—First, Mr. W. Phillips (20-h.p. Coventry Humber); second, Mr. F. Ward (8-h.p. Rover).

Lady passenger race.—First, Mr. J. C. Maude (15-h.p. Humber); second, Mr. A. E. Gould (15-h.p. Humber).

To and fro motor-cycle race.—First, Mr. S. L. Fletcher (1½-h.p. Motosacoche); second, Mr. H. R. Fowler (5-h.p. Norton).

Potato race for motor-cars.—First, Mr. C. H. Ainsworth (8-h.p. Rover); second, Mr. F. Ward (8-h.p. Rover).

Tilting at rings for motor-cycles.—First, Mr. G. Smith (3½-h.p. Triumph); second, Mr. J. B. Bowen (5-h.p. Viudec).

time in the 2½-h.p. class. In the twin-cylinder class, L. A. Smith, Grimsby, 5-h.p. Viudec, went up in 40 3.5 sec.; H. Haagenzen, Grimsby, 5-h.p. Viudec, 43 sec., and F. Richardson, Lincoln, 5-h.p. Viudec, 47 sec.

MANX A.C.

THE Manx A.C. has thirty-three resident and thirty-five non-resident members. The second annual meeting was held in the president's (Mr. George Drinkwater's) office in Douglas. The president was in the chair, supported by the hon. treasurer (Mr. George Gillmore) and the hon. secretary (Mr. Douglas Everard). The balance-sheet was unanimously passed. It disclosed a very satisfactory state of affairs, the club having a fairly substantial credit balance (£9 17s. 10d., since considerably reduced) in the bank.

The president (Mr. George Drinkwater) was unanimously re-elected. The vice-president (Mr. J. W. Orde) was also re-elected, as were the hon. treasurer and secretary, and the members of the committee.

THE MOTOR CLUB.

THE growth of the Motor Club, which now numbers a thousand members, was evidenced on Sunday by the large number who attended the opening run to Brighton.

By 10.30 a.m. nearly fifty cars had assembled at the Club House in Coventry Street, London, W., and, marshalled in two long ranks, they presented a very striking appearance. All the cars reached Brighton in good time without mishap, and at 1.30 p.m. 150 members and their friends sat down to lunch at the Royal York Hotel, presided over by



The Coventry Motor Club's Gymkhana.

Musical chairs.—First, Mr. A. S. Butler (10-12-h.p. Humber); second, Mr. S. J. Davies (28-h.p. Daimler).

AUTOMOBILE ASSOCIATION.

NUMEROUS complaints have lately been received by the Automobile Association with reference to furious driving of motor-cars in the neighbourhood of Ashford, Kent. The road from London to Folkestone has hitherto been practically free from police persecution of motorists, and it is very desirable that this pleasing state of affairs should continue. In order, therefore, to mitigate the evil caused by a few inconsiderate drivers, A.A. patrols are now on special duty on either side of Ashford, with strict orders to regulate, and where necessary restrain, the speed of motor-cars, reporting every bad case of driving to the Secretary, at Princes Buildings, Coventry Street, W.

LINCOLNSHIRE M.C.C.

THE really wonderful growth of the Lincolnshire Motor Cycle Club was demonstrated at the meet at Leadenham Old Hall on Thursday week, when Mr. Robert Morley entertained the members. Though heavy rain fell for several hours, there were quite 100 members present, including a strong contingent from Grimsby, fifty miles away. A hill-climb was included in the very interesting programme, and some good performances were put up. The hill at Welbourne is a steep one of 700 yards. A. L. Shaw, Grantham, 3½-h.p. Minerva, went up in 43 1.5 sec.; E. R. Cole, Roxholme, 3½-h.p. Brown, 46 sec.; R. N. Morley, Leadenham, 3½ h.p. Brown, 48 2.5 sec.; R. M. Wright, 3½-h.p. N.S.U., 49 sec. T. Jones, Grimsby, 2½-h.p. Minerva, did 56 sec., best

Col. Bosworth, the club's chairman. The homeward journey was begun at four o'clock, many of the members returning to the club for dinner.

Col. Bosworth drove with Mr. Chas. Jarrott in a 40-h.p. De Dietrich, and the following were amongst those who took part in the run:—Messrs. Harvey Du Cros, 45-h.p. Mercedes; Walter Gibbons, 50-h.p. Itala; L. Schlentheim, 20-24-h.p. Clement-Talbot; C. Cordingley, 40-50-h.p. Florentia; C. Temperley, 55-h.p. Isotta-Fraschini; S. H. Pearce, 60-h.p. Napier; E. D. Heinemann, 28-36-h.p. Pilain; Clifton Robinson, 135-h.p. Mercedes; Chas. Sangster, T.T. Ariel; Huntley Walker, 50-h.p. six-cylinder Darracq; Walter Dewis, Mercedes; E. A. Bowden, 25-h.p. Iris; J. de Solla, 60-h.p. Fiat; W. King Perrin, 40-h.p. Bianchi; M. de Brou, 20-30-h.p. Florentia; L. Carle, 45-h.p. Mors; H. T. Vane, 60-h.p. Napier; A. Capris, 50-h.p. Isotta-Fraschini; G. W. Houk, 30-40-h.p. Cosmo and Wylie, Minerva. Messrs. Sternberg and Eason were also present with two Buick cars.

INTER CLUB MEET.

THE following clubs have accepted the invitation of the Manchester A.C. to be present at the Inter Club Meet and Gymkhana at Buxton on the 29th inst., viz., Bradford A.C., Cheshire A.C., Derby and District A.C., Halifax A.C., Lincolnshire A.C., Liverpool A.C., Mid-Staffordshire A.C., N.E. Lancashire A.C., Sheffield and District A.C., Wolverhampton and District A.C., North Yorkshire A.C., Yorkshire A.C.

Members of the Motor Union, on presenting their Motor Union or affiliated club membership ticket, will be admitted to the ground with their cars, and the passengers on their cars, free of charge. Entries for the gymkhana should be made to Mr. J. B. Thistlethwaite, 40, Brazennose Street, Manchester, by the 22nd inst.

DERBY AND DISTRICT.

ON Saturday the annual hill-climbing competition for the Derby and District A.C.'s silver challenge cup took place, the site again chosen being on the hill at Hazlewood leading from the railway station to the church.

The course is a gradually increasing gradient and constitutes an admirable test, not only of the cars, but of the driving capabilities of the drivers.

The cars assembled in the railway station yard at Hazlewood, where each was weighed with its occupants and the measurements and other details of the cars were taken, after which they were lined up at the foot of the hill and were in turn despatched to the top, each driver striving to do his best against the watch, one ascent only being allowed. Some excellent ascents were seen. Appended is a list of the competitors, their cars, and the times made:—

	M.	s.
C. Turner Leech (18-22-h.p. Daimler) ...	2	16 3.5
H. W. Eaton (14-16-h.p. Swift) ...	3	50 2.5
J. C. Wilson (16-20-h.p. Humber) ...	1	52
H. G. W. Dawson (7-8-h.p. Swift) ...	5	22 2.5
Arthur Ford (30-55-h.p. Daimler) ...	1	18
M. Ross-Browne (25-h.p. Gladiator) ...	2	13 1.5
Geo. B. Fletcher (10-12-h.p. Humber) ...	3	13
Geo. B. Dearle (5-h.p. Rex side car) ...	2	10 1.5
Spencer Downing (10-h.p. Alldays) ...	3	31 4.5
P. L. D. Perry (15-h.p. Ford) ...	2	15 3.5
Herbt. Jefferson (10-12-h.p. Humber) ...	3	0 4.5
H. A. Johnson (22-h.p. Crossley) ...	3	16 3.5
L. P. Mell (15-h.p. Darracq) ...	2	34 1.5

Mr. A. Ford thus secures the fastest time medal with his 30-55-h.p. Daimler.

At the conclusion of this competition a further contest arranged on handicap lines took place, for which special silver and bronze medals were offered. This competition, which was arranged in such a form as to be easily followed by the spectators, was on the lines instituted by the Derby A.C. and was based on the times made in the former contest. The cars were drawn in pairs and the slower one dispatched up the hill with its time allowance, and so on in the following rounds, until the event was run through. Curiously enough, two 10-12-h.p. Coventry-Humbers were left to decide who should take the silver medal, Mr. George B. Fletcher securing the verdict at the expense of Mr. Herbert Jefferson. The following are details of the various rounds:—

FIRST ROUND.

- 1.—C. Turner Leech (18-22-h.p. Daimler) a bye.
- 2.—P. L. D. Perry (15-h.p. Ford) scratch, 1; Spencer Downing (10-h.p. Alldays) 1 min. 16 sec. start, 2.
- 3.—L. P. Mell (15-h.p. Darracq) a bye.
- 4.—G. B. Fletcher (10-12-h.p. Humber) with 1 min. 3 sec. start, 1; G. B. Dearle (5-h.p. Rex side car), scratch, 2.
- 5.—H. W. Eaton (14-16-h.p. Swift) a bye.
- 6.—H. G. W. Dawson (7-8-h.p. Swift) a bye.
- 7.—H. Jefferson (10-12-h.p. Coventry-Humber) with 1 min. 8 sec. start, 1; J. C. Wilson (16-20-h.p. Humber), scratch, 2.
- 8.—M. Ross-Browne (35-h.p. Gladiator) with 55 sec. start, 1; Arthur Ford (30-55-h.p. Daimler) scratch, 2.

SECOND ROUND.

- 1.—Geo. B. Fletcher (10-12-h.p. Humber), 57 sec. start, 1; C. Turner Leech (18-22-h.p. Humber), scratch, 2.
- 2.—P. L. D. Perry (15-h.p. Ford), scratch, 1; L. P. Mell (15-h.p. Darracq), 19 sec. start, 2.
- 3.—H. G. W. Dawson (7-8-h.p. Swift), 1 min. 32 sec. start, 1; H. W. Eaton (14-16-h.p. Swift), 2.
- 4.—H. Jefferson (10-12-h.p. Humber), 48 sec. start, 1; M. Ross-Browne (25-h.p. Gladiator), scratch, 2.

SEMI-FINAL.

- 1.—Geo. B. Fletcher (10-12-h.p. Humber), 58 sec. start, 1; P. L. D. Perry (15-h.p. Ford), 2.
- 2.—H. Jefferson (10-12-h.p. Humber), scratch, 1; H. G. W. Dawson (7-8-h.p. Swift), 2 min. 21 sec. start, 2.

FINAL.

- 1.—Geo. B. Fletcher (10-12-h.p. Humber), 12 sec. start, 1; H. Jefferson (10-12-h.p. Humber), 2.

The winning car on this occasion went up the hill in 2 min. 55 sec. while the loser took 2 min. 50 sec.

NORTH-EAST LANCASHIRE A.C.

THE North-East Lancashire non-stop run to Callander and back to Kirkstone Inn was not only a trial of cars, but a still greater trial to drivers, observers and passengers. Fourteen cars started on Friday, and no fewer than thirteen of them reached Callander. Returning on the following morning, the stiff pass of Kirkstone, by which the journey was concluded, proved to be very trying for some of the cars, but most of them arrived at different times during the evening at Bowness.

The trial resulted in six securing non-stop for the whole journey, these being A. Birtwistle, Blackburn (34-45-h.p. Daimler), F. Birtwistle, Blackburn, (60-h.p. Mercedes), A. S. Bury, Accrington (30-h.p. Belsize)

Mrs. T. M. Crook, Hoghton (35-h.p. Mercedes), A. E. Crowdy, Manchester (30-h.p. Siddeley, and J. S. Stafford (16-20-h.p. Argyll). Mr. Crowdy's car, driven by Mr. W. G. Garnett, of Clitheroe, was the first to arrive at Callander on the outward journey, and the second to reach Kirkstone Inn.

BLACKHEATH A.C.

A HILL-CLIMBING competition was held on Saturday last at Hixeydown Hill, near Igham, Kent. Eleven members competed for a challenge cup presented by Mr. Alexander Duckham and for three prizes to be presented by the club. Hixeydown Hill is of the same average gradient as South Harting. The length is 1,377 yards, with a total rise of 341.67 ft., the average gradient being 1 in 12.09, and at parts 1 in 9.02 and 1 in 8.28.

A standing start was made, and the following is the order of the cars in point of relative time of ascending the hill, irrespective of handicap:—

	M.	s.
Mr. W. F. Butcher (12-16 h.p. Clement-Talbot) ...	0	0
Mr. E. W. Stabb-Johnson (7-h.p. Star) ...	0	56
Mr. F. Thorne (20-22-h.p. Brown) ...	0	16 2.5
Mr. J. H. Bowden (10-12-h.p. Coventry-Humber) ...	1	21 1.5
Dr. R. Debenham (10-12-h.p. Coventry-Humber) ...	1	30 4.5
Mr. H. A. Cunis (18-h.p. Regent) ...	1	42 2.5
Mr. A. Jackson (10-h.p. Georges Richard) ...	2	12 1.5
Mr. L. Beadle (8-h.p. Regal) ...	2	29 3.5
Mr. T. Marshall (10-h.p. De Dion) ...	2	40
Dr. J. S. Goodall (8-h.p. Swift) ...	4	14 4.5
Dr. Kingsbury (6-h.p. Rover) ...	4	24 3.5

In regard to the two last-named cars, it should be mentioned that each carried passengers in excess of their seating accommodation, and both came out fairly well in the handicap.

The horse power was worked out on the formula

$$\frac{D^2 \sqrt{S \cdot N}}{5} = H.P.$$

Where D = bore in inches.
S = stroke in inches.
N = number of cylinders.

and the handicap on

$$\frac{\text{Total weight in lbs.}}{\text{Time in sec.} \times H.P.}$$

The highest result being the winner, viz., Mr. W. F. Butcher, this car, it will be observed, being also the fastest in actual time. Mr. L. Beadle obtained the second prize, and Mr. T. Marshall the third prize.

The figure of merit on the handicap of the first three cars was high, and with a small margin of difference, being respectively 1.06, 1.037, and .971. The second fastest actual time of the four-cylinder cars was Mr. F. Thorne's 20-22-h.p. Brown. The fastest and second fastest of the two two-cylinder cars were Mr. E. W. Stabb-Johnson's 7-h.p. Star and Mr. A. Jackson's 13-h.p. Georges-Richard respectively. The award of the prizes is subject to verification by the judges.

The event was thoroughly enjoyed in delightful weather by some sixty members and friends. The cars were weighed at the Bat and Ball near Sevenoaks Station, and tea was taken at the Sir Jeffrey Amherst Hotel, Crown Point, Seal. Professor Carlton J. Lambert, M.A., acted as judge on the course, Mr. A. Duckham starter, and Mr. Hugh Beadle timekeeper.

SOUTH DEVON.

In the hill-climb of the South Devon A.C. at Moorshop Hill, Tavistock, on the 25th ult., the results have been declared as follows:—Dr. A. P. Drummond (9-h.p. Sizaire), winner of club cup; Dr. W. C. Hamilton (10-h.p. Alldays), winner of Mr. E. Parsons' cup; Mr. T. R. Perkin (12-16-h.p. Clement-Talbot), winner of Sir John Jackson's cup; Major A. L. Gallie (30-h.p. Daimler), winner of the president's cup.

ESSEX COUNTY A.C.

ON Saturday the Essex County Automobile Club held an interesting hill-climbing competition at Laindon. The cars were weighed in the morning at Brentwood Station, and, after luncheon at the White Hart Hotel, proceeded to the hill, a distance of seven miles, the direction of which was indicated by confetti on the road.

The distance over which the cars ran was 756 yards, with an average gradient of 1 in 7½.

Splendid weather favoured the hill climb.

In the scratch race the fastest time was made by R. R. Smith, driving Mr. Seaton Edge's 60-h.p. six-cylinder Napier, Mr. J. Mason, 40-h.p. Darracq, being only 2.5 sec. slower. Both cars had Dunlop tyres.

The handicap for cars of 15-h.p. and under was won by Mr. Burnett Taburn's 14-h.p. Argyll, Mr. E. J. Boake, 12-h.p. Corre, being second.

Our photograph of the winning car in this amateur event is the copyright of Argyll's London, Ltd.

The handicap for cars over 15-h.p. went to Mr. Gurney Fowler's 35-h.p. Renault, driven by A. S. Field.

Later tea was dispensed by Col. and Mrs. Weston, at Goldsmiths, Laindon, when all enjoyed both the hospitality provided and the view that could be obtained of the surrounding country.

KENT AND EAST SURREY.

ON Saturday, June 8th, the members of the club were invited to Whyteleafe Grange, Waringham, the residence of Mr. and Mrs. Evelyn Jones, to meet the members of the East Surrey A.C. The Ranelagh Club Band played throughout the afternoon, and in every way possible the members of the two clubs were most hospitably entertained by their host and hostess. The large stable yard was soon crowded with cars of all makes, the inspection of which proved an attraction of great interest to the guests.

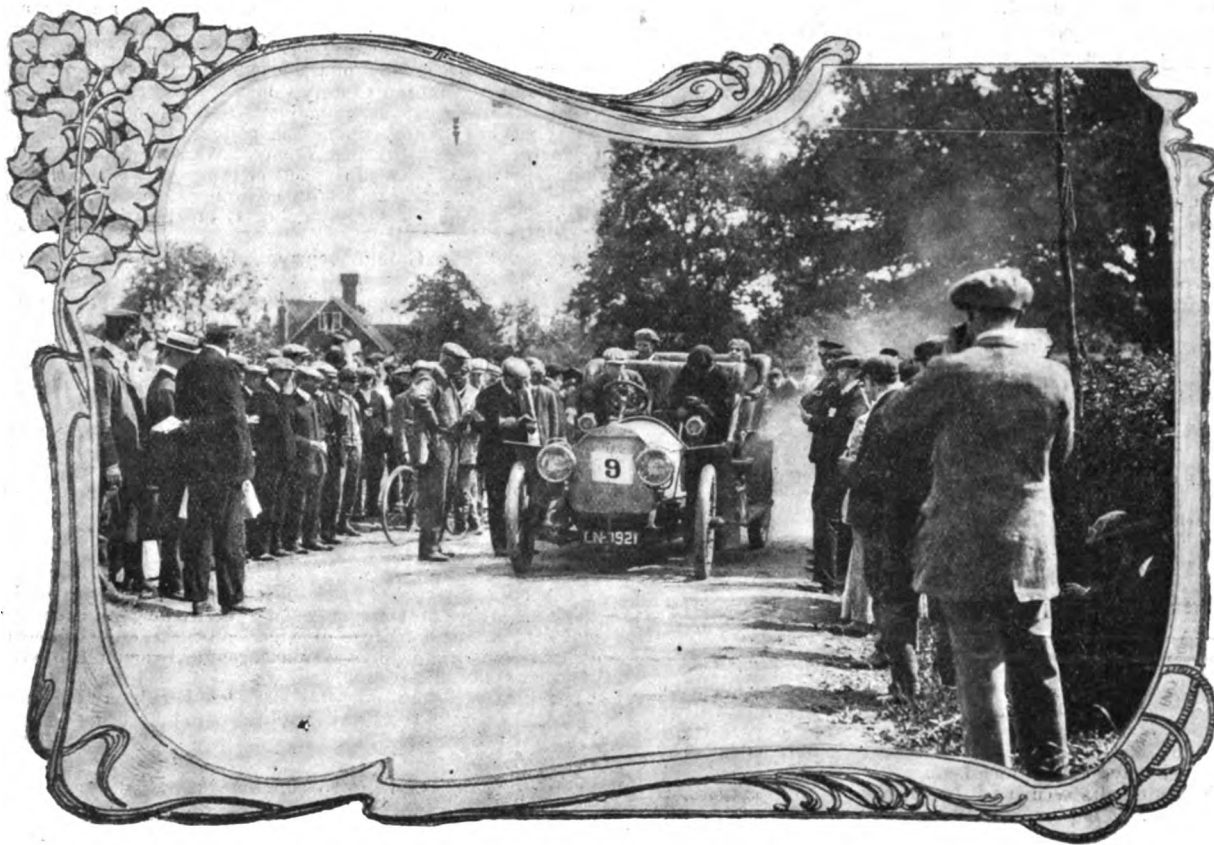
Among some of those present were Rev. A. B. Boyd, Mr. and Mrs. Madely, Mr. W. Willis, Colonel Latter and Miss Latter, Mr. and Mrs. Killick, Mr. A. M. Killick, Mr. and Mrs. Kemp, Mr. E. J. Frazer, Mr. and Mrs. Pain, Mr. and Mrs. E. Mumford Preston, Mr. E. Shirley Price, Mr. and Mrs. Baythan, Mr. C. E. Wright, Mr. and Mrs. Norman, Mr. and Mrs. Batchelor, Mr. and Mrs. Granville Kenyon, Mr. D. Robertson,

Ebblewhite as starter, Mr. J. Lyons Sampson as clerk of the scales, Capt. R. K. Bagnall-Wild, R.E., as marshal, Messrs. A. V. Ebbelwhite, T. D. Dutton, C. P. Glazebrook and T. Straight as timekeepers; Mr. J. W. Orde was the secretary of the meeting. The timekeepers are to be congratulated on the celerity with which they worked the times out, Mr. C. D. Rose, M.P., being able to announce the results within a few minutes of the close of the events.

In the climb for the Henry Edmunds trophy Mr. G. S. Barwick, who won the event last year, was again present on his 38-h.p. Daimler, and the presence of several Tourist Trophy drivers gave added interest to the scene.

We give the results in tabular form for ease of comparison, the first column being the times for the straight run, the second for the run with a stop and restart, and the third the aggregate time upon which the result was decided. The h.p.'s are those by the R.A.C. rating. Captain Howell was unfortunate enough to stop his engine on the second run; Mr. Kura, too, was confused by the signal to restart, and Mr. Coleman was unlucky in losing a couple of minutes on the first effort, though his second attempt gave the spectators proof that he was a formidable rival.

	Straight run.			Run with stop.			Aggregate.		
	M.	s.		M.	s.		M.	s.	
1.—Mr. G. S. Barwick's 38-h.p. Daimler...	1	18	1-5	1	23	3-5	2	41	4-5



The "Henry Edmunds" Challenge Trophy Competition.—Mr. K. O. Kura starting on his 24-h.p. Fiat.

Mr. and Mrs. Hutchings, Mr. and Mrs. Brownfield, Mr. and Mrs. Daniel, Mr. and Mrs. H. H. Price, Mr. Pusey Major, Dr. and Mrs. Brookhouse, Mr. and Miss Ellerton, Mr. and Mrs. Frankheis, Mr. and Mrs. Whittington, Mr. and Mrs. Rosling, Mr. Julian Whittington, Mr. Thomas Hart, and Mr. Harwood.

THE "HENRY EDMUNDS" CHALLENGE TROPHY.

ON Saturday the competition for the Henry Edmunds Challenge Trophy and the Carters Hill cup were held by the R.A.C. at Carters Hill, Underriver, Kent. This was the third time the former had been contested, the latter being a new competition. The test was 1,000 yards in length, with a rise of 312 feet, the average gradient being 1 in 11-225, and the steepest a stretch of 33 yards of 1 in 6½, a little more than half-way up the hill. In the Henry Edmunds competition the cars had to make two runs, the first being straight up the hill, and the second including a stop about half-way, within an indicated distance of fifteen yards. The positions were determined on the aggregate of the two times. In the Carter's Hill cup competition the cars made one straight run.

The clerks of the course were Col. H. C. Holden, Captain Dyke Acland and Mr. Robert Todd, with Mr. M. O'Gorman as judge, Mr. A. V.

2.—Mr. J. E. Hutton's 36-h.p. Berliet	1	18	2-5	1	24	4-5	2	43	1-5
Mr. L. Carle's 38-h.p. Mors	1	34	4-5	1	43	1-5	3	18	
3.—Mr. C. Sangster's 36-h.p. Ariel Simplex	1	31	1-5	1	46	4-5	3	18	
5.—Capt. Howell's 40-h.p. Iris	1	32	3-5	1	51	2-5	3	24	
6.—Mr. A. E. Perman's 40-h.p. Iris	1	48		1	45	2-5	3	33	2-5
7.—Mr. G. S. Monek's 32-5-h.p. Horch	1	58	2-5	1	51	4-5	3	50	1-5
8.—Mr. W. Hillman's 47-h.p. Coatalen	1	54	2-5	1	56	4-5	3	51	1-5
9.—Mr. K. O. Kura's 38-5-h.p. Fiat	1	56	3-5	2	41	1-5	4	0	4-5
Mr. A. C. Hill's 27-5-h.p. Martini	1	54	2-5	2	6	2-5	4	0	4-5
11.—Mr. F. Coleman's 30-h.p. White Steam	4	50	4-5	1	25	4-5	6	16	3-5
12.—Mr. M. S. Napier's 38-5-h.p. Napier	1	18	2-5	—			—		
13.—Mr. P. Brodtmann's 38-h.p. Daimler	1	19	3-5	—			—		

Mr. G. S. Barwick with his Daimler again secured the trophy. His car

was fitted with Continental tyres, which were also on the Berliet and Mors vehicles which ran second and third respectively.

In the Carter's Hill cup each car was only allowed one run, and the winner proved to be Mr. O. Copper on his 25-h.p. Metallurgique, whose performance was an excellent one. The times are appended:—

	Mr.	s.
Mr. O. Copper's 25-h.p. Metallurgique ...	1	24 4-5
Captain Masui's 26-h.p. Germain ...	1	34 2-5
Mr. Stokes' 24-h.p. Talbot ...	1	35
Mr. J.S. Napier's 25-h.p. Arrol-Johnston ...	1	43
Mr. J. E. Hutton's 24-h.p. Berliet ...	1	46 2-5
Lieut. Gould-Adams 25-h.p. Metallurgique ...	1	47 4-5
Visct. Ingestre's 26-h.p. Talbot ...	1	50 2-5
Mr. T. H. Woollen's 24-h.p. Talbot ...	1	52 2-5
Mr. A. Mosses' 22-h.p. Clement ...	1	59
Captain Owen's 25-h.p. Junior ...	2	16 1-5
Mr. T. Thornycroft's 22-h.p. Thornycroft ...	2	18 2-5
Mr. A. Gaal's 24-h.p. Westinghouse ...	2	19 1-3
Mr. P. C. Kidner's 21-h.p. Vauxhall ...	2	28
Mr. R. Meldrum's 19-h.p. Scout ...	3	1 1-5

The winning car was fitted with Dunlop tyres, as were also the second, third, and fourth cars in the race.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

SURREY MOTOR AGENCY.—£500. Agreement with H. R. W. Bruce. No initial public issue. H. R. W. Bruce is governing director for life, subject to holding 100 shares. 16, St. George's Road, S.E.

ITALIAN "RAPID" MOTOR COMPANY.—£5,000. As title. First directors: Messrs. H. P. MacConnell and G. Elkin. 20, Avonmore Road Kensington, S.W.

G. STEVENSON (THE KENT AND SUSSEX GARAGE).—£10,000. First directors: Messrs. H. Soper, F. C. Barrow, F. C. Booty, and F. Travers.

ROBERT WOODMAN AND CO.—£1,000. To adopt an agreement with Mr. R. Woodman for the acquisition of the business of a motor, cycle, and athletic outfitter carried on by him at Bourne and Spalding. First directors: Messrs. R. Woodman and P. W. Brown.

WEIGELS MOTORS (1907).—£55,750. To acquire the business of Weigel Motors, Ltd. No initial public issue. Mr. D. M. Weigel is first managing director.

HILLMAN COATALEN MOTOR CAR COMPANY.—£50,000. To acquire the interest of Mr. W. Hillman and Mr. L. Coatalen in a motor-car of new design, &c. No initial public issue.

THE MOTOR-CAR AS A CARRIAGE.

IN the course of his paper before the Institution of Automobile Engineers on Wednesday, Mr. Gilchrist said:—The building of a satisfactory motor-car body is not quite so simple as it would appear to be, and some consideration should be shown to the requirements of the carriage builder. Where a shaft drive and live axle is used the gear-case and all connected with it is fixed within three feet of the dash-board, and by taking up the flooring boards in front all the essential parts can be easily reached. Where a side chain-drive is used, the front boards have still to be lifted, and, in addition, the centre boards for a distance of about two feet in front of the hind wheel tyres must be left loose. A body cannot with advantage be made to suit both types, except by making it to slide off the frame or to lift up. The first mode of removal implies a flat frame and only certain types of body. The body made to lift up is more generally suitable for the frames which have curved members. A body which is made to remove readily without bolts securing it to the chassis frame cannot be made so light as one which is permanently secured to the frame. With bodies the hoods of which are made to open and close, or open phaeton bodies with doors, this is an important matter. Whether the body has to be made to slide off or lift up or be permanently fixed, the body of the landau type has to be made stiffer in the framing and plating than the body of the brougham type. The over-all width of the framing has much to do with the sizes and consequent weight of the timbers used in the construction of cars, especially with the wide bodies seating three on the hind seat. In all chain driven cars the sprocket and fittings should be kept below the level of the frame; the body can then be brought over the sprocket case and partially conceal it. The wheel track of the car has been gradually approaching the normal carriage track of 4 ft. 8 in., but there is an important difference in the construction of the horse-drawn carriage and the motor-car. The hind wheels of a brougham or landau with a track of 4 ft. 8 in. will measure 4 ft. 8 in. between the tyres at the level of the axle in front, and 4 ft. 9 in. at the top. The wheels of a motor-car with a track of 4 ft. 8 in. will measure 4 ft. 4 in. between the tyres at all points. (This varies with the size of the tyres.) To give the same room for the body as in a horse-drawn carriage the wheels should have a track of about 5 ft. This is not always practicable; by placing the wheels further back so that the centre is in line with the back of the body the desired effect may be obtained. The seating accommodation required determines the size of the body, and the type the weight. The average distance from the dash-board to the back of the front seat is 3 ft. 8 in.; in many cars of the phaeton type it is 4 ft. The length of body beyond the driving seat, to seat four

people *vis-a-vis* with reasonable com'ort, requires to be 5 ft. 4 in. between the backs. If the four passengers are facing forward, the length required is about the same if there is foot room underneath the driver's seat. The manufacture of a satisfactory body may be left to the carriage builder, but the engineer who is designing a motor-car should know something of the space required to accommodate the passengers.

MOTOR CAR INSURANCE.

A CASE of importance to owners of insured motor-cars was heard before Judge Rentoul at the City of London Court on Friday week. Mr. Whateley, instructed by Messrs. Amery-Parkes, Macklin and Company, appeared for the plaintiffs, Messrs. Chenard-Walcker Motors, Ltd., of Brighton, and Mr. Gillway, instructed by Messrs. Bayfus and Beyfus, for the defendants, the General Accident Assurance Corporation, Ltd.

The action was brought to recover the sum of £20 12s. 4d. indemnity under a policy of assurance, the plaintiffs having been called upon to pay this amount to the Brighton and South Coast Motor Garages, Ltd., of Brighton, in respect of a judgment obtained against them. It appeared that Mr. Offord, who is secretary to the plaintiffs as well as manager to the Brighton Garage Company, was driving one of the plaintiffs' cars on November 13th last in Brighton. In going up a hill he missed gears, and in order to save it from running backwards he turned it into the pavement, with the result that it smashed the railings, and did other damage to the house of a Mr. Slatter, who made a claim against the Brighton Garage Company. The plaintiffs immediately gave notice to the insurance company of the accident. Mr. Slatter then brought an action in the Brighton County Court against the Brighton Garage, and the insurance company repudiated liability on the ground that they were not the assured under the policy of indemnity. The Brighton Garage contended that the Chenard-Walcker Motors were liable, but judgment was given against them on the ground that Mr. Offord was also in their employ, and the Brighton Garage Company, whose premises are the same as the Chenard-Walcker Company, benefited by the sale of their cars.

The Brighton Garage then applied to the Chenard-Walcker Company for payment of the amount of the judgment debt and costs, which they paid after giving notice to the insurance company, who repudiated all liability. The plaintiffs now contended that they were bound to indemnify their agents, the Brighton Garage, and they in turn were entitled to be indemnified by the assurance company. The defendants submitted that there was no legal liability on the part of the plaintiffs to pay the Brighton Garage, and they did so without their consent and without giving them an opportunity of resisting payment, and that the terms of the policy had not been fulfilled by giving notice of the claim made against the assured by the Brighton Garage.

His Honour upheld the view of the plaintiffs and gave judgment for the amount claimed with costs.

POLICE TRAPS.

A POLICE trap has been reported at Lexden, near Colchester.

THE game of trap-setting by the police and exposure by the motorist is now a feature of American news, and the Automobile Club of America is organising a system of regularly acquainting their members of speed traps in various localities.

THERE is a four-mile trap between Berkhamsted and Tring.

AMONG traps that have lately secured motoring defendants for the Hurst Green (Sussex) Petty Sessions are those at Hurst Green, Barwash Highway, Swiftsden and Etchingham. Sergeant Waghorn seems to be the director in chief.

AT Retford the police have lately become active against motorists, who should exercise considerable care, whether driving into or from the town.

INFORMATION comes of a police trap on the Christchurch and Highcliffe-on-sea road. The trap is 220 yds. in length and is between the turning where this road branches off from theournemouth and Lyndhurst main road and the entrance to Highcliffe Castle.

AT Limpley Stoke, on the Bath to Frome road, the police have lately been active in opposition to motorists.

AT Killinghall, near Harrogate, on the Ilkley-Ripon road, the police have a measured quarter of a mile.

AT Rogate, on the Portsmouth road, a trap has been in operation of late.

THERE is a trap between Epping and Harlow, on the London to Cambridge road.

THE neighbourhood of Handcross is infested with police traps, and Sergt. Waghorn is frequently in operation between the 19th and 20th milestones on that road.

CARE should be taken on the Seaside road, Eastbourne, where police watchfulness has lately proved a sad experience to several visiting motorists.

AT Westhampnett, on the Chichester and Arundel road, a police trap is in fairly constant operation.

ELEVEN of the twenty-eight cars engaged in the hill-climbing competition on Carter's Hill on Saturday last were fitted with Continental tyres.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING THE LIMIT.

EIGHTEEN motorists were summoned at the Harlow Petty Sessions on Saturday. Fines were inflicted on fifteen of the defendants and the other three cases were adjourned.

THE PRODUCTION OF LICENCES.

MR. WALTER H. JOHNSON, of Cumberland Mansions, West Hampstead, was at Kingston fined £5 for exceeding the speed limit at Walton. He informed the justices that he "produced" his licence to Police-Superintendent Marks, who copied his name and address therefrom. He (Mr. Johnson) held the licence open in his hands and told the superintendent that that was all he was entitled to, but the superintendent and a constable with him took the licence from him by force. If he (Mr. Johnson) had held on to it the licence would have been torn. The Clerk (Mr. F. J. Bell) said that it was a doubtful point, but they could not waste the time of the Court by looking into the matter then.

DISMISSALS.

MISS ELSIE FOX was charged at Royston, Hertfordshire, on Thursday of last week, with the manslaughter of William Parish, who died as the result of injuries received in a collision with a motor-car driven by the defendant. Mr. J. H. Murphy appeared to prosecute for the Treasury, and Lord Robert Cecil defended, Mr. S. J. Miller appearing for the relatives of the deceased. The defendant had been committed for trial on the coroner's warrant on a charge of manslaughter. After hearing the evidence, the chairman of the Bench said the magistrates did not consider there was sufficient evidence to send the case for trial, and the defendant would be discharged.

THE Duke of Westminster was summoned at Eddisbury, near Northwich, on Monday, to answer a summons for driving a motor-car at excessive speed on Chester Cup day. Some witnesses said the pace was "like an express train." He passed through Kelsall village at a speed estimated at thirty-five to forty miles an hour. An hour later the defendant returned by the same road at a great pace. For the defence it was urged that there was no traffic on the road and consequently there was no danger.

ROAD REPORTS.

YORKSHIRE.—The hon. secretary of the North Yorkshire A.C. has obtained the consent of the North Riding County Council to the erection of a warning notice near the level crossing at Barton Hill Station, and has pointed out to the East Riding County Council the advisability of warning posts being erected at Ganton.

CUCKFIELD.—Captain Sergison, J.P., who presided over a full attendance of the Cuckfield Urban Council a few days ago, said the County Surveyor had informed him that the Council could have tar money or water money for dust-laying operations during the summer, but not both. He (the Chairman) thought they might have tar rather than water.—The Council have purchased a considerable amount of refined tar, but their experiments this year have not proved so satisfactory as those of last year. Whether due to the weather or the tar was not decided. It was resolved to apply to the County Council for the use of the tar-spraying machine.

THE TARMACISER.—The judges in the tar-spreading competition arranged to inspect and report upon the Tarmaciser on Wednesday on a portion of the main road between the Cray River Bridge, Foots Cray, and Swanley Junction, by permission of Mr. H. P. Maybury, the county surveyor of Kent.

CRICKLEWOOD.—The Willesden District Council has recently made up Temple Road, Cricklewood, but, owing to the extraordinary traffic passing along the same, for which the London Power Omnibus Company is responsible, the road has been seriously damaged. The company has complained to the council about the condition of the road, and at Tuesday's meeting of the council the Law and Parliamentary Committee recommended that the attention of the company be called to the provisions of the Highways and Locomotives Amendment Act, 1878. They are also to be informed that the council will be prepared to provide a more suitable surface material on the company undertaking to contribute towards the cost thereof.

WORTHING.—The Worthing Council are hoping to turn to good account the clinkers produced at the refuse destructor. The Borough Surveyor (Mr. F. Roberts) has found that with a mixture of tar the broken clinkers can be used for road-making. In several parts of the borough the material has been laid, and the results have been satisfactory, especially at West Buildings, where there is a fair amount of traffic. It has now been decided to use tar clinker for the carriage-way in Warwick Street.

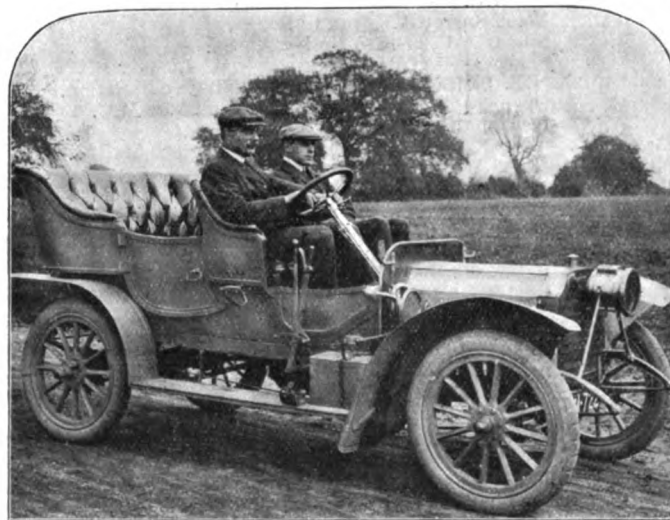
SURBITON.—The Surbiton Urban District Council on Monday night were recommended by the Highways Committee to make an application to the Surrey County Council requesting them to apply to the Local Government Board for an order limiting the speed of motor-cars passing along the Ewell road, Brighton road, and so much of the Portsmouth road as is within the Surbiton urban area to a speed not exceeding ten miles an hour. A resolution to this effect was adopted by the casting vote of the chairman and it was also decided that a copy of the recommendation should be forwarded to the Esher and Dittons Urban District Council, requesting that, with a view to the safety of the public in both districts, they should adopt a similar course.

AUTOMOBILE ACCIDENTS.

MR. PERCY SYLVESTER, coroner for Mid-Wiltshire, conducted an inquiry on Saturday at West Lavington into the death of William Holmes, aged two and a half years, who was knocked down and killed on Friday near his father's house by a motor-car driven by Sir Frederick Douglas Cunningham. A girl of fourteen years, who saw the accident, said the child started out from the roadside when the car was about two and a half yards away, and two yards from the gutter. Sir Frederick and his chauffeur both gave evidence to the effect that the pace of the car was slow, and that the accident was unavoidable owing to the suddenness with which the child ran into the road. The jury returned a verdict of "Accidental death," entirely exonerating the motorist from all blame.

MR. CHARLES MORBEY, well known in horse-racing circles, was motoring at Chippenham, Cambridgeshire, with his three young sons and a chauffeur on Sunday afternoon, when the car broke down and overturned. Mr. Morbey fell under the vehicle, and the car had to be raised before he could be liberated. He sustained cuts about the head and body, and was removed to his home at Soham. The three sons and the chauffeur escaped serious injury.

AT Lambeth, on Monday, Dr. Henslowe Wellington held an inquest on the body of an unknown man, aged about sixty years, who was conveyed to St. Thomas's Hospital dead, on Thursday of last week, having been killed by a motor-car. The car was being driven by a motor driver instructor, who was exonerated from all blame by the jury. The coroner said the driver had given his evidence very fairly. He (the coroner) would remark, however, that it was an unfortunate matter that motor-car people expected other people to get out of their way. They came



The 12-16-h.p. Vauxhall which has been entered for the Scottish Reliability Trials. Seated on the car are Messrs. Percy Kidner and Lewis Walton, directors of Vauxhall Motors, Ltd.

upon the road, and seemed to think they were masters of the highway and that everything was to give way to them, either by standing still or clearing out of the road to let them go by.

ON Monday a terrible accident took place on Sun Rising Hill Warwickshire, the scene of many hill climbs during the last few years. Mr. and Mrs. Blake, of Philadelphia, and Mr. and Mrs. H. Johnson of California, who had only been in England a few days, had hired a 24-h.p. car in Oxford for a trip through the Midlands. They left the University city about 10 a.m. with the intention of making for Stratford-on-Avon. All went well till they reached the Sun Rising Hill, which is the most dangerous of the four hills leading from Oxfordshire into the Warwickshire country. They reached the hill just before noon. Mr. Ballard, of Stratford-on-Avon, who was walking with his wife, saw the car descending the hill at a good pace. A second later the car turned over on exactly the same spot where two Norfolk gentlemen from Diss were killed three years ago. Mr. Ballard rushed to the spot, and found Mr. Johnson under the car and the others lying injured in the ditch. The car itself was a wreck. Mr. Johnson was extricated, and, with Mrs. Johnson, was removed to Rupert Cottage, Mr. and Mrs. Blake being taken to Sun Rising House. Without recovering consciousness Mr. Johnson died shortly after the accident, and the condition of the others is serious indeed.

A DISTRESSING motor-car accident, by which a little boy, aged nearly seven years, lost his life, was witnessed in Reading on Tuesday afternoon. While Mrs. Blandy was being driven by her chauffeur, Charles Bowyer, along Bridge Street, the lad stepped off the footway, and darted across the road in front of the car. The lamp struck him by the side of the head and he was knocked down, his head being nearly severed.

FORTHCOMING EVENTS.

JUNE.

- 14th (F.).—Race for the Kaiser's Prize on the Taunus Course, Germany.
 15th (S.).—Conference of officially recognised automobile clubs at Homburg.
 The children of the Leicester Cripples' Guild will be taken for a drive by the members of the Leicestershire A.C.
 Joint meet of the Bristol and Gloucestershire and Hereford A.C.'s at Cheltenham.
 Hill Climb of the Ipswich and East Suffolk A.C.
 North Eastern A.A. Hill Climb, Ragpath-side, near Lancaster.
 Lincolnshire A.C. meet at Crowland.
 Motor Cycling Club's open competition for cars.
 Wolverhampton A.C. hill climb at Hailey Bank.
 Sheffield A.C.'s hill climb.
 15th (S.).—Open hill-climb of the Auto C.C. at Fernhurst, Haslemere.
 16th (S.).—Southend M.C. run to Newmarket.
 South Herts A.C. run to Westcliffe-on-Sea.
 17th (M.).—Commercial vehicle meet at Reading. Mr. Leo Harris, hon. sec., 379, Strand, London, W.C.
 18th, 19th, 20th, 21st.—The new motor track will be open to members of the Brooklands Automobile Racing Club, by invitation.
 19th (W.).—Meeting of the general committee of the Motor Union.
 20th (Th.).—Lincolnshire A.C. hill climb at Tetford.
 21st (F.).—New Forest A.C. gymkhana at Southampton.
 22nd (S.).—Yorkshire A.C.'s meet at Saltburn.
 Southern Motor Club's open hill climb on Captain Kydd's Hill, East Grinstead.
 Kettleby hill climb of the Derby, Leicestershire, and Notts A.C.
 West Surrey A.C. run to Bognor.
 Sussex A.C. visit to Netley Abbey.
 Sharpenhoe Hill climb of the N.W. London M.C.C.
 N.E. Lancashire A.C. speed judging competition.
 Open 200 miles non-stop run of the Essex M.C.
 Kensington A.C. run to Southampton.
 23rd (Sun.).—West Essex A.C. and Essex M.C. run to Malton.
 24th (M.).—North Wales A.C. hill climb.
 25th (T.).—Closing of entries for first meet on the Brooklands Motor Track.
 Scottish A.C. Reliability Trial starts for Glasgow from Perth, 159½ miles.
 26th (W.).—S.A.C. Perth—Aberdeen, 158½ miles.
 Hastings Automobile Meeting. Appearance Competition and Gymkhana, organised by the Automobile Association and the Motor Club.
 27th (Th.).—S.A.C. Aberdeen—Inverness, 160½ miles.
 Newcastle Motor Club's run to Edinburgh and back.
 28th (F.).—S.A.C. Inverness—Pitlochry, 154½ miles.
 29th (S.).—S.A.C. Pitlochry—Glasgow, 122½ miles.
 Aero Club race for the Hedges Butler challenge cup.
 Birdlip hill climb of the Bristol and Gloucestershire A.C.
 Joint meet of the Liverpool, Manchester, N.E. Lancs., Sheffield and Yorkshire Clubs at Buxton.

JULY.

- 2ND.—A.C.F. Grand Prix Race on the Seine Inferieure Circuit, near Dieppe.
 4TH.—International cross Channel race for motor-boats from Dover.
 6TH.—Inaugural races on the Brooklands Track.
 10TH.—R.A.C. South Harting hill climb.
 13TH.—Entries for R.A.C. commercial vehicle trials close at ordinary fees.
 15TH TO 18TH.—The annual automobile meeting at Ostend.
 20TH.—Motor Union meet at Southport.
 27TH.—Commercial vehicle meet at Maidstone.

AUGUST.

- 10TH.—Open light car competition of the Essex Motor Club.
 20TH.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

- 9TH.—Industrial Vehicle Trials commence.

OCTOBER.

- 19TH.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

- Cordingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

June 15th—9.16	17th 9.17	19th—9.19	21st—9.19
16th—9.16	18th—9.18	20th—9.18	22nd—9.19

OUT of 161 cars which started in the Herkomer Touring Trophy Competition 113 were, we are informed, fitted with Continental tyres.
 MESSRS. MORS (ENGLAND), LTD., inform us that recent purchasers of 45-h.p. Mors cars include the Duc d'Elchingen and the Marquise de Vistabella.

THE GAMAGE CHALLENGE CUP.

ON Saturday the Speed Judging Competition for the "Gamage" Challenge Cup took place at Cranford Bridge, near Hounslow. The cup was presented by Mr. A. W. Gamage for competition between the North London Automobile Club and the Southern Motor Club. The first competition took place last year, the result being a win for the Southern Club by 1,037 yards, the teams consisting of six members from each club.

This year the position is reversed, the North London Club winning by 11 miles 640 yards, the teams consisting of eight members from each club. The following table gives a list of competitors and performance:—

Name.	Rate for Judging.	Actual Rate.	Error. Miles per hr.
Mr. Lendrum	17	16.02	.98
Mr. Cutler	18	13.83	.83
Mr. Smith	19	18.23	1.77
Mr. Cannon	14	17.11	3.11
Mr. Robertson	18	19.33	1.33
Mr. Vincent	15	16.46	1.46
Mr. Paul	16	16.8	.8
Mr. Clements	12	15.67	3.67

Total error ... 12 miles 1,637 yards.

The total error of the Southern Club team was 24 miles 553 yards.

ALLEGED MISREPRESENTATION.

BEFORE Mr. Justice Channell, in the High Court of Justice, an action was brought by Mr. H. A. Lytton to recover from Mr. D. J. V. Langhorne (carrying on business as the Metropolitan Garage Association) damages for misrepresentation or for secret commission, for neglect in looking after an electric landaulet, plaintiff's property, and for a statement of account in connection with the hiring of the car. His lordship gave judgment in favour of plaintiff, awarding £100 damages. The inference to be drawn, he said, was that Mr. Lytton had been induced to buy the landaulet for £175 by the statements of defendant that he had no interest in the matter. The facts, however, were clear, that instead of £175, the sum required by the owner of the car was £100, and under these circumstances plaintiff, according to law, was entitled to recover £75. There were, however, certain expenses incurred by defendant in connection with repairs which had to be set off against the receipts from the hire of the car, and he thought the damage sustained had been £100. Judgment accordingly.

BUSINESS NEWS.

THE winning Rover car in the Tourist Trophy race was fitted with the Guenet coil, and the Godiva mica-porcelain plugs were fitted on the Rover, Star, and Vulcan cars. Mr. E. J. Hardy, Bishop Street, Coventry, is the British representative for these accessories.

MR. V. FOXWELL GRAY, of 264, Deansgate, Manchester, is the sole Manchester agent for the Alldays cars, one of which, a 10-h.p., made an excellent performance in the recent Manchester Motor Club's reliability trials.

THE Stepney spare wheels are being introduced into Holland by Mr. C. de Gorter, of Oosterparkstraat, Amsterdam, who has been appointed the Dutch agent.

THE Beeston-Humber cars are going well in India; after a shooting tour test of several hundred miles over the roughest of roads, the Lieut.-Governor of Bengal, Sir A. H. I. Fraser, K.C.S.I., last month bought the car, a 30-h.p., for the Government College of Engineering, where a motor school has been opened. On his recommendation two other similar cars were sold.

FROM Mr. S. F. Edge comes an interesting photo of a horse-drawn cab and hansom and a 40-h.p. six-cylinder Napier, which shows that the modern automobile, even with its long wheel-base, is shorter than the shortest and most handy horse-drawn carriages on the streets. By actual measurement the car mentioned above is 7 in. less in length over all than a hansom cab, and 3 ft. 10 in. less than a four-wheeled cab, the latter, of course, including the horses.

THE British Motor Company, of Deansgate, Manchester, have written to the Star Cycle Company, Wolverhampton, stating that the 6-h.p. little Starling car they purchased on the 18th ult. has given equal satisfaction to the previous vehicles. From the 22nd to the 26th ult. it ran 750 miles in a total of 40 hours, running without once being stopped for adjustment or repairs of any nature. An independent observer took the second seat for each day, and during the second and third day it was engaged in the reliability trials of the Manchester Motor Club, the road traversed being from Manchester to Aberystwyth, finishing at Stratford-on-Avon.

MR. W. F. PEARE used the A.V. plugs of the French Motor Accessories Company, Ltd., on the 35 45-h.p. Gladiator which he drove through the Irish Reliability Trials, and afterwards drove to complete 1,000 miles non-stop run. He had not the slightest trouble with them.

MR. C. HOYDONK has removed from Leather Lane, E.C., to more central premises in Shaftesbury Avenue, W.C., where he will hold a large stock of all motor accessories, including the "Dependence" lamps, for which he is the sole London agent.

THE Motor-Car Journal.

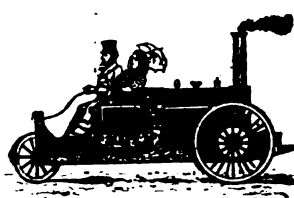
VOL. IX.]

LONDON, SATURDAY, JUNE 22, 1907.

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COMMENTS.



THE committee meeting of the Royal Automobile Club last week was a very full one, and many matters of importance were discussed. Probably, in view of recent references to the "badgered motorist," the decision to have a new badge will occasion some amusement. Of a more serious character is the intention of the leaders of the club with reference to the instruction to the Competitions Committee to hold an inquiry in regard to the recent automobile meeting at Bexhill. This is to be gone into at once, and a report submitted to the next meeting. Another useful piece of work done at the same meeting was to vote £150 for the sign-posting of Watling Street, on the understanding that a similar sum will be donated for the purpose by the Motor Union. A sub-committee has also been appointed to inquire into the scope and possible usefulness of the Children's National Guild of Courtesy to automobilism, by imparting instruction calculated to increase the safety and convenience of the highways. The Dust Competition, previously arranged to be held this month, has been postponed to an early date in July, so as not to clash with the Scottish Trials, which commence on Tuesday next.

The Saltburn Races.

A NEW feature in the organisation of motor races must be placed to the credit of the Yorkshire Automobile Club, which is holding a series of speed trials on the sands between Saltburn and Redcar to-day (Saturday). The local district council having expressed a wish that the public should be protected as far as possible during the race, the club, in addition to obtaining the co-operation of Major Bower (the Chief Constable), have insured at Lloyd's against third party risks. This innovation will probably add considerably to the expense, and, having in view the fact that speed trials at Saltburn have hitherto been carried out without accidents, shows the conscientious regard for Public Opinion felt by the Yorkshire Club in the matter. The public barrier is being extended to a length of two miles, and the entries constitute a record for this meet, including several high-powered cars, and drivers of national reputation as well as of county fame.

The Reading Meet.

THE first provincial meet of the Commercial Motor Users' Association was held on Monday at Reading, this being a development of the run to Ripley organised by Mr. Leo Harris in the early spring. Nearly thirty commercial vehicles of various types assembled in the market place and made a peregrination around the town, the representatives of their manufacturers being subsequently plied with questions as to cost, upkeep, &c., from curious observers as well as interested local commercial people. The Corporation gave every facility for the comfort of those concerned in the Meet, and the mayor, Mr. Edward Jackson, and the Corporation officials received the visitors. Subsequently a luncheon was held, and Colonel R. E.

Crompton, the chairman of the Association, replied to the toast of "Commercial Motoring," expressing the view that a general improvement of the roads cannot long be delayed. This would quicken the interest now being taken throughout the country in the development of the commercial side of automobiles.

Police Infallibility.

A CURIOUS comment on the alleged accuracy and infallibility of the methods of trapping indulged in by the police of East Sussex has been furnished to Alderman Holman, who is the chairman of the Lewes Fire Brigade Committee, and who takes an interest in fairplay to the public. The National Fire Brigades Union held its competition at Lewes recently. The device ordinarily employed by the police for timing motorists was used in connection with the competition. Its failure to secure accurate timing and the uncertainty of operation, even when operated by a gentleman of the name of Waghorn, were so conspicuous that the competitors called the attention of Alderman Holman to the matter. This is important, in view of the many prosecutions, amounting to persecution, that take place in East Sussex; and motorists on their defence in that region should not fail to acquaint the magistrates of the erratic character of the device, as was amply shown at Lewes.

Capt. Kydd's Hill Climb.

THE climb at Captain Kydd's Hill, near East Grinstead, organised for to-day (Saturday) only needs such weather as we enjoyed at the beginning of the week to make it a thorough success. Earl Russell will be the judge, and the enthusiasm of the officers of the Southern Motor Club will secure the assistance of many well-known motorists in keeping the course and generally supervising details. Nearly seventy entries have been received. In the class for ladies, Mrs. Kirton, Mrs. Wylie, and Miss Muriel Hind will compete; Mr. E. Courtis, who won the Tourist Trophy race, will drive a 16-20-h.p. Rover, and Mr. O. Cupper, who won the Carter's Hill Cup on the 8th inst., has entered his 24-28-h.p. Metallurgique. Half-a-dozen of the cars that were entered in the Tourist Trophy race form Class 7, and the actual winning car in that event will be handled by Mr. E. R. Folker. A full list of the entries is given on another page.

Essex Trapplists.

RECENTLY there has been an outbreak of motor trapping in Essex, which seems to point to an emulation of the activity of the Surrey and Sussex police. At the Harlow Petty Sessions fines amount to £128 were recently imposed on one day, eighteen cases against motorists being heard—all resulting from a trap between the sixteenth and twentieth milestones from London on the Cambridge road. The police superintendent stationed several constables with instructions to take the numbers of the vehicles that went that way, as well as the times they passed. Every policeman was provided with a watch which had been previously set by the superintendent's watch, and they were instructed to give the motorists the benefit of fractions of a second. The magistrates gave no leniency, however, and, although speed indicators were called in evidence against the

B

police, the testimony of the latter was held to be conclusive in every instance. The chairman of the Bench refused to accept an invitation to re-measure the distance—the correctness of which was challenged—and altogether the whole proceeding was as intolerable as anything that has occurred at Haywards Heath. Essex has several virile motoring organisations, and they should speedily establish a system of making known among their members the existence of these traps, which have lately been frequently worked near Harlow, Colchester and Woodford. In all these districts extreme caution is generally necessary on Saturdays and Sundays.

The Southport Meet of the Motor Union.

THE arrangements for the next provincial meeting of the members of the Motor Union at Southport, on July 20th, are well forward. On this occasion the Union's hosts will be the Liverpool A.C. and Self-Propelled Traffic Association, one of the pioneer motoring clubs. The General Committee will meet in the morning, when the members will be officially welcomed by the Mayor, and after the meeting is over the members of the Committee will be entertained to luncheon by the Mayor



During the visit of the Rt. Hon. Sydney Buxton, the Post-Master General, to Coventry last week the Daimler Company placed one of their cars at his disposal. The above illustration depicts Mr. Buxton and Mr. A. E. W. Mason, M.P., the well-known novelist, arriving at the residence of Col. Wyley, the President of the Coventry Motor Club.

and Corporation. The Earl of Derby has invited the members of the Union and their friends to Knowsley, and it is expected a large number of members will accept this invitation in order that they may meet the President of the Liverpool A.C. and the late Chairman of the Motor Union in the stately home of the Stanleys. The eighth provincial dinner of the Union will be held at the Prince of Wales Hotel, Southport, in the evening.

Local Agitation.

THE provincial meet of the Motor Union in July comes at an opportune time, for there is much local agitation against motorists in general and the owners of motor char-a-bancs and public service vehicles in particular. The Southport Company-house Proprietors' Association have been considering the speed at which motor-cars travel along the Marine Drive, and suggesting that steps should be taken to deal with the matter. In fact, a deputation has been appointed to interview the Watch Committee. Naturally the Association is interested in the visitors to the town; they must take care not to drive them away by any unreasonable attitude.

The Commercial Vehicle Trials.

ARRANGEMENTS are now going well forward for the Commercial Vehicle Trials, which will commence on September 9th from Brentford. The first stopping place will be at Reading, and on the following days the stopping places will be Hungerford, Chippenham, Bristol, Gloucester, Worcester, Birmingham, Stafford, Newcastle-on-Tyne, Manchester, Liverpool, Manchester (second visit), Huddersfield, Leeds, Sheffield, Mansfield, Nottingham, Leicester, Northampton, Bedford, St. Albans, London, making twenty-two actual running days. All the vehicles will start from the same place each morning, and a variety of routes will be adopted from town to town. At Bristol, Birmingham, Liverpool, Manchester, Leeds, Sheffield, Nottingham and Bedford the vehicles will remain two nights in order that an exhibition may be held in the day-time. It is the intention of the committee to meet weekly during the next two or three months, so that no details to secure adequate organisation shall be omitted. Mr. J. W. Orde will be in charge of the Trials, the other officials being Mr. A. E. Greathed, who will be responsible for the routes; Mr. Martin Duncan, who will arrange for motor-house accommodation and the exhibitions; Mr. R. W. Sprague, who will prepare the observers' instructions; and Mr. J. Stewart Mallam, who will take the reports, &c. A special office for the Trials has been opened at 108, Piccadilly, W., the address of the new motor-house of the R.A.C., and altogether a comprehensive organisation is in progress.

East Sussex.

MR. HENRY MOORE, of Brighton, who has been lane-wandering by motor-car in and about Sussex, makes some interesting suggestions to those who tour that way. In exploring East Sussex he advises motorists to take the coast way to Newhaven, then to Seaford, and, turning round by the Church, cross the river Cuckmere and ascend a very steep hill to Friston. Then begins a steep descent through Eastdean, which should be ridden slowly and with caution. Through old Eastbourne the descent must be made with great care. After continuing along the Seaside Road for about four miles to Pevensey Castle, the car should be turned for Hurstmonceux Castle, leaving the main road for about a mile. Then retracing this mile, continue about half a mile. Turning right where the road terminates, the route lies through Boreham Street down a steady hill, and, passing Ashburnham Park on the left and Normanhurst Court on the right, Battle is entered. Thence to Hastings and the steep hill to Ore, Winchelsea and Rye are worthy a visit. Udimore and Cripps Corner are next visited; then Hurst Green, Etchingham and Burwash; thence it is impossible to mistake the road as far as Blackboys, from whence the route lies through Hallands, Shortgate, and over the Broyle (a wide road four miles in length, quite straight, with broad grass on either side) to Ringmer and Lewes. Here there is a right-angle turn to the right in the main street, and after crossing the river, and making the very sharp ascent up School Hill, Lewes Castle is seen. The motorist has covered roughly 110 miles by the time he returns to Brighton, which is only eight miles distant.

Police Provocation.

IN our reports of cases against motorists we recently gave an instance of provocation on the part of the police which, unfortunately, is only typical of their attitude in some parts of the south, and is deserving of further notice. The motorist was called upon to produce his licence to Superintendent Marks, and held the document open in his hands so that the official could copy any necessary information therefrom. This, however, did not satisfy the Superintendent, who is alleged to have taken the licence from the motorist by force. Had the latter endeavoured to retain his hold, it would have been torn. There is no doubt that it is of importance to motorists who are

likely to be defendants that they should conform to the Act as to the "production" of the licence, but it is unwise for them to allow the police to form a prejudice by any writing that may be on the obverse side. Unfortunately, when the defendant asked for the opinion of the Court on the matter, the only reply he obtained was that the time of the magistrates could not be wasted in that way—an answer not likely to act as a deterrent to Superintendent Marks in his general policy of aggravation.

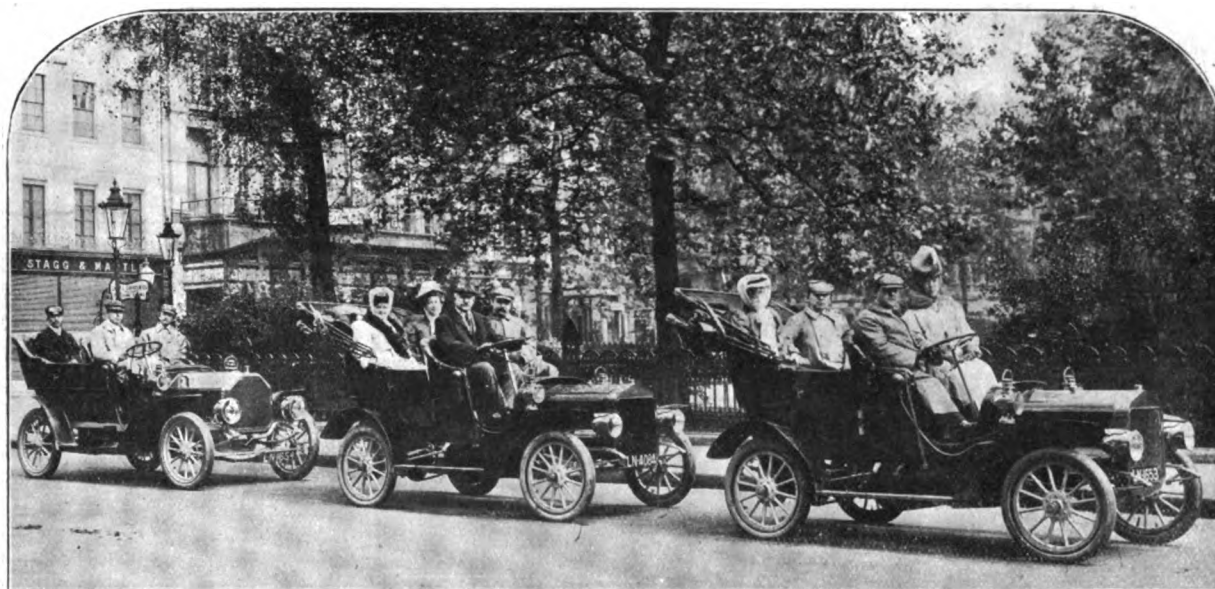
Progress in China.

A WELL-ATTENDED meeting of motor-car owners was held recently at the residence of Dr. A. MacLeod at Shanghai, for the purpose of discussing the affairs of the Automobile Club of China during the past year, and to devise ways and means of effecting repairs, &c. The membership now numbers over forty and is being constantly increased. During the past year the committee have made certain alterations in their dealings with the Standard Oil Company and the Vacuum Oil Company in regard to the supply of lubricants. Recommendations were made to the Municipal Council regarding the issue of car licences and the examination of chauffeurs, both native and foreign. It was suggested that efforts should be made to secure

passes by suction into the cylinder of the engine to be exploded. The apparatus is simple in construction and may be adapted to any high-speed gasoline motor. It is claimed that whereas denatured alcohol is too slow in vapourising and too slow in explosion to give effective value to high-speed motors, and whereas acetylene gas is too powerful and violent to be used pure as a motor fuel, a combination of the two gives a perfectly satisfactory fuel which costs less than gasoline.

The Endorsement of Licences.

AN appeal heard in the High Courts on Wednesday has resulted in an important decision being given against the London magistrates who have been in the habit of endorsing the licences of drivers convicted of exceeding the ten-mile limit in the Royal parks. Against such a judgment of Mr. Marsham at the Bow Street Court the Motor Union have appealed. The case was heard on Wednesday before the Lord Chief Justice, Mr. Justice Darling, and Mr. Justice A. T. Lawrence; Mr. Horace Ivory, K.C., and Mr. Cleave, instructed by Mr. Staplee Firth, being for the appellants, and Mr. Askwith, K.C., instructed by the Treasury, being for the respondent, Mr. Marsham. After legal argument the justices



The three Buick Cars which took part in the Motor Club's Run to Brighton on the 9th inst.

The two first cars are of the two-cylinder type, while the one at the rear is a four-cylinder. In the first vehicle Mr. F. Eason, of Messrs. Sternberg and Eason, is at the wheel, and at the back are seated Mr. Horace Golding, the well-known illusionist, and his wife; in the second car Mr. John L. Poole, foreign sales manager of the Buick Company, is at the wheel, and next to him is Mr. De Resder, the musical director of the Tivoli.

a skilled mechanic for the purpose of repairing tyres, &c., for the members of the club. Several were in favour of getting a suitable man either from America or England. The meeting finally decided on a resolution that the committee be authorised to go carefully into the matter of tyre repairs and the overhauling of machinery, &c., and also endeavour to secure suitable premises for a club building, and the engagement of a skilled mechanic from abroad if one could not be secured in Shanghai.

A New Gas for Power Use.

MR. E. SEYMOUR BELL, the British Commercial Agent in the United States, has reported that a patent has recently been secured in the United States for a process of producing gas for power purposes, which may prove to be of considerable interest to those engaged in the automobile industry, and, incidentally, the alcohol trade. This is evidently the system referred to in our issue of March 30th. The new process consists of bringing a spray of atomised, diluted alcohol into contact with calcium carbide, thereby forming an explosive vapour. This product, which is a combination of air, alcohol vapour, and acetylene gas, is what is known as "alkoethine." The vapour

decided that the magistrates had no legal right to endorse the licences of motorists convicted on the first or second occasion for exceeding the ten-mile limit in the Royal parks. The Motor Union and Mr. Staplee Firth may be congratulated on the successful issue of the appeal.

Police Traps.

It is regrettable that people should be found to lend the aid of their high hedges for the machinations of the police in trapping people who do not endanger others on the road. But we suppose there will always be a small minority careless of the general convenience in the selfish enjoyment of their own privileges. Prejudiced magistrates and trapping policemen have much in common, and apparently they can obtain the assistance of the county gentry in some few places. Fortunately there are places where a different spirit prevails, such as Shipston-on-Stratford, where the police, using the church steeple for the purpose of keeping a look-out on motorists, were ordered down by the rector. They had, however, managed to catch a trio of motorists, who were summoned recently to the local Petty Sessions, where they were each fined £2 and costs

THE BROOKLANDS RACING TRACK.

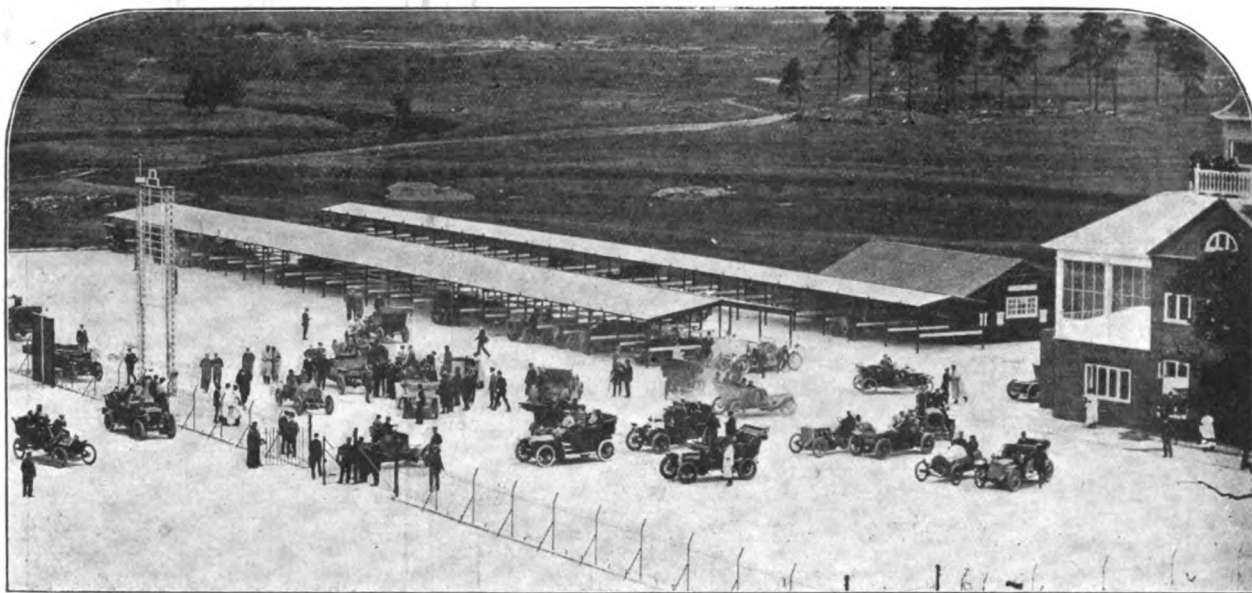
THOSE who journeyed to Weybridge on Monday found a piece of typical Surrey landscape without a police trap. Not only were the motorists able to drive up to the legal limit, but go beyond it without fear of the service of summonses. It was the occasion of the preliminary canter over the new motor track which has been made through the enterprise of Mr. F. Locke-King, and which gives opportunities of speed to British motorists that are not possessed by the sportsmen of any European country. The track will be under the authority of the Brooklands Automobile Racing Club, and the first great race meeting will be held on Saturday, the 6th prox. Meanwhile competitors will have opportunities for rehearsal, and those who intend to use it as "a safety valve to their speed proclivities" will doubtless familiarise themselves with its banking and curves.

Pear-shaped in outline, the track measures two and three-quarter miles round, with a width of 100 ft. A straight run of one kilometre has been provided for finishing purposes, so that the length of the circuit and the finishing distance will be just over three miles. In each circuit there will be two miles on the

Essex, Lord Alington, Colonel H. C. Holden, Major W. E. Donohue, Mr. C. D. Rose, M.P., Mr. C. Cordingley, and Mr. E. de Rodakowski were present, and were included in the large company who took luncheon together in the dining-room at the top of the hill. Mr. Locke-King bade them welcome, testified to the splendid assistance given in the preparation of the track by Colonel Holden, and then asked Mrs. Locke-King to head the procession of cars that went around the course.

The processional order was quickly dispelled as the sense of speed grew upon the drivers, and the delights of exceeding the legal limit without risk of police or hurt proved too keen for orderly ceremonial. Forty cars and more progressed with safety, and for awhile all were agog with a new sensation. Then came "the man with the red flag," and the cars were driven demurely into the "paddock" while the fleetest vehicles swallowed distance at a rate which no Surrey policeman could estimate.

Then we literally "saw speed" along the straight, for, it must be confessed, the extent of the track rather minimises the impression gained by the onlooker. It is so stupendous as to dwarf speed, and cars travelling on the distant part of the loop, looking from the hill, scarcely



The Brooklands Racing Track.—A view of the Paddock.

level, while the radii of the banked curves are 1,000 ft. and 1,500 ft. respectively. The track, in the planning of which Mr. F. Locke-King has been greatly aided by Col. Holden, R.E., has been constructed with as little disturbance of the landscape as possible, and the hill through which it passes at the northern end secures a natural vantage ground for the public. Two tunnels and a bridge give access to various parts of the track, from which the spectators will be excluded by railings of formidable aspect.

All along the course a system of telephonic communication has been established, so that the officials at headquarters will be made immediately acquainted of any unexpected incident at any point on the track. Grand stands are provided near the finishing point, and although one or two obstructions in the centre of track obtrude themselves upon the view, the public will be able to enjoy the sport under conditions that are unparalleled, and that are not likely to be exceeded anywhere else.

All the motor world was there on Monday to participate in an event which marks the beginning of a new aspect of Motorism. Many who have not been so closely identified with speedy motoring as Messrs. C. Jarrott and S. F. Edge were present, and some members of the Jockey Club seemed to have wandered from Ascot to Brooklands. The Duke of Westminster, Earl of Carnarvon, Lord Lonsdale, Lord Montagu, Lord

convey the idea usually imagined by eighty or ninety miles per hour. Still the pace was there, and a 100-h.p. Darracq driven by Mr. Warwick Wright developed a speed of approximately ninety miles an hour. We had a run round the track on a Mass car of reliable and speedy character in the company of Mr. Okura on his 120-h.p. Fiat, a Tourist Trophy winner of the past, a six-cylinder Napier, Beeston and Coventry Humbers, several Daimlers, including Mr. Frank Rendle's 45-h.p. car with four passengers up, and still speedier, an 80-h.p. Berliet driven by Mr. E. Hutton, who sported his racing colours of red and white, and a great company of other cars of high degree.

THE Motor Union on Wednesday obtained a judgment to the effect that motor-car drivers' licences shall not be endorsed on a first or second conviction for exceeding the ten-mile speed limit in the Royal parks.

In connection with the Hastings Automobile Meeting, on the 26th inst., the addresses of the leading local garages may be of service. On the London Road, at St. Leonards, is that of the Hastings and St. Leonards Motor Car Company, Ltd.; at the East Ascent, St. Leonards, is the Royal Victoria Garage, and on the Western Road that of Messrs. Skinner and Co. Mr. J. S. Walker has a garage at the Royal Concert Hall, and Mr. E. Stally in the Queen's Road, Hastings.

The Kaiser's Prize Race.



The Kaiser's Prize Race.—The Scene at the Starting Point.

THE great event of the past week on the Continent has been the contest for the Kaiser's prize, organised by the German Automobile Club. Considerable interest was taken in the event, no less than ninety-two entries having been received, viz., thirty-two German, twenty-one French, nineteen Italian, ten Belgian, four British (three Daimlers and a Napier), three Austrian and three Swiss. The main provisions of the regulations called for vehicles fitted with engines of a cylinder capacity of 8 litres—equivalent to a motor of about 50-h.p.—and weighing at least 1,175 kilogs., without fuel, water, oil, parts, or tools. The course on which the contest was held is practically the same as that on which the Gordon Bennett race took place in 1904. It had, however, been reduced to 118 kilometres, this having to be covered four times, giving a total distance of 472 kilometres, or 295 miles. The principal towns and villages passed through were Usingen, Gravenwiesbach, Weilburg, Winden, Riedelbach, Esch, Königstein, Overursel, and Homburg. The starting point was near Kloster Thron, between Saalburg and Wehrheim, and here not only had a large grand stand been erected, but a special box for the Kaiser. The weighing in took place on the 12th inst., when, of the ninety-two entries, eighty-one cars duly appeared and passed the scales.

Owing to the decision of the German Government not to allow all the vehicles to compete in the actual race—considering the number too large—two eliminating races, comprising two laps of the course, or 147½ miles, were held on Thursday, the 13th inst., in each of which half the contestants took part, the fastest twenty cars in each series being eligible for the race proper. The first eliminating contest started at 4 a.m., in the presence of the Kaiser, Prince and Princess Henry of Prussia, the Grand Duke and Duchess of Hesse, Prince and Princess Frederick Charles of Hesse, and many other notabilities. Unfortunately wet weather prevailed, which rendered the roads highly dangerous. There were thirty-nine starters in the first eliminating, these comprising the following cars:—Durkopp, Opel (three), Rebour, Argus, Suddutsche, Benz, Fiat, Mercedes Mixte, Minerva, Martin-Lethimonnier, Mors, De Dietrich, Darracq, Protos, Pipe, Horch, Adler, Vinot, Mathis, Ehrhardt Eisenach, Isotta-Fraschini, Zust, Daimler, Porthos (two), Gobron, Martini, Bianchi, Mercedes, Itala, Metallurgique, Napier, Piedbœuf-Imperia, Graf and Stift, and N.A.G. The

German cars were painted white, the French blue, English green, Belgian yellow, Italian red, Austrian black and yellow, and Swiss red and yellow. Thirty cars finished the first round, the best time being by Lancia on a Fiat (1 h. 26 min. 17 sec.). Those that fell out included Flohr (Argus), Burton (Mercedes-Mixte), Villemain (Martin-Lethimonnier), Trucco (Isotta-Fraschini), Maggione (Zust), Bush (Daimler), Stricker (Porthos), Peters (Porthos), and Spamann (Benz). The second lap was completed by twenty-five cars, with the result shown below. The competitors who failed in this round comprised Taddeoli (Rebour), Buchner (Horch), Glentworth (Napier), Sach (Graf and Stift), and Delrich (Opel). Glentworth and Bush are reported to have been disabled owing to collisions with telegraph poles.

Result of first eliminating contest:—

No.	Driver.	Car.	H.	M.	S.
1.	Lancia ...	Fiat ...	2	56	17
2.	Opel ...	Opel ...	3	1	0
3.	Hautvast ...	Pipe ...	3	2	56
4.	Geller ...	Adler ...	3	2	56
5.	Cagno ...	Itala ...	3	5	26
6.	Wilhelm ...	Metallurgique ...	3	8	5
7.	Joerns ...	Opel ...	3	10	8
8.	E. Schmidt ...	Durkopp ...	3	11	39
9.	Florio ...	Darracq ...	3	11	50
10.	Hemery ...	Benz ...	3	12	25
11.	Moore-Brabazon ...	Minerva ...	3	14	56
12.	Duray ...	De Dietrich ...	3	16	1
13.	E. Jeannin ...	Sud. A. F. ...	3	35	18
14.	Henze ...	Piedbœuf-Imperia ...	3	37	43
15.	Doué ...	Gobron ...	3	41	36
16.	Adelberger ...	Protos ...	3	44	20
17.	Schmidt ...	Eisenach ...	3	44	41
18.	Tommaselli ...	Bianchi ...	3	48	25
19.	Jenatzy ...	Mercedes ...	3	50	55
20.	Bentler ...	Martini ...	3	57	6
21.	C. Salzer ...	N.A.G. ...	3	58	54
22.	Fery ...	Vinot ...	3	59	52
23.	Mathis ...	Mathis ...	4	3	17
24.	Kirchheim ...	Ehrhardt ...	4	16	1
25.	Lavergne ...	Mors ...	4	28	25

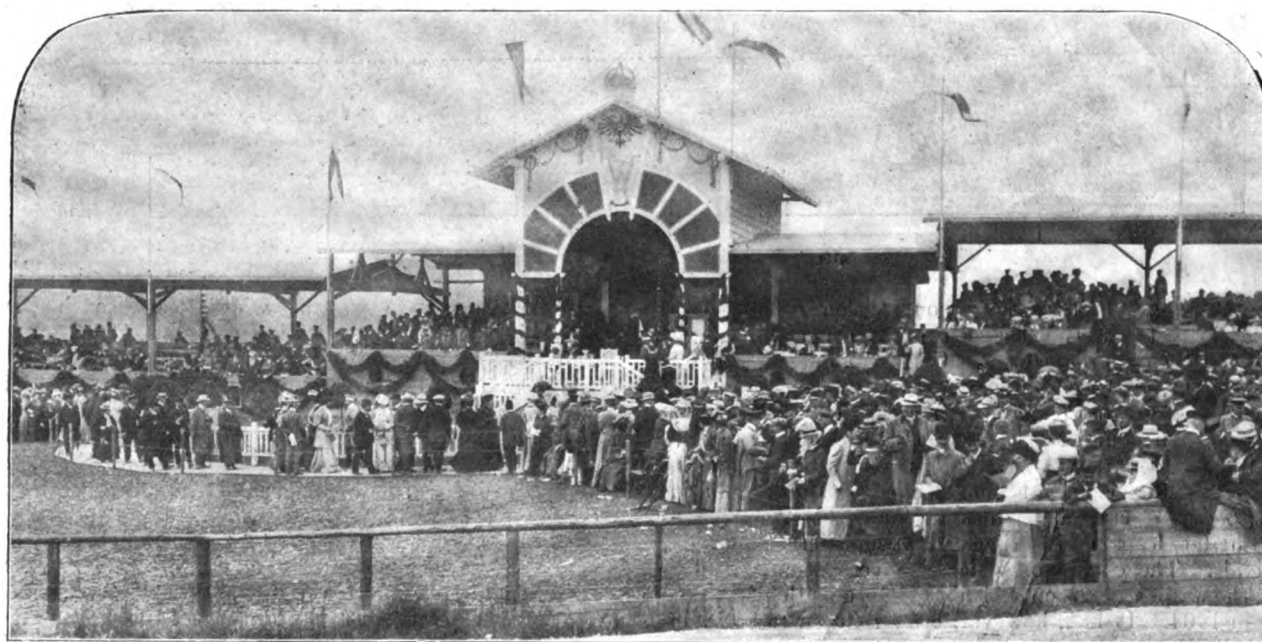
Another batch of thirty-nine competitors faced the starter in the second eliminating event, which was run off later in the day in somewhat finer weather. The cars which took part in it comprised Fiat (two), Mercedes-Mixte, Minerva (two), Martin-

Lethimonnier, Darracq (two), De Dietrich (two), Pipe (two), Horch (two), Adler (two), Vinot, Ehrhardt, Eisenach, Isotta-Fraschini (two), Züst, Daimler, Porthos, Gobron, Martini, Bianchi, Mercedes (two), Itala (two), Gaggenau (two), Rochet-Schneider, N.A.G. (two), Durkopp, Opel, and Benz. Nazzaro (Fiat) was the first away, completing the premier lap in 1 h. 24 min. 19 sec., the fastest time of the day, Wagner, on a similar car, being second. The round was successfully accomplished by all but six of the drivers, those who failed to pass the grand stand being Ducom (Martin-Lethimonnier), Conti (Züst), Lucke (Gaggenau), Krapff (Horch), Tamagni (Isotta-Fraschini), and Robl (Gaggenau). The two Fiats maintained their record for reliable running, Nazzara and Wagner again making the fastest times. Five cars fell out on this circuit, viz., Hoffmann (Horch), Bereis (Ehrhardt), Ernecke (N.A.G.), Bojano (Benz), and Goebel (Adler). The latter is reported to have met with a fatal accident owing to his car overturning at a bad corner at Esch. One of the Horch cars, too, met with a bad accident at Gravenwiesbach, both the driver, Krapff, and mechanic being seriously injured. Appended is the order and times of the cars which finished the two circuits.

The first twenty in each of the two preceding tables qualified for the actual race, and we append a further list giving the combined order of classification of the two eliminating contests. As the times are given above we have not repeated them, but it will be observed that not only did the complete Fiat team get through but actually made the three fastest times of the day.

Table showing combined result of the two eliminating contests:—

No.	Driver.	Car.	No.	Driver.	Car.
1.	Nazzaro	Fiat.	16.	Hémery	Benz.
2.	Lancia	Fiat.	17.	Fournier	Itala.
3.	Wagner	Fiat.	18.	Minoia	Isotta - Fraschini.
4.	F. Opel	Opel.	19.	Guyot	Minerva.
5.	C. Deplus	Pipe.	20.	Rougier	De Dietrich.
6.	Hautvast	Pipe.	21.	Fabry	Itala.
7.	Geller	Adler.	22.	Salzmann	Eisenach.
8.	Cagno	Itala.	23.	Moore-Brazon	Minerva.
9.	Wilhelm	Metallurgique.	24.	Duray	De Dietrich.
10.	Gabriel	De Dietrich.	25.	Maserati	Bianchi.
11.	Willy Poege	Mercedes.	26.	Michel	Opel.
12.	C. Joerns	Opel.	27.	Ison	Daimler.
13.	Salzer	Mercedes.	28.	Beck	Martini.
14.	E. Schmidt	Durkopp.			
15.	Florio	Darracq.			



The Kaiser's Prize Race.—The Royal Box near the Grand Stand.

Second eliminating contest:—

No.	Driver.	Car.	H.	M.	S.
1.	Nazzaro	Fiat	2	50	20
2.	Wagner	Fiat	2	56	55
3.	Deplus	Pipe	3	1	45
4.	Gabriel	De Dietrich	3	9	45
5.	W. Poege	Mercedes	3	9	56
6.	Salzer	Mercedes	3	11	37
7.	Fournier	Itala	3	12	32
8.	Minoia	Isotta-Fraschini	3	12	42
9.	Guyot	Minerva	3	13	1
10.	Rougier	De Dietrich	3	13	27
11.	Fabry	Itala	3	14	20
12.	Salzmann	Eisenach	3	14	20
13.	Maserati	Bianchi	3	16	52
14.	Michel	Opel	3	19	5
15.	Ison	Daimler	3	25	28
16.	Beck	Martini	3	25	53
17.	Branda	Darracq	3	28	0
18.	Scholz	N.A.G.	3	31	40
19.	Viton	Rochet-Schneider	3	32	33
20.	Terry	Gobron	3	35	54
21.	Hespe	Vinot	3	37	14
22.	Jarosch	Durkopp	3	38	8
23.	Tasca	Darracq	3	44	11
24.	Colin Defries	Porthos	3	53	54
25.	Lee Guinness	Minerva	3	55	29
26.	Gasteaux	Mercedes	3	56	39
27.	De Caters	Pipe	4	1	49
28.	Fischer	Adler	4	2	39

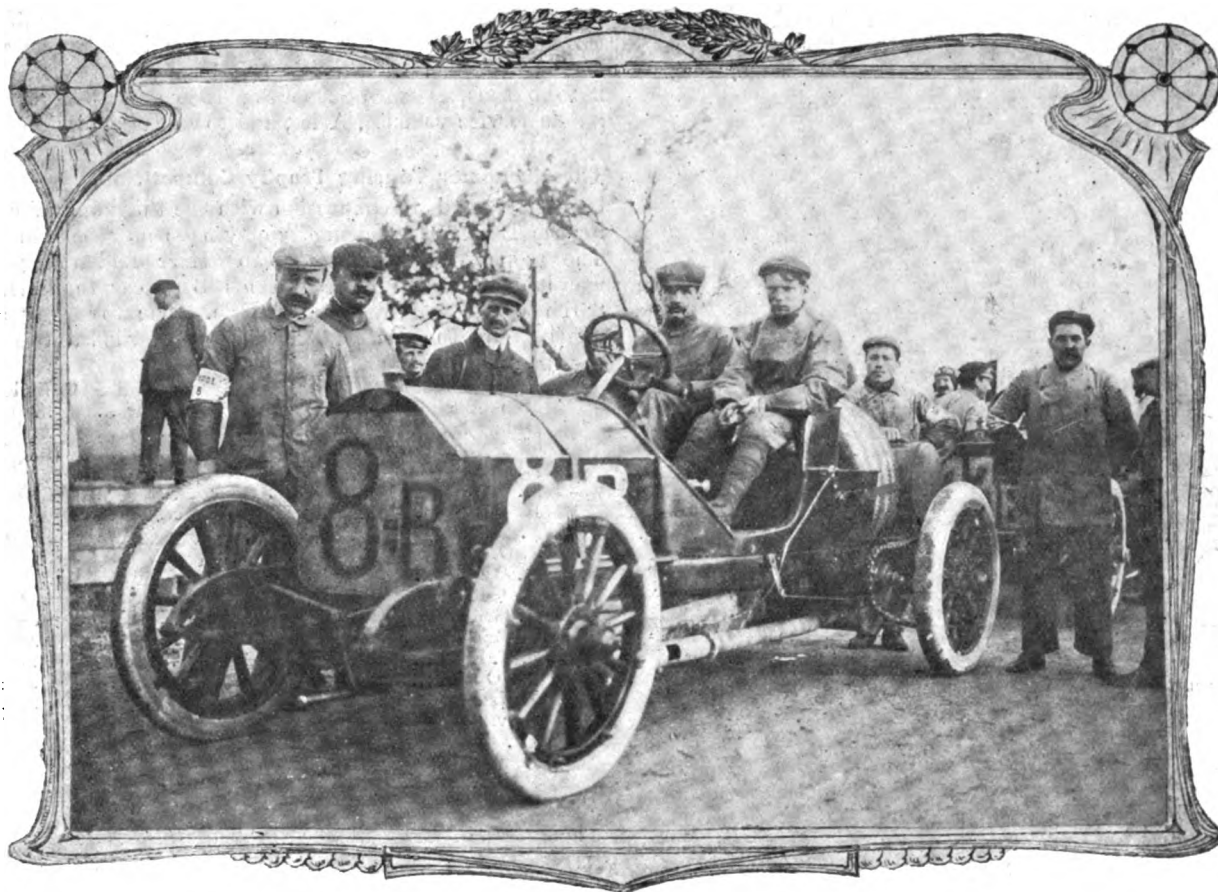
29.	Branda	Darracq.	35.	Doué	Gobron.
30.	Scholz	N.A.G.	36.	Adelberger	Protos.
31.	Viton	Rochet-Schneider.	37.	C. Schmidt	Eisenach.
32.	Jeannin	Süddeutsche.	38.	Tommasei	Bianchi.
33.	Terry	Gobron.	39.	Jenatzy	Mercedes.
34.	Henze	Piedbœuf-Imperia.	40.	Beutler	Martini.

The Kaiser was again present at Kloster Thron to witness the actual contest for his prize on Friday, the 14th inst. The weather was a considerable improvement on that of the preceding day, with the result that better times were made. The start took place at 6 a.m., when all but one of the forty selected cars were on the scene, the missing vehicle being Jeannin's Süddeutsche. The cars were sent off at two-minute intervals—not in the order they finished the eliminating, but in that of entry—E. Schmidt, on a Durkopp, being the first away, and Fournier, the old Paris-Berlin champion, last on an Itala at 7.16 a.m. The speedy qualities of the Fiats again made themselves evident, the two fastest times in the first lap being made by Nazzaro and Wagner, only 7 sec. separating them. The Pipes also did well, two of them, driven by Hautvast and Deplus, being close on the heels of the Italians. Thirty-four cars finished the first round, those that fell out being Duray (De Dietrich), Wilhelm (Metallurgique), W.

Poege (Mercedes), Florio (Darracq), and Guyot (Minerva). The second round considerably altered the outlook, Hautvast and Deplus proving the speediest and running into the first and second places, Nazzaro falling back to the third position, followed by two Opel cars. Twenty-nine finished the circuit, Brauda (Darracq) and Hemery (Benz) retiring with broken wheels, the other withdrawals being Gabriel (De Dietrich), Moore-Brabazon (Minerva) and Ison (Daimler), the only English representative in the contest. The third circuit brought another change in the position, again putting Italy in front. Lancia, whose Fiat in the first and second laps had been going steadily, but not as fast as Nazzaro's, was now travelling at a terrible pace, making the quickest time of the day so far, viz., 1 h. 22 min. 28 sec., beating his own record again in the last round by completing it in 1 h. 21 min. 52 sec. At the end of the third circuit the general classification gave Nazzaro as the first in 4 h. 12 min. 13 sec., Hautvast (Pipe) being second 33 sec. behind, with

No.	Driver.	Car.	H.	M.	S.
4.	Michel ...	Opel ...	5	49	35
5.	Wagner ...	Fiat ...	5	50	53
6.	Lancia ...	Fiat ...	5	51	1
7.	Minoia ...	Isotta-Fraschini ...	5	51	15
8.	Fournier ...	Itala ...	5	53	18
9.	Salzer ...	Mercedes ...	5	57	33
10.	Cagno ...	Itala ...	5	59	12
11.	Schmidt ...	Eisenach ...	6	3	31
12.	Beutler ...	Martini ...	6	5	11
13.	Rougier ...	De Dietrich ...	6	8	15
14.	Jenatzy ...	Mercedes ...	6	8	54
15.	Beck ...	Martini ...	6	21	14
16.	Fabry ...	Itala ...	6	29	1
17.	Tommaselli ...	Bianchi ...	6	31	45
18.	Scholz ...	N.A.G. ...	6	35	33
19.	Schmidt ...	Durkopp ...	6	46	45
20.	Adelberger ...	Protos ...	7	13	8

After the contest there was a rush for the Royal box, where the Kaiser himself distributed the trophies, Nazzaro taking the



Nazzaro on the Fiat Car on which he won the Kaiser's Prize Race.

another Pipe in the third place. Salzmann (Eisenach), Opel (Opel), Doué (Gobron), Geller (Adler), and Henze (Piedbœuf-Imperia) fell out in this lap, leaving twenty-four competitors for the last circuit, in which, as already mentioned, Lancia established the record for the course. Deplus (Pipe), who up to that point held the third place, and was travelling with great regularity, unfortunately damaged his steering gear. Viton (Rochet-Schneider), Maserati (Bianchi), and Terry (Gobron) also retired, the number of competitors who completed the four laps being an even twenty. Hautvast (Pipe) was the first to finish, but he had started thirty-four minutes in advance of Nazzaro, who, arriving well in advance of his time, proved the winner of the contest, his speed for the four laps, or 295 miles, working out at an average of about fifty-three miles per hour.

The result was as follows:—

No.	Driver.	Car.	H.	M.	S.
1.	Nazzaro ...	Fiat ...	5	34	26
2.	Hautvast ...	Pipe ...	5	39	10
3.	Joerns ...	Opel ...	5	39	49

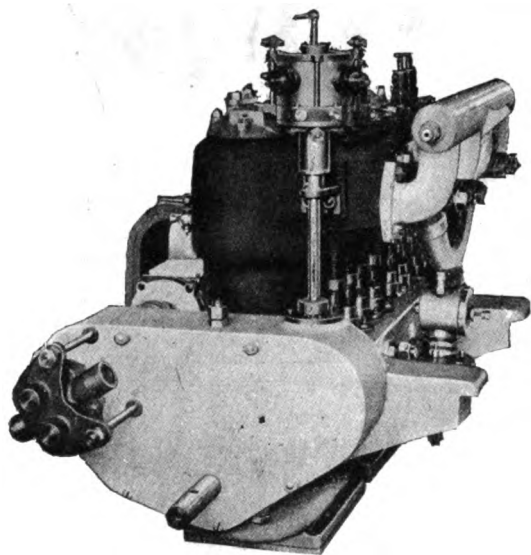
Kaiser's prize, Hautvast (Pipe), the cup for the first foreign-built car after the winner, and Joerns (Opel) the national trophy. The race was a brilliant victory for the Fiat Company, and, coming as it does so soon after their success in the Targa Florio contest, speaks volumes for the design and workmanship of their cars. In conclusion we may add that of the thirteen German cars which took part in the actual race, eight finished, the respective figures for the other countries being Italy eight out of nine, France one out of eight, Belgium one out of six, Switzerland two out of two, and Great Britain nil out of one.

At 370, Stratford Road, Birmingham, Mr. E. C. Penzer has established a garage, and is also developing considerable business in motor accessories.

SOME of Mr. Jarrott's French friends have presented him with a very handsome engraved silver plaque as a testimonial of the sporting features of his recent drive from London to Monte Carlo on a 40-h.p. Crossley car.

THE ALPHA PETROL MOTORS.

WE illustrate herewith one of the series of well-designed petrol engines which, under the name "Alpha," are now being manufactured by Messrs. Johnson, Hurley, and Martin, Ltd., of Gosford Street, Coventry. The one shown is the 12-16-h.p. four-cylinder type, and, as will be seen, the cylinders are cast in pairs and provided with large water jackets; the bore and stroke is respectively 93 mm. by 105 mm., and at a speed of 1,000 revolutions per minute 18-h.p. is developed. The inlet and exhaust valves, which, like the valve lifters, are interchangeable, are operated off a single cam shaft. The cams themselves are of hardened cast steel and the shaft of mild steel. The latter is enclosed in the aluminium base chamber, so that it obtains a full share of the splash lubrication. The connecting rods are made from steel forgings, and the crank shaft, which is provided with large bearings of Hoyt white metal, is made from a special quality of high-tensile steel. Provision is made for fitting both accumulator and magneto ignition, the contact maker for the former being mounted on the upper end of a vertical spindle driven by bevel gear off the cam shaft. The



firm also make a 25-30-h.p. four-cylinder motor as well as two sizes—8-10 and 12-15-h.p.—of twin-cylinder engines.

As indicating the excellent results the Alpha engines are giving in practice, we may mention that one was fitted to the 16-20-h.p. Calthorpe car driven by Mr. G. W. Hands in the recent Irish Reliability Trials, when the vehicle not only made a non-stop each day on a petrol consumption averaging about twenty-three miles to the gallon, but made the fastest time in its class (under £350) in the three-mile speed trial on Magillan Strand, viz., 4 min. 11 sec., or nearly forty-four miles per hour, and also in the Hollywood and Graiguenamanagh hill-climbs.

A DISSECTED model of a motor-car has been published by Messrs. G. Philip and Son, Ltd., this being supplemented by a concise description of the working parts of the automobile. It is illustrated by a series of useful photographs and outline drawings, while the various parts of the car are shown in the model, upon the publication of which we would congratulate the publishers.

At the beginning of the touring season attention may usefully be drawn to the Ara vulcanising process, the proprietors of which have lately opened a West End depot at 100, Long Acre, W.C., where demonstrations are in daily progress. Ara, Ltd., is the title of the concern that has taken over the business of the Ara Material Patents and Manufacturing Corporation. They have issued a new booklet setting forth the established advantages of their system, which can now be obtained from their City office, 33, Chancery Lane, E.C., or the West End depot.

CONTINENTAL NOTES.

The Grand Prix Race.

Active preparations are being made for the A.C.F. Grand Prix race, which is to be held on the Seine Inferieure Circuit on the 2nd prox. The Fiat racing cars for the contest reached Dieppe on Saturday last. A rumour is current to the effect that a protest is being sent to the French Automobile Club against the participation of the Darracq cars in the race, on the ground that the event is open only to manufacturers and not to private owners.

The French Trials of Industrial Vehicles and Town Carriages.

The French Automobile Club has now announced the awards in the reliability trial of industrial vehicles and town carriages recently held. The contest consisted of twenty runs, ranging from 150 to 200 kilometres, the cars surviving the same being subjected to a fuel consumption trial for the final classification. Out of the forty vehicles which started only fifteen went through the ordeal, the winners in the different classes being: Industrial vehicles for loads up to 2 tons, Delahaye; ditto, from 2 to 3 tons, Darracq-Serpollet; ditto, over 3 tons, Da Dion; public service vehicles, Aries, and town carriages, Da Dion.

The Herkomer Touring Trophy Competition.

The awards in connection with the third annual competition for the Herkomer Touring Trophy have now been made known. The trophy itself is secured by Herr Ladenburg—who also won it in 1905—in respect of his Benz car (cylinder capacity 8.01 litre) driven by Herr F. Erle. The following also made non-stops in the contest, prizes being awarded to the first six in the list:—

Entrant.	Car.	Cylinder Capacity.
Hans Aschoff ...	Metallurgique ...	3.72
Heinrich Opel ...	Opel ...	7.43
Carl Neumaier ...	Benz ...	6.52
H. Weingand ...	Mercedes ...	7.99
A. Schmierer ...	Adler ...	4.16
R. Benz ...	Benz ...	5.98
F. Dahmen ...	Opel ...	8.01
J. O. Mandl ...	Benz ...	6.11
A. Horch ...	Horch ...	5.82
A. Kathe ...	Horch ...	2.73
G. Grüning ...	Adler ...	4.16
G. Braunbeck ...	Benz ...	8.01
S. F. Edge ...	* Napier ...	7.72
W. Opel ...	Opel ...	6.33
E. Ladenburg ...	Mercedes ...	9.24
K. v. Ohlendorff ...	German ...	3.59
Dr. R. Stöss ...	Horch ...	2.73
Karl Prince of Isenburg ...	Mercedes ...	7.99
Paul Beckmann ...	Beckmann ...	8.62

* Driven by Miss Dorothy Levitt.

The result of the classification in the Forstenrieder Park speed trials is—(1) A. Weingand, Mercedes; (2) E. Ladenburg, Benz (driven by F. Erle); and (3) H. Opel, Opel. The premier car in the Kesselberg hill-climb was the Metallurgique, driven by H. Aschoff, while the elegance contest was won by F. Gutschow's Mercedes.

The International Automobile Conference.

A conference of delegates of the various national automobile clubs was held at Homburg, Germany, on the 15th inst. Several matters were discussed, but no important decision was arrived at. It was decided to approach the German, French, Belgian and Austrian Governments with regard to facilitating the entry of motorists when on tour with their cars from one country to another. It was also agreed to hold another conference at Ostend, on July 15th, to discuss the question of drawing up a uniform series of regulations for international motor races. In connection with this matter, the representatives of France proposed a minimum weight of 1,100 kilogs., with a petrol allowance of 20 litres per 100 kilometres. Italy is reported to have been in favour of races without any restrictions whatever, and England for one in which the chassis must not exceed 1,200 kilogs., and have engines of a maximum cylinder

bore of not more than 150 mm. A further decision was the appointment of a central secretarial office of the recognised national clubs, with headquarters in Paris.

The late M. Serpollet.

A sum of £1,026 has so far been received in connection with the fund to establish a monument in memory of the late M. Leon Serpollet, and it has been decided by the committee to organise a competition for the most suitable design. It has also been resolved to purchase the first steam car built by the deceased, and to include it in the historical collection at the forthcoming Paris Salon, after which it will be offered to the museum of the Arts et Metiers in Paris.

An Elegance Competition in France.

During the course of the next Paris Salon, which, as already announced, is to take place from November 12th to December 1st, an elegance competition is to be held, the idea being to encourage the production of more artistic and com-

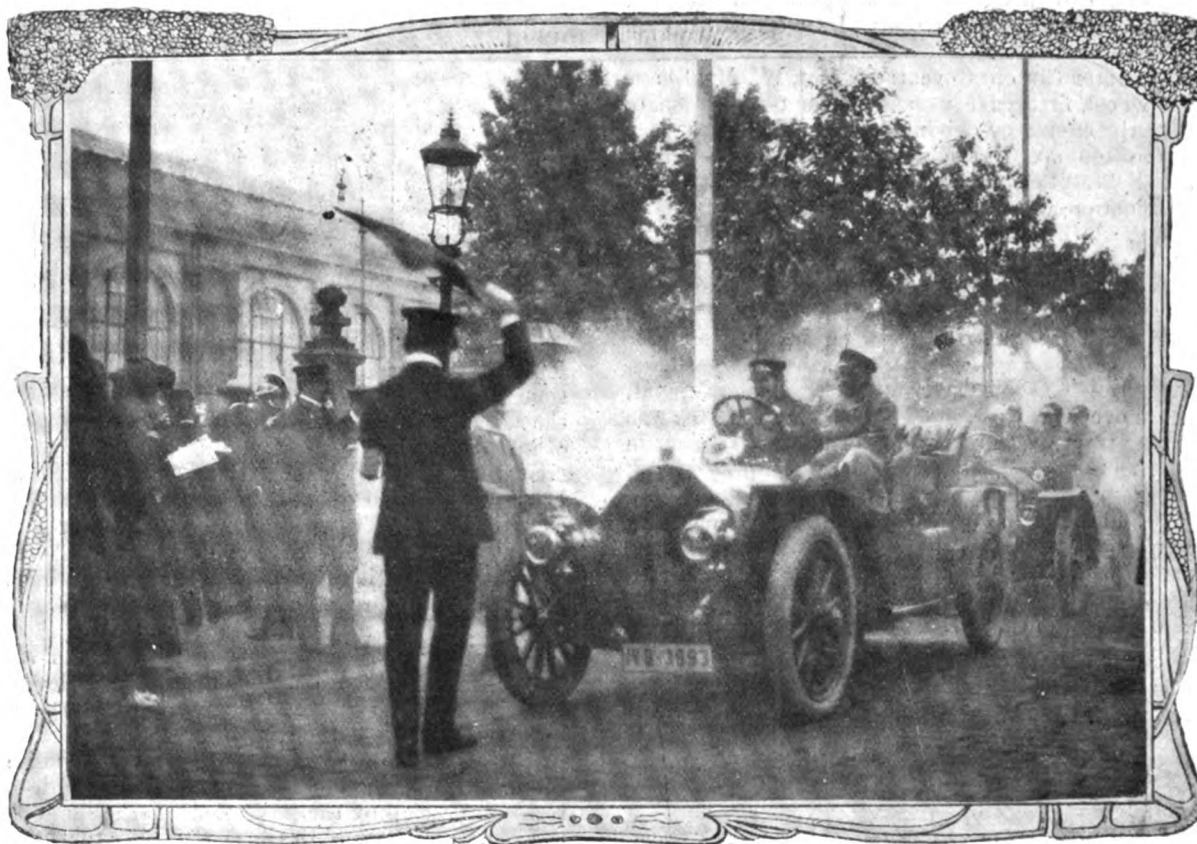
Dutch, French, German, and English, of idiomatic expressions which may be found useful when touring, gives the principal places of interest in Nijmegen and the routes of a number of motor tours that can be made from the town.

Belgian Motor-car Imports and Exports.

To the end of May last the imports of foreign motor-cars and parts into Belgium this year had attained a value of £63,238, as contrasted with £57,627 in the first five months of 1906. During the same period the exports of motor-cars and parts from Belgium increased from £157,019 to £162,900.

A Competition of Fuel Consumption Indicating Instruments.

A competition for instruments for indicating fuel consumption is being organised by the Association Automobile Generale of Paris. The instruments must be capable of being fitted to all kinds of motor vehicles, and must constantly show the fuel consumption, as well as the revolutions per minute, as long as the motor is running. Intending competitors must present a drawing



Herr F. Erle on Herr Ladenburg's Benz Car. The Winner of the Herkomer Touring Trophy Competition.

fortable motor-cars. The event is intended more for private owners than manufacturers, and in making the awards the jury will have regard to the form of the carriage, the condition in which it is kept, its quietness, freedom from smoke, vibration, &c., and also to the appearance of the passengers themselves.

Touring in Holland.

Judging from the series of views which we have received from Mr. M. L. Jorritsma, the manager of the Hotel Keizer Karel Nijmegen, motorists anxious to discover new places to visit will find Holland an interesting country, and Nijmegen an excellent centre for excursions. They will find their wants excellently catered for at the Hotel Keizer Karel, which is one of the largest and best equipped in the town, and is provided with a large fireproof garage. As illustrating the attention which is being given by the manager of the hotel, we may mention that he has just issued a booklet entitled "Vademecum voor Automobilisten," which, in addition to containing a vocabulary in

of their instrument and demonstrate the apparatus in use on an automobile. The first prize is £40 and the second prize £8. No entry fee is required, and entries will be accepted up to July 31st next.

Public Motor Services in Germany.

A public motor-car service has just been established between Lensahn and Eutin. A company is also being formed to inaugurate a service of motor-buses in the town of Altona.

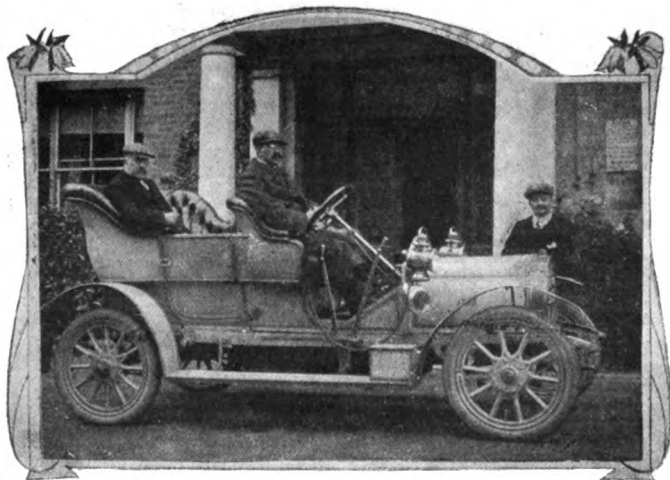
Miscellaneous Items.

The seventh annual Motor-Car Exhibition in Brussels is to be held from the 17th to the 26th December next.—The Automobile Club de la Sarthe, of Le Mans, is organising a series of flying kilometre speed trials for Sunday next, the 23rd inst.—It is announced that Hemery will drive a Mercedes car in the A.C.F. Grand Prix race.—It is reported from Berlin that the Kaiser is interesting himself in a scheme to establish a large motor racing track in Germany.

A RUN ON A "LEADER" CAR.

AT the invitation of Mr. T. Shaw, of the High Holborn Motor Agency, we last week had an enjoyable run on the Leader car which was entered by Mr. R. Goodenough for the Tourist Trophy race; but which was unable to compete owing to its arrival a few minutes late at the official enclosure. This was particularly unfortunate, as the performance of the vehicle, in view of the fact that it was the lowest power car entered, would have been watched with more than usual interest. Except that the body had been built to comply with the regulations of the Tourist Trophy contest, the car is one of the standard productions of the New Leader Company. The engine comprises four separate cylinders, having a bore and stroke of 85 mm. by 90 mm., and although nominally rated as 10-12-h.p., gives, according to the R.A.C. formula, over 19-h.p. It is equipped with coil and accumulator ignition, with provision for fitting a high-tension magneto. The transmission is through a large diameter leather clutch to a three-speed and reverse gearbox, and thence by a cardan shaft and bevel gear to a live axle, the latter, as well as the gear-box shafts, being provided with roller bearings and ball thrusts.

Leaving the Motor Club in Coventry Street, W., Mr. Shaw, who was at the wheel, first gave us an excellent indication of the flexibility of the engine by driving in the traffic at a very slow rate on the top speed, the engine and car answering instantly to the slightest touch of either the foot or hand throttle lever. Our destination was Virginia Water, but a roundabout route was chosen, so that the hill-climbing capabilities of the machine might be tested as well as its speed qualities on the level. With this object in view the main road was left at Kew, and, passing over the river, the car was headed for Richmond, where the famous hill from whence spreads out one of the finest views in the Thames Valley was quickly surmounted. Then followed a speedy run across Ham Common to Kingston, and, passing once more over the river, good-bye to the tramlines was said at Hampton, from which place excellent time was made through Sunbury to Staines along a wide and tar-sprinkled road, the resulting freedom from dust being much appreciated. The ascent of Egham Hill offered no difficulty to the car, which a few minutes later pulled up at the prettily located Wheatsheaf Hotel, at Virginia Water, where the photograph from which the accompanying picture was reproduced was taken. The return journey, which was made *via* Bedfont and Hounslow, proved equally suc-

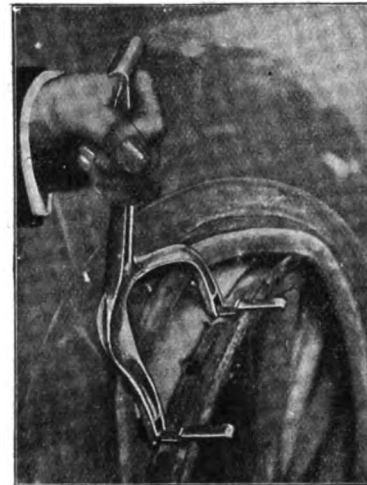


cessful, the vehicle proving itself not only capable of attaining a very high speed on the level, but of being manoeuvred through traffic with a minimum of trouble on the part of the driver. On the top gear, which is a direct drive, little more can be heard than the ticking of the tremblers of the coil; in fact, the vehicle is exceedingly quiet and easy running, qualities which testify to the care which has been paid to the design and to the selection of material. As a two-seater, with luggage space at the rear,

the car forms a splendid touring vehicle for the man of moderate means; at the same time, as the illustration shows, the wheel base is sufficiently long to enable a roomy side-entrance body to be fitted to the chassis.

THE DUNLOP TYRE MANIPULATOR.

THE Dunlop Pneumatic Tyre Company, Ltd., have taken up the manufacture of the ingenious tyre lever devised by Mr. Robert Connell, of Gainsborough, and of which some particulars were given in the *M.C.J.* about fifteen months ago. The tool, which is being put on the market under the name of the Dun-



lop Tyre Manipulator, is mainly intended to facilitate the operation of removing and fixing in position the valves of inner tubes and the security studs. Motorists know by experience that the task of inserting these is rendered difficult owing to the fact that as one edge of the cover is lifted to a suitable position, the opposite bead has a tendency to slip forward and partly or completely cover the stud or valve holes. By means of the new lever this difficulty is entirely overcome; the tool consists of a duplex tyre lever provided with pivoted extensions. To lift the cover the lever is inserted in the ordinary way until the projections on the upper arms are forced past the beaded edge. At the same time projections on the extensions or lower arms are forced just beyond the lip of the rim. The handle of the lever is now lifted, taking with it the edge of the cover by reason of the latter resting on the lugs. As the handle is raised the lower end of the extension arms becomes fixed against the opposite bead of the cover, preventing the latter moving forward, owing to the resistance set up by the projections on the same bearing against the rim. By means of the lever the cover can be held up by one hand, leaving the other free to insert the security bolts or the valve stem in their respective holes without any difficulty, while simply lowering the tool to almost a vertical position enables it to be easily slipped out of engagement with both cover and rim. The Manipulator is readily adaptable to all sizes of tyres, but is sent out with strut pieces adjusted to take up to and including 100 mm.

AN American motorist is using a wind screen on his car made of wire gauze instead of glass. The screen is made of zinc wire, the gauze being so fine that it easily excludes dust. It is stated to offer less resistance to the wind than glass, and that it is just as easy to see through.

MESSRS. F. S. CLEAVER AND SONS, who are well known in the soap trade, have introduced their "Antioyl soap," for the use of motorists and others who have occasion to remove traces of grease or oil from their hands. In addition to its exceptional cleansing properties the soap softens the hardest water, and we have no doubt that many motorists will give a trial to this new preparation. We have found it most satisfactory in use.

THE Motor Union have obtained two more convictions for obstruction on the highway, making a total of nine during the past few months.

DURING the past week Mr. James Fryer has exhibited the Beeston-Humber car that was one of the two to finish in the Tourist Trophy race, at the Herefordshire and Worcestershire Show, at Hereford.

THE Brooklands Automobile Race Club has been provided with one of Messrs. W. and T. Avery's latest makes of weigh-bridges, which has a capacity of 13,000 lbs., is graduated by 1 lb. divisions, and is especially sensitive to $\frac{1}{4}$ lb.

THE Port and Docks Board of Dublin has adopted a suggestion of the harbour master that the shipment and discharge of petrol be permitted in the port provided it be taken direct from the steamer to the cart, and from the cart to the steamer at the various berths.

THE Holland Park Motor Company have a well-equipped garage at 124, Holland Park Avenue, London, W., where they are able to also carry out repairs, charge accumulators, vulcanise tyres, &c. The garage is open day and night, while we may add that several cars are kept for hiring-out purposes.

A TWENTY-FOUR hours' motor-car race has just been held on the Point Breeze track, in Philadelphia, U.S.A. There were ten starters, of which five finished the long contest. The winning car was a 30-h.p. Autocar, built by the Autocar Company, of Ardmore, Pa., which in the twenty-four hours covered a distance of 791 miles.

RECENTLY a motor-car belonging to Mr. James de Rothschild took fire at Crewe station through a lighted match being unconsciously dropped in the petrol running from a leaky pipe. The car had been burning ten minutes before Mr. T. Gibson, of 24, Nantwich Road, Crewe, got to it with a "New Era" extinguisher. The result was instantaneous; the flames, which were reaching sky high, were quickly quenched.

THE Marchand-Dufaix racer for the A.C.F. Grand Prix is of Italian construction, but has been built from the design of Messrs. Dufaix Freres, of Geneva; the motive power is supplied by an eight-cylinder engine, 125 mm. bore by 150 mm. stroke; at 1,300 revolutions per min. it develops about 125-h.p. Ignition is by Simms-Bosch high tension magneto. The transmission is through a multiple disc clutch, three speed gear-box and side chains.

A WELL-EQUIPPED new garage at 147, Norfolk Street, Sheffield, has been opened for business by the Hattersley and Davidson Automobile Company. The ground floor of the premises will accommodate forty vehicles, and one side of the premises is completely occupied by a long inspection pit. The petrol store has a capacity of 350 gallons, and in addition to ample facilities for storing spare parts, tyres, &c., the dressing-room accommodation for both lady and gentlemen visitors is a distinctive feature.

MESSRS. S. J. BALE AND COMPANY introduced the motor-car into North Devon some years ago, and have several times extended their motor works at Newport, Barnstaple, to cope with their growing business. The latest departure has been to acquire the premises lately utilised as a carriage factory by Messrs. Moor and Sons, and to adapt them to the purposes of a motor garage having accommodation for thirty cars. The establishment will be well stocked with tyres and spares, and should prove a great convenience to visiting motorists.

MESSRS. HUMBER, LIMITED, have sent us a copy of the 12th edition of their booklet entitled "Humber Cars and How to Manage Them," one of which is issued to every owner of a Humber car. The work is well got up and gives very clear instructions as to the management and upkeep of the various Humber vehicles, these being supplemented by some exceedingly useful lettered drawings, mounted on canvas, showing the various parts of the vehicle, especially those which may require attention. Undoubtedly the work is one which no user of a Humber car should be without.

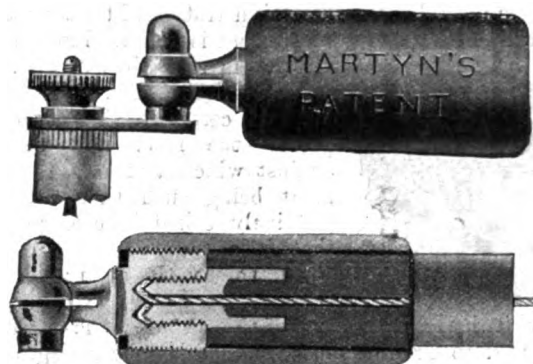
HERE AND THERE.

IN connection with the Oxford pageant an official motor garage has been organised under the management of Mr. W. F. Parker of that city.

ARRANGED by Councillor Gates, a motor-wagon has been leaving Worthing for London every morning, bringing fruit and produce to Covent Garden. The experiment thus far has been a great success so far as the saving of time is concerned.

THE exports of motor-cars from the United States during April last attained a value of £137,228, as compared with only £81,666 in the corresponding month of last year. Canada proved to be the best customer, taking £34,889 of the total, England being second on the list with £34,855.

WE illustrate herewith an ingenious terminal for the high tension wires of the ignition system of motor-cars which has just been put on the market by Messrs. S. W. Martyn and Co., of Pratt Street, Camden Town, N.W. The arrangement consists of three metal parts and one of an insulating medium. As will be seen from the sectional view, the end of the high-tension cable is bared in the usual way; two parallel cuts, one on either side of the wire, are then made in the rubber, $\frac{1}{4}$ in. from each side and $\frac{1}{4}$ in. deep, so that a small brass piece, through the centre of which the cable passes, can be securely fixed in position by pushing the insulation well home into the slot and the lugs into the cuts in the rubber. The strands of the cable are then spread over the cone face on the outer end of the little brass piece, and the ends cut off level with the bottom of the



thread. The piece is then screwed home in the other brass piece, so firmly securing the cable between two cone surfaces, a perfect mechanical and electrical joint being obtained by finally screwing into place the fibre sleeve. The terminal is connected to the plug through a spring clip action, obtained by double cross saw cuts in the outer brass piece, and an adapter, which can be fixed permanently on the plug. The arrangement is such that the high-tension wires can be readily detached to enable any cylinder of the engine to be instantly tested, the fibre sleeve in addition serving as a locking device for the whole, permitting this to be done without risk of a "short." The terminals are made in four standard sizes to take any diameter of high-tension cable between $\frac{3}{8}$ in. and $\frac{5}{8}$ in.

THE Thornton Engineering Company, of City Road, Bradford, have purchased the Bradford Motor Car Company, of the same town, and the Rosse Motor Car Company, of Saltaire, and will combine the two concerns with their own. Large stocks of cars and accessories will be kept and repair work undertaken.

THE requirements of India in motor-car details have, remarks the "Indian Motor News," long been ignored by the majority of manufacturers at home. It is satisfactory to be able to record signs of improvement in this direction, and the question of magneto ignition is one of the first importance. There can be no doubt that the majority of troubles which have hitherto fallen to the lot of motorists in India have been due to ignition troubles, and in most of these cases accumulator difficulties are prominent. Magneto ignition has become a *sine qua non* for cars in India, and we anticipate that during the next cold weather 90 per cent. of Indian cars will be fitted with magnetos.

A MOTOR car body works is about to be established at Nuneston.

ANOTHER motor meet is proposed to be held at Bexhill on August Bank holiday.

CARLISLE is now included in the list of Ordnance Survey maps published by Mr. T. Fisher Unwin.

MUCH local comment is being made at Leeds about the favour with which the municipal officers regard motor-cars.

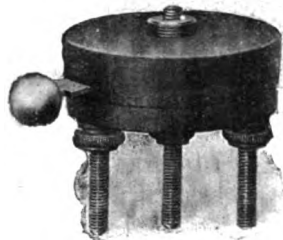
THE Parks and Gardens Committee of the Brighton Town Council have restricted the speed of motor-cars travelling through Preston Park to four miles per hour.

THE smart work of the Folkestone Fire Brigade in dealing with an outbreak of fire on the premises of the Folkestone Motors, Ltd., last week, prevented any very great damage being done.

AMONG recent purchasers of S.P.A. cars from Messrs. Hall and Capris, Ltd., are Mr. Leonard Williamson, of Southport, and Mr. G. Grigg, of Cann House, Crown Hill, Devon. The former has acquired a 60-h.p. six-cylinder and the latter a 40-h.p. four-cylinder vehicle.

A TANK, containing 2,000 gallons of motor spirit, exploded on a London and North-Western Railway siding at Birmingham a few days ago. There was a terrific report, and the oil, which had taken fire, was thrown in all directions. The flames shot to a great height, and considerable alarm prevailed in the neighbourhood. Fortunately the lid of the tank was not fastened or the consequences would have been serious. As it was, one man was badly injured and considerable damage was done to rolling stock and other property.

WE are now able to give an illustration of the new two-way switch which, as we stated in a recent issue, has lately been put on the market by Messrs. C. A. Vandervell and Co., of Acton Vale, W. It comprises but two moving parts—the lever and the spring against which it presses, the arrangement being such that the lever is positively locked in each position, so that it cannot be jolted on or off. With the view of rendering the switch dust proof the cover is made to turn with the lever, the size of the slot for the latter being thus reduced to a minimum. While this is certainly a useful feature, it causes the motorist to have to judge by the eye whether the switch is on or off, and we would suggest that a small indication of the “off” and two “on” positions be marked on the fixed disc portion of the switch.



DISAPPOINTMENT is expressed amongst the owners of motor-boats at the lack of encouragement given by the Brighton Aquarium Committee to the proposal to form club premises at the eastern end of the Aquarium Terrace. It is claimed that a number of gentlemen in London would become members of the Sussex Motor-Boat Club if such readily-accessible head-quarters were established, and that Brighton would reap advantage in various ways.

WE have again to chronicle another week of success for the six-cylinder Hotchkiss undergoing a 10,000 miles reliability trial under the supervision of the Royal Automobile Club. Last week the vehicle was subjected to perhaps the severest test yet undertaken, owing to the mountainous roads. In addition continuous wet cut up the surface, so that they resembled cattle tracks. Motorists can judge by the undermentioned programme of last week's runs that the course selected was intended to display the car over most trying country, and again it made an absolutely non-stop run of 980 miles. Appended is a summary of last week's runs:—June 10th, London to Bournemouth, 150 miles; June 11th, Bournemouth to Exeter, 164 miles; June 12th, Exeter, Taunton, Barnstaple and Exeter, 163 miles; July 13th, Exeter to Plymouth, 160 miles; June 14th, Plymouth to Land's End and back, 185 miles; and June 15th, Plymouth to Weston-super-Mare, 158 miles. The total mileage up to date is 7,345. During the present week the car has been working up the West of England, and is due to reach Glasgow to-day (Saturday).

THE Ladies' Quaker City Motor Club has just been formed in Philadelphia, U.S.A.

LORD STANLEY, of Coworth Park, Sunningdale, has placed an order for a 40-h.p. six-cylinder Napier.

THE Duke of Wellington has purchased a 23-h.p. limousine of the Stratford type, with a wheel base of 11½ ft., from the Daimler Company.

MESSRS. ARGYLLS (IRELAND), LTD., have opened a new depot at 121, Old George Street, Cork. The repairing as well as the garaging of cars will be undertaken.

AT the Hastings Automobile Meeting, which is being organised by the A.A. and the Motor Club for Wednesday next, every car displaying the A.A. badge will be admitted free to the enclosure.

The “Automobile” of Milan has sent us a copy of a useful booklet it has just issued under the title “A Catalogue of Catalogues”; it gives brief descriptions of the different cars now being turned out by the rapidly increasing number of motor-car factories in Italy.

MR. R. J. MCREEDY sends the sad news of the mental collapse of Mr. Colman O'Connell, who had assisted at many of the events of the Irish A.C. A fund is being raised by our Dublin confrere in the interests of the wife and family. Those who know Mr. O'Connell will certainly liberally and quickly contribute.

THE latest production of the County Chemical Company, Ltd., of the Excelsior Works, Birmingham, is the Sun Proof tyre paint, a preparation which, when applied to tyres, gives them the appearance of new, whilst at the same time it gives them a coating which in a great measure prevents the injurious effects of sunlight upon rubber, so preserving the life of the tyres.

THE Middlesex Motor Carriage Company, Ltd., are opening a fine new garage at Nos. 1-15, Avenue Close, Poplars Avenue, Willesden Green, N.W., where they will have extensive facilities for garaging cars, and well-equipped workshops for the repair of the same. “Lock-ups” are available for private customers, and the establishment is fully equipped with machinery, vulcanising plant, and opportunities for the charging of accumulators.

CALCULATED to add to the pleasures of touring by car, the new Tabloid tea, introduced by Messrs. Burroughs, Wellcome and Co. should quickly become popular. In this the stem and midrib of the leaf is removed and the remainder compressed into such a small space that tea sufficient for making 50 to 100 cups can be carried comfortably in the pocket. The tea is excellent, and the way in which it is prepared for tourists equally satisfactory.

A NEW combination of battery and coil and low tension magneto ignition for use on motor-cars is being introduced by Messrs. L. E. Wilson and Co., of Imperial Buildings, Cross Street, Manchester. It is known as the Wilson-Birtill twin ignition regulator system, and comprises a battery and a suitably wound coil, which will furnish a spark with the ordinary low tension plug, and a series of special switches, the whole arrangement being contained in a small box fixed on the dashboard.

IN January last Mr. Gretton Mynn fitted the Fastnut Patent Washer to all the bolts on one of the motor-cabs of the Rotary Steering Syndicate, Ltd. It was sent to Scotland Yard and passed by the Chief Commissioner of Police, who approved of the washers. The cab has been running ever since, and on its return to the works last week for overhauling Mr. Mynn personally examined every nut and bolt, and found that in every case the washers had carried out all that was claimed for them by Fastnut, Ltd.

A SMART young trooper in the 16th Lancers recently deserted and visited the works of Messrs. Dennis, Ltd., of Guildford, explaining that he wished to purchase a motor-car. Having selected a vehicle he went for a day's trial, a driver being supplied. The trooper made a round of calls as far as Aldershot. The next day he hired a motor-car from the Pilgrim's Way Motor Works at Farnham, evidently with the idea of having another good day, but was interrupted by the police, who had been communicated with by Messrs. Dennis.

THE SCOTTISH TRIALS.

ON Tuesday next the Scottish Reliability Trials will commence from Glasgow and continue throughout the week.

In a previous issue we gave a complete list of the entries, which number 104, divided into seven classes according to price, as follows:—

Class.	Range of price.	No. of entries.
1	below £200	10
2	£200—£300	16
3	£300—£400	14
4	£400—£500	15
5	£500—£600	20
6	£600—£800	20
7	over £800	9

The action of the committee in dividing the original Class 4 into two is justified by the large entry in the Classes 4 and 5, as seen above.

With regard to the nationality of the cars, the United Kingdom supplies sixty, of which thirty-eight are English, twenty-one Scotch, and one representative of the Emerald Isle, the exact distribution being as follows:—

British	59	French and English	3
French	26	German	2
American	8	Italian	2

Ireland, Austria, Belgium and Holland each supply one car to the entry list.

In Class 1 all the vehicles entered have a seating capacity of two, with the exception of the four-cylinder 15-h.p. Ford, which seats four passengers. Single-cylinder cars in that category are the 10-h.p. Adams, the 9-10-h.p. Cadillac, the 6-h.p. and 8-h.p. Rovers, and the 8-h.p. Jackson.

Among the entries in Class 2 the four-cylinder cars have the majority, although a good showing will be made by two-cylinder vehicles like the Reo and the Buick—both of 18-h.p. The 14-h.p. St. Vincent and the 20-h.p. Imperial will be fitted with Palmer tyres. In this class, too, are entered the 15-20-h.p. Ailsa, 15-20-h.p. Calthorpe, 12-14-h.p. Adams, 14-h.p. Vulcan, 10-12-h.p. Leader, 12-15-h.p. Rex, and the 18-h.p. Mass.

Mrs. Riley will be the only lady driver, and she will appear in Class 3 on a 20-h.p. Belsize. Mr. W. Raikes Bell is responsible for the entry of the 20-24-h.p. Werbell, and some interest will be taken in the performance of the 18-22-h.p. C.C.C. entered by Mr. A. Haygrass. The 12-16-h.p. Vauxhall, the 12-14-h.p. Unic, 15-18-h.p. Swift, and 16-20-h.p. West-Aster are other cars classed in the third division.

Class 4 attracts many famous cars of previous trials, such as the 30-h.p. Beeston-Humber, 16-20-h.p. Sunbeam, 26-30-h.p. Argyll, 18-h.p. Siddeley, 18-24-h.p. Horbick, 24-h.p. Mass, and 18-24-h.p. Austin. Here, too, will be found the only type of steam car in the trial—the 20-h.p. White—and also the 24-h.p. Junior, the 22-h.p. Climax, and the 26-30-h.p. Nordenfelt.

Classes 5 and 6 are responsible for nearly one half of the total entries, and in these categories are such cars as the Siddeley, Berliet, Ariel-Simplex, Straker-Squire, Iris, Vinot, Pilgrim, Ford, West-Aster, Daimler, White, Spyker, Maudslay, Brasier, Porthos, and other well-known makes. There will be four six-cylinder vehicles in the two classes, viz., the 20-h.p. Climax, the 40-h.p. Ford, the 40-h.p. Minerva, and the 30-35-h.p. Simms-Welbeck.

Class 7 is the smallest in number of entries, though the highest in price and power. Here the proportion of six and four-cylinder cars is five to four, the 40-45-h.p. Hotchkiss and 60-h.p. Thames being examples of the former.

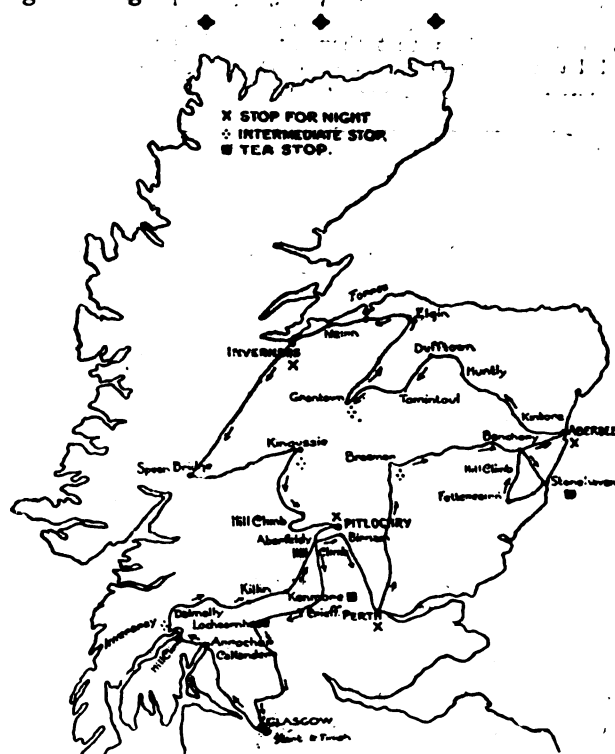
With regard to tyres, we understand that the 18-h.p. Reo will be fitted with removable flanges, the new Arrol-Johnston with Doolittle rims, the 12-16-h.p. Vauxhall with Samson's non-skids, the 30-h.p. Beeston-Humber with Cave rims, the Juniors with detachable rims, the 22-h.p. Berliet with Continental rims, the Gladiators with Jante's "M. L." non-skids, and the 30-h.p. Thornycroft with Vinot rims.

It has been decided that only Pratt's, Shell, Giant and Carburine brands of spirit shall be used, and that the supply must be obtained from the authorised firms each day.

SCOTTISH NOTES.

THE Secretary of the Scottish Automobile Club has received a communication from the County Council of Lanark, stating that representations have been made to the Road Board of that county with reference to the excessive speed at which motor-cars pass through the villages of Stopps, Muirhead, Chryston, Moodiesburn, Mollinsburn, Gartcosh, Auchinlech, Bishopbriggs, Jellyhill, Cadder, Auchinairn and South Lenzie, in the Lower Ward of the county, and asking that the Club would use its influence with its members to prevent any further cause for complaint in this direction. The County Council of Lanark have in various ways and on many occasions shown a friendly attitude towards automobilism, and we would appeal to motorists to see that their request receives every consideration.

THE Great North of Scotland Railway Company are organising tours during the summer months by the Dee, the Don, and the Spey, motor char-a-bancs being employed in conjunction with the railroad to secure for tourists complete trips through the Highlands.



Map of Route of Scottish Reliability Trial.

GIRVAN, Ayrshire, has two new garages. Mr. C. M. Lawson has opened one in Dalrymple Street, where he has a well-equipped repair works, and in the Old Street Mr. R. Dickie has established a repair shop and garage.

THE Council of the Institution of Automobile Engineers has passed a vote of condolence to the family of the late Mr. Alexander Govan, who was their colleague in the direction of the Institution.

THE War Office have appointed Captain Hayter to represent them during the Scottish Trials.

ON the occasion of the recent opening of the Droitwich Brine Baths four Coventry-Humber cars were placed at the disposal of the medical visitors.

THE WOLSELEY MOTOR COMPANY have issued a very interesting little pamphlet giving an illustrated account of the recent Long Distance Trial carried out under the auspices of the Royal A.C. by one of their 40-h.p. Siddeley cars.

CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,
27-28, Charing Cross Road, W.C.]

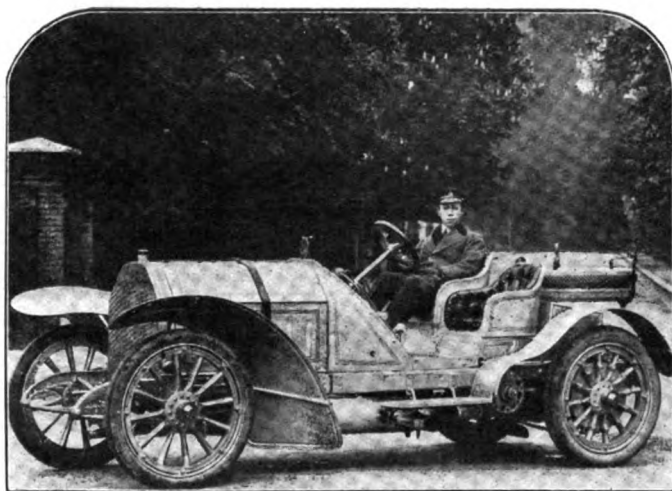
MOTORING.—A PARTY ASSET.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Particulars have been sent me of a Hastings Automobile Meeting organised, not by local people, but by the Automobile Association and the Motor Club. I cannot understand why these associations—the one formed to clear the roads of police traps and the other to promote the social side of the movement, should be mixed up in this affair. Why should they divert their energies from their useful functions to play with a Borough Entertainments' Association?

Can it be because the local M.P. is also concerned with one of these societies? If so, I object very strongly to anything being done which savours of political favour. The strength of the R.A.C. and the Motor Union in influencing public opinion has arisen from their holding aloof from partisanship and doing nothing which could be construed into assisting party politicians.

Recognising the splendid services already rendered by the Association, and anticipating equally good work from the Motor Club, I write with no spirit of unfriendliness, but would remind the officials of both organisations that they must avoid anything likely to be regarded as assisting to uphold or increase the prestige of local M.P.s.—no matter to what party they belong.



Mr. K. Okura, a Japanese Gentleman and a prominent Motorist in this country, at the wheel of his 120-h.p. Fiat, on which he will compete for the Montagu Cup in the opening meet at Brooklands.

And we may be sure that in such a place as Hastings the incursion of visitors associated with a motor gymkhana will be regarded as a political asset, and that the organisers of such an event will not be held wholly blameless in the matter.—Yours truly,

A.A. MEMBER.

THE DEFINITION OF A TOURING-CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I enclose you copy of letter which I have addressed to the Secretary of the Royal Automobile Club to try and get from them some definition of what is a touring car suitable for their competitions. I trust you will use the influence of your paper to cause the Automobile Club to move in the direction of properly defining what is a touring car, so that everybody may know exactly what they mean, and then in touring car competitions everyone will meet on the same basis.—Yours truly,

S. F. EDGE.

COPY.

J. W. Orde, Esq., Secretary, The Royal Automobile Club,
119, Piccadilly, W.

SIR,—Can your Competition Committee give me any idea of what is a proper car to run in the touring competitions for next season? Is it not possible for them to say some minimum length of wheel base, some minimum weights, or give some indication to manufacturers of what is a touring car and what is not? I have always tried very hard to correctly interpret rules that are made. We are just altering models for next year, and I want to know what is a touring car and what is

not. If I could have some guidance from your committee it would be much appreciated.

I suggest that the Royal Automobile Club would be doing a service to the whole motor trade as well as to private users if they would now lay down what sort of car comes within the definition of a touring car in different sizes, so that everyone can compete on an equality next year in the different events, and that we should not see before us a repetition of apparent inconsistency such as is taking place this year in different competitions. In the Tourist Trophy race, certain conditions are laid down as to what constitutes a touring car, both as to wheel base, minimum weight and size of body. In that race one is allowed to lighten down or do anything in reason provided one keeps within the conditions. In the Graphic Trophy, a touring car there apparently depends on the personal opinion of two or three gentlemen, and all the elaborate conditions laid down for a touring car under the Tourist Trophy rules are swept on one side, and new ones, of which no competitor prior to the event had any knowledge, are apparently brought in to decide what is a touring car and what is not. In the Henry Edmunds Hill climb a similar unsatisfactory state of affairs is also in existence, except that it seems in some way worse, as apparently any sort of fuel is allowed, and competitors can use picric acid, oxygen, or any other illegal aids to speed. Some of the cars are limited in h.p., and others are practically unlimited, and, in fact, it seemed so doubtful as to what one car really developed in the way of h.p. that the R.A.C. itself failed even to rate it.

Now I think you will agree with me that if three events held by the R.A.C. within a few days of one another are so divergent in the application of the rules it is impossible for any would-be competitor to know what type of car he should bring to these events with a reasonable chance of success. It seems to me that if minimum weights, minimum wheel base, minimum height of seats and bodies were settled on, this would give manufacturers an opportunity then of producing, to these sizes, the best possible vehicles for the particular purpose. Any competition which depends upon the individual opinion of gentlemen, however competent, whose opinion is only to be brought into operation at the start of the competition, must be unsatisfactory, whereas, if rules were laid down beforehand, everyone would know what they were, and regrettable incidents would, in the majority of cases, be avoided.—Yours truly,

(Signed) S. F. EDGE.

THE DUST NUISANCE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—You have at various times published a number of articles on, and references to, the question of dustless roads. Experts are agreed that if a waterproof road could be made with granite as the aggregate, most of the difficulties as to efficiency and cost would be solved. There is nothing to equal granite for durability, but the great trouble so far has been in finding a matrix which would permanently bind it. Were this forthcoming, we should have a road which would compare with asphalt as to the length of life and easy haulage, and yet be non-slipping and far quieter, while the cost would compare with that of ordinary macadam, owing to the principal ingredient being the same, viz., granite. But that difficulty of the matrix has been hitherto insuperable. Resort has always been made to tar, but no previous treatment of tar has yet succeeded in getting it to bind granite for any length of time, and, in addition to that failing, tar has certain inherent defects which must be eliminated in order to make it suitable for road construction. For instance, it becomes soft in warm weather, brittle in cold, and makes a dangerously greasy compound in wet weather, while tar-impregnated dust on road surfaces is more harmful than that given off from ordinary macadam. So completely has tar, as previously treated, failed to bind granite, and so complete has been the failure to find a better matrix, that, in despair, granite has been thrown overboard. There is no doubt that road-makers will be compelled to return to granite, for only that material will permit of better roads being constructed for heavy traffic, at less total cost than those now in vogue (by means of the reduced maintenance charges over a greater life). Palliatives, such as tar painting or other methods, and inefficient waterproof macadam, will simply add enormously to the rates instead of reducing them, and will not provide better roads.

That a waterproof road with a granite aggregate is even now available is proved by reference to the States. Such roads have been in existence there for years, and to-day total a mileage of many hundreds, in many cities from north to south and east to west, standing extremes of climate far in excess of any we have here, proving exceedingly durable under heavy traffic, non-slipping on gradients of one in nine, perfectly dustless and mudless, and at a cost within the means of the humblest road authority.—Yours truly,

CHAS. F. VAUGHAN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have devised an apparatus for the prevention of dust raised by motor-cars, developed on the following data:—

First.—I recognise that the wheels of motor-cars are the great dust raisers, and that they throw out the dust in three directions, viz., two side splashes or mere displacement.

Second.—And to my view the most important point, that they throw out the dust at a tangent equal to about the diameter of the

wheel (a simple experiment proves this) and that the wheels throw this dust against the inrush of air that the body of the car naturally makes when in motion. That is to say, in simple colloquial language, the dust is thrown in the teeth of the wind, with the result that we all know so well.

Third.—That the body of the car raises a certain amount of dust, but not to the extent of the wheels. This dust is raised by mere displacement and not thrown against the inrushing air, as is the case with the wheels.

Fourth.—That it is the whirlwind of air caused by the car's motion that causes the dust cloud to be formed from the dust raised by the car and its wheels, not from the dust left on the road.

With these few data I have developed my contrivance, which consists of an apparatus for the collection of the dust thrown up by the car and wheels; and also for compressing the air under the body of the car and forcing it against the inrushing air so as to counteract that inrush, and in this way prevent the vortex (or whirlwind) taking place in the dust raising-area, which I consider to be the space the car occupies at any given moment when in motion and a few feet to the rear of the car, due to the wheel force which I described above. The apparatus itself is of very simple construction, and not expensive to make, and all that I lack is the opportunity of thoroughly testing the contrivance, and I shall be glad to hear from any persons who possess motor-cars and are sufficiently instructed in this subject to give it a thorough and practical testing.—Yours truly,

WILLIAM BUTTERLY.

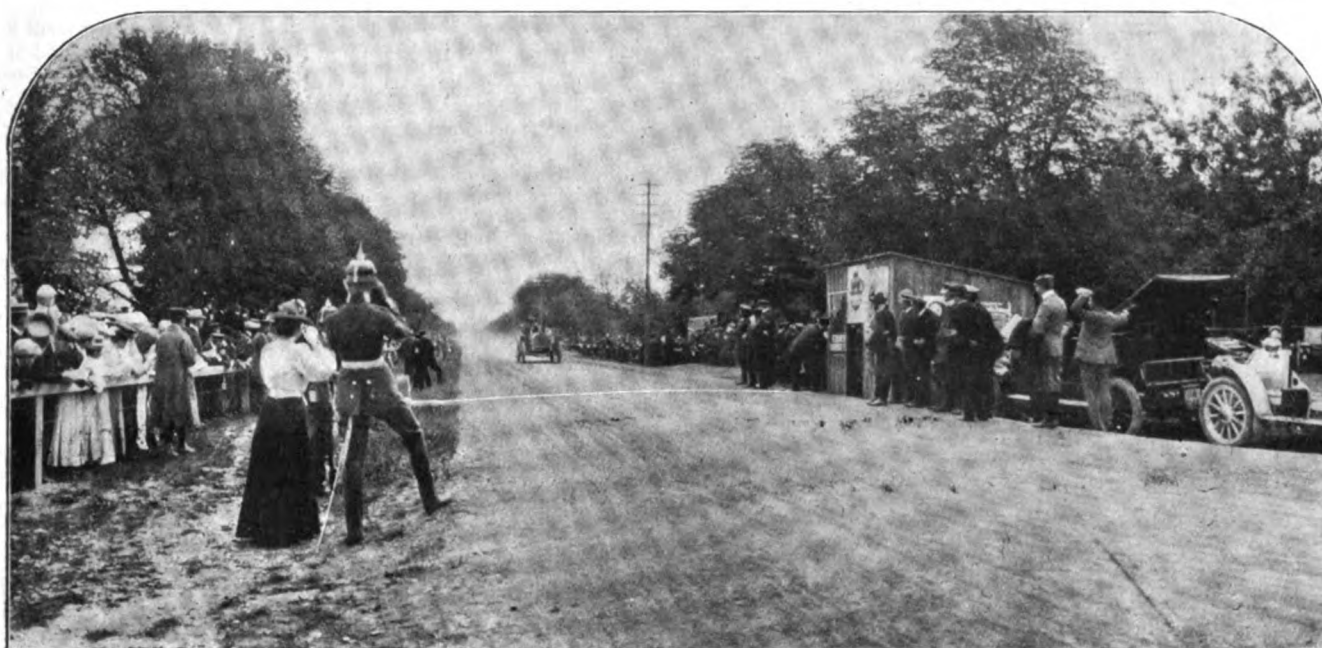
coupled with the fact that the steam car on this occasion defeated the successful car in the Henry Edmunds Trophy, for which he was so disappointed a competitor.—Yours truly,

W. GALLOWAY.

CHARGING ACCUMULATORS FROM PRIMARY BATTERIES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In a recent issue a correspondent gave his satisfactory experiences of the use of a Boron battery for charging accumulators. I have used one of these for a long period but with varying results. Originally it was very satisfactory, but latterly has caused me trouble through not charging properly. If your correspondent can give me any hints I shall esteem his kindness. It always gets the same treatment, viz., 4 oz. chromic acid, powdered, is mixed with 4 oz. (measured) commercial sulphuric acid; this is put in the outside jar and filled nearly to the top with ordinary tap water. The porous pots are filled with 1 oz. commercial sulphuric acid and 11 oz. water. The battery will probably charge the first accumulator all right, but then falls off and fails to charge properly. I am told the battery should keep good for weeks, but after about twenty-four hours the liquid gets olive green, which I am told is an indication that the battery is exhausted, although it has done very little work. Can any of your readers help? The last time I attempted to charge 2-20 amp. car accumulators and 2-10 amp. cycle accumulators (not at



The Herkemer Touring Trophy Competition.—The Speed Trials in the Forstenrieder Park, near Munich.

STEAM CARS IN HILL CLIMBING COMPETITION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am diffident about criticising any of your correspondents, but the letter in the last issue of the *M.C.J.* from Mr. L. Carle, of the Moss Company, appears to call for an answer. Having no interest whatever at stake in the Henry Edmunds Trophy, I am struck with the totally one-sided and unsporting view that your correspondent takes. His unfairness is particularly noticeable when he says that "A steam car, with the aid of a specially large boiler, which would be quite unsuitable for an ordinary touring car, can obtain a very big head of steam, which will enable the car to rush up a short hill at a very high rate of speed." I was not a spectator of the contest, but I read that the only steam car present was a 30-h.p. White, which, whatever may be the opinion of Mr. Carle, has only very recently proved itself fairly suitable, to say the least of it, for a touring run of a magnitude which no one could find fault with. Either the 30-h.p. White steam car is more suitable for ordinary touring than Mr. Carle thinks, or the car in question must have been fitted with a specially large boiler for the particular occasion. Mr. Coleman could perhaps re-assure your correspondent. If Mr. Carle has no positive information that the White steam car was so fitted, the suggestion appears to me a very improper one.

Steam cars were also admitted in the hill climb conducted by the North Eastern A.A. on Saturday, in which case I am in a position to guarantee that the steamers there competing were not fitted with specially large boilers, but were standard models exactly as may be seen in various parts of the country. This may interest Mr. Carle,

once, of course) they all showed 4½ volts on coming off, lasted a week or two, and then all failed practically together, leaving me stranded on two occasions.—Yours truly,

ENQUIRER.

POLICE TRAPS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I saw a letter in one of the motor papers some few weeks back advocating a method by which police traps could be broken up, the idea being that a motorist on being caught should retrace his steps to some convenient position behind the trap, and there remain until some other car came along, when it in its turn should do its duty as sentry.

It may interest your readers to know that on returning from the Bexhill meeting, after having been warned that a police trap was in existence between Horsebridge and Uckfield, on the road known as the Dicker, I found a car waiting at the end of this road, the driver of which acquainted me with the fact that a motorist had been caught and had set this method in operation; they having done their share of sentry work, requested me to do the same, which I was most pleased to do, and, accompanied by another car, with which I was travelling, we waited until another car came along, driven by Mr. Warwick Wright; he then took his turn, and we proceeded slowly along; we were thus enabled to discover two guardians of law and order, one being in uniform, quietly reposing behind a hedge, they being at the end of the trap, and we also found the electrical timing apparatus. Soon after discovering this we decided it would be of interest to discover where the

trap started, and on retracing our steps we met Mr. Warwick Wright and his party, who informed us that they had actually done this, the officers being hidden behind a thick clump of trees on private grounds, and their position being such that it would have been impossible for them to see any car passing, and it was therefore assumed that they had to judge the time by hearing only as the cars passed. Our party decided to wait for some time, as we thought that other motorists might like to see what we had found, and after waiting about three hours a message evidently came that the trap was to be abandoned, the uniformed men came out of their lair, and one of them told me that I had been waiting about long enough. We had an interesting conversation with them, in the course of which we learned that a motorist had endeavoured to break up the trap by driving through it blowing a policeman's whistle, but, as they were on special duty, they took no notice of this whistle; in fact, the sergeant in charge of the party informed me that if one of our party was being murdered and we blew a policeman's whistle for aid they would have taken no notice of it.

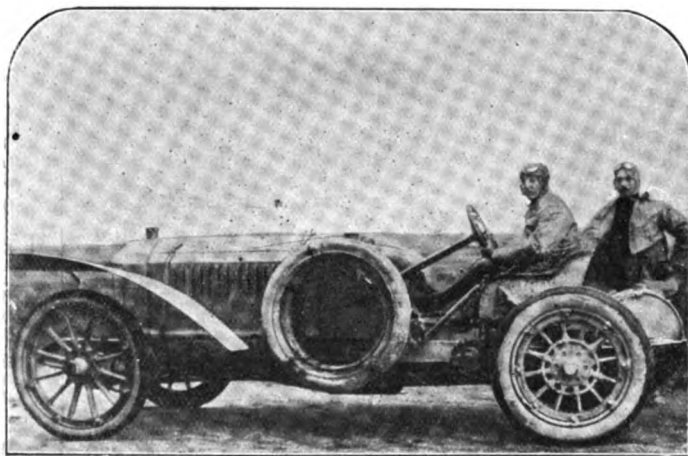
We were informed that a certain resident was the instigator of this trap, it being laid entirely on his grounds, and he allowed his private servants to assist. It was very evident to me that the villagers residing there were disgusted, as we were constantly being warned by them in various ways to drive slowly, as this unsportsmanlike method of trapping was in operation. I think if this method of breaking up traps were universally adopted we should hear no more of them.—Yours truly,

S. W. PHILLPOTT.

THE TREND OF CAR DESIGN.

To THE EDITOR OF *The Motor-Car Journal*

SIR,—“J. H. R.’s” letter in a recent issue of the *M.C.J.* raises a point of the utmost interest to present and prospective motorists and



Bougier on the De Dietrich Car on which he finished thirteenth in the Kaiser's Prize Race.

manufacturers. We should like to voice our opinion that the craze for high powers and speeds is on the wane, although the principles of car design will not alter much in the future. The evolution of the car to its present state is due to the demands of motorists. These seem to be fairly satisfied now by a high-class vehicle, moderate in price, power and fuel consumption, capable of from 5 to 40 m.p.h. on top and of tackling a hill of 1 in 8 at say 18 to 20 m.p.h. In future we think more attention will be paid to the comfort of the passenger, such as the extended use of foot warmers and draught preventers, rather than to additional mechanical refinement. Four cylinders, ball bearings and a live axle have won the battle for anything under 20-h.p., and such a car, simple and reliable in construction, easy to control and drive, is, in our opinion, what the man in the street is after.—Yours truly,

VAUXHALL MOTORS, LTD.

LIVE AXLE v. CHAIN DRIVE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am glad to see that the above-mentioned subject, about which I addressed a letter to you some months since, is engaging the attention it deserves. The opinions of some of your correspondents are interesting, but the partisans of chain driving generally seem to forget that live divided shafts are as necessary in that form of construction as with the live axle. The fact should not be overlooked that an increasing number of French firms are using live axles in their high-powered racing chassis, yet the cars they offer to the public are chain driven.

From reading the correspondence some would appear to believe that because in a locomotive running on a smooth track the driving and weight are taken on one heavy cranked axle, it is just as good practice in motor-cars which have all the shocks of the road to withstand. This is quite an erroneous view, which should be expelled from the minds of theorists. In the majority of live axle cars the driving gear is subjected

to all the vibration and strains that can only be taken satisfactorily by a solid steel stationary axle. My experience and study of the question have shown me that a transmission system embodying such an axle without the use of chains is, under, certain important conditions of construction, mechanically perfect.—Yours truly,

E. H. OWEN.

THE TOURIST TROPHY AND HEAVY CAR RACES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a cycle manufacturer the result of the two races lately held in the Isle of Man has been a source of much satisfaction to me, as I believe it has been to others in the cycle trade. I have often heard it said that motor-car construction was the province of heavy engineering works rather than that of cycle manufactories. Such erroneous ideas should now be once and for all dispelled, as the winning cars in both of the events were the production of firms which had previously made their mark in the cycle manufacturing world.—Yours truly,

MIDLANDER.

THE FUTURE OF THE TOURIST TROPHY RACE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the suggested six days' race in lieu of the tourist trophy, I certainly think that the best test of cars would be one on the lines of the Scottish Reliability Trials, to be concluded by a speed test over some course such as the tourist trophy. This would test any car severely, and one slight mishap, such as tyre troubles, would not necessarily lose the competitor the prize, as in the present instance it practically would do.—Yours truly,

R. GOODENOUGH.

LONG DISTANCE RELIABILITY RECORDS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am in no way inclined to discount a run of 10,000 miles on any car, and the recent achievement, which at present is so extensively advertised by a certain firm is quite a creditable one, but when one finds that over thirty-three hours—no doubt of feverish haste and legitimate preparations beforehand—were spent in repairs and replacements, it surely becomes somewhat of a farce to call this a record, and I should say the less said about it the better. I know of cars, and your readers must know of many more, which have run 10,000 miles with very much less time spent on repairs than this so-called record car.—Yours truly,

HERBERT S. WATSON.

THE MOTOR ACCIDENT ON SUNRISING HILL.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Owing to many papers having announced that the car which met with the accident was hired from an Oxford garage, I have a great many enquiring if it was one of my cars.

As I have been hiring out motor-cars now for more than nine years' and keep a large stud, this report may injure my business, so I shall be obliged if you will insert this letter informing the public that it was not one of my cars, neither has the driver ever been in my employ.—Yours truly,

A. F. PARKER.

WATER CIRCULATION TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. C. Booker's letter in a recent issue of the *M.C.J.*, the water connections, in this instance, are according to usual practice, and if the pump is working and the connections free, should prove efficient. I should be inclined to think that the cylinder was foul, as this, in many instances, is the cause of overheating. If the cylinder is dismantled and thoroughly cleaned, no doubt a great improvement will be found.—Yours truly,

J. H. T.

THE Acre Rubber Company, Ltd., 58, High Street, Bloomsbury, W.C., are the makers of the Arco flint proof tread, about which a correspondent inquired last week.

A LANCHESTER wheel cap has been picked up in Kensington High Street; it can be obtained by applying to the Century Motor Company, Ltd., Holland Gate, Kensington High Street, W.

THE GERMAIN RACERS FOR THE GRAND PRIX.—Capt. Masui writes that the Germain cars are fitted with engines of only 35-h.p., the bore and stroke being 102 mm. by 110 mm., and the normal speed 1,800 revs. per min. “Of course, with such a small car the Germain works do not expect to win the race, but are endeavouring to prove the reliability and regularity of their manufacture.”

THE TOURIST TROPHY RACE.—Mr. P. R. Lamb, of Messrs. West, Ltd., writes:—“I have noticed in several journals the report published that my West-Aster car (No. 23) in the Tourist Trophy Race retired owing to a nasty side-slip on Snaefell. This was not the case; I retired on completion of the third round owing to mud clogging the gate gear selector bars, which were exposed owing to the dust shield having been removed early in the week for the sake of clearance. In other respects the car ran splendidly, never suffering damage of any description, and has since been continually on the road.”

CLUBS AND ASSOCIATIONS

AUTOMOBILE ASSOCIATION.

GREAT preparations are being made at Hastings for the Automobile meeting there on Wednesday next, which is being organised by the Automobile Association and the Motor Club. All the motoring visitors to the town on that day are invited to follow in the procession which starts from Warrior Square at 11 a.m. sharp. Several valuable prizes have been offered by prominent local residents.

DERBY AND DISTRICT AND MID-STAFFS. AUTOMOBILE CLUBS.

ON Saturday last a hill-climbing contest for the possession of the newly-established Uttoxeter Challenge Cup took place on the hill between Marchington and Uttoxeter.

The cup has recently been obtained mainly through the efforts of the members of the Derby A.C. residing in Uttoxeter and district, and is to be competed for annually.

The Derby Club extended an invitation to the members of the Mid-Staffs A.C. to take part in the competition. The former club were also presenting silver and bronze medals to the winner of the cup as adjudged by the R.A.C. on their formula, and to the runner-up respectively, while a silver medal was also given to the driver making the fastest ascent.

In addition to the cup contest, a handicap competition was afterwards held, the start each car received being based upon the times made in the former contest. Silver and bronze medals were also given by the Derby A.C. to the winner and runner-up in the final heat of this competition.

Appended are particulars of the competitors and the times made in the run-up for the cup:—

	M.	S.
F. A. Bolton (45-h.p. Daimler)	—	50
Arthur Ford (30-55-h.p. Daimler)	—	59
J. Keele (30-h.p. Belsize)	1	13
H. Ford (24-40-h.p. Bianchi)	1	20
C. T. Leech (18-22-h.p. Daimler)	1	32 4-5
R. Ford (12-16-h.p. Clement-Talbot)	1	40
L. P. Mell (15-h.p. Darracq)	1	41 1-5
Miss E. A. Southam (12-16-h.p. Clement-Talbot)	1	43
C. E. Riley (18-22-h.p. Daimler)	1	52 1-5
G. F. Brindley (12-14-h.p. Clement-Talbot)	1	53 3-5
R. G. Meade (12-14-h.p. Clement-Talbot)	1	54 4-5
G. B. Fletcher (10-12-h.p. Humber)	1	56 2-5
Spencer Downing (10-h.p. Alldays)	1	59
H. Jefferson (10-12-h.p. Humber)	2	1 3-5
G. F. Reading (10-12-h.p. Wolseley)	2	14
Alan Ford (8-h.p. Bravier)	2	25 1-5
A. M. Chambers (6-h.p. De Dion)	2	30 2-5
H. W. Eaton (12-14-h.p. Swift)	2	40
W. Smith (8-h.p. Rover)	2	53 4-5

It will thus be seen that Mr. F. A. Bolton (president of the Derby A.C.) takes the silver medal for fastest time on his 45-h.p. Daimler, this notwithstanding the fact that Mr. Bolton only took possession of his new mount late the previous evening.

The times made in this contest, together with the horse power of the cars and other measurements, will be forwarded to the Royal Automobile Club, who will decide what are, in their opinion, the two best performances.

In the handicap competition several excellent ascents were seen.

In the semi-final, heat 1 was won by R. Ford (12-16-h.p. Clement-Talbot), scratch; C. E. Riley (18-22-h.p. Daimler), 12 sec. start, being second. Heat 2 was won by R. E. Meade (12-14-h.p. Clement-Talbot), with 21 sec. start; C. T. Leech (18-22-h.p. Daimler) scratch, being second.

In the final R. Ford (12-16-h.p. Clement-Talbot) scratch, was first.

The trials were witnessed by far the largest number of spectators ever seen at a hill-climbing contest held by the Derby A.C., and it was most encouraging to the officials of the clubs that the meeting aroused so much interest in the neighbourhood. The starters were Messrs. E. H. Fryer, and L. P. Mell; timekeepers, Mr. Chas. J. Allin (hon. sec. Derby A.C.) and Mr. P. E. Joule (assist. sec. Derby A.C.); marshals, Messrs. A. E. Chambers, Arthur Ford, Alan Ford, H. Ford, and R. Ford; clerks of the course, Messrs. C. T. Leech, H. P. Huggins, A. H. Collumbell, and J. Cornes-Nevitt (hon. sec. Mid-Staffs club).

MANCHESTER MOTOR CLUB.

THE speed judgment test of the Manchester Motor Club was spoiled on Saturday last by the inclement weather, rain falling the whole of the time. The meet was arranged for the Kilton Arms, Hoo Green, and a

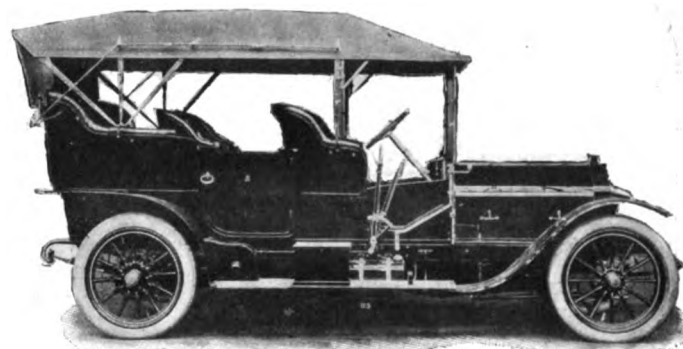
course of fifteen miles had been mapped out via Lostock Gralam, Allostock, to Lower Paover. A speed of eighteen miles per hour was given, and the driver covering the distance nearest that rate of speed was to be declared the winner. The conditions differed slightly from those of previous occasions, and in lieu of being divested of all timing apparatus an observer accompanied each car. When the calculations were made at the close of the contest it was found that Mr. A. Foxwell Gray (10-h.p. Alldays) had nearest approached the given time, with Mr. J. H. Bennett (15-h.p. Humber) second, and Mr. G. Charlesworth (10-12-h.p. Clement-Talbot) third. Nine cars competed.

THE COMMERCIAL MOTOR USERS' ASSOCIATION.

A MEETING of the Executive Committee of the Association was held on the 12th inst. The action of the Paddington Borough Council with regard to noisy motor traffic was considered, and Mr. S. D. Gilbert promised to draft out counter petitions for users and ratepayers and send in to the secretary. It was resolved, should the matter become urgent, that a special Executive Committee be called.

Mr. F. C. A. Coventry reported as to the trials, and stated that the Association had been invited to nominate five judges to serve at these trials. It was resolved that Dr. H. S. Hele-Shaw, Messrs. F. C. A. Coventry, W. G. Lobjoit, Douglas Mackenzie, and H. Thomson-Lyon should be nominated. The action of the Westminster and Southwark Highway Authorities as to the damage caused to the roadways by the oil and petrol from motor-omnibuses was considered, and the action of the police in enforcing traps to be fixed was reported.

It was resolved that a special cup should be offered in connection with the commercial vehicle trials, to be awarded for cleanliness in respect of the dropping of oil, to be known as "The Commercial Motor Users' Association Cup for Absence of Oil-droppings." It was reported that an enquiry had been received from Messrs. Bass, Ratcliffe and Gretton stating that they had found a difficulty in keeping empty casks on their petrol lorries, and asking whether other brewer members of the Association had been faced by a similar problem. These were



The 40-h.p. Siddeley side-entrance Double Phaeton recently supplied by the Wolseley Company to the Duke of Devonshire.

circularised, and it was found that several firms used nets over the load. It was suggested that probably a double set of springs, one set for use when the vehicle was carrying full casks and the other when carrying empty casks, might meet the difficulty.

SOUTHERN.

A START will be made at 2 p.m. to-day (Saturday) in the open hill climbing contest on Captain Kydd's Hill, near East Grinstead. The headquarters of the Southern Motor Club for the meet is at the Dorset Arms Hotel, East Grinstead, and the secretary of the contest, Mr. S. W. Phillpott, will be distinguished by his crimson rosette.

We have been notified of the following entries:—

CLASS 1.—For touring cars whose cylinder diameter in inches squared and multiplied by the number of cylinders is under 35. 6-h.p. Rover, 8-h.p. Rover, 8-h.p. De Dion, 9-h.p. Sizaire et Naudin, 9-h.p. Riley, 10-h.p. Alldays, 9-h.p. Riley, 10-14-h.p. Gregoire, 9-10-h.p. Cadillac, 8-10-h.p. Darracq, 10-12-h.p. Darracq.

CLASS 2.—For touring cars whose cylinder diameter in inches squared and multiplied by the number of cylinders is 35 and under 50. 12-16-h.p. Clement-Talbot, 12-16-h.p. Talbot, 12-16-h.p. Vauxhall, 14-h.p. Lindsay, 14-h.p. Vulcan, 14-h.p. Vulcan, 16-20-h.p. West Aster, 18-h.p. Osterfield.

CLASS 3.—For cars whose cylinder diameter in inches square and multiplied by the number of cylinders is 50 and under 75. 20-h.p. Belaise, 24-h.p. Deasy, 24-28-h.p. Metallurgique, 18-h.p. Malcolm, 12-h.p. Vici, 20-h.p. Arrol Johnston, 18-h.p. Germain, 25-35-h.p. Gladiator, 24-h.p. Minerva, 24-h.p. Minerva, 20-30-h.p. Florentia, 16-24-h.p. Vinot, 24-h.p. Martini, 15-h.p. Clement-Talbot, 20-h.p. Clement-Talbot, 16-20-h.p. Rover, 20-h.p. Miesse Petrol, 14-h.p. Thornycroft, — Standard, 18-28-h.p. Clement, 18-h.p. Darracq, 18-h.p. Darracq.

CLASS 4.—For touring cars whose cylinder diameter in inches squared and multiplied by the number of cylinders is 75 and under 100.

24-h.p. De La Buire, 25-h.p. Straker Squire C.S.B., 30-h.p. Lindsay, 25-h.p. Austin, 30-40-h.p. Daimler, 30-h.p. Thornycroft, 45-h.p. Mors, 40-h.p. Napier.

CLASS 5.—For touring cars whose cylinder diameter in inches squared and multiplied by the number of cylinders is 100 and under 150. 35-h.p. Iris, 35-h.p. Daimler, 40-h.p. Gracile, 35-h.p. Daimler, 45-h.p. Thornycroft, 30-35-h.p. Brooke, 60-h.p. Napier, 40-h.p. Gobron Brillié.

CLASS 6.—For lady drivers only. (Cars must be eligible to compete in classes 1, 2 or 3.) 6-h.p. De Dion, 24-h.p. Deasy, 6-h.p. Wolsley.

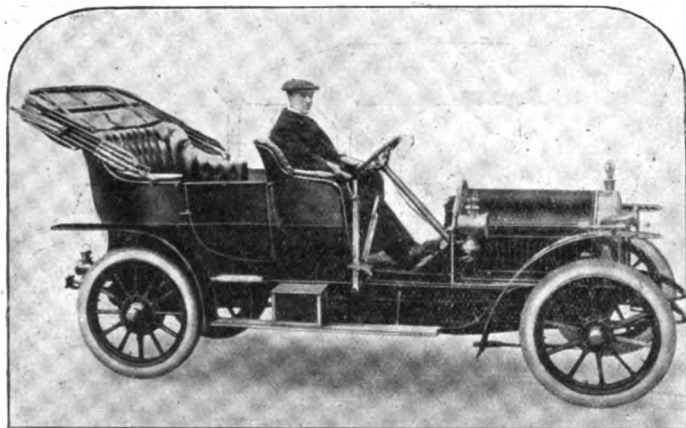
CLASS 7.—For cars actually run in, entered and accepted for the Tourist Trophy race of 1907. 20-h.p. Rover*, 16-20-h.p. Rover, 24-28-h.p. Metallurgique, 16-20-h.p. West Aster, 18-h.p. Darracq, 25-h.p. Arrol-Johnston.

* The winner of the 1907 race.

LEICESTERSHIRE.

THE members of the Leicestershire Automobile Club on Saturday placed a number of cars at the disposal of the Leicester Guild of the Crippled for the purpose of taking some of the cripples for a short motor run. A start was made from the Bishop Street Schools with ninety cripples and their helpers in thirty cars.

The destination was Queniborough Hall, near Syston, and the route thither was via Belgrave, Birstall, Wanlip, to Syston. Tea was provided by their host, Mr. H. W. Reynolds. This was followed by a few brief speeches, in which it was stated that the example of Mr. A. MacAlpin (the secretary of the Automobile Club), in arranging the cripples' outing was being followed by motor clubs in other towns. The return journey was through Syston and Thurmaston, but the rain came down in torrents. Most of the cars had hoods and covers, which were much appreciated, and those in the open cars were well supplied with wraps and waterproofs. Despite the weather, everyone was happy. Amongst those who kindly lent cars were Messrs. Sutton, J. Bennett,



Mr. W. A. McCurd at the wheel of his 24-h.p. Minerva.

P. Baker, Dr. H. W. Bereham, J. A. Doran, A. L. Hewitt, G. H. Wait, Herbert, Captain Byron, J. A. Harper, Jackson, Harding, H. E. Barran, A. B. Partridge, J. Frisby, R. Daniels, W. Cox, Dr. Patrick, W. Bentley, Gipson Clarke, Major Robinson, Dr. Scoot, Dawburn, Earp and A. MacAlpin.

EDINBURGH M.C.

THIS club met on Saturday last for its annual hill climbing competition up Soutra Hill. There were twenty-six entries, all arriving at the starting point. There were three gold medals and a silver cup, the latter presented by the Humber Company for the best time for a Humber car, which was won by Mr. J. S. Honeyman on his four-cylinder 30-h.p. Humber. Another winner in his own class was Mr. John Graham on his Daimler. Mr. Stirling Paterson on his Ariel made the fastest time—3 min. 47 sec. In the two-cylinder class Mr. John Robinson (Peugeot) was awarded the third gold medal. The climb was run in a downpour of rain, though the weather was fine both before and after the competition.

IPSWICH AND EAST SUFFOLK.

ON Saturday, at Lawford Hill, near Manningtree, the Ipswich and East Suffolk A.C. held a successful hill climb, forty-three out of fifty-four entrants actually taking part in the event. Unfortunately the weather was very unfavourable. Rain fell heavily in the morning and continued for two hours without intermission, making the task of climbing the hill less easy than it would have been. The cars had to be weighed with their passengers at Manningtree, and facilities for this necessary preliminary were provided by the G.E.R. Company. Shortly before two o'clock the sky cleared considerably, and as the cars took their places in readiness there were hopes of a fine afternoon. The vehicles were drawn up in a long line behind the starter, Mr. L. H.

Vulliamy, who had the assistance of the police in preserving a clear course, while a constable was also at the other end, where Lieut. Col. Carthew was in charge as judge and official timekeeper, with Mr. A. E. Newby, who made the timing apparatus, as assistant. The road on the north side of the hill was lined with spectators, thanks to the kindness of Mr. Richardson and Mr. Ogilvie in allowing them to enter their fields. Mr. W. H. Scottorn kindly lent his motor for use as Secretary's office. Mr. W. G. Fisk marshalled the cars at the start, and Mr. C. K. Moseley looked after them at the finish. The following is the result, the time given being the number of seconds above the fastest time, which is represented by 0:—

Ladies' Class.—Miss Rainer 1, Mrs. Egerton 2.

AMATEUR SECTION.

CLASS 1.—W. Reed Hill, De Dion, 57 4-5 sec., 1; C. K. Moseley, De Dion (driven by J. Gorham), 59 1-5 sec., 2.

CLASS 3.—J. Gordon Stewart, Talbot, 0 sec., 1; E. L. Rowe, Humber, 20 sec., 2.

CLASS 4.—D. Hepworth, Humber, 30 1-5 sec., 1; J. Grey, Winton, 27 sec., 2.

TRADE SECTION.

CLASS 1.—C. D. Castell, Talbot, 43 sec., 1; F. Scottorn, Rover, 43 1-5 sec., 2.

CLASS 2.—C. R. Garrard, Talbot, 9 2-5 sec., 1; H. C. Gooding, Singer, 29 3-5 sec., 2.

CLASS 3.—E. Marriott, Talbot, 5 1-5 sec., 1; J. R. Egerton, De Dion, 15 3-5 sec., 2.

CLASS IV.—C. R. Garrard, Talbot, 6 sec., 1; Mawdesley Brooke, Brooke (driven by A. E. Andrews), 17 4-5 sec., 2.

CLASS V.—Mawdesley Brooke, Brooke, 0 sec., 1; W. H. Astell, Orleans, 3 sec., 2.

Mr. A. Gordon Stewart won the prize offered by the committee for the best performance in the amateur section, and Mr. E. Marriott won the prize for the best performance in the trade section, Mr. Mawdesley Brooke, however, doing the fastest time.

The first in each class received a silver medal and the second a bronze medal.

The next club competition is the speed trial at Sudbourne Park on the 13th prox., by permission of Mr. Kenneth Clark, for which special arrangements are being made by the hon. secretary, Mr. Gordon Stewart.

SOUTHEND AND DISTRICT.

THE principal club run of the season of the Southend and District Motor Club took place on Sunday, when members and their friends were the guests of Captain Newman, J.P., D.L., and Mrs. Newman to lunch at the Cups Hotel, Colchester. The party numbered nearly fifty. The event proved a most successful one and was even favoured by ideal weather, there being practically no dust. Captain Newman pointed out, in reply to the toast of his health, how gratifying was the success so far attained by this young club, which in practically seven winter months, in a most unsuitable motoring centre such as South East Essex is, had enrolled fifty-four members, including twenty-two car members and twenty-five tri-carists and motor-cyclists. After a most enjoyable gathering the party returned home rather carefully, for the police trap at Lexden, just outside Colchester, was still in working order. The hon. secretary of the club is Mr. A. Warnery, "Chalet Suisse," Baxter Avenue, Southend-on-Sea, Essex.

NORTH-EASTERN A.A.

ON Saturday last the North-Eastern Automobile Association held its annual hill climb on Ragpath Side, Lanchester. This hill is about seven miles from Durham, and is probably the steepest gradient in the North of England. The total length of the hill is exactly half a mile, with a rise of 233 feet, giving an average gradient of 1 in 11.3, the worst part of the hill, near the top, being 1 in 5.3 for a distance of about forty yards.

The hill is beautifully situated from a spectator's point of view, the whole of the course from start to finish being visible from the hill side, where many thousands of spectators were grouped.

The weather was favourable on the whole, and a fairly strong west wind tended to help the competitors up the hill.

The organisation of the competition was in the hands of a special committee appointed by the Association, consisting of Dr. McHaffie, hon. sec. of the Hill Climb Committee, Messrs. Haggie, Taylor-Smith, Dr. Buckham, Natrass, Wood and Newall, also the chairman and secretary of the association, Captain Streatfeild and Mr. Hodgkin. Capt. W. C. Blackett, the chairman of the Durham section of the Association, acted as judge, and the timekeepers appointed by the R.A.C. were Messrs. C. P. Glazebrook and T. D. Dutton. Mr. J. E. Hodgson, hon. sec. of the Association, acted as chief marshal in bringing the cars up to the start, and the actual starting of the cars was done by Mr. Glazebrook, one of the timekeepers.

In addition to the usual method of timing by synchronized watches, a telephone was installed at the start and finish, by which the results were checked, Mr. Glazebrook holding the transmitter in his hand and shouting the word "Go" through the instrument, so that the start was notified at the top of the hill the same moment as at the bottom.

Very valuable assistance was rendered by a staff of police under Superintendent Murphy and Inspector Dryden, and, in spite of the fact that there were between 5,000 and 6,000 spectators present, no accident of any kind occurred during the afternoon.

There were nine classes, the first two being for motor-cycles and the remainder for motor-cars.

The results of the competition could not be prepared on the same day, but the fastest time was made by W. E. Galloway, on a 15-20-h.p. Stanley steam car, his time plus X being 1 min. 15 2-5 sec.

The results are given below:—

Class.	Time.	
	M.	s.
1. No motor-cycles finished.		
2. C. B. Grimshaw (8-h.p. Grimshaw motor-cycle)	1	21 4-5
3. Dr. Patterson (10-h.p. Alldays)	2	48 2-5
4. W. Olliff (12-14-h.p. Singer)	2	22 2-5
5. S. Davies (Isotta Fraschini)	2	21 2-5
6. George and Jobling (18-h.p. Siddeley) ...	2	25 3-5
7. Mrs. Galloway (8-h.p. Stanley)	1	35 3-5
8. Arrol-Johnston Company (16-25-h.p. Arrol-Johnston)	1	59 2-5
9. E. W. Leather (40-h.p. Berliet)	1	33 1-5
10. S. F. Edge (40-h.p. Napier)	1	36 3-5
11. W. E. Galloway (15-20-h.p. Stanley) ...	1	15 3-5
12. G. S. Barwick (35-h.p. Daimler)	1	25 2-5
13. S. F. Edge (60-h.p. Napier)	1	17 4-5

NEW FOREST A.C.

ON Thursday next, the 27th inst., a hill climb is being organised at Stoney Cross, in the New Forest, under the auspices of the New Forest Automobile Club and Hampshire Motor Union. Several prizes are being offered in connection with closed competitions. There will also be two open classes for cars, one the list price of which is £400 and under, and the second for cars of which the list price is over £400. Mr. C. J. Heydon, of Westover Chambers, Bournemouth, is the hon. secretary of the meeting.

MOTOR C.C.

THE Motor Cycling Club held a contest for the Rover Cup on Saturday, starting from Uxbridge and going by way of Oxford, Chipping Norton and Evesham to Worcester, a distance of ninety-five miles. The return journey was via Tewkesbury, Gloucester, Oxford, Henley and Slough, back again to Uxbridge, 122 miles. The time allowed for the out and home journeys was five and six hours respectively. The conditions of success were to make two non-stop runs and arrive at Worcester and Uxbridge as near as possible to the allotted time.

The start was made in a rainstorm and the weather was most unpleasant throughout the day. Several vehicles made non-stop runs, but we await the committee meeting of the club to give the official announcement of the result.

The following were the starters:—Messrs. J. Van Hooydonk, 8-h.p. Phoenix; R. O. Clark, 9-h.p. Sizaire et Naudin; P. L. D. Perry,



The Royal Starling Car lately supplied to Lieut. Bastard, of Bhurtpore Barracks, Tidworth, Hants.

The car is fitted with a 10-h.p. two-cylinder engine and a gear-box giving three forward speeds and a reverse; the transmission is by a cardan shaft and bevel gear to a live axle. Ball bearings are used to all parts except the engine.

In Classes 5, 6, 7, and 8 the first-named is the first of the closed entries, the second of the open.

The handicap results are not known yet, but the challenge cup presented by the N.E.A.A. has been won for this year by Mr. W. E. Galloway.

THE AUTOMOBILE ASSOCIATION OF BENGAL.

THE annual meeting of the Automobile Association of Bengal was held on March 27th, when the following officers were elected by the committee. The Hon. Mr. G. Gordon was elected chairman in place of Mr. C. J. Stevenson, retired. Mr. J. E. Oakley was re-elected vice-chairman, and Mr. E. J. Sanor secretary. The work done by the Association during the past year has been of a varied nature and many matters of interest to motorists have been dealt with to the material advantage of all concerned. Many improvements in the roads near and round Calcutta have been made, notably in that running from the Tollygunge Club through the Steeplechase course to Gurriah and thence to Ballygunge, which was entirely remodelled during the rains, so that it is now possible to motor in comfort along this road, instead of running the risk of a broken axle as hitherto. On the Grand Trunk Road out to Barrackpore all the level crossings have been made smooth and the bad portions of the road repaired. Similar action has been taken with regard to the Grand Trunk Road from Howrah to Serampore.

15-h.p. Ford; J. Browning, 9-h.p. Riley; H. A. Bates, 15-h.p. Ford; F. W. Peckham, 12-14-h.p. Maxwell; E. H. Antony, 15-h.p. Ford; J. Platt Betts, 8-h.p. Rover; E. March, 8-h.p. Rover; J. S. Harwood, 8-h.p. Rover; C. W. Brown, 8-h.p. Rover; O. L. Bickford, 15-h.p. Ford; E. R. Folker, 8-h.p. Rover; F. J. Jenkins, 16-20-h.p. Rover; R. C. Davis, 12-h.p. Enfield; W. Perks, 12-14-h.p. Singer; W. V. Jolly, 8-h.p. De Dion.

SHEFFIELD.

SATURDAY—wet and fitful throughout the country—was the day of the hill climb of the Sheffield and District A.C. at Grindleford. Twenty-seven entries had been received for the three events of the meeting: (1) Open to all members; (2) open to members unconnected with the trade; (3) for single-cylinder cars. So keen were the entrants that, despite the adverse conditions, twenty-two of them put in an appearance.

The course, as usual, was from Grindleford Bridge to just below Fox House, a distance of about two miles and a quarter, with a gradient of one in eight in parts, and one in seventeen on the average. The starting point was a few yards past the cottage over the bridge, and the finishing point the lodge gates at Longshaw. Mr. W. E. Cope was stationed at the starting point, and Mr. T. Lonsdale was at the finishing point. The first car to cross the line was Mr. H. Burgon's 15-h.p. Clement-Talbot, and other cars were sent off at intervals of about two minutes. When the timekeepers had compared their times it was

found that Mr. Albert Farnell of Bradford, had done the fastest time, viz., 4 min. 30 1-5 sec. As last year, he drove a 30-h.p. Daimler, but with the roads in a terribly treacherous condition he naturally took longer on Saturday, his time last year being 3 min. 28 sec. Mr. J. F. Gregory's 24-h.p. F.I.A.T. went very well indeed, running two trials with only a second difference in the time—his fastest being 5 min. 32 1-5 sec., and he proved the second fastest. Last year on a 16-h.p. F.I.A.T. Mr. Gregory took 6 min. 43 sec. Mr. Percy Richardson was third on his 20-h.p. Brotherhood, his time being 5 min. 34 3-5 sec.

Mr. J. F. Gregory proved a good winner in Class 2, with Mr. A. S. Fawcett second. In class 3 Mr. H. Beesley did very well with his single-cylinder 6-h.p. Wolseley, and beat his first time by about 10 sec.

The times were as follows:—

CLASS I.		Min.	sec.
A. Farnell, 30-h.p. Daimler	...	4	30 1-5
J. F. Gregory, 24-h.p. F.I.A.T.	...	5	33 3-5
P. Richardson, 20-h.p. Brotherhood	...	5	34 3-5
F. W. Hubbard, 10-h.p. Alldays	...	6	32 3-5
J. H. Hall, 20-h.p. Darracq	...	6	55
B. Hind, 12-h.p. Clement-Talbot	...	6	59
H. Bargon, 15-h.p. Clement-Talbot	...	7	30 3-5
B. M. Turner, 10-h.p. Alldays	...	9	25 1-5

CLASS II.		Min.	sec.
J. F. Gregory, 24-h.p. F.I.A.T.	...	5	32 1-5
A. S. Fawcett, 22-h.p. Minerva	...	6	4 4-5
J. H. Hall, 20-h.p. Darracq	...	6	57
F. R. Watson, 15-h.p. Darracq	...	7	3 2-5
W. Johnson, 15-h.p. Clement-Talbot	...	7	4
H. Beesley, 6-h.p. Wolseley	...	9	41 3-5
B. T. Turner, 10-h.p. Alldays	...	9	43 3-5
T. H. Firth, 12-h.p. Wolseley	...	10	46 1-5
Dr. O'Connor Parsons, 12-h.p. Swift	...	11	7 4-5
A. Worrall, 10-h.p. Darracq	...	11	42 4-5

CLASS III.		Min.	sec.
H. Beesley, 6-h.p. Wolseley	...	9	31 4-5
G. D. Flather, 6-h.p. Wolseley	...	11	9 3-5
F. B. Cawood, 6-h.p. Wolseley	...	11	38 3-5
W. Watts, 8-h.p. De Dion	...	12	10 4-5

SOCIETY OF MOTOR MANUFACTURERS AND TRADERS.

At a meeting of the Society of Motor Manufacturers and Traders, on Thursday of last week, Mr. E. Manville was elected president of the society in succession to Mr. Sidney Straker, to whom a testimonial is to be presented as a recognition of the services he has given in that capacity.

To the vacancy on the Council caused by the death of Mr. A. Govan, Mr. R. Dennis was elected, and a sub-committee was appointed to confer with the R.A.C. with regard to the holding of reliability trials next year.

A 45-h.p. six-cylinder Napier made fastest time at the Wolverhampton A.C.'s hill climb on Saturday.

THE Reading and District M.C. held a hill climb on Wednesday of last week, which was won by Mr. A. Brown. Mr. F. Deacon, the secretary, acted as starter.

THE Midland A.C. has issued an effective tear-off calendar for use up to May, 1908. It also reminds motorists of the Club's Shelsley Walsh hill climb on the 12th prox., entries for which close on July 8th.

THE Auto-Cycle Club will have a twenty-four hours' run from London to Plymouth and back on July 26th and 27th. The start will be made on the evening of the first day from the Angel Hotel, Thames Ditton, and the run will be confined to members of the club.

THE "Leatherber" band introduced by Messrs. R. and J. Pullman, Ltd., of Godalming, is designed to combine the advantages of a leather band with the appearance of a studded rubber cover.

THE first sod of the new Fiat Works at Wembley was turned on March 8th. Since then great developments have taken place, and the buildings are now nearly completed. In the main erecting shop, which measures 177 by 60 ft., there will be sufficient space to deal adequately with the repairing and overhauling of a very large number of vehicles. Adjoining this is another large shop which will be used as an engine room, and in addition there is a large covered space for the storage of finished cars and chassis. The two storerooms measure 150 by 35 ft. each, the smith's shop 50 by 20 ft. There are inspection pits and sinks for washing cars, a range of lavatories and messrooms, and outside a large open cement yard 150 ft. square. The offices are situated at one end of the building, which contains a large entrance hall, waiting room, telephone room, general offices, clerks' offices, offices for the works' manager, managing director, and lady typists. There are also rooms for the caretaker and works' manager, who will live on the premises. The factory stands on five acres of ground, and it is probable that it will be finished during the course of this week and that the works will be in full swing by the end of the month.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING LEGAL LIMIT.

At the Edgware Police Court, Robert S. Coeshall, chauffeur to Major Williams, of the Royal Engineers, has been summoned for exceeding the speed limit in the parish of Hendon on the 22nd ult. Mr. Parkes defended, and elicited in the cross-examination of the police that although the defendant when stopped requested the constables to show him the measured distance over which he had been timed, they refused to comply with his request. The defendant's solicitor contended that this was a most unfair proceeding, as it prevented the defendant from obtaining any evidence which might help in defending him at the trial. The Bench upheld this contention, and dismissed the summons. Upon an application for costs against the police the Bench granted the sum of 15s. 6d.

On Friday, the 14th inst., eight cases were heard at Harlow against motorists. One of the defendants had been previously convicted five times.

On Monday four motorists were each fined £7 and costs by the Spelthorne Bench, for exceeding the legal limit.

At Horsham, on Saturday, there were six cases against motorists, five for exceeding the legal limit and one for driving to the danger of the public. The police won in every instance.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

EDGAR MAYALL MOTOR TRANSPORT COMPANY.—£3,000. First directors: Messrs. H. Kershaw and E. Mayall. 203, Manchester Road, Mossley.

"SILENT" AUTOMOBILE SYNDICATE.—£10,000. Agreement with Messrs. G. L. M. Dorwald, J. C. H. Grant, and L. V. Rothschild. No initial public issue. First directors: Messrs. J. C. H. Grant, L. V. Rothschild, F. Nash, and E. Bredermann. 6, Old Jewry, E.C.

SILENT CHANGE-SPEED GEAR COMPANY.—£50,000. To acquire licences for working patent No. 20,464 of 1901, granted to Mr. G. Foullaron, relating to change-speed gear, and patent No. 27,185 of 1905, for improvements therein. 5, Budge Row, E.C.

NEWCOMB NON-SKID SYNDICATE.—£2,000. To adopt an agreement with Mr. S. W. Newcomb for the acquisition of certain letters patent, property, and rights. No initial public issue.

NEW YORK MOTOR CAB COMPANY.—£303,000. To adopt an agreement with the United Investment Corporation, Limited, and to carry on the business of proprietors of motor-cabs, &c.

JULIAN'S MOTORS.—£5,000. To adopt an agreement with Mr. H. Julian for the acquisition of the business of a motor-car engineer, dealer and repairer carried on by him at Friar Street, Reading. No initial public issue. First directors: Messrs. H. Julian, F. Tunbridge, and F. J. Smith. 140-1, Friar Street, Reading.

ROAD REPORTS.

HYTHE.—An important road tar-painting experiment took place in the presence of local town councillors a few days ago.

CLARE'S TAR COMPO.—Large quantities of Clare's patent compo have been supplied to the Corporation of Liverpool, and many important orders are pending in the London district.

STRATFORD-ON-AVON.—The majority of the roads in this district are in good order, although on the Wilnecote and Aston Cantlow side they are not so well made. Repairs have taken place on the Evesham Road.

HOVE.—The Hove authorities are considering to what extent they shall avail themselves of the proposal of the East Sussex County Council to spend £2,000 extra on the treatment of roads with tar and dust-laying preparations.

BRECONSHIRE.—Mr. Howard, the Breconshire County Roads Surveyor, claims to have solved the dust problem. About twelve months ago experiments were carried out on parts of the main road from Brecon to Abergavenny, and the Breconshire County Council are so satisfied with them that they have instructed Mr. Howard to lay down sixteen miles of his road preparation. Mr. Howard has patented his invention.

QUARRITE.—The Northern Quarries Co., Ltd., of Grange-over-Sands, have issued a handbook illustrative and descriptive of "Quarrite," which is suggested to authorities dealing with the dust problem. It is claimed that this paving when laid produces a solid uniform body with close road surface, free from dust and waterproof, which can be renewed after years of wear at a very low cost. Those who go to the next provincial meet of the Motor Union will have an opportunity of seeing the "Quarrite," which has been laid in the carriage drives of the Prince of Wales Hotel, Southport.

THE Godiva plug is of British manufacture, the production of Mr. E. J. Hardy, Bishop Street, Coventry.

THE British Ever Ready Electrical Company, Ltd., of Emerald Street, London, W.C., are introducing a novel and ingenious device known as a tyre-jack for removing and repairing outer covers without trouble.

A QUESTION OF SALE.

THOMAS DUNSTONE, of Carlyle Street, Brighton, sued Messrs. Turner and Company, of St. James's Street, Brighton, motor and cycle agents, before Judge Scully, at the Brighton County Court, for £16 16s., price of a motor-bicycle alleged to have been sold by plaintiff to defendants. Plaintiff said that on May 2nd last he saw Mr. Turner with reference to the sale of a 4-h.p. Alldays motor-bicycle. Mr. Turner agreed to purchase it for 16 gs., and on the following day one of the defendants' employees fetched the machine away. When, however, witness went for the money, defendants would not pay. For the defence, Sidney Turner said plaintiff had previously left the bicycle at the shop for sale by defendants on commission, and as they had been unable to sell it, he had taken it away. On May 2nd they had an inquiry for a motor-cycle from a gentleman, so witness saw Mr. Dunstone and explained the circumstances to him and agreed with him that if the customer were suited with the machine, defendants would buy it for 16 gs. When witness showed the machine to the customer, he refused to have anything to do with it. His Honour held that the plaintiff had not made out his case, and gave judgment for the defendants with costs.

OIL FROM MOTOR-BUSES.

THE legal question of the nuisance caused by oil dropped by motor-omnibuses was involved in a case at Lambeth, in which A. T. Coleman, a motor-omnibus driver, in the service of Messrs. Thomas Tilling (Limited), was summoned by Mr. C. W. Tagg, town clerk of Camberwell, for infringing one of the local by-laws by allowing a quantity of "filth," viz., refuse oil, to fall from the engine of his omnibus on to the roadway, and was fined 5s. and costs.

Mr. G. W. Marsden, solicitor to the Camberwell Borough Council, said many complaints had been received from ladies whose clothes had been soiled in crossing the road.

Mr. W. Roy, a street keeper, in the service of the borough council, said he saw the defendants' omnibus standing at the corner of Rye Lane, Peckham, on the 21st ult. A quantity of lubricating oil dropped from the vehicle into the roadway.

In cross-examination, Mr. Roy said it was a fact that Messrs. Tilling kept a man at the spot to clear up the grease from the road.

Mr. Hopkins said he supposed they all recognised that we were in a transitory stage—somewhere between horse traction and motor traction—and the difficulty was to fit in the two. One of the things that one noticed was that the roadways were covered with a film of oil, and that London mud saturated one's boots with oil, and no longer brushed off one's clothes. The consequence was that the matter was being very seriously taken in hand by the authorities, and motor-omnibus companies and motor-omnibus drivers would be sure to be put to every kind of inconvenience so long as this habit continued. This was, so far as he knew, the first summons against a motor-omnibus driver for oil filth, and there would be quite a nominal penalty—5s. and costs.

COMMERCIAL VEHICLES AT READING.

THE meeting of commercial vehicles at Reading on Monday was a great success. Many of the vehicles arrived in Reading on Sunday evening, and their drivers availed themselves of the offer of Mr. W. Vincent, of Castle Street, to provide free garage for all who took part in the meet at his new and commodious premises. The vehicles were marshalled in procession order on Monday by Mr. Leo Harris, the hon. secretary of the meet, who had the assistance of mounted policemen and a number of constables in preventing the crowd from interfering with the arrangements.

The following vehicles took part in the run around the town:—35-45-h.p. Maudslayi 'bus, 33-40-h.p. Darracq-Serpellet 'bus, 30-h.p. Wolseley-Siddeley 23-seated char-a-banc, 24-h.p. Durham-Churchill 26-seated char-a-banc, 40-h.p. Fiat 'bus, 20-h.p. Straker-Squire 'bus, 40-h.p. Dennis 4-ton lorry, 9-h.p. De Dion-Bouton single-cylinder 15-cwt. van, 12-14-h.p. West-Aster 15-cwt. van, 16-h.p. Lacre 24-cwt. van, 12-15-h.p. Arrol-Johnson 2-ton lorry, 8-h.p. Sturmei "Parsons" 8-cwt. van, 36-h.p. Commercial Car, 3½-ton van, 12-15-h.p. Arrol-Johnston 1-ton van, 40-h.p. Ryknield 5-ton lorry, 20-h.p. Halley 30-cwt. van, 20-h.p. Dennis 2½-ton van, 14-h.p. Gloverley 1-ton box van, 10-h.p. Adams 15-cwt. van, 40-h.p. Fiat 5-ton lorry, 30-40-h.p. Darracq-Serpellet 4-ton lorry, 20-25-h.p. Simms-Welbeck 2-ton van chassis, 20-h.p. Thornycroft 2-ton wagon, Reading Corporation's 5-ton Foden wagon, Mr. Ilted Witherington's 5-ton Foden wagon, and Mr. W. Soundy's 5-ton Yorkshire wagon.

THE LIABILITY OF THE EMPLOYER.

JUDGE WOODFALL has had to decide at Westminster County Court a point of law interesting to motorists. A medical man hired a chauffeur from the proprietor of a garage for two days while his own man was ill, and paid the proprietor 10s. for two days' wages for the man. An accident occurred while the chauffeur was driving, and the point was whether he was the doctor's servant or the servant of the owner of the garage. His Honour found that the chauffeur was for the two days the coachman of the doctor, who was therefore liable for any damage arising out of the accident.

CLAIMS AGAINST MOTORISTS.

A SOMERSET farm hand, named Ernest Dark, has been awarded £300 damages, at the assizes at Wells, against Walter Sarel, an architect, of Frimley Green, Surrey, for injuries received in a motor-car accident. It appeared that Dark, who was leading two farm horses, was struck by Mr. Sarel's car. He was fearfully injured, and for the past two years has been lying in Sherborne Hospital. The principal evidence was given by a farmer, who witnessed the accident, and who said the car was travelling at the pace of an express train.

MISS CONNIE EDISS, the well-known Gaiety actress, last week appeared in court as the defendant in a claim for damages for personal injury brought by Moses Lee, of Lewisham, who had been knocked down by the defendant's motor-car, in which she was travelling and which was being driven by her cousin. The defendant denied negligence and pleaded that the plaintiff was guilty of contributory negligence. In the end the jury awarded the plaintiff £135 damages.

PUBLIC MOTOR SERVICES.

A LETTER has been addressed by Scotland Yard to the various motor-omnibus companies stating that complaints are still being made, especially by the borough councils, of the nuisance caused by oil and grease being dropped by motor-omnibuses. The companies are warned that the regulation on this subject will be strictly enforced, and any vehicle found to be defective in this respect will be considered to be unfit for public use and dealt with accordingly.

THE Northern Garages, Ltd., have a motor wagonette now in service for pleasure parties in the Oldham district.

IN connection with the Royal Cornwall Show at Liskeard the Great Western Railway Company have been running a motor-service from Callington to Liskeard every day.



The 50-60-h.p. Metallurgique Car which competed in the Kaiser's Prize Race. The vehicle was ninth in the general classification in the Eliminating Contests, but met with an accident in the first round of the actual event.

THE Brighton, Hove, and Preston United Omnibus Company have applied for twenty-four motor-bus licences. The Watch Committee of Hove have recommended the council to grant these licences, and also six licences for motor-omnibuses between Hove and Worthing, to the Sussex Motor Road Car Company, Limited, on condition that these same omnibuses obtain licences in the adjoining borough of Brighton, and for the same period.

AT their meeting on Wednesday, the Llandudno council were asked to decide upon a toll of 4s. per trip for the motor char-a-bancs which made excursions round the Great Orme's Head marine drive. These excursions are well patronised, as are also the fifty-mile tours in connection with which well-appointed four-in-hand stage coaches are called into requisition.

AUTOMOBILE ACCIDENTS.

AT London Colney, near St. Albans, on Friday of last week, Colonel E. H. Carlile, M.P. for Mid Herts, was driving in his motor-car with two friends from Canterbury, Mr. and Mrs. Barrett, when, near a turning by the river Colne, their car came into violent collision with another coming in the opposite direction. So great was the force of the impact that all the occupants of the cars were more or less injured, and the cars were completely wrecked.

WHILST a party of motorists were going from London to Brighton, on Saturday afternoon, the car collided with a laundry van. The horse was knocked down, the cart damaged, and the motor, which was driven by Mr. S. G. Brown, of Great Winchester Street, London, then ran into the corner of the Royal George Hotel. The travellers suffered from shock, but were not seriously hurt. They were afterwards driven to the railway station in a cab.

FORTHCOMING EVENTS.

JUNE.

- 21st (F.).—New Forest A.C. gymkhana at Southampton.
 22nd (S.).—Yorkshire A.C.'s meet at Saltburn.
 Southern Motor Club's open hill climb on Captain Kydd's Hill, East Grinstead.
 Kettleby hill climb of the Derby, Leicestershire, and Notts A.C.
 West Surrey A.C. run to Begnor.
 Sussex A.C. visit to Netley Abbey.
 Sharpshoe Hill climb of the N.W. London M.C.C.
 N.E. Lancashire A.C. speed judging competition.
 Open 200 miles non-stop run of the Essex M.C.
 Kensington A.C. run to Southampton.
 Meet of the Cheshire A.C. at Llynhelig, Lloc, near Holywell.
 23rd (Sun.).—West Essex A.C. and Essex M.C. run to Malden.
 24th (M.).—North Wales A.C. hill climb.
 25th (T.).—Closing of entries for first meet on the Brooklands Motor Track.
 L.G.B. Inquiry at Ilford into application for a 10-mile speed limit.
 Scottish A.C. Reliability Trial starts for Glasgow from Perth, 159½ miles.
 26th (W.).—S.A.C. Perth—Aberdeen, 158½ miles.
 Hastings Automobile Meeting. Appearance Competition and Gymkhana, organised by the Automobile Association and the Motor Club.
 27th (Th.).—S.A.C. Aberdeen—Inverness, 160½ miles.
 Newcastle Motor Club's run to Edinburgh and back.
 28th (F.).—S.A.C. Inverness—Pitlochry, 154½ miles.
 29th (S.).—S.A.C. Pitlochry—Glasgow, 122½ miles.
 Aero Club race for the Hedges Butler challenge cup.
 Birdlip hill climb of the Bristol and Gloucestershire A.C.
 Joint meet of the Liverpool, Manchester, N.E. Lancs., Sheffield and Yorkshire Clubs at Buxton.
 Motor Cycling Club 100 miles Private Owners' Reliability Trial.
 Motor Yacht Club races.
 Southern M.C.'s midnight run to Southsea.
 Bradford A.C. hill climb.

JULY.

- 2ND.—A.C.F. Grand Prix Race on the Seine Inferieure Circuit, near Dieppe.
 4TH.—International cross Channel race for motor-boats from Dover.
 6TH.—Inaugural races on the Brooklands Track.
 10TH.—R.A.C. South Harting hill climb.
 13TH.—Entries for R.A.C. commercial vehicle trials close at ordinary fees.
 Meet of the Cheshire A.C. at Plas Newydd, Llangollen.
 Sheffield A.C. outing for crippled children.
 15TH TO 18TH.—The annual automobile meeting at Ostend.
 20TH.—Motor Union meet at Southport.
 27TH.—Commercial vehicle meet at Maidstone.

AUGUST.

- 20TH.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

- 9TH.—Industrial Vehicle Trials commence.

OCTOBER.

- 19TH.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

- Cordingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

The lighting up time for London during the whole of next week will be 9.19 p.m.; at Glasgow 10 p.m.

THE Hillman-Coatalen Motor Company, Ltd., is erecting a large new factory in Folly Lane, Coventry.

MESSRS. LOWE AND WOOD, Broad Street, Birmingham, have received an order for a Spyker landaulet from Mrs. Isabel Jay.

MORS (England) Ltd., 45, Great Marlborough Street, London, W., are now receiving deliveries of the Mors 18-20-h.p. car introduced at the last Paris Salon. Apart from the graceful design of the chassis and the fact that this is the first live axle model turned out by the Mors Company, a noteworthy feature is the extreme quietness of operation. The vehicle is specially built for covered-in carriage work, where silence is necessary, and is particularly suitable for use in town by reason of the fact that it has a very sharp lock on the front wheels, which enables the chassis to be turned in a narrow roadway. Other points of interest include gate change speed-gear, direct drive on top, and the new contracting metal-to-metal clutch.

POLICE TRAPS.

BETWEEN Birkenhead and Chester the police have lately shown considerable activity with timing arrangements and telephonic communications.

AT the village of Horley, which is about ten miles from Newcastle-on-Tyne, a measured distance is used as a police trap by the local police.

A POLICE trap has been set in the outer circle of Regent's Park, in the neighbourhood of York Gate. This trap has been in operation at midnight, and a driver of a taxi-cab has been stopped for exceeding the 10 m.p.h. limit which is in force in the park. The trap is illuminated by means of lanterns.

A REGULAR police trap has been working during the last two Sundays in the village of Thatcham, on the main Bath road. Motor-cars coming from London are timed over a supposed quarter of a mile, and a summons follows charging them with exceeding the legal limit. The method employed is: A constable in plain clothes hides in an old schoolhouse, one window of which commands a good view of the approaching car; he opens the door and signals to two other men in hiding, at the other end of the street; these men hold the watch, and in turn signal to a man in uniform, who stops the car.

THE Burton Road trap, and those known as the Scotforth Road and the Galgate traps have lately been in frequent operation by the Lancaster police.

FOR the benefit of those motorists going down to Weybridge, Mr. Chas. Jarrott informs us that the lower road to Brooklands, through Hershaw, Waltham Common, and Weybridge, is simply swarming with police. The most straightforward method of getting to the track is to go down the main road through Cobham, and then take the second turning on the right after passing the top of Pain's Hill. Motorists using this road who are also members of the A.A. will obtain assistance from the A.A. scouts patrolling the road.

BUSINESS NEWS.

MR. JOHN HARGREAVES, of Templecombe, Somerset, has purchased the six-cylinder Napier which recently beat the previous records from London to Monte Carlo.

THE Municipal Council of Alexandria, Egypt, has just bought a Coventry-Humber car for the use of the President of the Municipality. Mr. F. H. Manley, the Humber agent in Alexandria, writes that the President is exceedingly pleased with the purchase.

THE annual outing of the employees at the Coventry works of Messrs. Humber, Ltd., is taking place this week end to Boulogne, with the option of staying in either London or Hastings. It is expected that about 1,500 will participate in this trip, accompanied by the manager, Mr. Walter Phillips, and several leading officials of the company.

MRS. LLEWELLIN, of Poole, who was recently killed in a motor accident, was insured with the Motor Union Insurance Company, Ltd. The car in which Mrs. Llewellyn was travelling skidded when turning a corner, with the result that it ran up a bank, and the occupants were thrown out. While lying half stunned on the ground a telephone post which the car had knocked over fell upon Mrs. Llewellyn, who died from injuries received. The Motor Union Insurance Company promptly sent a cheque for £1,000 to the deceased's next of kin, although she was not travelling in her own car at the time. It is, however, one of the features of this insurance policy, that members should be protected against personal accident when travelling in any car.

MR. C. STERN has written to the Mors Company stating that he has just returned from Monte Carlo with a 24-h.p. Mors landaulet-limousine, which he has been driving for the last three years, and on which he has now done over 65,000 miles. He has been three times from London to the South of France and back, as well as to Italy, Switzerland, all over France and England, without having the slightest mechanical trouble whatever.

MR. W. H. DOREY, of 14, Rue Torricelli, Paris, has introduced a new electric motor horn, which works in conjunction with an ordinary 4 volt accumulator and is operated by a small push button on the steering wheel.

THE new factory of the New Speedwell Motor Co., Ltd., at Hornsallow is rapidly approaching completion.

MR. J. W. H. DEW informs us that although he has resigned the works management of the New Speedwell Motor Company, Ltd., he will still continue to act as designer and consulting engineer to the company.

IN view of the growing demand from India, the Colonies, and abroad, Messrs. S. F. Edge, Limited, have just issued a special colonial catalogue giving particulars of the successes of the Napier six-cylinder cars and of all points, such as lists of accessories and tools, with prices, shipping measurements and weights, the prices of carriage bodies, cost of packing, a complete cable code, and other matters necessary for those living abroad.

IN the two important motor-racing events which have just been concluded in Germany, viz., the Herkomer Competition and Kaiser's Cup Race, Continental tyres have considerably added to their laurels. In the former the trophy was won for the third time in succession on Continentals, and the first seven cars were also fitted with similar tyres. In the Kaiser's Cup Race, two out of the three cups which were presented by the German Emperor were secured by cars fitted with Continental non-skids.

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COMMENTS.

The Motor Union.

AT the June meeting of the General Committee of the Motor Union, held at 119, Piccadilly, W., there was a large attendance of motorists, representing automobile clubs from all parts of the country, and also the Royal Automobile Club. Mr. C. D. Rose, M.P., Chairman of the Union, presided. It was decided to present Motor Union medals to the following clubs in connection with competitions to be held this year:—Kent A.C., Sussex County A.C., Ipswich and East Suffolk A.C., Naval Motor Club, Nottinghamshire A.C., Bristol and Gloucestershire A.C., and West Surrey A.C. The Essex County A.C. having called the attention of the Union to the great danger existing to traffic, particularly on the roads between London and Chelmsford, and between London and Bishops Stortford, caused by drivers of hay carts being asleep while in charge, and the inadequate means taken to stop such danger by the police, it was agreed to communicate with the Chief Constable of Essex. The successful competitors in the recent competition for the best essay on "The Preparation for the Forthcoming Parliamentary Struggle" were announced, the winner of the first prize being Mr. David M. Menzies, M.A. No less than seventy-two applications for advice and assistance in connection with the use and ownership of motor-cars were considered, and in three cases financial grants were made. Several successful prosecutions for obstruction and stone throwing on the highways were reported. The Union decided to compile a draft set of rules of the road, for the guidance of motorists and other road users, which will be done in consultation with the chief constables and authorities. It was reported that applications had been received for over 1,400 car badges, and that twenty-four road signs to indicate special traffic had been ordered from the Union.

Trials.

Now that the Scottish Reliability Trials are nearing a conclusion, the trade generally will welcome a rest until next season, when, it is highly probable, the R.A.C. may be again in the lists. While there may be some natural desire that the great trial of the year should take place in England, it must be confessed that it would be difficult to find such a suitable course as seems natural to the Scottish Club. They have, certainly, a great advantage in that respect, although there is a fairly general feeling that if London could be included in the itinerary greater publicity of a general kind would be gained. But the interest of the event would be decreased considerably, for we can scarcely imagine a route which included the Metropolis presenting such a test as that which comprised the Capital of the Highlands and the wondrous passes and mountain roads over which the cars have travelled during the last few days.

Removal of Endorsement.

IN our last issue we were able to announce the decision of the Court of Appeal, given at the moment of going to press, in the case of the driver of a motor-car convicted for exceeding the ten-mile limit in a Royal park, who had his licence endorsed by the magistrate. Elsewhere in the present issue we report the judgment at greater length, and are pleased

to be able to announce that now that these endorsements have been pronounced illegal, the Motor Union are considering the steps to be taken to secure their removal from the licences of those motorists who have been convicted for exceeding the speed limit in the parks, and whose documents have been endorsed contrary to the intention of the Legislature.

Motor-cars in the Parks.

IN a case against the Hon. C. S. Rolls, heard by Mr. Marsham at Bow Street Police Court on Monday, for an alleged offence of exceeding ten miles an hour in St. James's Park, Mr. Staplee Firth mentioned the recent decision of the Lord Chief Justice, Mr. Justice Darling, and Mr. Justice Lawrence, in which they were unanimous in quashing the endorsement on a motorist's licence, and he pointed out that this case decided that as the ten mile limit is brought under the Parks Regulation Act, and there is no provision under that Act to endorse the licences, any offence created by Regulations since 1st January, 1904, under the Parks Act is not an offence in connection with the driving of a motor-car within the meaning of Section 4 of the Motor Car Act, and licences cannot be endorsed. Mr. Firth informed Mr. Marsham that in consequence of the above decision the Motor Union had elected its chairman, Mr. C. D. Rose, M.P., the Hon. A. Stanley, M.P., and himself as a committee, to take such steps as might be necessary to remove all the endorsements of motorists' licences for exceeding the speed limit in the Parks. Mr. Marsham at once stated that he would cause the endorsements to be removed from the licences in all cases which he himself had dealt with, and that he would also do anything he could to assist in having the endorsements removed in other cases. Mr. Firth, having suitably thanked his Worship in the matter, stated that he would endeavour to make his Worship's decision known to all motorists who had been convicted, and whose licences had been endorsed, so that they could present the same at Bow Street Police Court to have the endorsements removed.

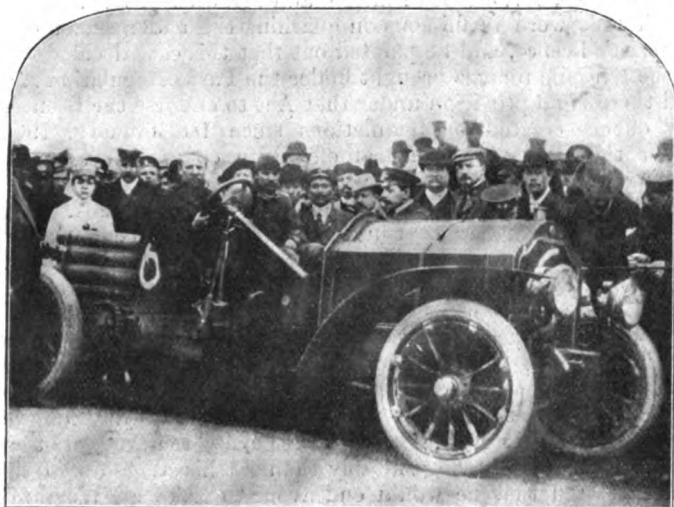
Speed Restriction at Ilford.

A LOCAL Government Board inquiry of considerable importance to suburban London with regard to the speed limit of motor-cars was held at Ilford on Tuesday. Acting upon a resolution of the Ilford Urban District Council, the Essex County Council made application to the L.G.B. to apply the speed limit of ten miles per hour to the County Council main roads in the district of Ilford, which comprise about three and a quarter miles of the well-known Romford road, the main road from London to the Eastern Counties. Several county councillors, urban councillors, and council officials gave evidence of the congested state of the roads in question, the danger to pedestrians, and the reasonableness of the application. The proposed restriction was opposed by the Royal Automobile Club, the Motor Union, the Essex County Automobile Club, the West Essex Automobile Club, the Essex Motor Club, and others. Their contention was that the restricted speed limit was unnecessary and undesirable—unnecessary because the local authority had failed to take advantage of the powers they now had, to prosecute persons driving at a speed exceeding twenty miles an hour or to the danger of the public; and undesirable because so far no accident had yet occurred on the roads proposed to be

scheduled, and because vindictive prosecution might be set up by individuals interested.

The Commercial Vehicle Trials.

PROBABLY the gentlemen responsible for the recent meet of commercial vehicles at Reading, and who contemplated holding a second gathering of the kind at Maidstone, are well advised in postponing further re-unions of the kind until after the trials of the R.A.C. have been held. These have been long in preparation, and now that there seems a likelihood of their actually being held interest is rising perceptibly. Already fourteen entries have been received—four from the Wolseley Co., two from Halley's Industrial Motors, Ltd., one from Messrs. Savage Bros., another from Messrs. J. and E. Hall, and half-a-dozen from Messrs. Milnes-Daimler, Ltd. Other makers will also be represented, and from the information we were able to publish last week it will be seen that the Trials will be of a thoroughly practical character, and of such a nature as to give general confidence in the vehicles that successfully go through the ordeal. No entry will be accepted after August 10th, and on July 13th the fee for each vehicle entered will be increased.



Duray at the wheel of his 60-h.p. De Dietrich Car on arrival at St. Petersburg after winning the Moscow-St. Petersburg Race.

Club Events.

THIS is the season of open-air club delights, when county and local automobile associations seek to increase their membership by bringing together members and friends on terms of social intercourse. Many of the clubs, like the Hereford, Essex, Southern, Yorkshire, Nottingham, and another half-dozen, wisely make some serious competition an incident in the club year—a course for which much may be said. Here again there is likely to crop up the vexed question of trade influence in club life, and care must be taken lest the social aspect is weakened by undue prominence being given to the commercial side of such organisations.

Local Taxation.

THE deputation from the L.C.C. which waited upon the Chancellor of the Exchequer the other day with reference to the Finance Bill now before Parliament had a word to say with regard to motor-buses, Mr. Ernest Gray assuming a very sombre tone in asserting—without too close a regard to the fact—that “motor-buses are now almost monopolising the streets of London.” Against this, however, Mr. Asquith pointed out

that a very large proportion of the owners of motor-cars take out their licences in London and then use the roads of other counties. This is what actually happens to a very great extent, and upon such a basis the present agitation for national roads is laid. The Chancellor's reference was valuable as indicating that the Government is not overlooking this aspect of affairs, which may assist them in meeting reasonable desires of motorists in the matter.

Courtesy to Visitors.

THERE are times when even official severity may be lessened in favour of courtesy to strangers, and the question has just come to light in connection with a gentleman who lives at Nice, and who some months ago came to England for a few weeks' holiday, bringing his motor-car with him. He arrived here, and within a short time found he had come within the provisions of the carriage licence duty, the Board of Inland Revenue requesting him to pay licence for car, chauffeur, &c. No such imposition is inflicted on English visitors who go to France, where the authorities recognise that the motorist is a person who generally manages to financially benefit the district in which he stays. Hence the welcome which is accorded on the Continent to motorists, who are allowed to use their vehicles without having to pay such carriage licences as were intended for permanent residents in the United Kingdom. In the individual case the point may seem a small matter, but surely it is one which the Inland Revenue authorities might regard with sympathy, not only because of the value to English trade in attracting motorists from other countries, but also as an assurance that the *entente cordiale*, of which we have heard so much of late, is something more than a mere sentimental expression.

Brooklands.

MANY good folks are anticipating the opening of the Brooklands Automobile Racing as producing a new and delightful sensation. Their hopes must not run too fast, for disappointment may be their lot. As an occasional way of spending an hour or two some of the public may go to Brooklands, but whether there is sufficient interest in the sport to maintain a constant stream of patrons is a matter that no man can foresee. We wish well to the promoters in their really great enterprise; but, in view of the way men slept near the Grand Stand towards the close of the one Gordon Bennett race in the United Kingdom, and how few go over to the Isle of Man for the motor races, there may be reasonable ground for the lack of optimism in some quarters. Hence the anxiety with which July 6th is being regarded in certain quarters of the automobile world.

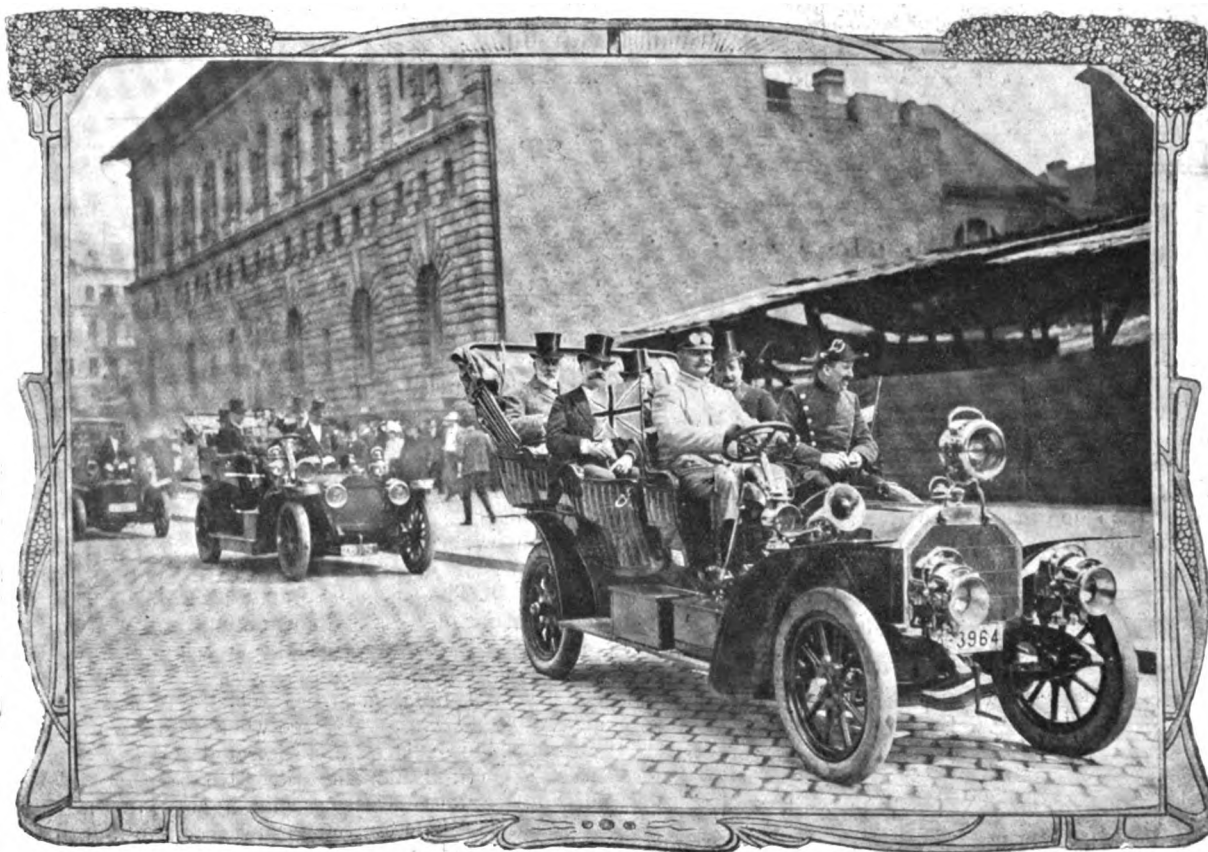
Water for Washing Cars.

FOLLOWING its success in the endorsement of licences for conviction in the Royal parks case, the Motor Union has also won a case of considerable general importance. Dr. Mackay, of Harrogate, had been in the habit of using water for washing his motor-car, and, in common with every other motorist, saw nothing beyond the ordinary in the procedure. But this did not meet with the approval of the Corporation of the town, who summoned him before the Knaresborough magistrates for water rent, contending that the water used in washing his motor-car was not being employed for a domestic purpose. The magistrates convicted, whereupon the Motor Union took the matter to a higher tribunal, and the case was before the Appeal Court last week. The Lord Chief Justice held, and Justices Darling and Lawrance concurred, that the supply of water for washing the car did not come within the definition of a supply for business purposes referred to in Section 12 of the Waterworks Clauses Act, 1863, and the Court dismissed the appeal. The value of such a decision to private motorists is at once apparent.

The Flying Machine.

ALREADY flying machines, dirigible balloons, and aeroplanes have a history. As to the future, no man can as yet more than prophesy. Messrs. A. W. Marshall and H. Greenly have set forth to record the one and anticipate the other in their little volume on flying machines just published by Messrs. Percival, Marshall and Co. The public interest in the Aero Club section of the recent Exhibition at the Agricultural Hall was sufficient proof of the fascination that this proposed method of locomotion has obtained over the minds of the people; it must be confessed, however, that even with their score of illustrations the authors have not wholly convinced us as to the lines along which success is likely to be achieved. Much useful work has been done, but the media in which experiments must take place are of so varied and unstable a character that no set plans can yet be determined. However, it is well that the efforts of

at Liverpool they were able to receive their automobile a few hours later without "even a small scratch." Then the tour commenced, the car being headed straight for Stratford-on-Avon, where Miss Marie Corelli's houseboat shared favours with Shakespeare's birthplace. In view of the sad accident to American tourists recently, the warning which Messrs. A. L. Bennett and B. F. Sherman—the motor voyageurs from whose log we are quoting—comes as a coincidence, for they discovered that from Stratford-on-Avon "the roads are a delight to the motorist as regards condition, but they have many bad turns and hills, and fast driving is almost impossible, and dangerous always." As regards general conclusions, the travellers found England and Switzerland the most interesting from a motoring point of view; the long stretches of road in France and Germany finally became monotonous, while the flat paved roads of Holland destroyed its pleasures for our American cousins.



Sir William Treloar, the Lord Mayor of London, and Party motoring through the streets of Berlin.

each succeeding generation should be briefly chronicled, and the principles set forth for the guidance of future experimenters. Many were agreed that the recent Exhibition was the beginning of a new movement in the direction of flying; and although the antics of some of the machines when attempted to be flown at the Alexandra Palace were somewhat incongruous, we are not unhopful that in the process of time the hopes of Santos Dumont and other pioneers may be realised.

An American Impression.

A COUPLE of American motorists recently made a rapid motor tour across Europe, travelling 4,000 miles in a month. Some of their impressions are entitled to further publicity. They advise their fellow-motorists from the States to sail from Boston in preference to New York, the reason being that at the former port it is not necessary to crate the cars; time and money can be saved by shipping them uncrated, a condition not allowable from New York. When they arrived

Roads for Ireland.

UNDER the title of "A Real Need of Ireland," Mr. J. Harris Stone, writing from the Oxford and Cambridge Club, urges the point, so frequently made in these columns, that the development of the roads of Ireland is essentially necessary to the prosperity of the country. Unfortunately, the county and local authorities are not all convinced of what, to us, appears a truism. They would have had a great scheme of road transit in full operation by now had they realised the importance of the matter at the time of the Gordon Bennett race in Ireland. Mr. Stone mentions several highways that were begun after the Famine of 1847, and are still unfinished. Their completion would secure considerable advantages to tourists as well as to local residents—hence their national value. Connecting roads thus imperatively needed might be made in various parts of Connemara, from Reccess to Leenane, at Oughterard, and in Achill, to say nothing of other lesser-known places that might be easily and profitably developed in this way.

A PUNCTURED TYRE INDICATOR.

THE puncture fiend still continues to be one of the greatest drawbacks to motorists, most automobilists having, unfortunately, suffered at one time or another from punctured tyres. While a burst is usually accompanied by a loud noise, and so gives the motorist plenty of warning, the car can cover a considerable distance ere a small puncture makes itself felt, and in the meantime the outer cover may be seriously damaged and the inner tube ruined, owing to driving on a

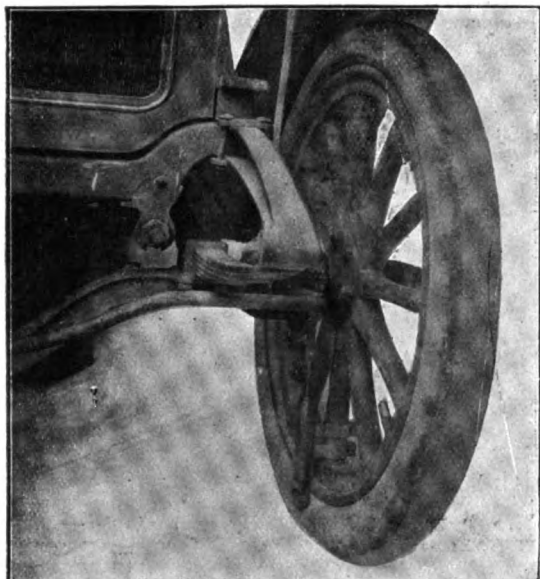


Fig. 1.—The Indicator as fitted to one of the Road Wheels.

deflated tyre. During the past week the Horley Motor and Engineering Company, of Horley, have brought to our notice an ingenious arrangement they have devised to obviate this, and, at the same time, to render it unnecessary for the driver to anxiously peer over the side of the car to ascertain the condition of his tyres after passing over a bad piece of road. The Horley

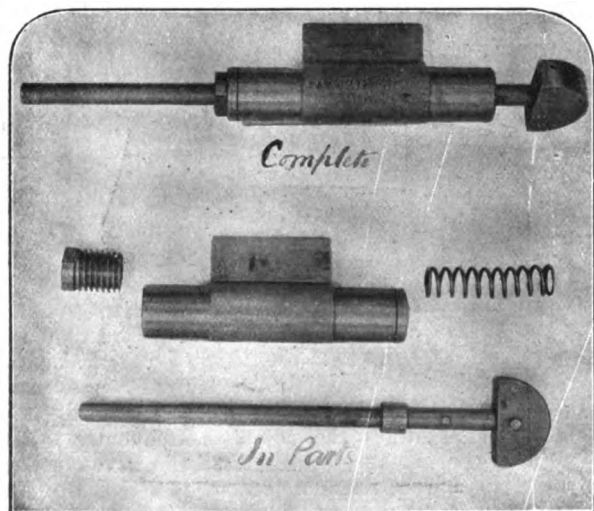


Fig. 2.—Details of the Indicator.

device is designed to give audible warning of a deflated tyre, by causing the latter to ring a little electric bell on the dashboard; as will be seen from the accompanying illustrations, secured to the spoke of the road wheel is a small apparatus, consisting of a small gun-metal cylinder, within which is a plunger, and a spiral spring to maintain the plunger in its outward position. The plunger is carried on a rod passing entirely through the cylinder, and at the end which extends

outwardly towards the periphery of the wheel has a rounded head. The other end of the rod, extending, as already explained, through the cylinder, is provided with a bright rubbing surface to provide electrical contact with a fixed piece carried on the axle. This fixed contact is connected up with an electric circuit, in which is an audible signal, viz., a bell, fixed to the dashboard of the vehicle, and a dry battery which furnishes the current. The fixed contact has a curved surface, so that the rotating contact engages and disengages smoothly as the wheel revolves. In operation the apparatus is fixed to the wheel by appropriate clips. The head of the plunger rod extends as far over the surface of the rim as desired, and when a tyre from any cause becomes deflated the head strikes the ground, pushing the plunger inwards and causing it to strike the fixed contact at every revolution, thereby completing the circuit and ringing the bell. By having one of the devices fitted to each road wheel a check can be kept on all the tyres; the contacts for each are all so connected up that when the circuit is completed by any one of the "tell tales" the bell is rung at every revolution. We understand that a syndicate is being formed to put the new device on the market, and as this is to be done at a moderate price the idea is one which may commend itself to a large number of motorists.

STEERING GEAR ADJUSTMENTS.

WITH the summer touring season now in full force, there will doubtless be a recurrence of the string of mishaps, many of them fatalities, that are made so much of by the daily Press and in the accounts of which "deranged steering gear" figures so prominently. Of course, all motor accidents of the class in question are not traceable to the steering gear by any means, any more than so many fires of unknown origin are caused by "defective insulation" of the electric-light wiring. Many a fire which the ubiquitous scribe has put down to this cause has been found to have taken place in buildings totally innocent of electric wiring of any kind; in the same way more than one fatal collision between a motor-car and a telegraph pole which has been attributed to a deranged steering gear, has, in some marvellous and unfathomable manner, left that same steering gear in perfect working order after the shock of the accident. The moral is, remarks an American writer, plain; however, for of all the highly important parts of the car, it is probably safe to say that the steering gear comes in for less attention in the way of inspection than any other which has equally vital functions to perform. It is subjected to severe shocks at all times and the wear on its working parts is considerable, but it is seldom dissected for inspection except when necessity actually demands it. No car should be put in commission for another season's running without having this properly attended to. The entire steering gear and its connections should be dismantled, thoroughly cleaned, and any parts that show undue wear replaced. It should then be well oiled, the joints packed with fresh grease and covered with pliable leather, all adjustments properly made, and carefully reassembled. Advantage should also be taken of the opportunity to test the front wheels to see that they track properly; this is not exactly a dangerous fault, but it is very hard on the tyres and renders steering more difficult and may lead to injury.

MESSRS. THOMSON-BENNETT, LTD., of the Arden Works, Birmingham, have sent us particulars of some of their new ignition specialties. These include the "Internal Wheel" contact breaker, in which the contact is made by means of a roller carried at one end of a special arm. The advantage claimed for the arrangement is that, however worn the insulating ring may become, uneven running and consequent misfiring is prevented. Other specialties of the firm include the Thomson-Bennett switches, which are provided with specially strong handles, and which have no loose parts likely to become detached and so cause trouble.

The Scottish Reliability Trials.



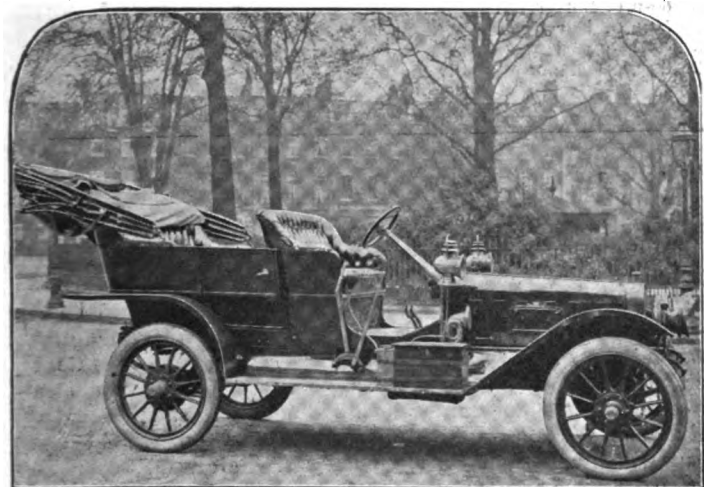
The Scottish Trials.—The Cars waiting to be Weighed-in.

GLASGOW, Monday.

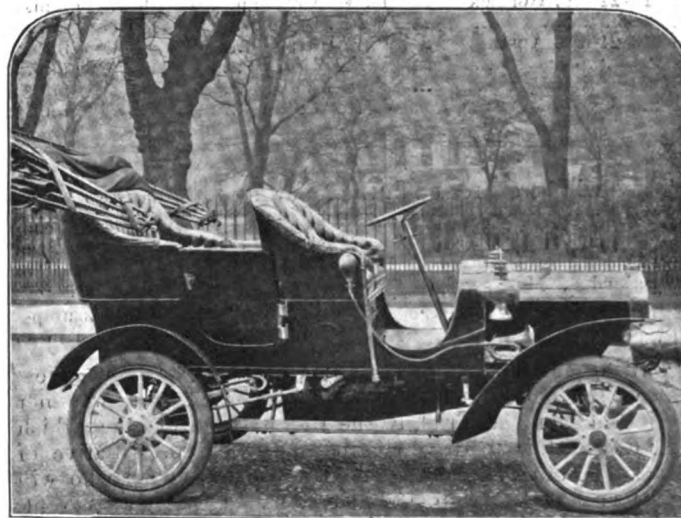
THERE is a rush for *parapluies*, sou'westers and everything calculated to stave off rheumatics, pneumonia, and other associations which some pessimists are already connecting with the annual motor run round Scotland organised by the Scottish Automobile Club. Not only is the rain steadily pitiless in this damp city of St. Mungo, but news from the northerly limits of the tour is equally depressing. A wet time is generally expected in the Highlands, and those cars fitted with hoods and canopies are the envy of passengers assigned to fair weather vehicles.

Fortunately the event is not a race—in the Continental or Tourist Trophy idea of the term. It is a trial of reliability, and, as is shown by the *M.C.J.* route card issued to visitors in Scotland this week, the speed is regulated by a system of controls. A maximum number of marks will be assigned for the run, and deductions will be made for every minute the vehicles

ferred, this year, to the other side of Glasgow, and all this morning vehicles were being weighed at the Public Weigh Box in Pollokshaws Road, whence they were driven to the Corporation Tramways Depot, or to the garages of the Kennedy Motor Company, Ltd., at Eglinton Toll. Here they are being supplied with petrol under official supervision, the supply being measured, so that the fuel consumption during the trial may be entered on the certificate. Examination of the vehicles is also proceeding, to see whether the entries in Classes 3, 4, 5, 6, and 7 are fitted with standard side-entrance bodies, the minimum dimension from the front of the dashboard to the front of the rear wheel tyres being required to be 4 ft. 6 in. The fuel tanks must be of a capacity for the maximum single day's journey, fitted on the bottom with a draw-off tap to facilitate speedy emptying for the purpose of determining fuel consumption.



The Ford 40-h.p. Six-Cylinder Car which is taking part in the Scottish Trials.



The 18-h.p. Buick Car which is taking part in the Scottish Trials.

are stopped during the tour—tyre troubles excepted. Stoppages aggregating one hour on account of tyre repairs will not be deducted from the marking; but all beyond that period will count against the car in its place for reliability or medal awards.

The headquarters of the trial committee have been trans-

Awards will be made on the following basis:—

	Marks.
Reliability	750
Starting	50
Hill climbs	100
Fuel consumption	100

FULL LIST OF STARTERS.

Official No.	Car.	Driver.	No. of Cylinders.	Bore and Stroke.					
CLASS 1.					CLASS 5.				
28	10-h.p. Adams ...	R. R. Smith ...	1	4½ × 6 in.	2	30-40-h.p. Chenard-Walcker ...	B. Taylor ...	4	120 × 130 mm.
39	9-10-h.p. Cadillac ...	F. S. Bennett ...	1	5 × 5 in.	13	30-h.p. Siddeley ...	H. Prosser ...	4	4½ × 5 in.
47	8-h.p. Jackson ...	R. R. Jackson ...	1	100 × 120 mm.	16	24-30-h.p. St. Vincent ...	W. McLean ...	4	105 × 140 mm.
52	6-h.p. Rover ...	R. Wilkinson ...	1	97 × 110 mm.	34	22-h.p. Berliet ...	E. Leather ...	4	100 × 120 mm.
60	10-12-h.p. Swift ...	J. Low ...	2	102 × 110 mm.	37	24-h.p. De Dion ...	J. W. Stocks ...	4	104 × 130 mm.
71	8-10-h.p. Darracq ...	G. Hamilton ...	2	90 × 120 mm.	40	28-30-h.p. Ariel Simplex ...	T. Cordery ...	4	4½ × 5½ in.
92	15-h.p. Ford ...	H. A. Bate ...	4	3½ × 3½ in.	50	25-30-h.p. Austin ...	J. Hadley ...	4	4½ × 5 in.
96	10-h.p. Chambers ...	J. Chambers ...	2	3½ × 4½ in.	55	25-h.p. Straker-Squire ...	W. T. Lord ...	4	110 × 130 mm.
99	8-h.p. Rover ...	T. W. Murphy ...	1	114 × 130 mm.	56	28-h.p. Armstrong-Whitworth ...	G. H. T. Slaney ...	4	5 × 4 in.
105	8-9-h.p. Laurin-Klement ...	W. E. Burkin ...	2	90 × 110 mm.	63	25-h.p. Iris ...	H. Clifford Earp ...	4	4½ × 5½ in.
CLASS 2.					65	24-32-h.p. Vinot ...	C. Harman ...	4	105 × 140 mm.
3	18-h.p. Reo ...	H. Gordon Sharp ...	2	4½ × 6 in.	70	20-30-h.p. Pilgrim ...	F. L. Martineau ...	4	4½ × 5 in.
15	14-h.p. St. Vincent ...	J. McLean ...	4	88 × 130 mm.	73	20-28-h.p. Darracq ...	S. Girling ...	4	112 × 120 mm.
24	12-14-h.p. Argyll ...	J. Downie ...	4	84 × 110 mm.	77	14-h.p. Thornycroft ...	T. Thornycroft ...	4	3½ × 3½ in.
36	8-h.p. De Dion ...	W. V. Jolley ...	1	100 × 120 mm.	79	18-28-h.p. Clement ...	A. Mosser ...	4	95 × 130 mm.
46	18-h.p. Buick ...	G. Huszar ...	2	4½ × 5 in.	80	18-28-h.p. Gladiator ...	M. Ross-Browne ...	4	95 × 130 mm.
54	16-h.p. Bell ...	P. Bell ...	4	3½ × 4½ in.	91	20-h.p. Climax ...	T. Watson ...	6	80 × 90 mm.
62	15-20-h.p. Calthorpe ...	G. Hands ...	4	93 × 104 mm.	93	40-h.p. Ford ...	E. A. Anthony ...	6	4½ × 4½ in.
72	10-12-h.p. Darracq ...	A. Brown ...	2	100 × 120 mm.	98	30-40-h.p. Mass ...	A. F. King ...	4	135 × 140 mm.
76	15-20-h.p. Ailsa ...	H. Kennedy ...	4	3½ × 4½ in.	107	28-32-h.p. West-Aster ...	R. Collier ...	4	105 × 140 mm.
82	14-h.p. Vulcan ...	T. Rimmer ...	4	3½ × 4½ in.	CLASS 6.				
97	18-h.p. Mass ...	M. L. Livings ...	4	95 × 120 mm.	4	24-h.p. Albion ...	G. M. Young ...	4	4½ × 4½ in.
100	10-12-h.p. Leader ...	R. Goodenough ...	4	3½ × 3½ in.	8	24-30-h.p. New Arrol-Johnston ...	W. S. Macharg ...	4	4½ × 5 in.
CLASS 3.					10	38-45-h.p. New Arrol-Johnston ...	J. S. Napier ...	4	5½ × 6 in.
5	16-h.p. Albion ...	J. McIntosh ...	2	4½ × 5 in.	14	40-h.p. Berliet ...	W. Watson ...	4	120 × 140 mm.
5	12-15-h.p. Arrol Johnston ...	E. H. Rosenheim ...	2	4½ × 6½ in.	20	30-h.p. Daimler ...	Capt. F. V. Wentworth ...	4	130 × 150 mm.
18	14-16-h.p. Argyll ...	W. Scott ...	4	90 × 120 mm.	31	30-h.p. White ...	Frederic Coleman ...	2	3 × 6 in.
22	20-h.p. Belsize ...	Mrs. E. A. Riley ...	4	4 × 4½ in.	41	30-40-h.p. Ariel Simplex ...	P. Lewis ...	4	5½ × 5½ in.
26	15-h.p. Coventry Humber ...	W. G. Tuck ...	4	3½ × 4½ in.	45	30-h.p. Spyker ...	J. G. Raphael ...	4	130 × 130 mm.
38	12-16-h.p. Vauxhall ...	P. C. Kidner ...	4	3½ × 3½ in.	51	30-h.p. N.E.C. ...	J. C. Mort ...	4	4½ × 4½ in.
44	14-h.p. Germain ...	H. Ramoisy ...	4	92 × 110 mm.	59	40-h.p. Junior ...	Capt. W. E. D. Owen ...	4	130 × 150 mm.
48	18-22-h.p. C.C.C. ...	A. Armitage ...	4	95 × 120 mm.	64	35-h.p. Iris ...	A. Clifford Earp ...	4	5 × 5½ in.
53	20-h.p. Rover ...	W. H. Clarke ...	4	97 × 110 mm.	66	35-45-h.p. Maudslay ...	C. C. Maudslay ...	4	5 × 5 in.
61	15-18-h.p. Swift ...	R. H. Every ...	4	90 × 110 mm.	67	20-30-h.p. Maudslay ...	Buchanan Shiel ...	4	4½ × 4 in.
86	12-14-h.p. Unic ...	E. M. Stirling ...	4	75 × 110 mm.	75	40-h.p. Minerva ...	A. C. Muir ...	6	105 × 120 mm.
95	20-h.p. Bell ...	W. Wingfield ...	4	4 × 5 in.	78	30-h.p. Thornycroft ...	H. Niblett ...	4	4½ × 5 in.
101	20-24-h.p. Werbell ...	E. Bell ...	4	100 × 105 mm.	81	35-45-h.p. Gladiator ...	W. F. Peare ...	4	115 × 140 mm.
106	16-20-h.p. West Aster ...	P. R. Lamb ...	4	88 × 130 mm.	87	30-40-h.p. Brasier ...	S. Saunders ...	4	112 × 130 mm.
CLASS 4.					88	30-35 Simms-Welbeck ...	A. F. Kemp ...	6	105 × 125 mm.
1	16-20-h.p. Chenard-Walcker ...	J. A. Peacock ...	4	88 × 130 mm.	94	24-32-h.p. Porthos ...	Wilfrid Foulis ...	4	110 × 120 mm.
9	16-25-h.p. Arrol Johnston ...	E. J. C. Roberts ...	4	4.13 × 4.92 in.	CLASS 7.				
11	30-h.p. Beeston-Humber ...	J. Reid ...	4	120 × 140 mm.	12	40-50-h.p. Rolls-Royce ...	Claude Johnson ...	6	4½ × 4½ in.
17	16-20-h.p. Sunbeam ...	F. Eastmead ...	4	95 × 140 mm.	21	60-h.p. Belsize ...	R. Crossley ...	6	5½ × 5 in.
19	26-30-h.p. Argyll ...	J. Allen ...	4	105 × 140 mm.	27	45-h.p. Mercedes ...	T. C. Fletcher ...	4	120 × 150 mm.
23	18-h.p. Siddeley ...	C. W. Walker ...	4	4 × 4½ in.	29	35-45-h.p. Ariel Simplex ...	T. Shaw ...	4	5½ × 5½ in.
25	16-20-h.p. Argyll ...	C. J. Waldie ...	4	95 × 130 mm.	35	60-h.p. Berliet ...	A. J. Brookes ...	4	140 × 140 mm.
30	20-h.p. White ...	J. Pullar-Phibbs ...	2	3 × 5½ in.	74	50-h.p. Darracq ...	D. McNeill ...	6	112 × 120 mm.
32	18-24-h.p. Horbick ...	H. W. Cranham ...	6	80 × 90 mm.	83	40-45-h.p. Hotchkiss ...	Capt. Corbet ...	6	120 × 120 mm.
42	24-h.p. Mass ...	W. R. Ledgard ...	4	110 × 130 mm.	103	60-h.p. Thames ...	W. T. Clifford Earp ...	6	5 × 5 in.
49	18-24-h.p. Austin ...	P. E. Harry ...	4	4½ × 5 in.					
58	24-h.p. Junior ...	W. E. Hives ...	4	100 × 120 mm.					
102	20-24-h.p. Werbell ...	N. J. Ball ...	6	80 × 90 mm.					
104	26-30-h.p. Nordenfelt ...	J. H. Wilson ...	4	112 × 140 mm.					

These will be expressed in the following formula:—

$$\text{Marks gained for reliability.} + \text{Marks gained for starting.} + \frac{\text{Marks gained in hill-climbing tests.}}{\text{Number of hill-climbs.}} + \frac{\text{Lowest fuel consumption per ton} \times 100 \text{ miles in class.}}{\text{Fuel consumption per ton.mile.}}$$

Writing midday we learn that there will be only a few withdrawals. The twin-cylinder Adams in Class 2 was not ready in time for the Trial, so the 10-h.p. single-cylinder which Mr. R. K. Smith is to drive will be the sole representative of that make. Both Mr. Smith and Mr. F. S. Bennett, who will again steer the 9-10-h.p. Cadillac, were in last year's event. In 1906 Mr. R. L. Jefferson drove the Rover in Class I; this year the 6-h.p. and 8-h.p. Rovers will be driven by Mr. R. Wilkinson and a well-known Irish pressman respectively. Considerable interest attaches to the entry of the 15-h.p. Ford, which has been brought north in order to see whether the chassis constructed for a two-seated car, slightly altered, will go through such a severe test with four passengers. Mr. J. H. Chambers is here with a 10-h.p. car—the only Irish vehicle in

the Trial. Hitherto his firm have been content with an 8-h.p. as the maximum of power, but the new 10-h.p. two-cylinder car is of heavier build. It has single chain drive running in oil, and has a low petrol consumption. In this class, too, is the 10-12-h.p. Swift that did so well in the Irish Trial.

In addition to the Adams car the Maxwell is likely to be a non-starter in Class II. Only three of last year's drivers again appear in the class, viz., Mr. H. Gordon Sharp on the Reo, which made its debut in this country in last year's event, and only escaped a non-stop run by losing a minute in starting; Mr. T. Rimmer, who made an equally good run on the 14-h.p. Vulcan, which he is again driving, and Mr. J. McLean.

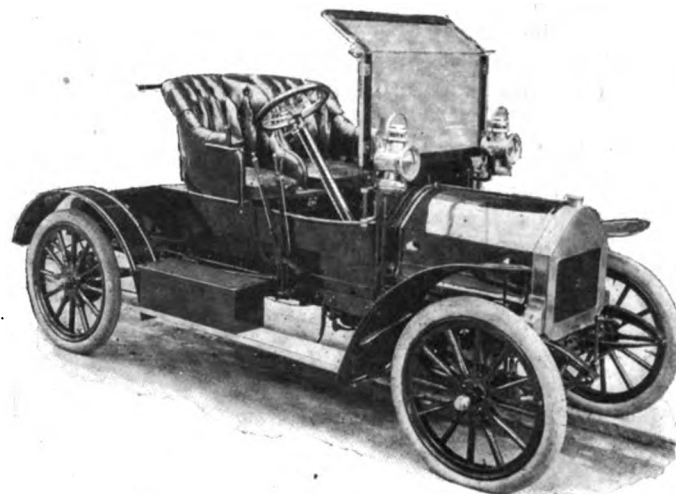
Classes 3, 4 and 5 will see several of last year's drivers again on their seats. The Arrol-Johnston team will be as before. Mr. H. Ramoisy, who has now taken part in five of this series of trials on a Germain, will again drive a 14-h.p. car; Mr. G. H. Slaney will drive the 28-h.p. Armstrong-Whitworth, the 40-h.p. car of that type being withdrawn. Two Mass cars are entered, one being driven by Mr. A. F. King as before; Capt. Wentworth (Daimler), Messrs. T. Shaw (Ariel-Simplex), B. Shiell (Maudslay), R. Crossley (Belsize), C. Johnson (Rolls-

Royce), J. Reid (Beeston-Humber), and M. Ross Browne (Gladiator), are others who have become familiar in these trials and who will start again in the morning. Three brothers Earp will handle the Iris (two), and Thames cars, and other interesting personalities will be noticed in the list of starters. Two steam cars are entered, both Whites, and one will be driven by Mr. Frederic Coleman, who recently familiarised himself with the course under the official observation of the R.A.C.

PERTH, Tuesday.

The cars left Glasgow in fine weather, being despatched with the punctuality characteristic of the Scottish Club. Seated on the Straker-Squire car driven by Mr. W. T. Lord, we were soon amid traffic and trams. The way was through Alexandria, where the Argyll Works are situated, and new rows of workmen's houses are an abiding memorial to the late Mr. Alec Govan. Ben Lomond stands sentinel beyond, and we drove for miles along the Loch, glistening in sunlight. The cars proceeded in orderly array, we being preceded by the Austin and followed by an Iris for miles. At the Glencoe hill-climb Major Lloyd marshalled the cars, Mr. F. Straight sending them away up the timed hill. The Straker-Squire car went splendidly, passing a Maudslay and a Thornycroft—both in trouble. An impetuous marshal waved the flag for us to stop and caused us to lose quite seven or eight seconds, all to no purpose. By Rest-and-be-Thankful Stone Mr. Eustace Watson and a crowd of motorists awaited the cars, which then sped on to Inveraray, the procession round Loch Fyne being without incident. At Dalmally Mr. Mitchell, with six-inch Palmer tyres on his Siddeley, and Mr. W. Vincent (of Messrs. A. W. Gamage, Ltd.) were seen, and there we lunched. The drivers of the smaller cars fed at Inveraray, so that news was scarce. Shortly after Dalmally a group of pressmen were seen standing disconsolately by a laggard car, and at Crianlarich the four occupants of a Chenard-Walcker were lifting a lamb from the centre to the side of the road. An earlier car had stunned the animal, and the quartette's explanation of finding it occasioned shouts of "Ba, Ba!"—the only humour of the trip thus far. At Kenmore, where *al fresco* tea was a welcome innovation, explanations were accepted that the lamb is probably mutton by now. Skirting the policies of Taymouth Castle, rain pelted up through the birks of Aberfeldy and the woods of Birnam, calling for sou'westers that were expected to be useful. We entered Perth in a pitiless rain, driving into a tented field, where Messrs. Langridge and Adam supervised the storage. Our Straker-Squire ran throughout with delightful rhythm of motion, and,

both previous trials. To-day he made the fastest time in his class, and was going grandly when he took the bend at the top of the hill by Rest-and-be-Thankful Stone too fine, with such effect on his car that he withdrew at Inveraray. Mr. J. S. Napier, on the New Arrol-Johnston (No. 10, Class 6), withdrew at Dalmally, and Mr. C. Maudslay withdrew his Maudslay (No. 6, Class 6) after the hill climb. Non-stop runs are credited to the 30-h.p. Beeston-Humber (No. 11, Class 4); in Class 5 to



The 8-h.p. Jackson Car which is taking part in the Scottish Reliability Trials.

No. 2, 30-40-h.p. Chenard-Walcker, No. 13, 30-h.p. Siddeley, No. 50, 25-30-h.p. Austin, No. 55, 25-h.p. Straker-Squire, No. 91, 20-h.p. Climax; in Class 6, No. 4, 24-h.p. Albion, No. 14, 40-h.p. Berliet, No. 20, 30-h.p. Daimler, No. 30, 30-h.p. White, No. 41, 30-40-h.p. Ariel Simplex, No. 45, 30-h.p. Spyker, No. 59, 40-h.p. Junior, No. 67, 20-30-h.p. Maudslay, No. 81, 35-45-h.p. Gladiator, No. 87, 30-40-h.p. Brasier, No. 88, 30-35-h.p. Simms-Welbeck; in Class 7, No. 12, 40-50-h.p. Rolls-Royce, No. 21, 60-h.p. Belsize, No. 27, 45-h.p. Mercedes, No. 35, 60-h.p. Berliet, No. 74, 50-h.p. Darracq. The first three in each class in the Rest-and-Be-Thankful Hill Climb were as under:—

Class 1.—No. 60, 12-h.p. Swift, 1; No. 28, 10-h.p. Adams, 2; No. 96, 10-h.p. Chambers, 3.

Class 2.—15-20-h.p. Calthorpe, 1; No. 97, 18-h.p. Mass, 2; No. 82, 14-h.p. Vulcan, 3.

Class 3.—No. 44, 14-h.p. Germain, 1; No. 22, 20-h.p. Belsize, 2; No. 18, 14-16-h.p. Argyll, 3.

Class 4.—No. 42, 24-h.p. Mass, 1; No. 19, 26-30-h.p. Argyll, 2; No. 49, 18-24-h.p. Austin, 3.

Class 5.—No. 40, 28-38-h.p. Ariel Simplex, 1; No. 80, 18-28-h.p. Gladiator, 2; No. 50, 25-30-h.p. Austin, 3.

Class 6.—No. 41, 30-40-h.p. Ariel Simplex, 1; No. 14, 40-h.p. Berliet, 2; No. 64, 35-h.p. Iris, 3.

Class 7.—No. 29, 35-45-h.p. Ariel Simplex, 1; No. 12, 40-50-h.p. Rolls-Royce, 2; No. 35, 60-h.p. Berliet, 3.

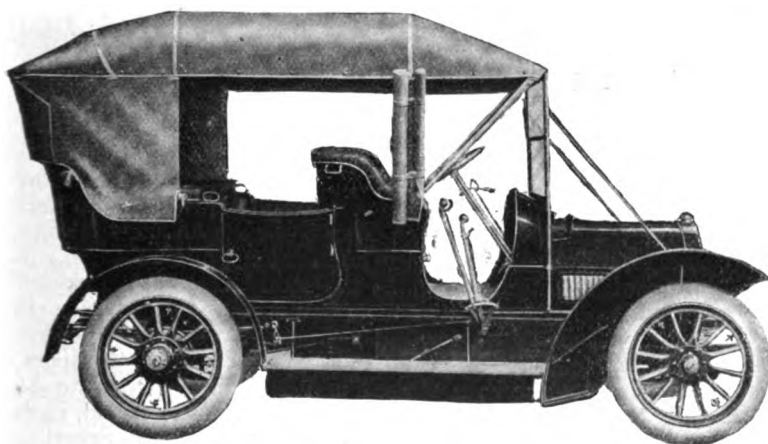
The cause of Mr. J. S. Napier's withdrawal is said to be seized gears. The happenings to the cars in the smaller classes are not yet officially reported, but taken altogether the day's run has been most successful.

PERTH, Wednesday Morning.

To-day's run is to Aberdeen, the cars in Class 4 starting out first, led by the Nordenfelt. Mr. A. Campbell Muir is not driving, having decided on that course at the last hour. He was, however, seen on the route on Tuesday calling for a rope for the disabled Arrol-Johnston. The weather this morning is dull, but fortunately it is not raining.

THE members of the Billericay Farmers' Club have decided to inaugurate a service of motor-cars to collect dairy produce in the district, and deliver it in London.

A DOZEN cases against motorists for exceeding the regulation limit of ten miles an hour in Richmond Park were heard at Kingston on the 20th. Fines were inflicted in every case.



The 30-h.p. Beeston-Humber Car which is taking part in the Scottish Trials.

although the 160 miles of sinuous switchback tests a driver, Mr. Lord was able to demonstrate the simplicity of control associated with this silent-running car. On such a vehicle, maintaining its regular course, the incidents seen are few and far between.

Of the ninety-six cars that started, all are reported here save three. Universal regret is expressed at the ill-luck of M. Ramois, on the Germain car, who has done non-stop runs in

CONTINENTAL NOTES.

British Cars in Switzerland.

The Swiss Automobile Club held a hill-climbing competition on a 10-kilometre course, from Gex to the summit of the Faucille, on Sunday last. The awards were based on a formula which took in the cylinder dimensions, the time occupied, the weight, and the fuel consumption. The best time of the day—13 min. 20 sec.—was made by a Cottin-Desgouttes car, but the first place on the formula was taken by M. Firmenich, on a 10-12-h.p. Humber.

Forthcoming Races in Belgium.

A three days' race meeting is to be held by the Belgian Automobile Club, in the Ardennes, towards the end of next month. On July 25th there will be the Circuit des Ardennes (in accordance with the rules of the German Imperial Club). This will be held on an 85.7 kilometre circuit, which, starting and finishing at Bastogne, takes in Longlier, Habay-le-Neuve, and Martelange, this having to be covered seven times. The cars must be fitted with engines of a capacity of not more than

first day's run, on the 20th inst., was from Paris to Boulogne 265 kilometres; the second from Boulogne to Ostend, 125 kilometres; the third from Ostend to Rouen, 185 kilometres; and the fourth, on Sunday last, from Rouen to Paris, 130 kilometres. The Roussel voiturette, in the 90 mm. class, the only entrant in its class, made a non-penalised run throughout, as did all but the Le Metais car in the 100 mm. car section. During the course of the contest a speed trial was held on the road near Ostend, the competitors being timed over a five kilometre course, which they had to cover in both directions. The best aggregate time for the ten kilometres (8 min. 50 sec.) was made by Giuppone on a Peugeot motor-bicycle, Griet, on a Demeester, doing the best (10 min. 33 sec.) in the car section. The result of the trial will be announced later.

The Annuaire de Route de l'A.C.F.

The French Automobile Club has just issued the new edition of its annual handbook entitled l'Annuaire de Route. The work, which is edited by M. Louis Dumontpallier, President of the Foreign Relations Committee of the A.C.F., is of a handy



The Southern Motor Club's Hill Climb.—The Cars on the way to Toy's Hill.

8 litres, and must weigh at least 1,175 kilog., this comprising the body, tyres, oil and fuel, &c. On July 26th the contest for the Coupe de Liedekerke will be run off, this being over six rounds of the Ardennes Circuit. The race is reserved to four-seated touring cars, the engines of which have a cylinder capacity of not more than 3½ litres. Finally, on July 27th there will be the Circuit des Ardennes, held under the rules of the Belgian Club, which admit racing cars without any restriction as to weight or fuel consumption. The contest will be over the same distance as that of July 25th.

The Paris-Ostend-Paris Reliability Trial.

The Auto-cycle Club de France has held a four days' reliability trial for motor-cycles and voiturettes during the past week. There were four starters in the class for motor-bicycles of a third of a litre engine capacity, seven in the quarter litre motor-bicycle category, four in the light motor-bicycle section, four in the tri-car class, one, a Roussel, in the voiturette category (up to 90 mm. cylinder bore), and six in the two-seated car section (up to 100 mm. bore), the latter comprising two Alcyons, two Demeesters, a Fouillaron, and a Le Metais. The

size, and contains a vast amount of useful information. In order to facilitate easy reference, the book has been divided into four sections, the first dealing with France, the second with foreign countries, the third with Algiers and the coast of Tunis, and the last one with the itineraries. In the French section, the sketch plans of towns, giving the main routes of entrance or exit thereto, will be found particularly handy. The information from former editions relating to Customs formalities, transport, taxation, &c., has been revised and brought up to date to March 31st last, and several new features have been added, such as "The Rule of the Road," "The Motoring and Sporting Press," "Affiliated Societies of the A.C.F.," &c. Altogether the Annuaire is a work which can be recommended to any motorist contemplating a tour on the Continent, and especially in France.

The Best Routes in and out of Paris.

Motorists visiting Paris for the first time with their cars usually select the widest and most direct roads into the city, and arrive without anything but a good opinion of the same. It may be useful to point out, therefore, that the paved highways need never be followed in leaving or arriving at the French

capital. The main road to St. Germain, for instance, is mostly pavé. Wise motorists, however, leave the city through the Bois de Boulogne, cross the Seine at Suresnes, climb the Suresnes hill, turn sharp to the right under the railway, pass behind Fort Valérien, and reach St. Germain by a road comprising twenty feet of pavé and as many kilometres of excellent macadam. The old highway from Versailles to Paris *via* Viroflay and Sevres, too, has been abandoned to the steam tramways and market-carts, the modern road being by the Côte de Picardie, Ville d'Avray, St. Cloud, Suresnes, and the Bois de Boulogne. It is a hilly road, but, excepting the short Suresnes hill, has an excellent macadam surface, not an inch of pavé, and is moreover perfectly dustless, the entire twenty kilometres having recently been treated with tar. A Taride detailed map of the environs of Paris will show how to get into the capital from almost any point without suffering pavé tortures. Good work has been done by the Touring Club of France in opening loop roads through or around pavé-stricken towns. Examples of this are to be found between Paris and Fontainebleau, the macadam loop roads being indicated by conspicuous sign posts.

A Combination Motor Car and Motor Boat.

A somewhat novel vehicle has just been brought under the notice of the French Minister of the Navy; it is a combination motor-car and motor-boat. The vehicle, the body of which is boat shaped, is provided with the usual road wheels and, in addition, with a rudder and a propeller. The steering wheel is connected up to both the front road wheels and the rudder, while the shaft from the gear-box to the differential shaft is prolonged to the rear to carry the propeller, a lever being provided whereby the rear road wheels can be thrown out of gear and the engine connected up to the boat driving mechanism. The idea of the designer, M. Ravallier, is that his machine can be used either on land or water, and, so far as the brief trials in Paris and on the Seine are concerned, he has demonstrated the practicability of the combination.

Another Elastic Wheel Competition.

Still another elastic wheel competition is to be held in France. It is being organised by "Le Poids Lourd" in conjunction with the "Auto," and will be confined to devices suitable for use on industrial motor vehicles and public service cars. The competition will take place in September next, and the competitors will be divided into five categories as follows:—Class 1, delivery vehicles of a capacity of from 50 to 500 kilogs.; Class 2, ditto, from 500 to 2,000 kilogs.; Class 3, ditto, from 2,000 to 3,000 kilogs.; Class 4, ditto, over 3,000 kilogs.; and Class 5, public service machines having accommodation for at least ten persons. The trial will consist of seven daily runs of from 100 to 150 kilometres on a circuit in the North of France, the total distance to be covered ranging from 700 to 1,000 kilometres, according to category. The cars in Classes 1, 2 and 5 will be required to attain an average speed of 15 kilometres, in Class 3 12 kilometres, and in Class 4 10 kilometres per hour.

An Historical Automobile Section at the Paris Salon.

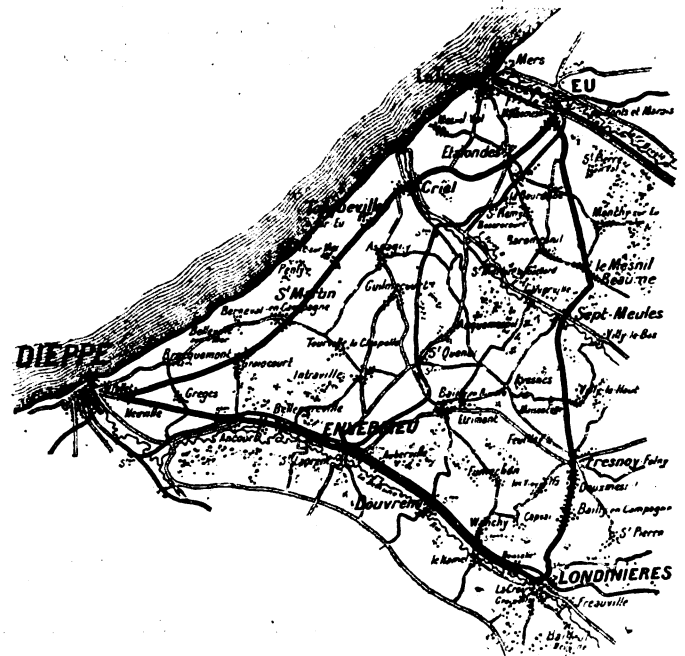
The historical cycle section at the last Paris Salon having proved such a success, it is now proposed to organise one for early motor-cars at the exhibition in November and December next. M. G. Rives, the manager of the undertaking, is said to have also had the loan promised of the first De Dion machines, a Panhard Paris-Bordeaux car, Jenatzy's "Jamais Contente," on which several world's records were established, &c., so that an interesting display should result.

Miscellaneous Items.

The Wolsley Tool and Motor Car Co., Ltd., have applied for a space at the next Paris Salon.—The Stelvio Pass, which is at an altitude of 2,756 metres—the highest in Europe—is now open for motor traffic. It is situated on the road from Milan to Innsbruck.—A series of Flying Kilometre Speed Trials was held near Antwerp on Sunday last; there were thirty-two competitors, the best time being made by M. Deplus, who, on a Pipe car, covered the distance in 31 2-5 sec.

THE A.C.F. GRAND PRIX AND COUPE DE LA COMMISSION SPORTIVE RACES.

THE great event of the coming week is the race for the A.C.F. Grand Prix, with which has been combined that for the Coupe de la Commission Sportive. Both contests are being organised by the French Automobile Club, and are on novel lines in so far that they are being held under what are, for France, entirely new conditions, the old rule of a weight limit of 1,000 kilogs. having been abandoned in favour of a restricted petrol allowance. In the case of the cars in the Grand Prix the latter has been fixed at 30 litres per 100 kilometres, equivalent to 9.47 miles to the gallon. No less than thirty-eight entries have been received for this event, which is the one on which interest will principally centre. The appended table shows the competing cars, together with the distinctive numbers with which they will be marked, the names of the drivers and the order of starting. As will be seen, France will be represented by twenty-four cars (painted blue), Italy by five (red), Germany by three (white), Belgium by three (yellow), Great Britain by two (green), and the United States by one (white and red).



Map of the Seine Inferieure Course on which the race for the A.C.F. Grand Prix is to be held.

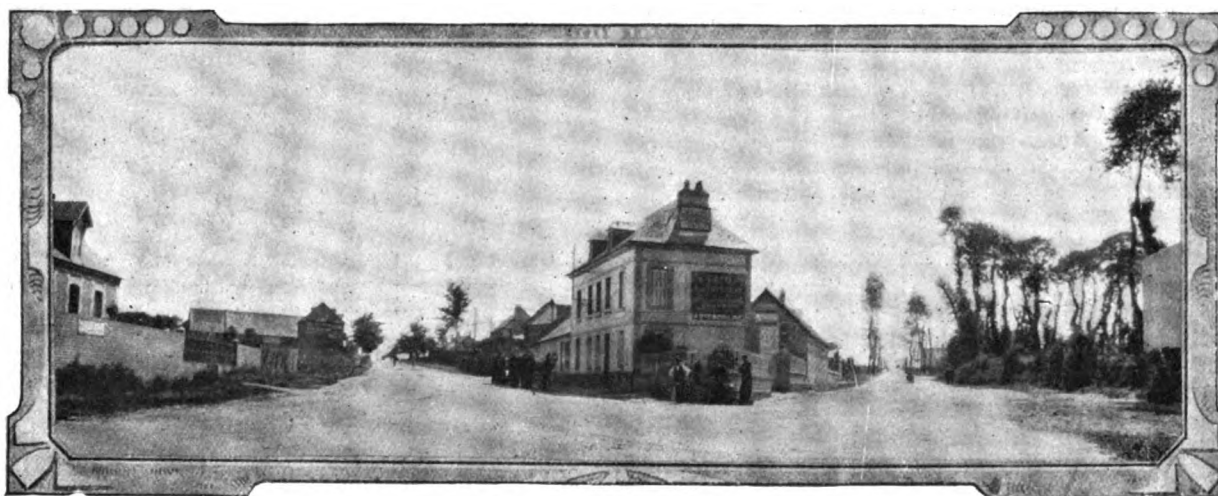
Order of Starting.	Car.	Driver.	Distinctive Sign.
1	Fiat	Lancia	F-1
2	Corre	D'Heapel	C-1
3	Darracq	Caillois	D-1
4	Lorraine-Dietrich	Duray	LD-1
5	Porthos	Stricker	P-1
6	Dufaux-Marchand	Dufaux	DM-1
7	Bayard-Clement	Garcet	BC-1
8	Motobloc	Page	MB-1
9	Renault	Sisz	R-1
10	Germain	Perpere	GE-1
11	Panhard	Heath	PL-1
12	Christie	Christie	WC-1
13	Mercedes	Jenatzy	M-1
14	Weigel	Laxon	W-1
15	Gobron-Brillie	Rigolly	GB-1
16	Aquila-Italiana	Richat	A-1
17	Brasier	Barillier	B-1
18	Fiat	Nazzaro	F-2
19	Darracq	Rigal	D-2
20	Lorraine-Dietrich	Rougier	LD-2
21	Bayard-Clement	Alezy	BC-2
22	Motobloc	Pierson	MB-2
23	Renault	Edmond	R-2
24	Germain	Degrais	GE-2
25	Panhard	Le Blon	PL-2

Order of Starting.	Car.	Driver.	Distinctive Sign.
26	Mercedes	Salzer	M-2
27	Weigel	Harrison	W-2
28	Brasier	Baras	B-2
29	Fiat	Wagner	F-3
30	Darracq	Hanriot	D-3
31	Lorraine-Dietrich	Gabriel	LD-3
32	Bayard-Clement	F. Shepard	BC-3
33	Motobloc	Courtade	MB-3
34	Renault	Riches	R-3
35	Germain	Roch-Brault	GE-3
36	Panhard	Dutemple	PL-3
37	Mercedes	Hemery	M-3
38	Brasier	Bablot	B-3

The Bayard-Clement cars are of 100-h.p.; the Darracqs, 120-h.p.; Motobloc, 110-h.p.; Corre, 90-h.p.; Panhard, 110-h.p.; Renault, 110-h.p.; Lorraine-Dietrich, 125-h.p.; Germain, 35-h.p.; Weigel, 80-h.p.; Brasier, 120-h.p.; Dufaux-Marchand, 125-h.p.; Aquila-Italiana, 90-h.p.; Mercedes, 130-h.p.; Christie, 130-h.p.; Fiat, 110-h.p.; and Gobron, 100-h.p. The Weigel, Porthos and Dufaux cars have eight-cylinder engines, the Aquila-Italiana six cylinders, all the others having four-cylinder engines. With one exception—the Christie—the vehicles are all provided with magneto ignition.

The contest for the Coupe de la Commission Sportive is for a smaller type of car, for which the quantity of fuel allowed is only 15 litres per 100 kilometres—equal to just under 19 miles

are thus 769.8 kilometres and 461.9 kilometres. The starting point, where quite a little town, comprising a grand stand, cafes, buffets, garages, &c., has sprung up, is located about a couple of miles from Dieppe. Thence the course runs in a south-easterly direction through Envermeu to Londinieres, when it turns sharply to the north, passing Sept Meules, to the little town of Eu, and thence *via* Criel-sur-Mer, following the coast line back to Dieppe. While the circuit has some fine stretches of level open road where fast running may be attained, there are one or two portions between Dieppe and Londinieres where the road is narrow, being at some points less than fifteen feet in width. From Envermeu to Londinieres the road runs alongside a light railway, there being no fence between it and the road, but the authorities, for the purposes of the race, have widened the road by three metres in order to allow ample room for passing. The railway is crossed at a right angle just before reaching Londinieres, after which there is a sharp winding ascent for two kilometres, from which point, until the little town of Eu is reached, is the fastest part of the course, it being a switchback and practically a straight road. At Eu the competitors will pass through the principal square of the town, and, turning sharply to the left, enter upon the last angle of the course. From Eu to Criel good running may be expected, and thence to Tocqueville the cars will pass along a fine stretch, the road being wide and straight,



The A.C.F. Grand Prix Race.—A View on the Course at the fork near Dieppe.

per gallon. Curiously enough, this race has not met with the support of French motor-car manufacturers which the organisers anticipated. It was at first intended to run it on the day following the Grand Prix, but, owing to the paucity of entries—as is shown in the subjoined table, there are only nine—it is being run in conjunction with the more important event.

THE COUPE DE LA COMMISSION SPORTIVE RACE.

Order of Starting.	Car.	Driver.	Distinctive Sign.
1	32-h.p. Gillet-Forest	De la Touloubre	GF-1
2	50-h.p. Darracq	De Langhe	D-1
3	40-h.p. H.I.S.A.	Depasse	H-1
4	35-h.p. La Buire	Dumaine	LB-1
5	40-h.p. Porthos	Defries	P-1
6	50-h.p. Darracq	Demogeot	D-2
7	80-h.p. H.I.S.A.	Moulin	H-1
8	35-h.p. La Buire	Mettard	LB-2
9	35-h.p. La Buire	Deesaigne	LB-3

Considerable time was spent in examining suitable courses on which to hold the races, and eventually that known as the Seine Inferieure Circuit was selected. As will be seen from the accompanying sketch map, it is triangular in shape, having as points the three towns of Dieppe, Londinieres and Eu. The course measures 76.988 kilometres, and the competitors in the Grand Prix have to make ten laps and those in the Coupe de la Commission Sportive six rounds. The respective total distances

and affording opportunities for excellent racing. Altogether the circuit is considered to be a unique one from the point of view of absence of natural difficulties, but it is considered that its short length and the absence of many long straight stretches will cause it to be slower than last year's route. Nevertheless, the passage of the cars in front of the grand stands about every half-hour will afford an element of excitement from a spectacular standpoint, which has been lacking on former occasions.

A good deal of money has been spent in getting the course in good condition and in rendering it free from dust. No less than thirteen foot-bridges have been constructed across the track at different points for the convenience of the public, for the protection of whom it is estimated that 8,000 soldiers and police will be employed. The reception of the cars takes place on Monday next, when the operation of filling and sealing the petrol tanks will be proceeded with. Special precautions have been taken to prevent fraud, any attempt at which will entail instant disqualification. The race itself is fixed for Tuesday, July 2nd, the competitors in the Grand Prix being sent off at minute intervals from 6 a.m., while those in the Coupe contest will follow at five-minute intervals, starting at 9 a.m. A full account of both contests will be published in the next issue of the M.C.J.

MOTORISTS will find interest in the new biograph pictures of the Weybridge motor track now being shown at the Empire, in London.

THE feature of the annual race meeting at Ascot last week was the large number of motor-cars. It is estimated that on one or two of the days not less than 1,000 vehicles were in the district.

THE sub-committee of the Leeds Institute Schools have decided to establish at the secondary school courses in motor-car engineering, should a sufficient number of students come forward.

THE Sirdar Rubber Company have received a large order for Royal Sirdar pneumatic tyres, both grooved non-slipping and plain, for the Sultan of Johore, who, we understand, has about sixteen or seventeen motor-cars.

ANOTHER transformation scene is being effected in Belfast, where the old Hippodrome and Circus building in Chichester Street is to be adapted to the purposes of a motor garage, under the control of Messrs. J. B. Ferguson, Ltd.

WE regret to announce the early death of Mr. John Arthur Croxson, the manager, since its formation, of the Electric Landauette Co., Ltd., Chelsea. Deceased, who was in his fortieth year, succumbed to exhaustion following an operation of a very painful nature.

A NEW toll is now in force on the private road leading from Brooklands Station, near Manchester, to Prospect House, Ringway. The toll for motor-cars, which was formerly 3d., has been increased to 1s., and motor-cycles, which were not charged for previously, have now to pay 3d.

IN view of the near approach of the R.A.C.'s Commercial Vehicle Trials, the question of holding further provincial meets of commercial motor vehicles has been deferred until after those trials have taken place, and the committee that organised the run to Reading has adjourned *sine die*, on the understanding that a meeting is convened about November next.

THE 1907 edition of the Automobile Handbook of the R.A.C. and Motor Union has just been issued. The new volume is much larger than the 1906 edition, the increase in size being accounted for by the additional information contained between the two covers. One of the many new features is the series of maps of towns in which speed limits have been sanctioned, the portion to which the limit applies being indicated.

THE Alpha petrol motor illustrated in the last issue of the *M.C.J.* was wrongly described as being of 12-16 h.p. The normal rating is 16-20 h.p., the four cylinders, which are cast in pairs, being 93 mm. bore by 105 mm. stroke. At a speed of 1,000 revolutions per minute the engine develops 18 h.p. Messrs. Johnson, Hurley and Martin also make a 25-30 h.p. four-cylinder motor as well as two sizes—8-10 and 12-15 h.p.—of twin-cylinder engines.

ARRANGEMENTS are being rapidly pushed forward for the motor trip to be given to the crippled children of Southport on Saturday, July 6th. The trip is again being arranged by Messrs. Armstrong and W. D. Coddington, who so successfully organised a similar event last year. The motor-cars will call at the various homes and pick up the children, and convey them thence to the Promenade, where the procession will start about a quarter past two for a run to Sefton, where the children are to be entertained to tea.

THE Daimler Motor Company have recently put down a new charging plant to enable them to cope with the increased number of accumulators that have to be charged. The equipment includes a dynamo and motor and a large switchboard. The motor develops 10 h.p. and is directly coupled to the dynamo, which is capable of giving 130 amperes at 65 volts. The accumulators are charged in groups of twelve 4-volt accumulators in series, the groups being in parallel with each other. The current in each group can be regulated and is read on the smaller ammeters on the switchboard. To ensure a thorough charging the rate is kept low and a long charge given.

HERE AND THERE.

At the Blackwall Station Wharf, on the 19th inst., the Bishop of Stepney dedicated a new motor-boat to the service of the Missions to Seamen.

MOTORISTS in the neighbourhood of the South of London may obtain Benzole, suitable for use in motor-cars, from the South Metropolitan Gas Company, at their Tar Works, Ordnance Wharf, East Greenwich.

THE Motor Union of Nyassaland has been formed with Mr. J. B. Blenkinson, of Zomba, Nyassaland, *via* Chinde, East Coast of Africa, as secretary, and Sir A. Sharpe, K.C.M.G., as president.

THE Navan Engineering Works is one of the many Irish engineering establishments that have lately been turning their attention to motoring. They have every facility for assisting motorists at their place in Mill Street, Navan.

THE Argylls "Motorist" for May-June contains tributes to the late Mr. A. Govan by Mr. W. A. Smith and Mr. E. H. Watson, who were intimately associated with him in the development of the great industrial concern at Alexandria.

THE following is a summary of last week's runs of the Hotchkiss six-cylinder car under the observation of the R.A.C. :—



The accidental meeting of the Six-Cylinder Hotchkiss Car and one of the Weigel Grand Prix Racers at Sherborne, Wiltshire.

Monday, June 17th, Weston-super-Mare to Bristol (circular run), 154 miles; Tuesday, June 18th, Bristol to Farringdon and back, 126 miles; Wednesday, June 19th, Bristol to Alcester, 167 miles; Thursday, June 20th, Alcester to Kidderminster, 165 miles; Friday, June 21st, Kidderminster to Lancaster, 166 miles; Saturday, June 22nd, Lancaster to Glasgow. The car, which is this week taking part in the Scottish Reliability Trials, has now done 7,113 miles in Great Britain and Ireland, and 6,200 miles prior to this in France, making a total mileage of 13,313, without any mechanical stop.

A COMMITTEE of representative Manchester motorists, consisting of Messrs. W. Hyde, J.P., Sawley Brown, W. Cotworth, and C. B. Holmes, is busily engaged in organising the third annual motor ride for Manchester and Salford crippled children, which is to be held on Saturday, July 6th. The destination is Chelford, where Colonel Dixon has placed the whole of his grounds (Astle Hall) at the disposal of the committee. On account of the dust nuisance, it has been decided not to form any procession. The cars will assemble in Albert Square about 2 o'clock, whence alternative routes will be taken to Chelford, the trip comprising a round of about forty miles. Over sixty cars have, so far, been promised, and it is hoped to reach 100 by next week.

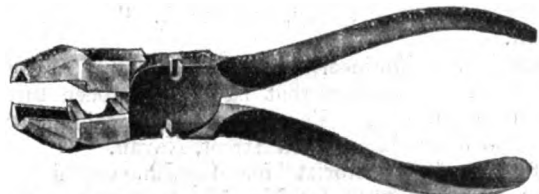
A NEW garage has been opened by Mr. W. Thompson, in Castle Street, Northwich.

TENDERS for a chassis suitable for a landaulet body are invited by the Metropolitan Asylums Board by the 8th prox.

VISITORS to the Lake District will be interested in the new garage erected at Bowness by Mr. Herbert Croft, of Kendal.

ALDERMAN J. SCOTT FOSTER, J.P., of Portsmouth, has recently taken delivery of an Argyll 14-16-h.p. two-seated car.

MESSRS. AVERY AND ROBERTS, LTD., of 64, Stanley Street, Liverpool, have sent us a sample of the Auto Nut Pliers they have recently introduced, and of which we give an illustration herewith. Several advantages are claimed for the new tool



which will readily appeal to motorists; principal among them is that it is specially adapted for use on all nuts up to $\frac{1}{2}$ in., such as on coils, batteries, commutators, and all small nuts. It can be used either vertically or horizontally, and has jaws which are cut to an angle of 120 degrees, so that it fits perfectly without damage to nuts. The pliers, by means of which nuts can be screwed on or off in all sorts of awkward places where it would be impossible to work with ordinary spanners and wrenches, also comprises wire cutters and nippers, burner hole, and ordinary pliers, so that it can be used for screwing up the caps on tyre valves, and the nuts on sparking plugs. Altogether the Auto Nut Pliers forms a useful addition to the tool box equipment.

THE Council of the borough of Bromley (Kent) have applied for a regulation limiting the speed to ten miles per hour in some parts of the town.

MESSRS. CHARLES LEITTS AND CO. send a copy of their Log Book for motorists, which will be exceedingly useful to those who tour by motor-car.

MR. DAVID M. MENZIES, M.A., has been awarded the first prize in the Motor Union's essay competition on "The Preparation for the Forthcoming Parliamentary Struggle."

THE "Ideal" Motor Hood Company, of 43, Parson's Green Lane, Fulham, S.W., is placing upon the market the hood of that name made under Hopper's Patents. This can be easily fitted to any type of side entrance car, and, while not obstructing the outlook when down, gives ample protection to the front seats when raised and extended. The same company has introduced the "Ideal" motor folding seat, which is fitted to the inside of the car, allowing the occupants to sit facing forward, and folding up compactly behind the driver's seat when not in use.

THE attention of motorists will be centred on the Brooklands racing track at Weybridge this week, owing to the attempt of Mr. S. F. Edge to drive his six-cylinder Napier car at the rate of sixty miles per hour for twenty-four hours. The start is fixed for 6 p.m. on Friday, the 28th inst., when Mr. Edge intends to try and drive right through himself. For the purpose of testing the difference of similar cars driven by fresh drivers, he is also arranging for two other 60-h.p. six-cylinder Napier cars to be driven by relays of drivers, a fresh driver every two hours, so as to push the cars to their utmost limit.

A HUNDRED years ago the stables of the New London Inn, at Exeter, could accommodate 300 horses. Now its chief concern is with automobiles, for the accommodation of which a spacious garage has been erected with private lock-ups, as well as general facilities for the storage of vehicles belonging to visitors to the city. While the garage has been erected by Mr. Pople, the proprietor of the hotel, administration will be undertaken by Messrs. Gould Bros., who have had much experience of the motor business. The firm will now have three automobile establishments in Exeter—works on Southernhay, a showroom at the corner of London Inn Square, and the garage behind the New London Hotel.

IN the Scottish Reliability Trials sixty-six cars entered are Dunlop tyred.

THE toll for private motor-cars at Llandudno has now been fixed at 1s., and for public cars at 4s.

THE King's journey by motor-car from Windsor to London on Monday was interrupted between Staines and Egham by a puncture, which caused a slight delay.

THE Chancery Division of the High Court has declined to give the Electromobile Company, Ltd., the exclusive use of the word electromobile in the way of trade.

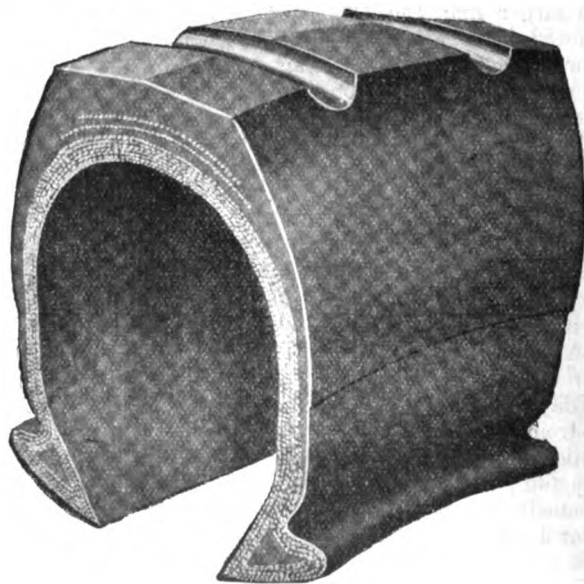
MR. H. WAYMOUTH PRANCE, A.I.E.E., 39, Westbourne Gardens, W., is rendering useful service to prospective motorists by expert examination of second-hand cars before purchase.

AT a meeting of the North-East Lancashire Automobile Club on Saturday last a resolution was unanimously passed to petition the Fylde Rural District Council and the Lancashire County Council to abolish the toll-bar over the Freckleton Marsh, and make the road a secondary one.

THE Vulcan Rubber Company, of 308, Euston Road, London, N.W., have sent us a sample of the Vulcan rubber cement they have lately introduced for repairing cuts and gashes in the outer covers and inner tubes, a preparation which will be found extremely useful in keeping motor tyres in good condition.

THE Argyll School at Newman Street, W., is now in the capable hands of Mr. Alfred Carter, late Quartermaster-Sergeant Royal Marine Artillery, who gained a sound reputation as a tutor with the Royal Marine Artillery Technical School (Motor Branch), Eastney, and who has been very successful in training men of both services as motor drivers.

WE have had an opportunity of inspecting a section of the new Avon motor tyre with round and square treads, and with the non-slipping cross-grooved type. This tyre certainly appears to carry with it all the elements of success, for the fabric is manufactured of the best Egyptian cotton, of great strength, which, before being incorporated in the tyre, is thoroughly impregnated with pure Para rubber. In this way it is made very waterproof, and is less likely, therefore, to become rotten under the action of wet than if such precautions were not taken. The casing is also made of pure Para rubber, and the tread is so



treated as to become remarkably tough and durable, while its thickness is such that it ought to be very immune from punctures. The tyres, which are entirely British, are made in all standard sizes, from 65 mm. to 135 mm., at Melksham, Wilts, by the Avon India Rubber Company, which is a firm having long and varied experience in the handling of rubber for all purposes, and which enjoys the privilege of contracting for the Admiralty and other Government departments. This company also bear a high reputation for their solid tyres suitable for all types of motor-vehicles, from heavy buses to pleasure cars.

THE DAIMLER-MERCEDES CAR.

WE give herewith two illustrations of the new Daimler-Mercedes 30-h.p. car, which, as announced in a recent issue of the *M.C.J.*, is being put on the market by the British and Colonial Daimler-Mercedes Syndicate, and one of the first of which we were last week able to inspect at the company's depot at 532, Oxford Street, London, W. The new vehicle is a British-built replica of the well-known Mercedes car, being, in fact, built under licence from the Daimler Motoren Gesellschaft patents for the British and Colonial Company by the Yorkshire Engine Company, Ltd., of Sheffield, a large and old-established concern, which has for years been making locomotives for the leading railway companies throughout the world. While, generally speaking, the Mercedes designs have been closely followed and adhered to, a few modifications have been made, in order to meet the requirements of British motorists, such as placing the magneto and pump on opposite sides, to facilitate adjustments. The frame is of pressed steel, narrowed at the front to increase the lock of the steering wheels. The engine comprises four cylinders, $4\frac{1}{2}$ in. bore by 5 in. stroke, cast in pairs. The valves are located on opposite sides, being mechanically actuated off separate cam shafts. The gear wheels operating the latter are located at the front end of the engine, and are not enclosed. We understand, however, that this will be done in future models. The ignition is by gear-driven low-tension magneto, the make-and-break mechanism being fitted at the corners of the cylinders, and the advance and retard obtained by means of a sliding cam shaft. The feature of the pressure feed carburettor is the provision of a device controlled from the dashboard whereby the quantity of spirit delivered through the jet can be varied. The water circulation is maintained by a gear-driven pump and a honeycomb radiator; a current of air is drawn through the latter by a fan formed by the arms of the flywheel. The water jackets, which are of liberal dimensions, are closed by a detachable cap which fits on the cylinder heads. It may be mentioned here that the water passes into and out of the jackets through the caps, a partition being provided to ensure a perfect circula-

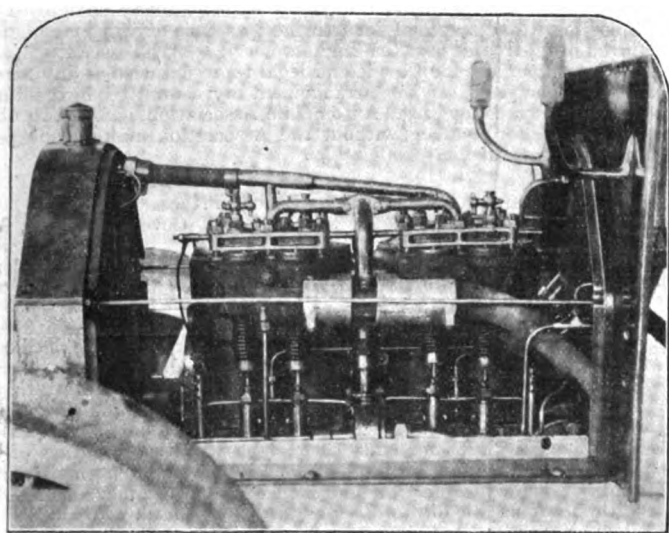


Fig. 1.—View of Exhaust Side of Engine on Daimler-Mercedes Car.

tion round the cylinders. The speed of the engine is controlled by both hand and foot levers; a governor is also provided, this being connected up to a sliding spindle, the rear end of which pushes more or less a lever connected with a throttle valve attached to the carburettor. The lubrication of the motor is maintained by the pressure of the exhaust.

The transmission is through a flat disc metal-to-metal clutch and jointed shaft to the gear-box, which is supported at three points and which is adapted to give four speeds and a reverse. The control is by a single lever working in a gate; a locking

device being provided to prevent any but the right pair of pinions getting into mesh. The design of the gear-box is on excellent lines, the pinions not only being wide but of large diameter. The final transmission is by side chains to the rear road wheels. A foot lever controls two contracting metal to metal band brakes—one on the forward end of the gear-box side shaft and one on the differential shaft; the usual hand lever actuates internal expanding brakes connected with the hubs of the rear road wheels, which are shod with new Garantire motor tyres.

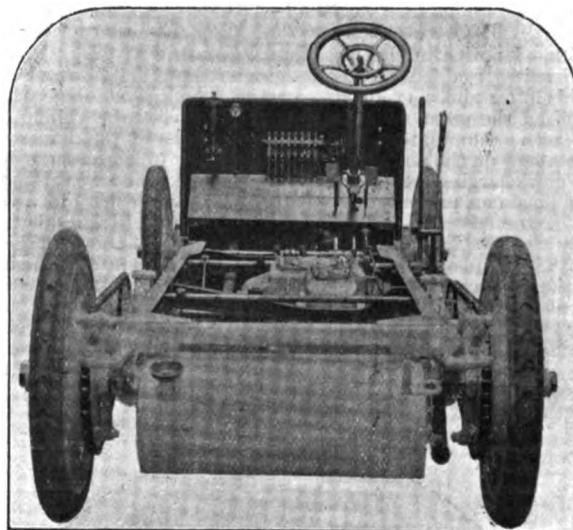


Fig. 2.—Rear View of Chassis of Daimler-Mercedes 30-h.p. Car.

The wheel base of the car is of a length which will permit of any style of side-entrance carriage body being fitted. Ball bearings are used to all parts except the engine.

In the course of a short run through the traffic on one of the new cars we were able to verify the claim for quiet and easy running, and can well believe the statement that it is an excellent hill-climber and can attain a good turn of speed on the level. The Mercedes cars have long held a high place in motor-ing circles, and the advent of a British-built sister vehicle is of more than passing interest, especially in view of the relatively low price at which it is being put on the market.

"AUTOMOBILE Dealers and Garages" is the title of a useful book recently published by the American Motor Car Manufacturers' Association, a copy of which has just reached us. It is a paper-bound volume of 176 pages, on which is printed a complete list of motor-car agents and garages in the United States, Canada, Cuba, Hawaii, and Mexico. The different States are arranged alphabetically, while the list of dealers in each State is alphabetically arranged under the city or town named.

THE Pullman Non-skid bands are the subject of a new catalogue which comes to us from Messrs. R. and J. Pullman, Ltd., of the Westbrook Mills, Godalming, Surrey. These detachable non-skid bands have been before motorists for several seasons and have proved most effective in use. The band consists of sections of leather studded with steel rivets covering the surface of the tyre and attached to two chains which follow the circle of the rim. The band takes the entire rub of the road, and stones and grit cannot possibly work in between the band and the tyre, so that the durability of the device is well regarded. Particulars are also given of the tyre repair department established by the firm at their works. The electric chamois leather, specially prepared by the firm to clean all parts of motor vehicles, the "Kaspine" tyre preserver, and the "Kaspine" lubricants, &c., are also described in the excellent list. The whole of the work in connection with the tyres is carried out by Messrs. Pullman, Ltd., in their own factory, which is fully equipped with all the plant necessary for rubber repairs.

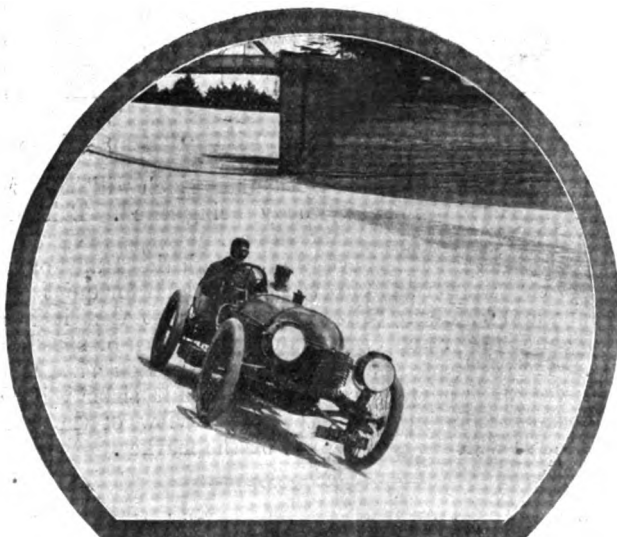
CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

CHARGING ACCUMULATORS FROM PRIMARY BATTERIES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in the last issue of the *M.C.J.* that "Enquirer" is experiencing trouble with his charging battery, and I do not doubt but that his letter airs a grievance common to many motorists who, having recognised the great advantages connected with the ability to charge their own accumulators, have invested in one of the numerous charging sets now on the market. I do not wish to convey the idea that these new charging sets are of no use; on the contrary, it is my opinion that a good one, properly looked after, will pay for itself in a very short time. Nine out of every ten of the advertised charging batteries are simply modifications of the old bichromate single-fluid cells, the zinc rod or plate being placed in a porous pot with dilute sulphuric acid instead of in the chromic acid solution with the carbon plates. This is the point at which I think a vital mistake has been made. The separation of the two liquids has not materially increased the capacity of the cell to furnish a steady current for a long time—the main requirement in accumulator charging—for the chromic acid is still present as the oxidising agent, and it is mainly on how the latter does its work that the strength of the cell depends.



Mr. S. F. Edge on his Six-Cylinder Napier Car in training on the Brooklands Track for his twenty-four hours' ride.

Photo by)

(Campbell-Gray.

This brings me to a point that I wish to strongly emphasise; there is no cell, except the Daniell, which is unsuitable for charging purposes, that will supply such a strong current for such a great length of time as the Bunsen. This cell, as many of your readers are no doubt aware, consists of a carbon rod standing in a porous pot, which in turn stands in an earthenware or glass vessel. Surrounding the porous pot is a zinc cylinder—one or two plates act quite as well; the liquid in the porous pot is concentrated nitric acid, that in the earthenware pot dilute sulphuric acid. It will thus be seen that the only difference between this cell and the modified bichromate is that nitric acid surrounds the carbon plate in one and chromic acid in the other. Of these two liquids, the nitric acid is by far the more powerful oxidising agent, hence the Bunsen cell has correspondingly greater powers of endurance than the chromic acid cell.

With regard to "Enquirer's" difficulty, it is quite true that the liquid in the outer cell turns green when exhausted, but then this clearly shows that the solution has given up all its available oxygen, and this in turn points out that the battery has been working. There are, therefore only two explanations of his difficulty, and these are (1) either the battery was overworked during the short time it was in use, or (2) the amount of chromic acid used to recharge the battery is insufficient. If "Enquirer" is of an experimental turn of mind, he might try substituting strong nitric acid for the chromic acid solution in the outer cells—providing, of course, that he does not object to the offensive smell which is an inseparable quantity with nitric acid. This is the only drawback to the use of the Bunsen cell, but it may be overcome by placing the battery in an airy place when in use. A Bunsen charging battery may be easily constructed from four or five

jam jars, Leclanche porous pots and carbons, and the same number of zinc plates, which may very often be picked up cheap at a blacksmith's or ironmonger's.

The nitric acid may be used over and over again till exhausted, and the weak sulphuric acid will last out three or four complete chargings. With a home-made battery like the above plus the little necessary care and attention, a motor-cycle accumulator can easily be charged at a cost of not more than 3d.—Yours truly,

ELEKTRIK.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a very old user of Boron cells, I am pleased to be able to reply to "Enquirer." I have used for the past five years two sets of Boron cells. One is a six-cell parallel set which I keep my 40 and 60 amp-hour accumulators constantly replenished with, free from any difficulty and at a trivial expense. The other is a four-cell set for cycle and small car accumulators; the latter, if properly used, is capable of charging two or three accumulators at the same time. In this case the cells are connected together in series, the accumulators in parallel. I prefer to use sodium bichromate on account of its cheapness and equal efficiency to chromic acid. The fact that your correspondent's accumulators show $4\frac{1}{2}$ volts when disconnected is proof that the batteries are thoroughly charging and performing all that is required by them. The reason the accumulator does not retain its charge is either that the plates have become softened by use, as accumulator plates have only a certain longevity, or that a slight crack in the partition of the accumulators allows the voltage to fall. This I know from a lengthy experience to be a fact, over 75 per cent. of the failures in accumulators being traced to this cause. The fact that the solution in the cells turns green quickly would show that the porous pots in the cells have probably perished; these pots will not last indefinitely, the impurities in the chemicals in time deteriorates them. Your correspondent would get quicker charging at less expense by using a set of the sensitive lead negatives which the Boron Battery Company now supply with their latest pattern of cell, which leaves nothing to be desired for charging any form of accumulator.—Yours truly,

JAMES PHILPOT.

APPEARANCE IN COURT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice a paragraph in the Press this week with reference to the fact "that justices in various parts of the country are taking exception to the practice of motorists who do not appear in person to answer a summons." It recommends "motorist defendants to either appear at the hearing, or to take the precaution beforehand of finding out whether the justices will excuse their non-attendance."

I would like to point out that the A.A. has already recognised this, and has instituted a special department by means of which members are relieved of all trouble of attending more or less trivial cases. A small subscription per annum provides for legal representation at any number of cases in one year. In this arrangement my committee have followed the well-known policy of the Automobile Association, namely, to obtain these benefits for members without the Association making one penny profit.—Yours truly,

STENSON COOKE,

Secretary, Automobile Association, Princes Buildings,
Coventry Street, W.

THE LONG DISTANCE RELIABILITY TRIAL OF A SIDDELEY CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having received the official certificate from the R.A.C. dealing with the recent long distance trial of a 40-h.p. Siddeley car, the following comments and supplementary information may be of interest to your readers, and at the same time help to clear up any misunderstanding as to the conditions under which this trial was carried out. The car made consecutive daily runs for sixty-seven days with the exception of Sundays, although the weather conditions were at times abnormally severe. Twenty-seven days were wet, and soon after the commencement of the trial the severest gale of recent years was experienced, while in Scotland the car became embedded in a snowdrift. With regard to the adjustments which were made, it should be noted that these were only done when the official observer was making his weekly inspection of the various parts. The adjustments required were very simple, and no effort was made to hurry over them, otherwise they could have been effected in much less time. Those adjustments which were absolutely necessary we find occupied 11 hours 36 minutes and 55 seconds, (note the seconds), the work done in this time being the adjustment of end play on the gear shafts, taking up slack in chains, adjusting brakes, magneto ignition, &c. Calculating the cost of this work on an ordinary repair shop basis of 2s. 6d. per hour, we have a total of 29s. for 10,000 miles, while at the finish of the trial we find that what new parts are required to put this car in perfect running order amount only to the fitting of new bushes and pins to the front spring shackles at a cost of 1s. 10d. inclusive.

Dealing with the question of tyres, the number of replacements was abnormal and requires further explanation, and we are glad to have this opportunity of stating what actually occurred. The "Elastes"

fillings are made on tyres fitted to rims; the rims upon which these tyres were fitted differed in the shape of the edge of the bead from the rims used in the trial. In consequence of this the "Elastes," which is not claimed to be so adaptable as air, was altered in form when fitted to these new rims, causing a sawing action to arise at the head of this bead, cutting through the sides of the tyres; this accounts for the abnormal use of tyres on the trial, and is due to an error of judgment in fitting rims differing in an important particular from the standard rims upon which the "Elastes" fillings were made. The greater number of the tyres used on the trial were damaged from this cause, and which it will be seen was due to exceptional circumstances, and the performance does not reflect in any way on the usual wear of the tyres in question.—Yours truly,

J. D. SIDDELEY.

TAXING VISITING MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I live at Nice, France, and my only domicile is in France, where I pay taxes for my motor. I came to England for a few months as a visitor and received the usual buff paper requesting me to pay for my car, my chauffeur, &c. Knowing that motorists who pay taxes in England, and pass the winter in Riviera hotels, are not taxed by the French Government, I considered that in these days of *entente cordiale* it might be wise to ask for reciprocity.

I wrote to Somerset House, and enclose answer, which may interest your readers and yourself.

People who purchase powerful cars do so because they wish to travel. Now, suppose I decide on taking a trip round Europe this summer and to winter in the South afterwards, is it right that each state should charge me a motor tax? If the French State allow British motorists to winter at Nice without charging the motor tax, and yet makes its own people pay, is it right, fair, or generous to make motorists who have no domicile in England pay when they come over here for a similar period—say, under six months?

Some people say, or think, we have no motor-car ourselves, we therefore hate and abominate all men who own motor-cars because we get the inconvenience thereof and none of the pleasure. They forget British industry.

Every Britisher who is driven to live abroad and purchase a car abroad causes loss to his native land, for this good citizen keeps servants, patronises shops and hotels, and by purchasing a car helps British labour.

Another silly idea people have is to suppose that, because certain millionaires own cars, every car owner must be a Vanderbilt. Therefore because Vanderbilt is a married man, every married man must be a millionaire. This *reductio ad absurdum* may perhaps open people's eyes.

I can remember the time when every cyclist's life was made unpleasant for him by ignorant and prejudiced persons. That time is past; now the motorist has to suffer or go abroad. Thousands are driven across the Channel, much to the delight of French hotel-keepers, &c.—Yours truly,

A BRITISH MOTORIST ABROAD.

[COPY.]

Inland Revenue, Somerset House.
London, W.C.

SIR,—In reply to your letter of the 2nd instant, I am directed by the Board of Inland Revenue to acquaint you that the law makes no provision for exemption from carriage licence duty in favour of temporary residents in Great Britain, and the Board have no power to grant you relief from licence duty in respect of the motor in question while it is kept and used in this country.

I return the form of declaration enclosed with your letter.—I am,
J. B. BYRNE,
Assistant Secretary.

DANGEROUS CROSS-ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Although the local authorities in various parts of the country have erected warnings to apprise motorists of dangerous cross-roads, I am afraid that drivers of cars are not paying much attention to the same. I have for a long time observed that the bulk of the serious automobile accidents that have occurred have taken place at cross-roads. Experience has shown that two objects, proceeding toward a common point from different directions, will all too frequently reach it simultaneously, despite their widely varying speeds. This being so, it behoves every motorist to exercise the greatest caution in approaching any cross-road in the country and in no way to disregard the warning signs. If the latter were heeded oftener there would undoubtedly be fewer accidents to record. The habit of taking chances is too prevalent amongst a certain section of the motoring public; it is a specious form of over-confidence born of an intimate knowledge of the great capabilities of the machine, and sooner or later it ends in disaster. Perfect control and absolute confidence in his car are two requisites of the good driver, but the motorist who so far abuses them as to take chances at cross-roads is not only placing himself in danger, but is possibly risking the lives of others.—Yours truly,

J. GREGORY.

GOOD ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

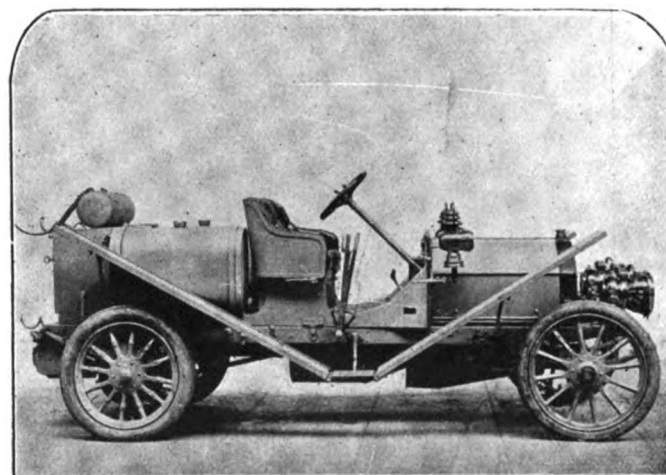
SIR,—Much has been said and more written about the dust nuisance and the shortcomings of road surveyors, and I feel that it is only fair and right that when one comes across good roads, well kept and free from dust, that it should be brought to the notice of those interested. Having lived for some years at Harrow, I have always taken great notice of, and been pleased with the experiments that have been carried out there by the surveyor, Mr. Percy Bennetts, to minimise the dust. I was over in that neighbourhood quite recently and noticed that the roads had just had their summer coating of tar, even the blind roads. In driving over them there was a feeling of cleanliness and smoothness that one only occasionally experiences, and efforts made in this direction will go far to stamp out the ill-feeling that exists against automobiles on account of the dust raised by them, and the thanks of all good pedal pushers are due to the authorities and surveyors who make them.—Yours truly,

TOM WILLIAMS.

SPEED COMPETITIONS, HILL-CLIMBING TRIALS, AND THE PUBLIC.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The question of competitions such as speed trials, as recently held at Bexhill-on-Sea, hill-climbing competitions, &c., is an interesting one, and one which is now very much before the motoring public, owing to the rather questionable way in which the Bexhill trials were conducted. If a hill-climb or a speed trial is anything like well advertised, there will be a large attendance of the public; but the point is this—



The 40-h.p. Itala Car which is being driven in the Pekin-Paris Race by Prince Scipio Borghese.

Attention may be drawn to the novel mudguards, which are so arranged that they can be readily detached and used as planks for crossing streams and marshy land.

what do the public come for? Does it influence them in placing their orders for any particular car? In my opinion the public who attend these meetings may be divided into three classes, as follows:—(1) Those people who have nothing particular to do, and go about in search of a sensation (they generally reckon on one or two accidents). (2) Those people who are mildly interested in cars, and like to have a good chance of seeing different makes quite closely. (3) Enthusiastic motorists who are really interested—a good many of whom are deceived by the intricate formulae governing the event, as well as the trade trickery. The last class is the largest, the other two being about equal.

Now the motoring community and those about to motor should consider these events carefully. There is more in them than meets the eye. If we look through advertisements, we always find magnificent lists of wins at various events, and usually we find that these wins are restricted to about two makes of cars. Now, does this prove that these two makes are the best? Most decidedly not. If a person or a firm has the money and the time to spend, it is quite possible, with a selection of two or three cars, to go and live for a few days at the scene of the particular event, and tune up the car for it. Gear ratios may have to be altered, carburetors adjusted, &c., &c., but all this is possible to the man with the time and money. But what about the people who see the competition? They see a certain car make a magnificent show, and only a few of the initiated are aware that the driver has lived on the scene for about a week, and got his car specially prepared. The car that makes such a brilliant display is not necessarily the best—generally otherwise. There are several really good cars which have not distinguished themselves at these events for the simple reason that the people pushing them are not financially able to go to the great expense of getting several cars ready in the way described. Hence a good car often gets a bad name, because the public fail to understand the trade tricks of hill-

climbs, &c., &c. I would suggest a hill-climbing competition as follows:—No competitor is allowed to know where the hill is, and the car entered is to be selected by competent judges from the manufacturer's showrooms as an ordinary standard car, and to be sealed where necessary to prevent "faking." The poor public would then have some chance of getting some idea of a good car, as the possibility of trade trickery would be greatly reduced.—Yours truly,

BRIGHTONIAN.

THE PRESENT SYSTEM OF TRANSMISSION—SOME REFLECTIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Does the man in the street rule the design of the modern automobile? The manufacturers, of course, make what they think will sell, and they all certainly appear devoted to the Panhard type. Is it the best? or is it that the makers, not aiming at originality or perfection, and being also in many instances likewise repairers, cling to the one design, the one idea. Take the recent shows. I think I am not far off the mark in saying that over 95 per cent. of the cars exhibited had a gear-box with a first motion shaft connected by some form of coupling to the fly-wheel, and thus the crank shaft of the engine, and meshing with teeth on the second motion shaft in the gear-box, the pinions on which moved on a square, so allowing of various rates, while the end of this spindle terminated in a pinion that drove a bevel keyed to the differential sleeve of either a live axle or a differential countershaft, the direction of the power transmission being in this manner altered.



The Hedges Butler Challenge Cup, presented by Mr. Frank Hedges Butler for the first longest distance balloon and aeroplane race in England from Ranelagh Club to within five miles of the sea.

As long as the two bevels mesh exactly, though power is lost in transmission, no harm results; but bearings, even ball bearings, will wear, and if those on either the countershaft or differential sleeve allow of a little play, then the result may be disastrous—bevels bottom, teeth tear out, motion shaft breaks, differential sleeve fractures, &c. Of course the details in a modern car are improved, the bearings may be of the ball or roller type, or if not, of manganese or phosphor bronze, and yet with a propeller transmission these torts will happen. It is true that there is now less liability to shock; clutches are less fierce, even the modern leather-faced friction clutch has, as a result of spring insertions under the leather, become more gradual in taking up its grip, and of course the disc type is even more perfect. Ball bearings now replace the old thrust collars on the bevel; single and double cylinder motors are giving place to the four; but, as I have already remarked, the transmission worries, though maybe not as frequent, still occur. The propeller shaft, with its attendant necessity for rigidity in all its component parts, seems to be a fixed feature since its first introduction. Bevels—I speak feelingly, having four broken ones on my scrap heap—are expensive to buy, troublesome to fit, and, what is more, wasteful in transmitting power.

In the old-fashioned, but still running, horizontal engines, such as the Benz and Wolseley, the power from the engine was carried by belts in the former type and chains in the latter. Surely some such system could be employed with the fashionable vertical engine. If the motor was placed at right angles to the chassis, with the fly-wheel on one side, or if the crankshaft was built up, the fly-wheels being internal, the power could be transmitted by a Renold chain to the first motion

shaft in the gear-box, on to which a clutch could be fitted, as on the little 6-h.p. Wolseley, and then from the second motion shaft to either the differential sleeve of the countershaft or the live axle by chain. The road wheels would then rotate in the same direction as the engine shaft. There would be no alteration of direction in the transmission, bevels with their attendant worries would be done away with and repair bills would shrink. Chains, it is true, break, still it is easy to carry a few spare links and bolts, and no trouble to thus repair a chain, whereas, putting aside the almost impossibility of replacing a bevel on the road, it is no easy matter to replace, even for temporary purpose, a broken tooth on a bevel pinion. The bevel is usually case-hardened, so it must first be softened by heat before the part where the broken tooth is can be tapped, then if two screws are screwed in they can be filed to do duty as a tooth. My experience of trying to do this on a two to one pinion on the road was instructive, lengthy, but rather monotonous and unsatisfactory. Still the dental substitute did carry me as far as a railway station! A broken chain need never hang one up; a spare link can, in emergency, be held by a bolt, or, if that fails, a piece of a "tommy" makes a good rivet. I believe with some such method as this that much more power would reach the road wheels and fewer roadside stoppages take place. These few words are put out as a suggestion, more with the idea of, perhaps, opening a matter for discussion. All motorists desire to see the advancement of the car. Perhaps the more technical readers of the *M.C.J.* will follow this up, and, I trust, with fruitful results. Absolute alignment is difficult to obtain; but if, as a result of thorough supervision at the manufactory, it is attained, it is not always maintained, but with a flexible transmission slight errors do not signify.—Yours truly,

C. T. W. HIRSCH.

POOR COMPRESSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 6-h.p. Wolseley, and have a lot of trouble with compression; I have had a man to see to it but with no success. Is it likely that the cam has got out of position, and if so would you kindly tell me how to set it,—Yours truly,

GEORGE COLLIS.

[Even if the cam has been shifted it is quite impossible that this can affect the compression. Seeing that the sequence of operations in engines working on the Otto cycle is induction, compression, explosion, exhaust, a little reflection will show that the position of the exhaust cam is so timed on the two to one gear that the motor could not run at all if it had got shifted as our correspondent suggests. The fault undoubtedly lies with some defect in the valves themselves or their seatings, or else in an escape past the pistons. The valves should first be seen to. There must be an uninterrupted bright line round the valves and the seatings, on testing them by wiping them clean and twisting under pressure. If these are all right it is possible that the valve stems are a shade too long, so that when warm they do not allow the valves to shut properly. If no fault can be detected in the manner described, the pistons and rings must be overhauled. Before taking them out a test can be made by giving a dose of paraffin to the pistons to thin out the oil around them, and then try the compression and listen for a noise of escaping air when the starting handle has been pulled to the point of greatest compression. New rings will probably be required to be fitted.]

ENGINE STARTING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a four-cylinder car, the cylinder dimensions of which are 4½ by 5 in.; I have run it about 2,500 miles. When I first got the machine I could start on compression, now it is impossible to start that way; in fact, after standing for some little time, I have to inject some petrol through the compression tubes before I can start. I have adjusted the carburettor in every possible way, reducing the air and petrol and increasing both, but all to no effect. The motor has good compression, and once under way runs excellently; it answers quickly to the throttle and to the slightest advance of the ignition lever, but when throttled down will miss explosions and occasionally stop. If you or any reader of the *M.C.J.* can render me any assistance I shall be glad.—Yours truly,

R. WILLIAMSON.

[If the compression is still good and the engine originally started on the switch, it should not be difficult to bring it back to the habit. The fact of difficulty in starting without putting petrol in the compression cocks, and also of the tendency to miss and stop when throttled down, is clearly indicative of a fault in the carburettor. Although the querist has adjusted the carburettor in every possible way, by reducing and increasing the air and petrol, we do not think he has hit on the cause of the trouble, for it is, in our opinion, more probable that the fault will be found to lie in the level of the petrol in the float chamber. For some cause or another the level may have got reduced—there are several things that may lead to this, and in consequence the petrol in the jet, which corresponds with that in the float chamber, is too low. Our correspondent should have this tested, generally about 1 mm. below the top of the jet is about correct. It is just possible that, although there is apparently a good compression when turning the handle round, it may slowly leak out when at a standstill. To facilitate starting on the switch, the ignition should be shut off before the throttle is closed and the latter should be kept open until the motor ceases to revolve.]

CLUBS AND ASSOCIATIONS

THE AUTOMOBILE ASSOCIATION.

THE annual general meeting of the Automobile Association is to be held at the Trocadero Restaurant, London, W., on Friday, June 28th.

The report for the year ended April 30th last shows a total income of £4,715 and a balance in hand of £596. The increase in membership has been most satisfactory. Since the last annual meeting no fewer than 2,555 motorists have joined. The committee have conscientiously followed the policy of laying out where most needed the funds entrusted to their charge.

Many new schemes put forward by the committee have been taken up with enthusiasm, in particular that concerning the special A.A. policy of insurance arranged with Lloyds by the committee on terms advantageous to the members, and without any profit accruing to the Association. Most important and practical work has been done in the display of danger signs and names of villages, which have been, and are being, erected with the co-operation of Local Councils and A.A. agents. It is hoped that this work will be largely increased during the coming year. The Road Department has grown from a mere handful of cyclist patrols to approximately 100, between thirty and forty of whom are on the permanent staff. The system has been organised on military lines, sergeants in charge of each main road are responsible for the work, and these in turn are supervised by the road manager, whose work during the year has entailed travelling over 12,000 miles on a motor-car. In addition to this, two senior men have for the past few months assisted in linking up every main road throughout the country with local correspondents and agents, until at this time the agency system extends from Land's End to John o' Groat's. The following members of the committee retire by rotation in accordance with Rule 10, and, being eligible, offer themselves for re-election:—Col. W. J. Bosworth, Mr. D'Arcy Baker, Captain J. Bennett-Stanford, Mr. C. W. Brown, Mr. C. Cordingley, Mr. S. F. Edge, Mr. Walter Gibbons, Mr. Alfred Harris, and Mr. Charles Jarrott.

The auditors, Messrs. Newson-Smith, Lord and Mundy, retire, and, being eligible, offer themselves for re-election.

AUTO C.C.

ORIGINALLY arranged for the 15th inst., the open hill climb of the Auto Cycle Club took place on Wednesday of last week at Blackdown Park, Fernhurst, by permission of Mr. F. S. Philipson Stow, J.P. The officials of the meeting were: Judge, Mr. B. Chatterton; marshals, Messrs. E. M. P. Boileau and C. A. Smith; timekeepers, Messrs. A. G. Reynolds and F. Straight; stewards, Messrs. J. W. G. Brooker, A. J. Macdonald, and H. B. Renner; secretary, Mr. F. Straight. The results were as follows:—

RESTARTING COMPETITION.—In this competition competitors had to restart on a steep portion of the hill, the awards going to the riders who had the best time from the re-start to the finish, about half a mile: 1, Basil H. Davies (3-h.p. Triumph), 58 1-5 sec.; 2, F. Hulbert (3½-h.p. Triumph) 59 2-5 sec. Also competed, E. Gwynne (Vindee machine, 5-h.p. Peugeot engine), G. Aldington (3½-h.p. Kerry), D. G. Gilmour (Bat machine, 9-h.p. J.A.P. engine), E. Burt (T.B.C. machine, 5-h.p. Peugeot engine), F. W. Applebee (3½-h.p. Rex).

RESTARTING COMPETITION (for passenger motor-cycles).—1, A. F. Halsey (Phoenix machine, 5-6-h.p. Minerva engine), 2 min. 17 sec.; 2, A. Adlington (5-h.p. Kerry), 2 min. 25 sec. Also competed: A. Carmichael, jun. (9-h.p. Riley).

COMPETITION FOR QUAD-CARS, FORE-CARS, SIDE-CARRIAGES, OR TRAILERS CARRYING TWO PASSENGERS.—1, G. Aldington (5-h.p. Kerry), 3 min. 59 2-5 sec.; 2, R. M. Brooks (6-h.p. Singer), 4 min. 13 1-5 sec. Also competed: A. F. Halsey (Phoenix machine, 5-6-h.p. Minerva engine).

COMPETITION for machines with engines having a total cylinder capacity not exceeding 85 by 85 or 482 cub. cms. or the equivalent volume swept out.—1, F. Hulbert (3½-h.p. Triumph), 1 min. 41 4-5 sec.; 2, R. M. Brice (3½-h.p. Brown), 1 min. 44 3-5 sec. Also competed: S. Webb (3½ h.p. Triumph), G. Aldington (3½-h.p. Kerry), J. Marshall (3½-h.p. Triumph), F. W. Applebee (3½-h.p. Rex), E. Gibbons (3½-h.p. Triumph), W. Pratt (4½ F.N.).

COMPETITION FOR MACHINES WITH MULTI-CYLINDER ENGINES.—1, F. Applebee, jun. (5-h.p. Rex), 1 min. 30 4-5 sec.; 2, W. W. Genn (Eland machine, 4½ h.p. Minerva engine), 1 min. 40 4-5 sec. Also competed: B. H. Davies (Vindee machine, 5-h.p. Peugeot engine), W. H. Wells (5-h.p. Vindee), Miss Muriel Hind (5-h.p. Rex), L. A. Baddeley (Vindee machine, 5-h.p. Peugeot engine), E. Butt (T.B.C. machine, 5-h.p. Peugeot engine).

COMPETITION FOR MACHINES WITH ANY SIZE ENGINE.—1, F. Applebee, jun. (5-h.p. Rex), 1 min. 29 3-5 sec.; 2, W. W. Genn (Eland machine, 4½-h.p. Minerva engine), 1 min. 32 3-5 sec. Also competed: B. H. Davies (Vindee machine, 5-h.p. Peugeot engine), W. H. Wells (5-h.p. Vindee), S. Browne (6-h.p. L.C.), E. Gwynne (5-h.p. Peugeot), L. A. Baddeley (Vindee machine, 5-h.p. Peugeot engine), R. M. Brice (5½-h.p. Brown.)

AERO.

THE Aero Club's race for the Hedges Butler Challenge Cup will take place at the Ranelagh Club, Barnes, London, S.W., to-day (Saturday), at 4 p.m. The following entries have been received:—

Mr. Griffith Brewer	...	"Lotus."
Mr. A. Leslie Bucknall	...	"Vivienne IV."
Mr. E. Bucknall	...	"Enchantress."
Mr. Frank H. Butler	...	"City of London."
Col. J. E. Capper, C.B., R.E.	...	"Pegasus."
Hon. Mrs. Assheton Harbord	...	"Nebula."
Professor A. K. Huntington	...	"Kokoro."
Mr. J. T. C. Moore-Brabazon	...	"Venus."
Mr. V. Ker-Seymer	...	"Aero Club IV."
Hon. C. S. Rolls	...	"Britannia."

LADIES A.C.

Mrs. MARK MAYHEW, a member of the Ladies' Automobile Club of Great Britain and Ireland, is giving, in honour of her fellow members, a garden party at Bookhams, Churt, Surrey, on Saturday, July 20th.

Mrs. Mayhew has arranged for carriages to be at Farnham Station at 2.30 p.m. to meet all those who do not happen to be motoring. For those who propose to go by road the best route from London is the following:—Battersea Park, Wandsworth, Kingston, Esher, Ripley, Guildford, Hindhead, Churt. Bookhams is quite near the Pride of the Valley at the bottom of Hindhead.

LINCOLNSHIRE.

THIS year the Lincolnshire A.C. selected Tetford Hill, Tennyson's country, for the northern hill-climb, and on Thursday week there were



The Tetford Hill Climb.—The Winning Car, a Clement-Talbot, surmounting the one in seven portion.

some excellent performances on this hill, which is 1,100 yards in length, and has an average gradient of 1 in 12 and portions 1 in 7. The results were:—

Class A.—Up to 12-h.p. (1) Mr. G. E. Sanders, 4½-h.p. De Dion, 3 min. 40 sec., 108.8 marks; (2) Sir H. B. Bacon, 6-h.p. Wolseley, 3 min. 19 sec., 102.8; (3) Dr. Jessop, 6-h.p. Rover, 5 min. 15 sec., 84.3.

Class B.—Up to 24-h.p. (1) Dr. R. G. Hogarth (Nottingham), 12-16-h.p. Clement-Talbot, 1 min. 59 sec., 124.2 marks; (2) Major F. H. Goddard, 16-20-h.p. Clement-Talbot, 2 min. 33 sec., 103.2.

Class C.—Over 24-h.p. (1) Sir H. B. Bacon, 18-h.p. Wolseley, 1 min. 32 sec., 108.7 marks; (2) Captain H. E. Newsum, 35-h.p. Daimler, 1 min. 13 sec., 102.4.

The special prize for best performance of the day fell to Dr. Hogarth, whose 12-16-h.p. Clement-Talbot went up in excellent style. Mr. G. E. Sanders took the second place with his 4½-h.p. De Dion, Sir Hickman Bacon was a very close third with his 18-h.p. Wolseley, his marks totalling 108.7, as against Mr. Sanders's 108.8. After the competition Mr. F. W. Shepherd Heywood entertained the members and their friends at his beautiful place at Holbeck Manor.

NORTH WALES.

THE hill-climbing trials promoted by the Automobile Club of North Wales were held on Monday, on the road from Llanrwst, in the Vale of Conway, to Llangerniew. The road rises 550 ft. in a mile and a quarter, and, although fairly wide, has numerous sharp turnings. Twenty-one cars were entered, but only seventeen actually started. All these successfully climbed the ascent. The cars were handicapped according to power and the combined weight of machine and passengers. Colonel J. Evans, Colonel Thos. Gee, and Mr. J. R. Dawes were the judges, and four medals were won in the following order:—1st, Mrs. Parry's 12-h.p. Clement-Talbot, driven by Mrs. Parry; 2nd, E. Noel Thornevill's 30-h.p. Daimler, driver Gordon Chapman; 3rd, A. C. Davies's 35-h.p. Daimler, driven by owner; 4th, Mrs. Mason's 14-h.p. Germain, driver Harry Lindop. The first car covered the course in 4 min. 3 1-5 sec.

LEICESTERSHIRE.

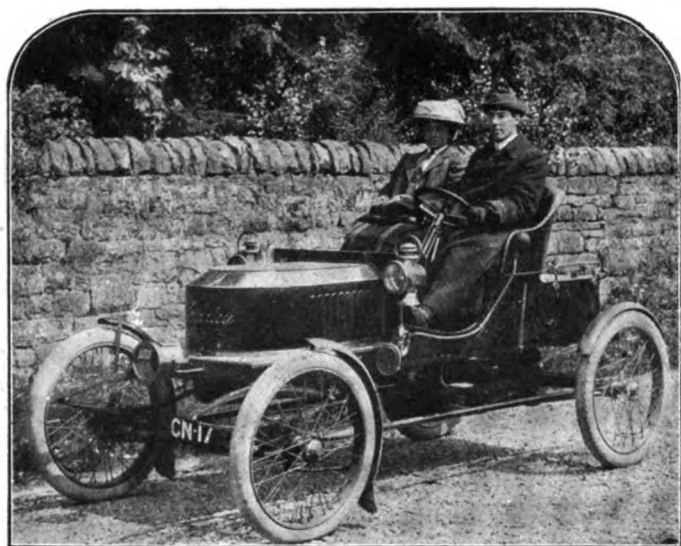
THE Leicestershire Automobile Club had a most successful meeting on Saturday, the occasion being their annual hill-climbing contest, which was carried out at Ab Kettleby Hill, near Melton Mowbray. The opening event was timed to start at 1.30 p.m., and shortly after that hour the first car began its task. The course was over a length of one kilometre, the total rise in this length being about 265 ft., and the average gradient 1 in 12. The first event was open to cars of one and two cylinders. This was won Mr. Victor Riley, on a 9-h.p. Riley car, who not only took the gold medal for the fastest time (2 min. 4 3-5 sec.), but also the gold medal for the best performance on the handicap formula. B. Warner, 8-h.p. Clyde, was second in 3 min. 14 1-5 sec.; R. Sutton Clifford, 12-h.p. Brasier, 3 min. 33 4-5 sec., third.

The second event was for four-cylinder cars, not exceeding 20-h.p., and similar medals were also given. These were both won by Dr. P. E. Tresidder, on a 15-h.p. Clement-Talbot car, in 1 min. 39 sec. M. Roes Browne, 18-h.p. Gladiator, was second in 1 min. 36 3-5 sec., Dr. R. G. Hogarth, 12-16-h.p. Talbot, in 1 min. 47 2-5 sec., third.

The third event was for four-cylinder cars not exceeding 30-h.p. The gold medal for the fastest time was taken by A. Ford, on a 30-h.p. Daimler, in the good time of 1 min. 19 3-5 sec. Captain B. Byron, 24-h.p. Minerva, 1 min. 23 sec., was second, and W. Stokes, 20-24-h.p. Talbot, 1 min. 28 4-5 sec., third. Captain Byron won the medal for the best performance on the formula.

The fourth event was for cars over 30-h.p., and both medals in this section were won by Mr. Cecil Edge, on a 60-h.p. Napier, his time being 1 min. 7 sec.

The challenge cup, presented by Mr. J. A. Hartopp, for the best performance on formula in the preceding events (restricted to members of the Leicestershire A.C.), was won by Captain Byron, who also took



Mr. W. E. Galloway's Stanley Steam Car which made the fastest time of the day in the North Eastern Automobile Association Hill-Climb on the 15th inst.

the silver medal, presented by Mr. R. Sutton Clifford, jun., for the fastest time, in the same events, made by a member of the Leicestershire A.C. The time was 1 min. 23 sec.

Twenty-eight cars competed in the contest in the Du Pre challenge cup. The best time was made by Cecil Edge, 60-h.p. Napier, 1 min. 9 4-5 sec., W. D. Wells, 30-40-h.p. Daimler, being second, 1 min. 14 4-5 sec., and Captain Byron, 24-h.p. Minerva, third in 1 min. 22 4-5 sec. The merits of the various performances are to be declared by the Royal Automobile Club on the new formula.

At the conclusion of the racing an adjournment was made to the tent, where, after a few words from the president, Mr. E. Geo. Mawbey, M.Inst.C.E., welcoming the visitors from other clubs, the cup and medals were presented to the winners by Mrs. Mawbey. The management of the competitions devolved upon the following officials, to whose efforts much of the success of the meeting was due:—Judges, Mr. E. G. Mawbey and Col. L. L. Powell, J.P. Clerks of the course, Mr. Mawbey, Captain Byron, Mr. R. Sutton-Clifford, jun., Mr. A. H. Faulkner, and Mr. A. McAlpin. Timekeeper, Mr. F. K. Ward. Starters, Captain Byron and Mr. Sutton-Clifford, jun. Clerk of the scales, Mr. A. Stagg. Secretary to the meeting, Mr. A. McAlpin.

KENT.

ON Saturday last the members of the Kent Automobile Club visited West Court, Detling, the residence of Mr. and Mrs. J. E. Austin, by whom they were most hospitably entertained and a most enjoyable afternoon was spent, over 80 members and friends being present.

Members are reminded that entries for the gymkhana close to-day

(Saturday), on which day members are also reminded of the invitation to Hulsewood by Mr. and Mrs. C. J. Morgan.

WOLVERHAMPTON.

THE results of the Wenlock Edge Hill Climbing Competitions organised by this club show the following results in open handicap:—

Position.	Entrant.	Car Description.	Efficiency as per formula.
1	Newey Motor Co. ...	8-h.p. De Dion ...	74.6
2	W. Stokes ...	20-h.p. Clement-Talbot ...	66.4
3	H. C. Holder ...	Daimler ...	65.3
4	F. W. Bayliss ...	28-43-h.p. Daimler ...	61.8
5	N. Bayliss ...	16-20-h.p. Sunbeam ...	60.6
6	F. Eastmead ...	16-20-h.p. Sunbeam ...	60.4
7	S. F. Edge ...	45-h.p. Napier ...	59.2
8	Wm. Alldays ...	10-h.p. Alldays ...	58.6
9	Heath's Garage ...	8-10-h.p. Darracq ...	58
10	Climax Motor Co. ...	14-h.p. Climax ...	57.3
	Hill's Martini ...	24-h.p. Martini ...	57.3
	Chas. Sangster ...	35-h.p. Ariel Simplex ...	57.3
11	J. W. Davis ...	28-h.p. Daimler ...	57.18
12	Birmingham Motor Car Co. ...	Delaunay Belleville ...	57.16
13	J. O. Evans ...	28-h.p. Daimler ...	55.6
14	New Arrol Johnston, Ltd. ...	Arrol Johnston ...	55.6
	Spencer Downing ...	10-h.p. Alldays ...	52
15	T. Cureton ...	16-20-h.p. Sunbeam ...	51
16	L. Meek ...	10-h.p. Alldays ...	50.6
17	G. V. Lewis ...	18-24-h.p. Austin ...	50.6
18	J. K. Starley ...	16-20-h.p. Rover ...	50
18	J. H. Barnett ...	18-24-h.p. Austin ...	49.3
	Geoffrey Bird ...	35-h.p. Ariel Simplex ...	49.3
19	Adams Manufacturing Co. ...	10-h.p. Adams ...	49.2
20	F. A. Stirk ...	10-12-h.p. Sunbeam ...	48.6
21	Tom Thornycroft ...	45-h.p. Thornycroft ...	47
22	Humber, Ltd. ...	15-h.p. Coventry Humber ...	46.6
23	Sunbeam Motor Co. ...	30-h.p. Sunbeam ...	46
24	E. Lisle, jun. ...	Royal Starling ...	42.6
25	Newey Motor Co. ...	18-h.p. Siddeley ...	42
26	Wm. Guilding ...	16-h.p. Star ...	41.8
27	J. B. Dumbell ...	Turner Seymour ...	41.6
	C. S. Baynton ...	25-30-h.p. Austin ...	41.6
28	G. H. Evans ...	25-30-h.p. Austin ...	41.6
	John Marston ...	16-20-h.p. Sunbeam ...	41
29	E. Lisle, sen. ...	16-h.p. Star ...	40.7
30	J. Lisle ...	18-h.p. Star ...	39
31	E. Lisle, sen. ...	18-h.p. Star ...	37.6
32	E. Lisle, jun. ...	Royal Starling ...	37.4
33	W. H. Evans ...	40-h.p. Napier ...	36
34	F. S. Bennett ...	9-10-h.p. Cadillac ...	31.3
35	Wm. Eason ...	Royal Starling ...	20

The winners of silver medals in the open handicap were:—

Class.	Winner.	Car Description.
1	Newey Motor Company ...	De Dion.
2	Climax Motor Company ...	Climax.
3	W. Stokes ...	Clement-Talbot.
4	F. W. Bayliss ...	Daimler.
5	H. C. Holder ...	Daimler.

In the club handicap the results were:—

Position.	Entrant.	Car Description.	Efficiency as per formula.
1	Chas. Sangster ...	35-h.p. Ariel Simplex ...	62.6
2	J. W. Davis ...	28-h.p. Daimler ...	58
3	J. O. Evans ...	28-h.p. Daimler ...	54.6
4	T. Cureton ...	16-20-h.p. Sunbeam ...	54.3
5	J. H. Barnett ...	18-24-h.p. Austin ...	50
6	G. V. Lewis ...	18-24-h.p. Austin ...	50
	F. A. Stirk ...	10-12-h.p. Sunbeam ...	48
7	Wm. Guilding ...	16-h.p. Star ...	44.6
8	G. H. Evans ...	25-30-h.p. Austin ...	43
9	E. Lisle, jun. ...	Royal Starling ...	42.6
10	J. Marston ...	16-20-h.p. Sunbeam ...	41.3
11	E. Lisle, sen. ...	16-h.p. Star ...	40
12	J. Lisle ...	18-h.p. Star ...	38
13	W. H. Evans ...	40-h.p. Napier ...	36.3
14	E. Lisle, sen. ...	18-h.p. Star ...	36

Winners of gold medals in the club handicap were:—

Class.	Winner.	Car Description.
1	E. Lisle, jun. ...	Royal Starling.
2	F. A. Stirk ...	Sunbeam.
3	T. Cureton ...	Sunbeam.
4	J. W. Davis ...	Daimler.
5	Chas. Sangster ...	Ariel Simplex.

Mr. Chas. Sangster wins the Motor Union medal for fastest time in Club Handicap.

The winning car in the open handicap was fitted with Dunlop tyres.

NORTH-EAST LANCASHIRE.

THE North-East Lancashire Automobile Club held a speed-judging competition on Saturday, the run being from Lea Gate to Lytham. There were thirty-seven contestants and a varied mileage per hour was given to the different classes of cars. The results showed that some excellent estimates of speed were made. The first prize went to Mr. J. Hodson, who drove a 16-h.p. Bell car; he had to run at sixteen miles an hour, and he made an error of only 4 sec. Mr. H. Noble, on a 16-24-h.p. Belsize car, who was 5 sec. out on a speed equivalent to seventeen miles per hour, was second, the third being Mr. A. E. Crowdy, who on an 18-h.p. Siddeley car timed his driving at seventeen miles an hour within 6 sec.

CHESHIRE.

NOTWITHSTANDING the wintry conditions prevailing on Saturday last ninety members and friends of the Cheshire Automobile Club took part in the meet at Llyn Helig, a beautiful spot on Lord Mostyn's estate near Holywell, his lordship, as a vice-president of the club, having kindly granted permission to use the ground for the purposes of the meet. Amongst those present were Messrs. T. Gibbons Frost and Trevor Boscawen (vice-presidents), Mr. A. G. Jeans, J.P. (chairman), Col. A. H. Knight, V.D., Messrs. Edgar L. Billson, J. Royston, J. A.

MOTOR RACING ON SALT BURN SANDS.

THE Yorkshire Automobile Club held its annual speed trials on the sands between Redcar and Saltburn on Saturday last, when a record entry and a promise of fine weather attracted an attendance of about 12,000 spectators. Unfortunately, however, the proceedings were marred by several severe storms, which not only gave a drenching to most of the visitors, but rendered the track anything but good for motor racing. The events were run off in heats, but, owing to the wretched weather, little interest was shown in them. In fact, many of the contests were run in a drenching downpour, and when the signal to start was given some of the cars, with their driving wheels flying round, could not be got to move. The event of the day was the attempt to set up a new Yorkshire record for the flying kilometre. Mr. Warwick Wright, the holder of the record (96½ miles per hour), did not compete, but Mr. A. Lee Guinness provided some excitement by driving his 200-h.p. Darraq over the measured distance in 20 sec., which works out at a rate of just over 111 miles an hour. Mr. L. Guinness's run over the uneven sand track, which in parts was almost under water, was remarkable, and beats the time he put up on the Blackpool promenade last year.

The following are the results of the different events:—

Closed competition for single-cylinder touring cars, maximum bore 115 mm.; "Whiteman" trophy, presented by Mr. F. W. Wood, Leeds, and gold medal.—1, A. L. Rhodes, 6-h.p. De Dion; 2, Albert Farnell, 6-h.p. Rover.

Closed competition for two, three, or four-cylinder touring cars, maximum bore of 111 mm., and rating of 15.3-h.p. for two-cylinder cars,



The Saltburn Race Meeting.—The View on the Beach.

Stephens, Drs. Dawson and Wilkinson (members of the committee), and Mr. J. A. S. Hassal (hon. secretary).

THE membership of the East Lancashire M.C.C. is increasing, particularly from the Preston district. The club is arranging a speed-judging competition for the A.C.C.'s gold medal.

THE members of the Leicestershire Automobile Club have received an invitation from Mr. and Mrs. J. A. Corah to an "at home" at their residence, Oadby Hill, Leicester, to-day (Saturday), from 4 to 6 p.m.

ON Saturday, July 6th, the Essex Motor Club will take a party of crippled children from East London for a trip into Epping Forest, and the committee will be grateful for the loan of cars for that day. Will any motorists who can assist in this matter please communicate with Mr. Harold Fuller, Wivenhoe, Wynnsgate Road, South Woodford, who will be glad to give further particulars?

MR. WM. LETTS, of Messrs. Jarrott and Letts, sailed on Wednesday for New York on a business trip, and will be away three weeks or a month.

THE 26-32-h.p. Metallurgique car that came in second in the Herkomer Trophy Race is the same model as is to be run in the Liedekerke Cup event in Belgium next month.

MESSRS. MECHAN AND SONS, of the Scotstoun Iron Works, Glasgow, who are now turning out a large number of pressed steel motor-car frames, are also now devoting attention to the manufacture of silencers, dashboards, undershields and other motor-car components. In brass work, radiators are a feature with them. Their extensive engineering experience, now approaching half a century, is a sufficient warranty that all work produced by them is of a class in keeping with their high reputation.

maximum bore of 91 mm., and rating of 15.2-h.p. for three-cylinder cars; and maximum bore of 81 mm., and rating of 16.1-h.p. for four-cylinder cars. Cup to be won outright; presented by Mr. J. Charlesworth, of Bradford.—1, H. Pickles, 12-14-h.p. Singer, four-cylinders, rating 15.8-h.p.; 2, S. Downing, 10-h.p. Alldays, two-cylinders, rating 11.25-h.p.

Closed competition for two, three, or four-cylinder touring cars, maximum bore of 131 mm. and rating of 21-h.p. for two-cylinder cars, maximum bore of 106 mm. and rating of 20.9-h.p. for three-cylinder cars, and maximum bore of 91 mm. and rating of 20.2-h.p. for four-cylinder cars.—1, T. H. Woollen, 12-16-h.p. Clement-Talbot, four cylinders, rating 17.9-h.p.; 2, H. Johnson, 12-16-h.p. Fiat, four cylinders, rating 20.08-h.p.

Closed competition for two, three, or four-cylinder touring cars, maximum bore of 142 mm. and a rating of 25.4-h.p. for two-cylinder cars; maximum bore of 117 mm. and rating of 25.7-h.p. for three-cylinder cars; and maximum bore of 101 mm., and rating of 25.6-h.p. for four-cylinder cars. Cup presented by Mr. Rowland Winn, Leeds, for annual competition.—1, J. E. Hutton, 22-h.p. Berliet, four cylinders, rating 24.8-h.p.; 2, C. McAdams, 20-h.p. Humber, four cylinders, rating 24.8-h.p.

Closed competition for touring cars for the club trophy, cars divided into two classes—one, in which there were seven entries, for cars whose rating is not above 21-h.p., and another in which there were twenty-four entries, for cars whose rating exceeds 21 but not 42-h.p. Winner of first class—W. Duffield's 14-h.p. Vulcan, four cylinders, rating 19.6-h.p. Winner of second class—Albert Farnell's 30-h.p. Daimler, four cylinders, rating 41.9-h.p. Final—Albert Farnell's Daimler won easily.

Closed competition for touring cars, with a maximum bore of 160 mm. for four-cylinders and 130 mm. for six-cylinders, with maximum rating of 63-h.p. in both cases. Cup presented by Mr. A. H. Briggs, Bradford.—1, J. E. Hutton, 60-h.p. Berliet, four cylinders, rating 63-h.p.; 2, F. A. Bolton, 45-h.p. Daimler, four cylinders, rating 55.8-h.p.

Closed competition for touring cars carrying full complement of passengers, the chassis price of which does not exceed £250, including tyres.—1, R. Winn, 15-h.p. Ford; 2, P. L. D. Perry, 15-h.p. Ford.

Closed competition for touring cars carrying full complement of passengers, the chassis price of which does not exceed £450. Cup presented by Mr. Alf. Masser.—1, P. Graham, 16-20-h.p. Rover; 2, F. W. Roper, 16-h.p. Vulcan.

Closed competition for touring cars carrying full complement of passengers, the chassis price of which does not exceed £600. The Y.A.C. cup to be won outright.—1, A. Farnell, 30-h.p. Daimler; 2, A. Huntley-Walker, 30-40-h.p. Darracq.

Open competition for touring cars carrying four passengers, chassis price £800.—1, A. Rawlinson, 40-h.p. Darracq; 2, F. A. Bolton, 45-h.p. Daimler.

Racing cars not exceeding in weight 1,000 kilos. To establish a "Yorkshire record," present record 96½ miles. Cup presented by Mr. Penrose-Green.—1, Hon. A. Lee Guinness, 200-h.p. Darracq, speed 111.84 miles an hour.

Racing car of any weight from a standing start.—Hon. A. Lee Guinness; 2, M. Sorcin, on the Maharajah of Tikari's 100-h.p. De Dietrich.

The following were the officials.—Judges, Messrs. A. H. Briggs, J. Constantine, G. Scooby-Smith, W. Penrose Green, E. Gordon Learoyd, and A. Towler; marshal-in-chief, Mr. A. H. Hupper; clerk of the scale, and secretary, Mr. C. P. Wilson; starter, Mr. J. Brogden; timekeepers, Mr. A. Fattorini and assistants. After the trials the prizes and trophies were presented to the successful competitors by Mrs. Hepper, at the Alexandra Hotel, Saltburn, the headquarters of the club.

MOTOR RACING AT BLACKPOOL.

IN the Lancashire Chancery Court at Manchester last week, before Vice-Chancellor Leigh-Clare, the trial of the action taken by the Attorney-General of the Duchy of Lancaster and Mr. Millar Johnstone M'Vittie against the Corporation of Blackpool, to restrain them from holding motor-car races on the Promenade or other public highways within their jurisdiction, was begun. Mr. Cunliffe and Mr. Cavley for the plaintiffs, and Mr. Cave, K.C., M.P., and Mr. Courthope Wilson for the Corporation. The case for the plaintiffs was that in October, 1904, and again in July, 1905, the defendants wrongfully, and in excess of the powers conferred upon them by their local Acts or statutes, promoted, organised, and controlled certain automobile races upon the Promenade, which the plaintiffs held is a public highway, and that a speed was reached by the cars exceeding ninety miles an hour. It was also alleged that they had obstructed the Promenade and so prevented the inhabitants from having access to it and other adjacent streets, and that they had applied part of the borough funds to the prize fund for the race meeting. In October, 1906, against the advice of the Town Clerk, the Corporation had also organised, promoted, and controlled a motor-car race meeting on the promenade. The plaintiff, Mr. M'Vittie, is a ratepayer of the borough. He alleged that he had suffered damage in consequence of these proceedings, and he asked for an injunction to prevent their repetition. For the defence Mr. Cave submitted that the promenade was not a public highway, but a piece of land vested in the Corporation as a place of resort for pleasure or health. Vice-Chancellor Leigh-Clare said that although he had made up his mind on the matter, the case was one of such considerable importance that he would reserve judgment until July 1st.

SPEED RESTRICTION IN SURREY.

AT the County Hall, Lewes, on Saturday last, Mr. F. J. Willis, Inspector of the Local Government Board, held an inquiry into the application of the East Sussex County Council for a regulation restricting the speed of motor-cars to five miles an hour on a portion of the highway leading from the Lewes to Eastbourne main road at Berwick to Seaford, commencing at a point where the boundary of the parishes of Berwick and Alfriston crosses the road near Winton Farm, thence southwards through the High Street, Alfriston, past Frog Fille and Tile Barn, to a point 550 yards south of Tile Barn, a total length of 3,350 yards, or thereabouts. Among those present were Mr. G. W. Osborn, J.P. (Chairman of the East Sussex County Council), Sir James Duke, Bart., Major Lister, J.P., Mr. Rupert S. Gwynne, J.P. (Chairman of the Eastbourne Rural District Council), Alderman Holman (Lewes), Mr. F. Harrison Barker, Mr. Middleton Gayey, Mr. C. J. Knight (Pevensey), Mr. W. Pinyoun (Alfriston), Mr. Hugh Wallis (Alfriston), Councillor Vallance (Lewes), Mr. T. E. Varley Kirtlan (clerk to the Eastbourne Rural District Council), Mr. H. J. Woodhams (Alfriston), and Mr. F. J. Wood, county surveyor. Mr. Merrifield conducted the case for the County Council, and Mr. Rees Jeffreys opposed on behalf of the Royal Automobile Club, the Motor Union, the Sussex Automobile Club, and certain individual members. The county surveyor explained the plan and early in the proceedings the Inspector intimated his intention of inspecting the road. Major Lister, chairman of the committee, explained that they based their application on local representation. Mr. T. E. Kirtlan, clerk to the Eastbourne Rural District Council, said there had been within very recent times two serious accidents on that road. It was in the interests of strange motorists, who would not be aware of the danger of the hill, that a limit should be imposed.

After other evidence as to the dangerous character of the road, Mr. Osborn said the County Council would agree to that. Mr. Rees Jeffreys, who represented the R.A.C., the Motor Union, and the Sussex Automobile Club, said he had come to oppose the application altogether. The suggestion that a limit should be imposed on the north portion—from Winton Farm to Frog Fille—was preposterous. With regard to the descent and ascent and the sharp corner, the Act prescribed that the authority should set up warning boards. He thought in not doing this the County Council had not carried out the spirit of the Act. He thought it was a remarkable testimony to the way motor-cars had been driven along that road—without any warning sign, and with one of the worst descents in the county—that there should have been only one accident since motor-cars had been placed on the roads. He thought the best way to deal with the danger from the top of the hill to the Seaford end was by a special notice such as "This is a dangerous descent with sharp turn at the bottom." If the application for a speed limit were withdrawn, the Automobile Club were prepared to erect such warning boards. He would not, however, offer any opposition to a speed limit over the descent, sharp corner, and ascent, and the question whether it should be five, eight, or ten miles an hour he would leave in the hands of the Board. The Inspector said the evidence did not support the imposition of the limit on the north section. At length it was agreed that the Inspector, Mr. G. W. Osborn, Major Lister, Mr. Merrifield, and Mr. R. Jeffreys should motor to the spot, it being understood that if the Inspector disagreed with the withdrawal of the north portion—Winton Farm to Frog Fille—from the imposition of the speed limit, the inquiry would be re-opened. The settlement of the limit and the distance over which it should be in force on the remaining portion was left to the Board.

THE WASHING OF MOTOR-CARS.

IN the King's Bench, on the 20th, the case of the Mayor, Aldermen, and Burgesses of Harrogate v. Mackay came before the Lord Chief Justice and Justices Darling and A. T. Lawrence, sitting as a Divisional Court, on appeal by the Corporation of Harrogate from a decision of the justices of the West Riding, sitting at Knaresborough. It was a claim by the Corporation of Harrogate against Dr. Ian Mackay, for a rental of 10s. for a supply of water for the half-year ending December 25th, 1906, to the respondent for the purpose of washing his motor-car. The claim was made under the Waterworks Clauses Acts 1847 and 1863, the Public Health Act, 1875, and the Harrogate Corporation Waterworks Transfer Act, 1897. The justices dismissed the claim, but consented to state a special case for the opinion of the High Court. The facts as proved or admitted were that the respondent used a motor-car for the purpose of his business or profession of a medical man, that he regularly used water for the purpose of washing the car, the water being taken from appellants' pipes, that he kept the car in an outbuilding adjoining his dwelling-house, that he paid the appellants the water rate for the half-year, amounting to £1 7s. 4d., but refused to pay the additional rental of 10s. for the half-year claimed by the appellants, though he had paid the rental demanded on two previous half-years without demur. It was submitted on behalf of the appellants that, under the 12th section of the Waterworks Clauses Act, 1863, water for domestic purposes did not include water supplied for washing carriages, and, therefore, they were entitled to charge him such a reasonable sum as they thought fit for the use of the water.

The Lord Chief Justice said it had been decided fifty years ago, in the case of Busby v. Chesterfield, that the use of water for the washing of a carriage was a domestic purpose, and he saw no reason to dissent from that decision. Stockbrokers rode down to the city in their carriages ever since without paying a rent for the water used in washing them, and why a distinction should be made in the case of a doctor he could not see. He thought the magistrates were quite right.

Justices Darling and Lawrence concurred, and the appeal was dismissed, with costs.

Mr. Mackenzie and Mr. Danckwerts urged the Court to allow an appeal in view of the importance of the case, but the Court refused leave.

THE Coventry Chain Co., Ltd., has recently been liquidated in order that a larger company, namely, the Coventry Chain Co., 1907, Ltd., may be formed. This company has now been formed, and has taken over the whole of the liabilities of the old company, and the management will remain exactly the same as heretofore. A new and enlarged factory is in course of construction, to cope with the increased demand for "Coventry" motor chains.

MESSRS. S. F. EDGE, LTD., have sent us a photograph of a 60-h.p. six-cylinder Napier limousine they have just supplied to Mr. A. J. Palmer, of Fairfield Park, Gloucestershire. The body has been specially built to suit Mr. Palmer's own requirements; the interior is arranged for five persons, including two extra folding seats, which open out from either side and meet in the centre. Tables are fitted inside, which fold away when not required for use. The roof is beautifully panelled with choice wood, and the interior very luxuriously upholstered in a light blue cloth of delicate tint, the carpet being a deeper shade of blue. The whole of the woodwork of the car is polished walnut, and the roof has been built specially strong, so that it can be used as a point of vantage from which to view races, &c.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING LEGAL LIMIT.

At the Hailsham Petty Sessions, on the 19th inst., seven motorists were fined from £2 2s. to £4 for exceeding the legal limit when passing the traps arranged by Sergeant Waghorn.

At Horsham, on Saturday, John Reginald Brown, of Hove, was fined £5 1s. 6d. for driving a motor at Crawley at the rate of twenty-seven miles an hour, and failing to produce a licence.

FURIOUS DRIVING.

Before the Huntingdon county magistrates, on Saturday, Dudley Noble Halliwell, of Regent Grove, Harrogate, was fined £10 and costs for driving a motor-car to the danger of the public at Little Stukeley. The car was stated to have travelled over twenty-eight miles an hour past a dangerous spot where a little boy was killed by a car a short time ago. William Gilmour, of Wood Hall, Worplesden, Surrey, was summoned for a similar offence at Alconbury. Defendant admitted exceeding the limit, but said there was no danger to the public. The magistrates expressed their determination to prevent motorists from going through these dangerous places at anything like the pace defendant admitted.

At Godalming on Monday, Oscar Henry Wilcox, chauffeur to Lord Charles Beresford, was fined £5 and costs for having driven a motor-car at a dangerous speed in the borough on June 9th. The police evidence was that the car covered a measured furlong in 19 sec., which was equal to a speed of 23 miles 1,204 yards an hour. The defendant denied that the speed was as stated, and stated that Lord Charles's instructions as to driving were to be very careful not to exceed the limit, always to drive cautiously, to be very careful when going through towns and villages, and to remember that the road belonged to other people as well as to motorists.

Charles Herbert Cane, of Tangmere, Chichester, was summoned at the Littlehampton County Bench, on Monday, for driving a motor-car in the parish of Angmering, on June 13th, at an excessive speed. The evidence of Inspector Wakeford showed that the defendant covered a quarter of a mile, between the Fox Inn, Angmering, and Dapper's Lane, in 34 seconds, equal to 26 miles 828 yards an hour. Defendant was fined £4 and 3s. costs.

At Warwick, on Monday, Walter John Arthur, Coventry, pleaded guilty to driving a motor-car in a manner dangerous to the public at St. John's, Warwick, on the 8th inst., and also to driving a car without a licence. Defendant said he was trying to discover a defect in a car for which he was responsible. He was fined £2 in the first case, and 10s. and costs in the second. Edward Paddison, 77, Mansfield Street, East Putney, pleaded guilty, at the same court, to driving a car at the rate of thirty-three miles an hour on the Myton Road. He was fined £2 and costs.

At the Coventry Police Court, on Monday, Josiah Job Lee was fined 10s. and costs for driving a motor-car to the public danger along the Foleshill Road. Defendant was further summoned for driving the car without it having been properly registered. It was shown that no notice had been given of the change in the registration of the ownership of the car since it came into the possession of defendant. The Bench fined defendant 5s. and costs.

William Brass, undergraduate, of Trinity College, Cambridge, has been charged at the Cambridge Police Court with driving a motor-car in St. Andrew's Street at a speed which was dangerous to the public. P.C. Wright stated that at 2.30 p.m. on June 11th he was on duty in St. Andrew's Street, when he saw the defendant drive his motor-car from Downing Street into St. Andrew's Street and go towards Regent Street at a dangerous speed. There were a good many cyclists in the road at the time. The magistrates decided to convict, and imposed a fine of £5 and costs.

At Barmouth there has lately been an outbreak of police hostility to motorists, resulting in fines of £5 and costs being inflicted on the Duchess of Westminster and Hon. Walter Vivian.

A TRIPLE CHARGE.

H. C. Rose, of Woodside Park, Wood Green, was charged at Tottenham, on the 20th inst., with being drunk while in charge of a motor-car, also with causing grievous bodily harm to Henry Sayer, a cyclist, through wanton driving, and further with driving the car on a public highway in a manner dangerous to the public. Mr. Barker prosecuted for the Commissioner of Police, and Mr. Purcell appeared for the prisoner. Mr. Barker intimated that it was his intention only to proceed with the first and third charges. The Bench imposed the maximum penalty of 40s. and costs on the first charge, the second charge was withdrawn, and the third dismissed. The prisoner's licence was ordered to be endorsed.

CASE DISMISSED.

WILLIAM WILSON, chauffeur, to Mr. Russell Rea, M.P., was summoned on Monday for driving in a manner dangerous to the public out of the Haymarket across Coventry Street into Great Windmill Street, London, W. Mr. Marshall conducted the prosecution on behalf of the police and Mr. Staples Firth appeared for Mr. Wilson. The police constable on duty stated that he had stopped the traffic coming out of the Haymarket, and notwithstanding this, the defendant came dashing out at the rate of 12 miles an hour and nearly ran into a shop and eventually collided with a milk cart, smashing the shafts and throwing the driver into the road. The defence was a denial of the allegations. The speed was put down at 4 to 4½ miles an hour, that the traffic out

of the Haymarket, was not being held up and he was the last in a line of traffic, there being two hansom cabs immediately in front of him, and that when he had got his car partly into Windmill Street he had to pull up because the cab in front of him stopped. The case occupied a considerable time, and in giving a lengthy and well-considered judgment Mr. Plowden dealt fully with the evidence and said that what threatened to be a very bad case of driving to the public danger, from the evidence of the prosecution amounted to the chauffeur misinterpreting the signal of a policeman, and dismissed the summons.

NO LICENCE.

Harry Key, of Birmingham, who did not appear, has been fined £5 and costs at the Chesterfield County Police Court, for driving a motor-cycle without having a licence, at Tipton, on May 26th. According to the evidence of Police-constable Spencer, defendant gave a wrong address in Leeds, and he was found in Birmingham after considerable enquiries and trouble. He had been summoned for similar offences on two previous occasions.

ROAD REPORTS.

SUNNINGDALE.—The Chertsey Rural District Council has agreed to place danger (motor) signal-posts in several places in Sunningdale within its area. It has also resolved to call the attention of the county authorities to the condition of the main roads. As instancing the amount of motor traffic through Sunningdale, it is said that on the day of the King's Review, recently, the level crossing gates were closed and within five minutes thirty-six automobiles had assembled.



—The Celebrated Spanish Bull-Fighter, Bombitta, at the helm of Mr. E. M. C. Instone's 45-h.p. Daimler. Beside Bombitta is the Duke of Zaragoza, while in the tonneau is Don Carlos A. Levison, one of the pioneers of Automobillism in Spain.

POLICE TRAPS.

TRAPPING is going on merrily in and around Newmarket.

BECKENHAM is the centre of a trap-laid district.

SERGEANT WAGHORN has been operating traps at Dioker, Chiddingfold and elsewhere in his wide area during the last few days.

MOTORISTS at Brighton are advised to proceed along the King's Road at a reasonable pace.

THE police have a measured stretch on the main road between Glasgow and Helensburgh, near Cardross.

AUTOMOBILE ACCIDENT.

A SERIOUS motor-car accident has occurred at Llangollen. A 20-h.p. Humber car, in which Mr. Higginson, owner of the Wrexham Motor Garage, was driving two gentlemen, was emerging from a sharp turning into the Holyhead road, when it collided with a car in which Mr. Harold Copperthwaite, of York, and two ladies were being driven. Mrs. Copperthwaite, who was riding in front with the chauffeur, was thrown from her seat, and sustained severe wounds to her head and face. Mr. Copperthwaite sustained severe scalp wounds. The victims of the accident had their injuries medically attended, and are progressing favourably.

MESSRS. DAVID BRIDGE AND CO., of the Castleton Iron Works, Castleton, Manchester, have sent us a copy of a new pamphlet on india rubber, gutta percha, and balata machinery, including friction clutches, haulage plants, mill gearing, ice crushers, oil separators, boiler feeders, couplings, &c., they have just issued as a supplement to their existing catalogues. The list is well arranged and fully illustrated, and a noteworthy feature is that the particulars of the different machines are printed in English, French and German.

MOTOR LICENCE ENDORSEMENTS.

BEFORE the Lord Chief Justice, Mr. Justice Darling, and Mr. Justice A. T. Lawrence, in the King's Bench division, on the 19th inst., came the case of "The King v. Marsham (ex parte Chamberlain)," in which a rule nisi had been obtained for a writ of certiorari to quash an endorsement on a motor-car licence of a conviction for driving a motor-car in St. James's Park at a greater speed than ten miles an hour, contrary to the regulations made by the Commissioners of Works under the Parks Regulation Act, 1872, in April, 1904, and published by notice exhibited in the park. The matter now came on for argument.

The applicant had never previously been convicted of any offence in connection with the driving of a motor-car, and he was summoned for an alleged offence on February 13th, 1907, and convicted and fined 40s. and 2s. costs. The magistrate also caused his licence to be endorsed with the conviction. The Motor Car Act of 1903 provided that any court before whom a person was convicted of an offence under it, or of any offence in connection with driving of a motor-car, other than a first or second offence, consisting solely of exceeding any limit of speed fixed under the Act; if the person convicted held any licence, should cause particulars of the conviction, and of any order of the court, to be endorsed upon the licence, and should also cause a copy of those particulars to be sent to the council by whom any licence so endorsed had been granted. One of the rules made in April, 1904, by the Commissioners for St. James's and Green Parks, under the Parks Regulation Act, 1872, provided that "drivers of all vehicles must conform to such orders for the regulation of traffic as may be given by the park-keepers or published by notice exhibited in the parks." Another rule laid it down that cars propelled or drawn by mechanical means should only be admitted subject to the rules of the commissioners and exhibited in the parks.

Mr. G. R. Askwith showed cause against the rule, which was supported by Mr. Horace Ivory, K.C., and Mr. J. K. F. Cleave, instructed by Mr. Staples Firth.

Mr. Askwith submitted that the words of the Motor Car Act of 1903 were so wide that endorsement must follow the conviction, as the appellant had been convicted of an offence in connection with the driving of a motor-car other than a first or second offence consisting of exceeding a speed limit fixed under the Motor Car Act, 1903. The speed limit in this case was fixed under the Parks Regulation Act of 1872.

Mr. Ivory submitted that the words "fixed under this Act" on the Motor Car Act were surplusage. It would, the learned counsel said, be absurd that the Court should be bound to endorse a conviction for a first offence of exceeding ten miles an hour in the park when a conviction for a first offence of exceeding twenty miles an hour in a crowded street could not be endorsed.

The Lord Chief Justice said the case was a difficult one, as the framers of the Motor Car Act evidently forgot that speed regulations might be made under the Parks Regulation Act. He could not think that the words of the section, even as framed, included an obligation to endorse a first or second offence of exceeding a speed limit of ten miles an hour in St. James's Park simply on the ground that the speed limit was fixed in some other lawful way. If a man was convicted a first and second time of driving over twenty miles an hour outside the park, his licence could not be endorsed. He thought the endorsement should be quashed.

The other judges concurred, and the rule was made absolute and the endorsement quashed.

MOTOR-CARS IN THE PARKS.

SEVERAL adjourned summonses against motor drivers accused of exceeding the speed limit of ten miles an hour in St. James's Park, London, W., came on before Mr. Marsham at Bow Street Police Court, on Monday. Evidence had been taken on a previous occasion, and Mr. Marsham had intimated his intention of imposing a penalty, but he had ordered a formal adjournment pending an appeal against the magistrates sitting at this court, who had ruled that they were compelled to endorse the licences of drivers convicted of this class of offence. Mr. Marsham said that the defendants now before him would have to pay 40s. each, and 2s. costs, but owing to the decision of the High Court their licences would not be endorsed.

PUBLIC MOTOR SERVICES.

THE Irish Motor Touring Company, Limited, of Haddington Road, Dublin, started their daily motor service from Dublin to Bray and Enniskerry on Saturday last.

A LICENCE was granted last week for the first motor-cab plying in the streets of Edinburgh.

THE attention of the Commercial Motor Users' Association having been drawn to the circular letter which the Commissioner of Police has addressed to the various omnibus companies on the subject of the dropping of oil and grease from motor-omnibuses, the committee has resolved to offer a special cup in connection with the forthcoming trials of commercial vehicles, to be awarded for cleanliness in respect of the dropping of oil.

THE licences of the motor-buses running between Worthing and Brighton and Hove and Kemp Town are to be renewed.

COMPANY NEWS.

NEW COMPANIES REGISTERED

AUTO DE LONDRES.—£10,000. Manufacturers of and dealers in motors, motor-cars, carriages, and vehicles of all kinds, &c. No initial public issue. Registered without articles. 36, Camomile Street, E.C.

MOSELEY MOTOR WORKS.—£5,000. As title. No initial public issue. First directors: Messrs. H. B. Graham, A. J. Smith, and J. L. South. 1, Arundel Street, Strand, W.C.

CHAMBERS' MOTORS, LIMITED.—£15,000, in £1 shares. To enter into and carry out an agreement with Messrs. R. M. Chambers, J. H. Chambers, and Charles E. Chambers, for the purchase of the business of mechanical engineers, motor-car and patent bottle-wiring machine manufacturers, and the interest of the firm in leasehold premises, plant, goodwill, &c. The first directors will be the Messrs. Chambers (already named) and Mr. Charles B. Hurst, of Ballynahinch, Co. Down. Registered office, Cuba Street, Belfast.

BRITISH MOTOBLOC SYNDICATE.—£15,000. To adopt an agreement with the Société Anonyme des Automobiles Motobloc, of Bordeaux, and to carry on the business of manufacturers of and dealers in motor-cars, carriages, cabs, &c. No initial public issue. First directors: Messrs. R. Jackson, J. S. Critchley, L. Delphin and R. Bodden.

SOUTH EALING MOTOR COMPANY.—£1,000. To acquire from Mr. L. F. Bishop the business carried on by him as the South Ealing Motor Garage. No initial public issue. Registered without articles. First directors, Messrs. L. F. Bishop, E. G. Browning, L. S. Bishop, S. A. Day, Miss S. Harris, Mrs. M. Browning, and Mr. H. A. Farman. Ealing Road, South Ealing.

TOWER MOTOR AND ENGINEERING COMPANY, LTD. (3,198). Capital, £1,000. To manufacture, sell, let on hire, adapt, or deal in all sorts of motors, engines, locomotives, carriages, or vehicles wholly or partly propelled by petrol or oil. Directors limited to three, the first being Major Mathew C. E. Fortescue, D.L., Stephenstown, Dundalk (managing); Mr. Charles T. Alston, engineer, Prussia Road, Hoylake, Cheshire; and Mr. W. Blundell Thornhill, gentleman, Castle Cossey, Castlebellingham. Registered office: Castlebellingham, Co. Louth.

LEEDS MOTOR MANUFACTURING COMPANY.—£2,500. To adopt an agreement with A. E. Macleod for the acquisition of a patent, a motor-van, and other property, &c. No initial public issue. Registered office: Balmoral Street, Leeds.

BRAZIL, STRAKER AND CO.—£80,000. To acquire the business of civil and manufacturing engineers formerly carried on by Brazil, Holborow and Straker, Limited, at the Motor Works, Fishponds, Bristol, and at the Vulcan Ironworks, St. Philip's Marsh, Bristol. No initial public issue. First directors: J. P. Brazil, H. F. Moseley, H. G. Holborow, J. N. Williams, and S. Straker.

THE CHARGE AGAINST A LADY MOTORIST DISMISSED.

No evidence was offered by the Crown at the Hertford Assizes on Monday in the case of Miss Elsie Fox, who was indicted on the coroner's inquisition for the manslaughter of William Parish at Royston. She was accordingly discharged. Parish was killed in a collision with Miss Fox's car at the cross-roads as she was returning from Newmarket races. The coroner's jury returned a verdict of manslaughter, but the magistrates decided there was no criminal negligence.

TAR FOR DUSTY ROADS.

AMONG the papers read at the annual meeting of the Institution of Gas Engineers in Dublin, last week, was one on "The Use of Tar on Roadways," by Mr. H. P. Maybury, County Surveyor of Kent. The author said that, since 1903, many experiments towards meeting the demand for dustless roads had been made and numerous chemical compounds had been used with more or less satisfactory results; but it was now generally conceded that nothing was so effective as coal tar. With tar at 1½d. per gallon, the cost of painting the surface of a mile of road, when such work was performed by mechanical means, varied from £30 to £40; and assuming the whole of the main roads were so treated an additional £1,000,000 would be required. This work would represent a yearly consumption of 33,400,000 gallons of tar, its value being something like £230,000. It would thus appear that a new market of considerable importance for that bye-product would shortly be opened up; and it should be the aim of every gas engineer to encourage in his immediate neighbourhood the use of tar for road purposes by putting the purchaser upon the most favoured nation terms.

A SECOND-HAND TYRE TRANSACTION.

AT the Wandsworth County Court, last week, Edward Harrison, of 4, Central Hill, Upper Norwood, sued the Armand Motors, Ltd., of Balham, S.W., for £5 damages for alleged fraudulent misrepresentation on the sale by defendant of two motor-car tyres. Plaintiff said that he purchased two motor-car tyres at different dates from defendants for £2 10s. each. They were alleged to be reinforced tyres. The first tyre-

went to pieces after running 120 miles, and the other got into a similar condition when it had only covered seventy or eighty miles.

Harold Penney, assistant manager of the Armand Company, said the tyres were sold to plaintiff as second-hand covers, and not as reinforced tyres. The judge found for defendant, and said it was unfortunate that such a serious charge as fraudulent misrepresentation had been brought on such slender grounds.

THE SOUTHERN MOTOR CLUB'S HILL-CLIMB.

NOTWITHSTANDING unforeseen difficulties the Southern Motor Club successfully carried out its hill-climbing competition on Saturday last. It was intended to hold the event at Kidd's Hill, near East Grinstead, but a resident on the hill called on the police to prevent the contest being held there. The consequence was that when the competitors' and officials' cars, of which there were altogether about sixty, arrived at East Grinstead, it was learned that the police had made most elaborate arrangements, posting sixteen officers on the hill, and installing an electrical timing apparatus and a field telephone. The officials of the S.M.C. thereupon decided to alter the venue, and the long procession of cars moved off to Toy's Hill, a steep and winding hill, about 1½ miles long, near Brasted, Kent, about 13 miles away. The alteration of the venue naturally caused great delay, the last car not ascending until past seven in the evening. It was decided not to publish actual times, but to take the fastest time as zero and to give the difference between that time and the time accomplished by each of the other cars.

For the first event, for touring cars whose cylinder diameter in inches squared and multiplied by the number of cylinders was under 35, there were eleven entries, the result being:—R. O. Clarke, 9-h.p. Sizaire-Naudin, zero, first; F. W. Huband, 10-h.p. Alldays, 36 sec. slower, second; J. F. Buckingham, 9-h.p. Riley, 49 2-5 sec. slower, third.

Six cars competed in Class 2—touring cars whose cylinder diameter in inches squared and multiplied by the number of cylinders was between 35 and 50. The first place was taken by R. E. Deacon, on a 12-16-h.p. Talbot, zero; A. J. Sproston, 14-h.p. Vulcan, 19 sec. slower, being second; and L. Walton, on a 12-16-h.p. Vauxhall, 30 sec. slower, third.

There were fifteen starters in Class 3, which was for cars which, on the same formula as above, came between 50 and 75. The winner was H. Ramois, on an 18-h.p. Germain, zero; Oscar Cüpper, 24-28-h.p. Metallurgique, 5 2-5 sec. slower, was second; and E. H. Arnott, on a 20-h.p. Arrol-Johnston, 30 2-5 sec. slower, third.

Class 4 (between 75 and 100 on formula) brought out half a dozen cars, two of which failed to take the hill. L. Carle, on a 45-h.p. Mors, made the best time, the second place being taken by O. S. Thompson, 25-h.p. Austin, 27 2-5 sec. slower, and the third, E. Burchett, 24-h.p. De la Buire, 40 1-5 sec. slower.

Considerable interest was shown in Class 5 (between 100 and 150), in which Daimler, Iris, Napier, Thornycroft, Gracile, Brooke, and Gobron cars competed, with the following result:—S. Smith, 60-h.p. six-cylinder Napier, zero, first; J. Goddard, 34-h.p. Daimler, 7 2-5 sec. slower, second; H. Musker, 35-h.p. Daimler, 8 2-5 sec. slower, third.

In Class 6, for lady drivers, there were only two competitors, Miss Muriel Hind making zero time on a 24-h.p. Deasy, Mrs. Kirton on a 6-h.p. De Dion being 3 min. 53 2-5 sec. slower.

The final event was for cars which competed in the recent Tourist Trophy race, and resulted as follows:—Oscar Cüpper, 24-28-h.p. Metallurgique, zero, 1st; A. Instone, 25-h.p. Arrol-Johnston, 1 min. 18 sec. slower, 2nd.

The result of the handicap on the R.A.C. formula will be announced later. Major F. Lindsay Lloyd acted as starter; while the judge was Earl Russell, and the timekeepers, Messrs. J. H. Burley, F. Straight, and H. H. Griffin, official timekeepers of the Royal Automobile Club, with Mr. S. W. Phillpott secretary of the meeting. We may add that we journeyed down to East Grinstead and on to Toy's Hill on Mr. Sternberg's 28-h.p. Mors car, which behaved in excellent fashion.

MOTOR TRACTION IN LANCASHIRE.

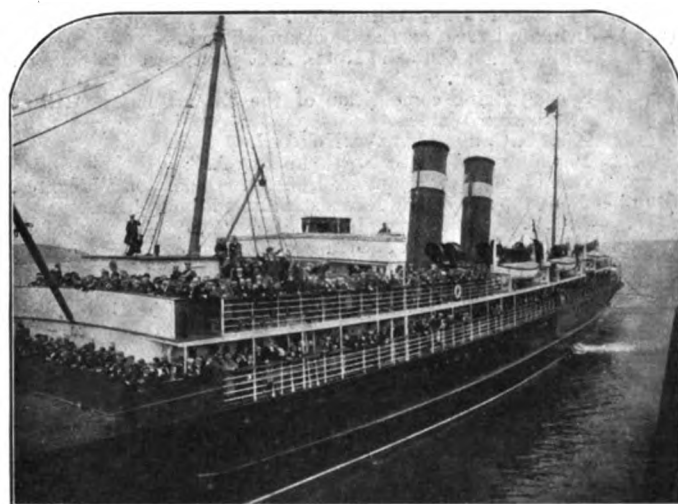
THE General Motor Carrying Company, of Deansgate, Manchester was summoned at Radcliffe on Monday for not having a person in charge, of a trailer behind a motor vehicle to apply the brake. The managing director of the company appeared, and told the Bench that there was no danger involved by the infringement of the law. The Act had been framed in ignorance of the working conditions in Lancashire, and prosecutions simply amounted to persecutions against the trade. Between Manchester and Rossendale no action was now taken by the police, with the exception of those in the Bury county division. A fine of 40s. and costs was imposed, this being the company's second offence in the district.

MESSRS. LEMAIRE AND THACKTHWAITE, agents for Messrs. Renault Freres, Ltd., have removed to 119, Regent Street, London, W.

WITHIN the last few days Mr. S. F. Edge has received orders for six-cylinder Napiers from the Duke of Bedford, the Raja of Kheira, Bengal, Lieut. Marshall Roberts, and Mrs. H. W. Pauling, of Cape Town.

THE HUMBER COMPANY'S ANNUAL OUTING.

LAST week end the extensive works of the Humber Company, at Beeston and Coventry, presented anything but their ordinary appearance, for in place of the usual scene of bustle and activity all was quiet, there being hardly a sign of life about. This was due to the holding of the annual outings of the employees. The Beeston contingent, to the number of about 1,000, were conveyed in three special corridor trains from Nottingham Station, on the morning of Friday, the 21st inst., to Heysham, en route for the Isle of Man, by the s.s. "Londonderry," which had been specially chartered for the occasion, to Douglas. Mr. Edward Powell, the chairman of Humber, Ltd., presided at the staff dinner, which took place on Friday evening at the Villiers Hotel, Douglas, when about 100 were present. The musical programme which followed was interspersed with a number of toasts which were duly honoured. The Chairman, in a brief but interesting speech, replied for "The Firm," proposed by Mr. W. Millington, while the popular manager, Mr. T. C. Pullinger, was musically honoured. Messrs. G. P. Mills and A. H. Niblett, his right hand men, being also toasted. During Friday and Saturday excursions were made to the places of interest in the Island, most complete arrangements having been made in order that the visitors should thoroughly enjoy themselves. Not the least interesting feature of the trip was provided by the Beeston-Humber silver prize band of twenty-four performers, one of the most famous of the works bands of the Midlands, which, under the conductorship of Mr. J. Irons, had the honour of being invited by the Douglas Municipal Council to play on the promenade band stand. The return journey was commenced at 12 o'clock on Saturday midnight, Nottingham being safely reached at



The Beeston-Humber Party arriving at Douglas.

8 o'clock on Sunday morning. The arrangements were of the most complete character, and reflected much credit on the joint organising secretaries, Messrs. M. Rallinshaw and H. F. Gray, to whom a special vote of thanks was accorded at the staff dinner. We may add that the Midland Railway undertook the task of conveying the large party to and from Douglas, carrying it through with a degree of promptness and comfort which was greatly appreciated.

While the Beeston party were in the Isle of Man, three long special trains left Coventry at half-past four on Saturday morning, conveying Mr. Walter Phillips, the manager, and about 1,500 employees of the Coventry Works of the company and their friends to London en route for Hastings and Boulogne. An extensive programme was arranged for the day, including arrangements for both land and sea. For those who did not care to cross the Channel pleasure trips were arranged to places of interest in the district. The "Brighton Queen" was especially chartered for the journey to Boulogne, and the party was received by the Mayor and the general officials of the town, and conducted round the colleges, schools, factories, &c. A staff of interpreters was placed at the service of the tourists, and everything done to make the stay of the Coventry visitors in Boulogne as pleasant as possible. The return journey commenced at 11.20 at night, the first train being due back at Coventry at 4 o'clock the next morning.

The excursion was one of the largest which has ever left the Midlands, and, like the Beeston trip, was managed throughout with that thoroughness which has always been a characteristic of Humber undertakings, the arrangements reflecting the greatest credit upon the joint secretaries, Messrs. C. Willson and T. Harrison.

THE United Motor Industries, Ltd., of Poland Street, W., inform us that the Eisemann magneto can now be obtained to run off the half-speed shaft, the rapidity and strength of the spark remaining the same as with the ordinary model.

FORTHCOMING EVENTS.

—●—
JUNE.

- 23th (F.).—S.A.C. Inverness—Pitlochry, 154½ miles.
29th (Sat.).—S.A.C. Pitlochry—Glasgow, 122½ miles.
Aero Club race for the Hedges Butler challenge cup.
Birdlip hill climb of the Bristol and Gloucestershire A.C.
Joint meet of the Liverpool, Manchester, N.E. Lancs.,
Sheffield and Yorkshire Clubs at Buxton.
Motor Cycling Club 100 miles Private Owners' Reliability
Trial.
Motor Yacht Club races.
Southern M.C.'s midnight run to Southsea.
Bradford A.C. hill climb.
Mr. S. F. Edge's 24 hours' run on the Brooklands Track.
End of the Scottish Reliability Trial.
East Surrey A.C. run to Worthing.
Kent A.C. at Dartford Heath, by invitation of Mr. C. J.
Morgan.
Midland A.C. run for crippled children at Castle Bromwich.
30th (S.).—Motor C.C. run to Woburn.

JULY.

- 2nd (Tu.).—A.C.F. Grand Prix Race on the Seine Inferieure Circuit,
near Dieppe.
3rd (W.).—Special meeting of R.A.C. committee.
4th (Th.).—International cross Channel race for motor-boats from
Dover.
Joint meeting of the Lincolnshire A.C. and the Lincoln-
shire M.C. at Willingham.
6th (Sat.).—Inaugural races on the Brooklands Track.
Motor Yacht Club and Notts. A.C. joint meet and races on
the Trent.
Speed judging competition of the Essex County A.C. at
Saffron Walden.
Kent A.C. gymkhana at Holwood.
100 miles trial of the North London A.C.
Run of the Northamptonshire A.C. to Compton Wyngates.
7th (Sun.).—Non-stop run of the Newcastle and District M.A.C.
10th (W.).—R.A.C. South Harting hill climb.
13th (Sat.).—Entries for R.A.C. commercial vehicle trials close at
ordinary fees.
Aero Club ascent, Crystal Palace.
Speed trials of the Lincolnshire A.C. at Grimthorpe.
Meet of the Cheshire A.C. at Plas Newydd, Llangollen.
Sheffield A.C. outing for crippled children.
15th to 18th.—The annual automobile meeting at Ostend.
20th (Sat.).—Motor Union meet at Southport.
27th (Sat.).—Commercial vehicle meet at Maidstone.

AUGUST.

- 20TH.—Open competition for light cars organised by the Essex Motor
Club over a 200 miles course.

SEPTEMBER.

- 9TH.—Industrial Vehicle Trials commence.

OCTOBER.

- 19TH.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

- Cordingley's Motor-Car Exhibition at the Agricultural Hall,
London.

LIGHTING-UP TIMES—LONDON.

June 29th—9.19	...	July 1st—9.19	...	3rd—9.18	{...	5th—9.17
„ 30th—9.19	...	„ 2nd—9.18	...	4th—9.17	{...	6th—9.17

THE OPENING RACE MEETING ON THE
BROOKLANDS TRACK.

THE motor-car race meeting to be held on the Brooklands track
on Saturday, July 6th, has attracted a large entry list, and some excit-
ing performances may be expected. The foreign drivers include
Nazzaro, the winner of the Targa Florio and Kaiser's prize races, Lancia,
Duray, Demogeot, Fabry, and Gabriel. The English cracks include
Messrs. S. F. Edge, C. Jarrott, Warwick Wright, J. E. Hutton,
C. Sangster, E. M. C. Instone, H. R. Pope, and D'Arcy R. Baker.

The following are the races and entrants:—

- The Horsley Plate of 300 sovs., for motor-cars propelled by means of
internal-combustion engines only, of a cylinder dimension 60 to
under 85. Weight about 3,000 lb. Distance, about three miles.—
30-h.p. Thornycroft, 24-h.p. Mass, 25-h.p. Straker-Squire "C.S.B.,"
30-h.p. Thornycroft, 30-40-h.p. Brasier, 18-h.p. Arrol-Johnston,
20-h.p. Brotherhood, 20-h.p. Itala, 30-h.p. Darracq.
The Gottlieb Daimler Memorial Plate of 650 sovs., for motor-cars pro-
pelled by means of internal-combustion engines only, of a cylinder
dimension 120 to 155. Weight, 3,000 lb.. Distance about fifteen
miles.—45-h.p. Daimler, 45-h.p. Daimler, 45-h.p. Daimler, 60-h.p.

six-cylinder Napier, 35-h.p. Minerva, 45-h.p. Daimler, 35-h.p. Ariel-
Simplex, 40-h.p. Darracq.

- The Byfleet Plate of 550 sovs., for motor-cars propelled by means of
internal-combustion engines only, of a cylinder dimension 110 to
under 135. Weight 3,000 lb. Distance about ten miles.—60-h.p.
Berliet, Itala, 45-h.p. six-cylinder Napier, 35-h.p. Minerva, 45-h.p.
Fiat, 50-60-h.p. Fiat, 30-h.p. Ariel-Simplex, 60-h.p. Berliet, Itala,
60-h.p. Lorraine-Dietrich, 40-h.p. Darracq, 30-40-h.p. Darracq.
The Stephenson Plate of 300 sovs., for motor-cars of a price not less
than £600 and not exceeding £700. Weight, 3,500 lb. Distance
about six miles.—30-h.p. White, 40-h.p. Junior, 30-h.p. White,
30-h.p. Ariel-Simplex, 60-h.p. four-cylinder Napier, 30-40-h.p.
Darracq, 30-40-h.p. Darracq.
The First Montague Cup, value £2,100, for motor-cars propelled by
means of internal combustion engines only, of a cylinder dimension
155 to under 235. Weight, 2,800 lb. Distance, about thirty miles.
—90-h.p. Napier, 100-h.p. Fiat, 100-h.p. Darracq, 120-h.p. Mercedes,
120-h.p. Fiat, 40-h.p. Ariel Simplex, 120-h.p. Mercedes, 100-h.p.
Darracq, 100-h.p. Itala, De Dietrich racer, 120-h.p. Mercedes,
120-h.p. Darracq.
The Marcel Renault Memorial Plate of 550 sovs., for motor-cars propelled
by means of internal-combustion engines only, of a cylinder dimension
85 to under 110. Weight, 3,000 lb. Distance about twelve miles.
—35-h.p. Iris, six-cylinder Iris, 40-h.p. Berliet, 36-h.p. Thorny-
croft, Fiat, 40-h.p. Napier, 40-h.p. Junior, Targa Florio Fiat,
30-h.p. Ariel-Simplex, 35-h.p. Vinot, 40-h.p. Weigel, 40-h.p. Itala,
40-h.p. Lorraine Dietrich, 35-h.p. Renault, 30-40-h.p. Darracq.

THE ARMY MOTOR RESERVE.

LIEUTENANT LE VICOMTE DE SATGE DE ST. JEAN drove General
Lord Methuen during night operations, in the vicinity of Folkestone, on
the 7th inst. Lieut. F. Dyer-Dennet was on duty with the General
during similar operations carried out by him, near Sheringham, on the
10th instant.

It is of interest to note that amongst the prospective duties to be
performed by officers of the Army Motor Reserve, four cars have been
detailed to convey the distinguished French military officers, includ-
ing the chief of the general staff, who are visiting this country this
week, during the various operations which they will attend at Alder-
shot and elsewhere.

Major-General H. Hutchinson, C.S.I., Director of Staff Duties (in
the absence of the Chief of the General Staff), directed a staff tour in the
Western Counties of England and in South Wales, between
May 27th and June 1st. The following officers of the Army Motor
Reserve attended with their cars, and materially assisted in making the
tour a success:—Captains R. H. Townshend and A. C. Duckworth,
Lieuts. C. Braby, E. H. Thornewill, E. McNiven, E. E. Richardson,
D. D. Macpherson, E. Chodwick-Brown, Le Vicomte de Satge and
H. G. Nalder. The chief points of rendezvous were Brecon, Carmarthen,
Hereford, Gloucester and Worcester.

Among other duties carried out by the corps are the following:—
Staff tour under the Commandant Staff College, between Gloucester
and Bath, from May 28th to 31st., attended by Lieutenants F. J. Frost,
J. Peyto Shrubbs, R. F. Glyn, and A. C. Edwards. Tour of inspection
of Imperial Yeomanry at North Weald, on June 1st, Lieutenant
R. J. Stilwell. Inspection of manoeuvre area at Salisbury, on June
4th, Lieutenant M. W. Shuttle. Staff tour at Aldeburgh under the
Commander Thames and Medway defences, from June 4th to 7th;
Lieutenants G. E. V. Milbank and C. E. Smith. Staff Tour under the
G.O.C. 1st Division, at Cirencester, from June 13th to 16th, Captain
A. C. Duckworth.

BUSINESS NEWS.

MR. W. F. PARKER, of the Motor Garage, Oxford, has issued a
useful booklet of Coming Events in his district. It gives, amongst other
things, the programme of the pageant which is being held from June
27th to July 3rd, a perpetual lighting-up table and a list of the identi-
fication marks of motor-cars.

THE Glasgow Automobile Company, of West George Street,
Glasgow, have been appointed sole agents for Glasgow and the West of
Scotland for the sale of Weigel cars.

THE United Motor Industries, Ltd., 45 and 46, Poland Street
London, W., have been appointed sole British agents for the firm of
Dupressoir, makers of axles, frames and chassis parts generally; also
for the well-known firm of Hannover, makers of springs.

THE STEPNEY SPARE MOTOR WHEEL, LTD., have just had the
honour of supplying His Majesty the Czar with two Stepney wheels for
use on his car.

We learn that two of the three Nacke cars entered in the Herkomer
Touring Trophy Competition, viz., No. 142 driven by Erich Graf
Kunigl-Ehrenburg, and No. 145, driven by Baron von Gutmannsthal,
obtained full marks and accordingly the gold medal.

THE BRITISH AUTOMOBILE COMMERCIAL SYNDICATE, LTD., inform
us that they have appointed Mr. C. Bertrand, who was formerly with
the A. Clement factory at Levallois-Perret, and the Societe Franco-
Americaine d'Automobiles (E. Lamberjack), of Paris, as their manager,
in succession to Mr. F. F. Wellington.

THE Motor-Car Journal.

VOL. IX.]

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COMMENTS.



THE inauguration of the racing season on the Brooklands Motor Track by Mr. S. F. Edge, last week end, has certainly excited the country to a very considerable extent. On all hands we hear expressions of admiration for the wonderful tenacity, determination, and patience of the man who could rush round the course 572 times in twenty-four hours without cessation. The feat was, however, more than a mere test of physical endurance, involving as it did quickness of eye and clearness of head in maintaining such consistent running for so long a period. It was to be regretted, however, that the condition of the track was scarcely up to the standard of perfection that it was hoped would have been the case, and we shall watch its behaviour during the season with considerable trepidation unless an early assurance is forthcoming with regard to the firm foundation of the banking. The spectacle of men throwing sand as the motorist rushed along was certainly unexpected, and we trust may not require to be repeated. Apart from this, however, the fact that Mr. Edge travelled the 1,581 miles 1,310 yards in twenty-four hours seems to point to some of the anticipations of the novelists and the poets being realised. Jules Verne's idea of going round the earth in eighty days has already been put into the shade, and now Mr. Edge may show us how to "girdle the world in forty minutes."

Another Badge.

A FORTNIGHT ago we mentioned that a new badge was in preparation for the Royal A.C. This, it is intended, is to be located on the front of the cars of members of the club, thus imitating the successful example of the Automobile Association, and following in the course of the Motor Union. In view of the Royal recognition which has been accorded the premier motoring organisation in this country, the suggestion is being made that the Crown may be incorporated into the design and the motto, "Honi soi qui mal y pense."

Further Taxation Suggested.

THE announcement which Mr. Asquith made in the House of Commons late on Tuesday evening will occasion considerable surprise throughout the motor industry, which was hoping for the reduction, and not the increase, of expenses associated with motoring. The way in which the Chancellor of the Exchequer suggested an increase on the liquor and motor-car licences seemed to point to his intention to introduce the same in the Budget for 1908; and unless the Motor Union is able, in the meantime, to exert the full pressure of its undoubted influence, we are afraid this threatened imposition will be made. It would be unfortunate if the motor movement is to be subjected to piecemeal treatment, and perhaps the most satisfactory way of meeting the case would be to urge upon the Government the advisability, if not the necessity, of letting the country know its intention with regard to legislation as well as to the taxation of motor-cars simultaneously. Otherwise the Local Government Board will be making

provisions for registration and other matters, and later we shall have further impositions on the part of the Treasury. If the industry is to be taxed so that the cost of the business is increased to its disadvantage, it will be as well to know the worst altogether and not be subjected to the caprices of every department anxious to "raise the wind."

Waghorn wins at Haywards Heath.

ALTHOUGH the magistrates at the Haywards Heath Petty Sessions, following their usual plan of convicting every motorist brought before them, did not allow any of the motoring defendants to escape their clutches on Monday, they evidently felt some qualms of conscience. On the occasion of the Motor Club's run to Brighton, Mr. H. T. Vane, Mr. J. De Solla, and several others, were trapped by the ubiquitous Waghorn, and, despite the fact that it was proved in evidence that the cars must have been going at only a moderate pace, fines of £5 and £2 were inflicted in both cases. The Chairman of the Bench remarked that the fine was lower than usual, because it was a very open and straight piece of road, and they did not think there was so much danger to the public as in cases for exceeding the speed limit where there were crossings or a lot of people about. Anyone other than a Haywards Heath magistrate would have declared the trap un-English, and have said something severe to the perpetrator of such a device in such a place. But they do strange things at that Court.

Reigate welcomes Progress.

THE fact that Reigate is on the highway from London to Brighton has given it prominence and popularity among motorists who have some regard for the beauties of this pleasantly situated little town. We doubt, therefore, whether the policy of the Town Council in giving instructions to the Head Constable to rigorously enforce the law with regard to the driving of motor-cars through the streets of the borough will add to the prosperity of the place; in fact, the only effect it can have will be to cause motorists to travel by other roads and avoid Reigate, whose motto, "Welcome progress," seems out of accord with the decision of the Town Council to which we have just referred.

Results at a Glance.

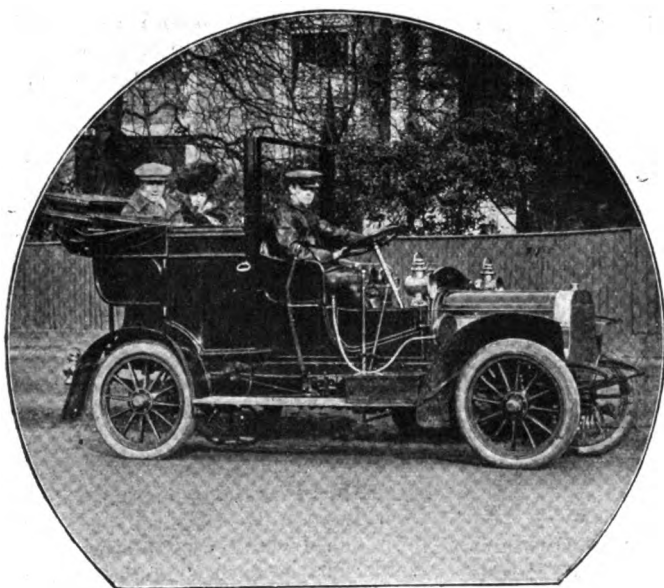
FOLLOWING the plan we originated in connection with the Scottish Reliability Trial, we give on other pages the "Results at a Glance," so that readers will be able to trace the doings of the ninety-six cars that started and the daily records of the eighty-two that finished in Glasgow on Saturday last. The comparative order of each car in the various classes on the different hill climbs is also given in association with its mechanical and driving troubles in order to facilitate reference. A list of the absolute non-stop cars is also given, together with some notes showing that several others would have appeared in that category but for driving difficulties, owing to the exigencies of traffic, &c., which, although not really vitiating the running of the car, have nevertheless lost them the credit attaching to clean records on each day of the arduous task. Last year we gave a list of the drivers, which is

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again published, as well as the weights of the cars. This information, together with our daily descriptions of the country—shortened somewhat in view of the detailed accounts of the route with which we have previously furnished our readers—makes up a succinct and lucid record of the Scottish Trials of 1907 in a form most accessible for reference in the future as well as for present reading.

Lost Records.

BRITISHERS are sportsmen, and they will regret to see how records were spoilt in the Scottish Reliability Trial, which, as we have already said, is described and catalogued on other pages of the present issue. A quartette of drivers, who in 1905 accomplished non-stop performances, repeated their success last year, viz., Messrs. H. Ramoisy, F. S. Bennett, R. Crossley, and Claud Hamilton. It was hoped that three of these—Mr. Claud Hamilton did not drive this year—would perform the hat trick in 1907, but the Fates decreed otherwise. On the second day, Mr. Ramoisy, after working his 14-h.p. Germain up the hill to the Devil's Elbow in the quickest time of his class, rushed the bank in getting round that piece of roadside anatomy. The earth not yielding the car had the



Mr. Whit Cunliffe, the famous lyricist of the Music Halls, and his Argyll Landaullet, which he uses to cover his many engagements in London and the provinces.

worst of the encounter, and the popular driver became *hors de combat*. On the third day even harder fortune attended Mr. Bennett. His car was one of the last to make the ascent of the Cairn O'Mount. When we ascended, some portions of the road were covered with surface mud to the extent of several inches; what it was like after sixty other vehicles had ploughed their way upwards and onwards was described by Observers as a quagmire. It was really unfit for little cars; but Mr. Bennett's 9-10-h.p. Cadillac, with two speeds of 7 and 30 m.p.h. respectively, ran well until it came to a point where the front wheels were nearly axle deep in ruts on the surface. They absolutely stuck in the road, and, the engine not being constructed for ploughing, could progress no further. Driver and passenger had to dismount and lift the car to a firmer portion of the road. For that Mr. Bennett was penalised one mark, and his three years' record spoiled. The tale of disappearing records is almost like that of the ten little nigger boys. They went one by one, and on the fourth day Mr. R. Crossley was unfortunate enough to have to withdraw his 60-h.p. Belsize. And so there were none to make the triple record. Mr. Bennett and many of the drivers in Class 1, which was the last category to ascend the hill, have, however, entered a protest urging that the Cairn O'Mount hill should not be taken into calculation for that class; and the favourable consideration of such a suggestion would undoubtedly

be well received by the majority of the competitors, who sympathised with the difficulties of the little cars on that day. Credit, therefore, is all the more to be given to Mr. R. Reynold Jackson, whose 8-h.p. Jackson was the only car to make a non-stop run that day.

Rewarding Informers.

WE wonder if the occurrence of the Scottish Reliability Trials last week suggested to Mr. Cathcart Wason that he should ask the question he did in the House of Commons on Monday night, with regard to the publication of the localities which are infested with police traps by ourselves and other journals. Apparently he would not be adverse to the policy of offering rewards for evidence of fast motor driving on the conviction of offenders; a policy which, however, Mr. John Burns recognises as undesirable, and which he certainly does not intend to adopt. Really, Mr. Wason should understand that the publication of police traps in our columns is one of the best means that could be devised for stopping the too speedy driving of motor-cars. It is well known that considerate motorists follow the publication of such notices with a view of assisting the police by taking more than the usual care to avoid fast driving in these districts; and, after all, the object of the police should be, not to secure convictions of persons when offences have been committed, so much as to prevent any likely danger to the public or property on the highway.

Motor Racing at Blackpool.

LAST week we reported the trial of the action by which it was attempted to restrain the Blackpool Corporation from having motor racing on the sands. Judgment was reserved till Monday, when Vice-Chancellor Leigh Clare decided in favour of the plaintiff. The action was brought against the Blackpool Corporation for an injunction to restrain them from promoting or engaging in motor meetings on the Parade or other public thoroughfares in the borough. As our readers will remember, motor races were held in October of last year, and in the two preceding years, on the Parade, which contained tramlines, with the approval and assistance of the Corporation. The Vice-Chancellor now says that in his opinion it was the duty of the Corporation to have protected the ordinary users of the Parade from motor-cars travelling at either a high or low speed along the Parade, and it was inconsistent with their duties and in violation of their powers to authorise and assist in a motor meeting. In the course of an elaborate judgment he set forth the reasons for such a view, and ordered the Corporation to pay the costs of the action.

Traffic Board for London.

ON Monday an important deputation waited upon the General Purposes Committee of the L.C.C. with reference to the institution of a Traffic Board for the regulation and control of traffic in the metropolis. The need for such an authority was recognised by the Royal Commission, which considered the matter some time ago, and practically everyone who has given the subject any thought at all will agree that the urgency of the matter is now even greater than when the Royal Commission reported on the formation of such a body. At present London traffic is more or less of a kaleidoscopic affair. The various factors sort themselves out as best they can with the help of the constable on the roadway and common-sense among the drivers; but there is a larger aspect of the matter which requires consideration. Hence the need for the co-ordination of the existing authorities and the setting up of a body which should consider and then control the means of ingress and egress from the city and metropolitan area. Mr. Charles Booth, who looks at the matter from the point of view of the student of affairs entirely detached from any interest in particular ways and means, regards the formation of a Traffic Board as one of extreme gravity and as a potent influence in ameliorating

the stress of life in the great city. Sir David Barbour, who was chairman of the Royal Commission, hopes that in all questions of transit the proposed board would become the thinking brain of London. Now that the motor-car is developing at such a rapid rate, motorists can do much to promote the ultimate success of their own movement by joining with those who are urging upon the L.C.C. and the Government alike the necessity of no longer delaying what all men are agreeing is a very necessary step in preventing the pressure of London traffic.

A New Fuel.

alcohol produced by the process, he says, would be about 3d. a

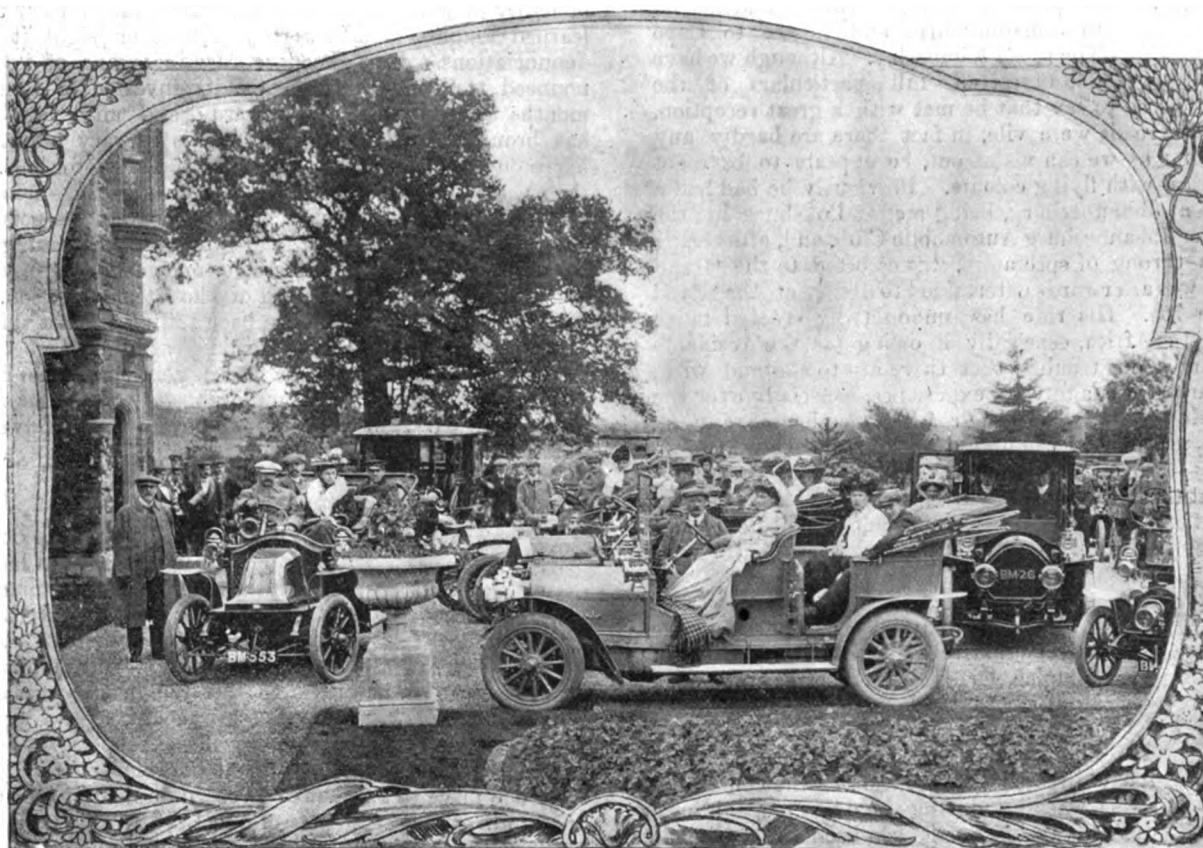
MR. ROGER WALLACE has been examined before the Fuels Committee of the Motor Union with regard to a new process in which he is interested for the production of denaturised alcohol suitable for motor spirit produced from peat. The cost of

officer on duty. There is every reason for speaking with hopefulness on this point, as the Inland Revenue authorities are anxious to afford facilities for the use of alcohol for industrial purposes, provided the Revenue could be properly protected and safeguarded. Although Ireland would probably benefit to the largest extent, as it has the most suitable deposits of peat, which is however also to be found in large quantities in Scotland, in Wales, and in England.

Protecting the Highways.

highway, obstruction, and stone throwing. There are seventeen of these convictions recorded, six being for assault, nine for

THE Motor Union of Great Britain and Ireland has issued a striking poster to be hung in public places, motor houses, hotels, clubs, &c., showing some of the convictions secured by the Union during the past year for assaults on the



The Inaugural Meet of the Bedford Motor Club at Bromham House, the residence of Mr. W. H. Allen, M.P., the Chairman of the General Committee of the Club.

gallon in bulk at the works. This material would be 90 per cent. ethyl alcohol; the remaining 10 per cent. would be water and a denaturant. It would be advisable in many cases to mix with this alcohol a certain quantity of other hydro-carbons, because there is sufficient oxygen in the alcohol to combine with the carbon, and the result would be a spirit giving more perfect combustion than ordinary petrol. It would, under these circumstances, be eminently suitable for use in an internal combustion engine. Mr. Wallace thinks that there would be no difficulty in arranging with the Revenue authorities to amend legislation so that industrial alcohol could be produced by this process, and especially for the following reasons:—In the process there is produced more than sufficient methyl alcohol, at so cheap a rate that it could be easily used on the premises in sufficient quantity to denaturise the whole of the ethyl alcohol produced at a very cheap cost. This removes what is really one of the greatest difficulties at present in the production of alcohol for the purpose of use as fuel. It would be easy to ensure that no alcohol left the premises unless duly passed by the Excise

obstruction, and two for stone throwing, obtained in various parts of the country. These prosecutions have been undertaken in the interests of all members of the public using the highway, and it is hoped that they will deter other possible offenders. The union has been successful in every case it has undertaken, and is prepared to prosecute in others when the public interest appears to demand such a course. We may add that copies of the poster for exhibition can be obtained on application to Mr. Rees Jeffreys, 1, Albemarle Street, London, W.

The R.A.C. Dust Trials.

ARRANGEMENTS have been made for the dust trials which are being organised by the Royal Automobile Club to take place on the Brooklands Track on Tuesday, the 23rd inst. The trials have been instituted with the object of encouraging manufacturers to improve the design of their cars with a view of reducing to a minimum the dust raised thereby, and to obtain information for the assistance of manufacturers.

With the advent of the practically dustless motor vehicle much of the present opposition on the part of the public will, it is expected, be removed. The competition will be divided into three classes, viz.:—Class 1, Makers' standard cars, limited strictly to standard patterns as regularly sold commercially, any alteration or addition disqualifying the competitors. Class 2, amateurs' cars, inter-club competition limited to two cars from each club. The cars must be the *bona fide* property of members of the competing clubs, and must be run as regularly used by them on the road. Class 3, experimental cars. This will include cars specially altered or added to in any way for the purpose of lessening dust raising. All the cars are to have an ordinary pattern of body, with at least four seats, and in all other respects to be of an ordinary working type to the satisfaction of the judges.

Rovers in South Africa.

LAST week Mr. R. L. Jefferson completed his arduous task of driving an 8-h.p. Rover from Durban, *via* Ladysmith, to Johannesburg, and thence to Cape Town, *via* Kimberley. Although we have not received full particulars of the journey, he has wired to say that he met with a great reception, and, although the roads were vile, in fact there are hardly any roads at all, as far as we can make out, he appears to have got through his ordeal with flying colours. Previously he had had a great reception at Johannesburg, being met at Boksburg by the committee of the Johannesburg Automobile Club, and, after being introduced to a throng of spectators, was escorted to the Grand Hotel, and he was afterwards entertained to dinner at the Rand Club on June 7th. His ride has undoubtedly created much interest in South Africa, especially knowing (as the residents there do) the enormous troubles that there are to contend with. The ride to Durban was a terrible experience, especially over the Drakensburg Mountains, where the road was as bad as any he had to encounter in his celebrated ride from Coventry to Constantinople—also on an 8-h.p. Rover. It is an interesting coincidence that this trip should have been completed last week, for in 1906 Mr. Jefferson was a participant in the Scottish Reliability Trials, and many in the Highlands last week were asking for news of the rover.

Street Cleaning.

ON Wednesday, at the Congress of the Royal Institute of Public Health at Douglas, Dr. H. E. Hele-Shaw presided at a meeting where a paper on street cleansing in relation to the growth of motor traffic was read by Mr. E. Shrapnel Smith, who particularly directed the attention of the conference to the question of street washing during the day time, adding: The value of water as a cleansing agent has been proved in the principal cities of the world, and few enlightened engineers or cleansing superintendents have failed to use to the best advantage the most valuable and simple of all cleansing agents, a hose-pipe, with suitable nozzle, in connection with their towns' mains. It is to an extension of this proved and satisfactory method that users of motor-buses and goods vehicles look for the elimination of difficulties associated with side-slipping and lack of adhesion. The owner of a private car is able to secure the necessary extra adhesion by covering the tread of his tyres with leather bands or metal studs, to which course he is positively driven by the dangerous condition of the street and road surfaces, but the owners of the heavier types of vehicles, such as motor-buses and delivery vans, which machines are certainly of as great economic value to the country as private motor-cars, are unable to adopt that method of escape from the risks of using the streets when the surfaces are in a slippery or greasy condition, and they are obliged to rely upon the activities of the local authorities. The problem is, therefore, how to hose down the streets during the day-time, when a considerable volume of traffic is upon them, and at a time when pedestrians are pursuing their ordinary avocations in large numbers. It is generally thought, at first sight, that the use of water under pressure in the presence of such traffic is out

of the question, but the suggested plan is not only a practicable one, but one that has been adopted already in London. The Southwark Borough Council has been washing its wood-paved and other streets with water under a pressure varying from 20 lb. to 60 lb. on the square inch, for upwards of a year. This is done by means of air-pressure watering vans, which constitute a most desirable addition to the equipment of any cleansing department. They improve the sanitary conditions of the streets and they make the surface so clean that the side-slipping nuisance is largely reduced.

The Motor-'bus.

THE antipathy aroused by the motor-'bus—which still maintains its throbbing way through the streets of the Metropolis—reminds us of the feelings which were caused by the advent of the railway not quite a hundred years ago. Ordinary motorists, those who drive cars that give less olfactory offence, do not hail the 'bus as one of their tribe, while learned knights seem determined to overweight it with their denunciations. Sir Theodore Martin is one of its most pronounced traducers. To escape its invasion of London a few months ago he went Walesward; and now that inclination has brought him back again to his literary haunts, he still harps on the old chord of hostility to the motor-'bus. Even at the meeting of the Dante Society he dragged in—metaphorically, of course—the motor-'bus, which he declared was poisoning some people, deafening others, and "it was shortening his life." Seeing that Sir Theodore is ninety-one years of age, some may be inclined to doubt the strength of the latter objection. But then Sir Dyce Duckworth has also been railing against this shortener of the day's labours, and urging, as did Macbeth, that it "murders sleep." Add to these gentlemen the Hon. Alfred Lyttelton, who pelts at the motor-'bus in the House of Commons by way of Mr. Gladstone, and we have a trio of adverse persons—fortunately impotent for ultimate mischief, though they may be powerful for delay.

Seeing the Country.

THE Rev. J. Page Hopps does not take so kindly to innovations in locomotion as he does to new ideas in some realms of thought, and he has written to the papers—what a relief to some men is such a proceeding—denouncing the "lust of speed" which he sees demonstrated in the formation of the Brooklands track. "As for the country," he writes, "it is rapidly being spoiled for us by these people, who seem themselves to get nothing out of it but the semi-savage joy of getting from one place to another in a record number of seconds; which, as Ruskin said, is 'the sport of a fool.'" Ruskin may have spoken of "the sport of a fool," but Mr. Hopps should have refrained from applying the phrase to those who have pioneered a new industry in this country. It is very ridiculous to say that the country is being spoiled by motorists when the automobile is opening up new delights and giving people a very extended idea of their native land. Why, the opportunities now presented for enjoying the country are among the things that make life bearable in the Twentieth Century. Would Mr. Hopps expect us to move about by means of the sedan-chair? Really he must keep abreast of the times.

MESSRS. FAHY BROS., of Morecambe, have taken over the Old Lyric Hall, near the Central Pier in that resort, which they will adapt to the purposes of a motor-car garage.

MR. T. BUTLER has just moved into larger premises in Green Street Green, near Orpington, Kent. He has now a garage and every convenience for dealing with motor-car repairs.

ACCOMMODATION for the motor-cars of members of the R.A.C. or the Motor Union attending the pageant at Bury St. Edmunds, from July 8th to July 13th, will be provided on very reasonable terms by the Bury and West Suffolk A.C., which has its headquarters at the Angel Hotel, Bury St. Edmunds.

The Scottish Reliability Trials.

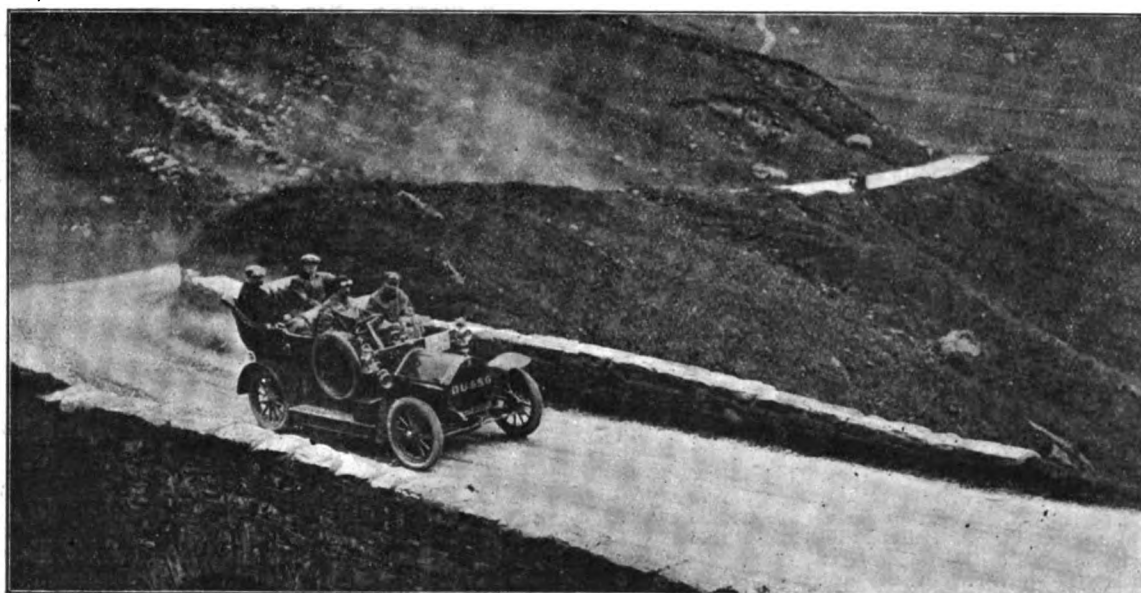


EACH year the Reliability Trial organised by the Scottish Automobile Club grows in intensity and interest. As the test *par excellence* for touring cars it is recognised by all who have experience of roads anywhere. Hence the satisfaction with which we are able to record that each succeeding Trial reveals the greater reliability of the cars and the growing skill of the drivers. For such an event as took place in Scotland last week is a strain on the men who drive as well as the vehicles that are driven. The weather was as varied as the country that was passed through in the 747 miles of stern travel. Over the highest mountain road in Great Britain, across the highest village in these islands, and under the shadow of Ben Nevis, still hoary with the winter's snow, the course circled much of Scotland's wildest scenery. We rose hundreds of feet from valleys rich with their warmest tints of vegetation into the rugged mountain tracks, crossing

FIRST DAY.—Glasgow to Perth.

Last week we were able to telegraph from Perth the account of the first day's doings, which resulted in the withdrawal of three cars, viz., the 35-h.p. Maudslay, which retired at Glencroe owing to trouble with its differential; the 14-h.p. Germain, which side-slipped badly on the Rest-and-be-Thankful Hill, sustaining damage; and the 38-h.p. New Arrol Johnston, which withdrew at luncheon time, a gear pinion having seized. We have already published the fastest times in each class in the hill-climb on that day, and the full record is set forth in the tables on other pages of the present issue.

The undulating run along the shores of Loch Lomond, with Ben of that ilk gloomily watching over all, was an enjoyable experience. It was a pleasant run through Luss, Tarbet and Arrochar, which the 25-h.p. Straker-Squire (upon which we rode) practically had to itself, glances of only a few cars, including the Porthos, driven by Mr. Wilfrid Foulis, and the



The Scottish Trials.—The 15-h.p. Coventry Humber at Rest-and-be-Thankful.

miles of barren, stony heath, with never a tree, and scarcely a break in the monotone of grey and duller brown.

Then the roads. Well, they tried the cars, twisting, rising, falling, crumbling all the way. Rushing watercourses were crossed and jumped; roads destroyed by traction engine traffic were bumped over, and, regarded as a whole, the Scottish Trial may be summed up as proof of the merits of any car that safely made the journey. And of ninety-six that started eighty-two finished in Glasgow on Saturday after the run of 747 miles.

NON-STOP RUNS.

The cars that made non-stop runs on every day of the Trial were as follows:—

- Class I.—None.
- Class II.—12-14-h.p. Argyll.
- Class III.—14-16-h.p. Argyll, 15-h.p. Coventry-Humber.
- Class IV.—30-h.p. Beeston-Humber, 16-20-h.p. Sunbeam, 18-24-h.p. Austin.
- Class V.—25-30-h.p. Austin, 25-h.p. Straker-Squire, 24-32-h.p. Vinot.
- Class VI.—40-h.p. Berliet, 30 h.p. Daimler, 20-30-h.p. Maudslay, 30-35-h.p. Simms-Welbeck.
- Class VII.—40-45-h.p. Hotchkiss.

We set out in tabular form the doings of each car, so that readers may readily know what happened to each vehicle; while the succeeding daily chronicles give the incidents.

smaller Iris, by the younger Earp, being obtainable as the way was taken round the shores of Loch Long. At Ardgartan the ascent of the Pass of Glencroe began. And such a Pass—a wilderness, desolate and wild, with great hills casting their shadows on the zig-zag path that led to the "Rest-and-Be-Thankful" stone which marks the top of the military road through this valley of desolation. The commencement of the hill climb was indicated by the usual assembly of private cars—a crowd that annually thickens—bringing spectators to the scene. The length of the hill was 1,706 yards, with gradients starting with 1 in 20, ascending to 1 in 12.5, 1 in 8.3, to 1 in 7, and finishing with 1 in 21—a fine stiff climb, in which the fastest cars in each class were the 10-12-h.p. Swift, the 15-20-h.p. Calthorpe, the 14-h.p. Germain, 24-h.p. Mass, 28-32-h.p. Ariel Simplex, 30-40-h.p. Ariel Simplex, and the 35-45-h.p. Ariel Simplex—the latter being a remarkably consistent trio to obtain such distinction in their respective classes. Our Straker-Squire strode well up the hill, passing the 35-45-h.p. Maudslay and one of the Thornycroft cars, which proved troublesome to the driver.

From the hill-climb the road lay by way of Inverary, Killin and Kenmore—there tea was ready and welcome—Aberfeldy and the famous woods of Birnam into the city of Perth, where Messrs. Pullar and Son had provided storage accommodation on

WEIGHT OF THE CARS.

Official No.	Car.	Driver.	No. of Cylinders.	Weight unladen. cwt.s. qrs. lbs.	CLASS 5.									
					2	30-40-h.p. Chenard-Walcker	B. Taylor	4	...	27	1	0		
					13	30-h.p. Siddaley	H. Prosser	4	...	28	2	4		
					16	24-30-h.p. St. Vincent	W. M'Lean	4	...	27	2	21		
					34	22-h.p. Berliet	E. Leather	4	...	21	3	15		
					37	24-h.p. De Dion	J. W. Stocks	4	...	30	0	24		
					40	28-30-h.p. Ariel Simplex	T. Cordery	4	...	30	1	15		
					50	25-30-h.p. Austin	J. Hadley	4	...	28	0	16		
					55	25-h.p. Straker-Squire	W. T. Lord	4	...	26	0	22		
					56	28-h.p. Armstrong-Whitworth	G. H. T. Slaney	4	...	27	1	9		
					63	25-h.p. Iris	H. Clifford Earp	4	...	25	0	21		
					65	24-32-h.p. Vinot	C. Harman	4	...	24	3	10		
					70	20-30-h.p. Pilgrim	F. L. Martineau	4	...	27	2	25		
					73	20-28-h.p. Darraeq	S. Girling	4	...	27	3	16		
					77	14-h.p. Thornycroft	T. Thornycroft	4	...	19	2	13		
					79	13-23-h.p. Clement	A. Mosses	4	...	23	0	8		
					80	18-28-h.p. Gladiator	M. Ross Browne	4	...	22	1	7		
					91	20-h.p. Climax	T. Watson	6	...	24	0	15		
					93	40-h.p. Ford	E. A. Anthony	6	...	24	2	24		
					98	30-40-h.p. Mass	A. F. King	4	...	30	3	22		
					107	28-32-h.p. West-Aster	R. Collier	4	...	29	1	10		
					CLASS 6.									
					4	24-h.p. Albion	G. M. Young	4	...	28	2	4		
					8	24-30-h.p. New Arrol-Johnston	W. S. Macharg	4	...	28	1	1		
					10	38-45-h.p. New Arrol-Johnston	J. S. Napier	4	...	35	2	4		
					14	40-h.p. Berliet	W. Watson	4	...	21	3	19		
					20	30-h.p. Daimler	Capt. F. V. Wentworth	4	...	29	2	10		
					31	30-h.p. White	Frederic Coleman	2	...	31	2	24		
					41	30-40-h.p. Ariel Simplex	P. Lewis	4	...	30	1	22		
					45	30-h.p. Spyker	J. G. Raphael	4	...	29	1	13		
					51	30-h.p. N.E.C.	J. C. Mort	4	...	32	1	26		
					59	40-h.p. Junior	Capt. W. E. D. Owen	4	...	26	3	6		
					64	35-h.p. Iris	A. Clifford Earp	4	...	26	2	2		
					66	35-45-h.p. Maudslay	C. C. Maudslay	4	...	34	2	10		
					67	20-30-h.p. Maudslay	Buchanan Shiel	4	...	29	1	6		
					78	30-h.p. Thornycroft	H. Niblett	4	...	29	3	9		
					81	35-45-h.p. Gladiator	W. F. Peare	4	...	30	3	5		
					87	30-40-h.p. Brasier	S. Sanderson	4	...	29	2	6		
					88	30-35 Simms-Welbeck	A. F. Kemp	6	...	30	2	26		
					94	24-32-h.p. Porthos	Wilfrid Foulis	4	...	26	3	13		
					CLASS 7.									
					12	40-50-h.p. Rolls-Royce	Claude Johnson	6	...	30	3	21		
					21	60-h.p. Belsize	R. Crossley	6	...	41	3	20		
					27	45-h.p. Mercedes	T. G. Fletcher	4	...	32	0	12		
					29	35-45-h.p. Ariel Simplex	T. Shaw	4	...	33	2	26		
					35	60-h.p. Berliet	A. J. Brookes	4	...	28	0	20		
					74	50-h.p. Darraeq	D. McNeill	6	...	31	3	5		
					83	40-45-h.p. Hotchkiss	Capt. Corbet	6	...	32	1	0		
					103	60-h.p. Thames	W. T. Clifford Earp	6	...	37	1	1		
					CLASS 1.									
					28	10-h.p. Adams	R. R. Smith	1	...	14	3	6		
					39	9-10-h.p. Cadillac	F. S. Bennett	1	...	14	1	6		
					47	8-h.p. Jackson	R. R. Jackson	1	...	13	3	10		
					52	6-h.p. Rover	R. Wilkinson	1	...	10	1	5		
					60	10-12-h.p. Swift	J. Low	2	...	14	1	17		
					71	8-10-h.p. Darraeq	G. Hamilton	2	...	12	0	18		
					92	15-h.p. Ford	H. A. Bate	4	...	11	1	4		
					96	10-h.p. Chambers	J. H. Chambers	2	...	12	2	26		
					99	8-h.p. Rover	T. W. Murphy	1	...	13	3	25		
					105	8-9-h.p. Laurin-Klement	W. L. Burkin	2	...	12	2	11		
					CLASS 2.									
					3	18-h.p. Reo	H. Gordon Sharp	2	...	18	0	15		
					15	14-h.p. St. Vincent	J. McLean	4	...	22	1	1		
					24	12-14-h.p. Argyll	J. Downie	4	...	21	0	2		
					36	8-h.p. De Dion	W. V. Jolley	1	...	12	1	6		
					46	18-h.p. Buick	G. Huszar	2	...	20	1	14		
					54	16-h.p. Bell	P. A. G. Bell	4	...	19	1	2		
					62	15-20-h.p. Calthorpe	G. Hands	4	...	18	2	11		
					72	10-12-h.p. Darraeq	A. Brown	2	...	15	2	3		
					76	15-20-h.p. Ailsa	H. Kennedy	4	...	19	3	26		
					82	14-h.p. Vulcan	T. Rimmer	4	...	17	3	20		
					97	18-h.p. Mass	M. L. Livings	4	...	22	0	6		
					100	10-12-h.p. Leader	R. Goodenough	4	...	18	3	1		
					CLASS 3.									
					5	16-h.p. Albion	J. McIntosh	2	...	25	2	7		
					6	12-15-h.p. Arrol Johnston	E. A. Rosenheim	2	...	21	2	16		
					18	14-16-h.p. Argyll	W. Scott	4	...	20	0	8		
					22	20-h.p. Belsize	Mrs. E. A. Riley	4	...	25	3	13		
					26	15-h.p. Coventry Humber	W. G. Tuck	4	...	22	2	7		
					38	12-16-h.p. Vauxhall	P. C. Kidner	4	...	18	3	19		
					44	14-h.p. Germain	H. Ramoisy	4	...	20	3	12		
					48	18-22-h.p. C.C.C.	A. Armitage	4	...	21	0	15		
					53	20-h.p. Rover	W. H. Clarke	4	...	21	3	1		
					61	15-18-h.p. Swift	R. H. Every	4	...	23	0	26		
					86	12-14-h.p. Unic	E. M. Stirling	4	...	18	1	25		
					95	20-h.p. Bell	W. Wingfield	4	...	22	2	20		
					101	20-24-h.p. Werbell	E. Bell	4	...	21	3	3		
					106	16-20-h.p. West Aster	P. R. Lamb	4	...	24	1	10		
					CLASS 4.									
					1	16-20-h.p. Chenard-Walcker	J. A. Peacock	4	...	23	0	8		
					9	16-25-h.p. Arrol Johnston	E. J. C. Roberts	4	...	24	3	2		
					11	30-h.p. Beeston-Humber	J. Reid	4	...	27	1	6		
					17	16-20-h.p. Sunbeam	F. Eastmead	4	...	25	3	19		
					19	26-30-h.p. Argyll	J. Allen	4	...	27	3	18		
					23	18-h.p. Siddaley	C. W. Walker	4	...	23	0	9		
					25	16-20-h.p. Argyll	C. J. Waldie	4	...	26	0	11		
					30	20-h.p. White	J. Pullar-Phibbs	2	...	26	2	1		
					32	18-24-h.p. Horbick	H. W. Cranham	6	...	24	0	25		
					42	24-h.p. Mass	W. R. Ledgerd	4	...	26	1	4		
					49	18-24-h.p. Austin	P. E. Harry	4	...	24	0	20		
					58	24-h.p. Junior	W. E. Hives	4	...	24	1	11		
					102	20-24-h.p. Werbell	N. J. Bell	6	...	20	3	22		
					104	26-30-h.p. Nordenfelt	J. H. Wilson	4	...	25	1	7		

the South Inch. It was a wet arrival, and altogether the cars must have presented a very depressing spectacle.

It was unfortunate for the 12-16-h.p. Vauxhall that it had to stop two minutes for the adjustment of its accelerator rod, for it subsequently ran splendidly with a non-stop record every day—a really fine performance. Equally bad luck occurred to the 24-30-h.p. St. Vincent and the 25-h.p. Iris, which lost twenty and eight seconds respectively, the former in changing speed, the latter owing to the lack of sufficient pressure in the petrol tank. Like the Vauxhall car, these had each four non-stops to their credit at the end of the trial.

SECOND DAY.—Perth to Aberdeen.

It was a sullen sort of morning when we trudged down to the bank of the river Tay, in discovery of the whereabouts of the 35-h.p. Iris car, which was to be our mount for the day, and although there were hopes of a fine day they were quickly dispelled. The Iris was driven by Mr. A. Clifford Earp, whose motoring experience has been cosmopolitan and comprehensive, and who now bears upon his forehead an identification mark associating him with the exciting times in Douglas in 1904. The car which he drove through the trials had been driven direct from London to Glasgow, and made a

good showing on each day of the event, the only spot on its escutcheon being a delay of a few seconds on the Tuesday in consequence of insufficient pressure in the petrol tank for the moment. The 35-h.p. Iris had one of the longest wheel bases in its class, being ten feet, and attracted much attention by its appearance. It was fitted with Palmer tyres with ribbed treads, which behaved magnificently not only throughout the Trial, but also on the run back to London following the finish at Glasgow. Leaving Perth with the Ariel-Simplex of Class 6 just before us, we crossed the river, and were soon passing Old Scone into Guildtown. The outlook was somewhat dismal, but companionship on the car was enlivened by the presence of "Kuklos," whose criticisms of cars and their drivers give zest to the columns of a daily contemporary. Every car did not get off so well as our particular flower. The first was especially unfortunate. This was the Nordenfelt, which was withdrawn owing to the fracture of the end of the propeller shaft joint. Beyond Cargill station, where we saw the famous beech hedges about which much has been written (but all descriptions of which have failed to give an adequate idea of their beauty), was a ten-mile motor signboard at the cross-roads, and then we entered Blairgowrie, which was

a luncheon place of last year's trial. Just beyond the 18-h.p. Siddeley had fan belt trouble.

The next twenty-five miles of running was over innumerable humps and steepish hills which tried the drivers as much as they tested the cars till the Bridge of Cally. Then we began to get sight of a scene of wild grandeur that later burst into view after passing the Spittal of Glenshee, where the steep ascent of Cairnwell commences. By now the appearance of this piece of untamed nature is well known, and all are familiar with the awkward turn known as the Devil's Elbow. A crowd had assembled to see the discomfiture of some of the cars, and notice the good performances of the others. At the foot the usual procession was there, the cars awaiting their turn to ascend. The ascent proved a trying experience for some of the competitors, and several Observers had to take walking exercise. On its way up the privately-entered White steam car had trouble with a burst steam pipe, which developed to such an extent that it had to retire on the following day. Mr. Lord on the Straker-Squire took off a corner of the Elbow without damage to the car; others were less fortunate. The clutch of the 28-32-h.p. West-Aster was slipping. The 45-h.p. Mercedes had carburettor trouble, but generally all went well. Needless to say, our Iris made no difficulty at the Elbow.

first away with his 18-24-h.p. Horbick, but he burnt his clutch leather, and stopped on the stiffest part of the hill, subsequently retiring from the contest. He, however, continued running in an unofficial way, wrapping his clutch with bed-ticking, which enabled him to run back to Glasgow. The powerful 40-45-h.p. Hotchkiss, driven by Captain Corbet, made an absolute non-stop throughout the trials, and rode well up the hills, improving its position in this respect each successive hill after Cairn o' Mount. Mr. Frederic Coleman did not make a good start with his White steam car, but improved wonderfully in the last mile of the hill. Mr. A. F. King had the misfortune to shear a pin in the gear-box, necessitating his retirement, but doubtless found compensation in the success of the 24-h.p. Mass, which not only was first in its class in the Wednesday climb, but also on every other timed occasion—a consistency of hill performance only equalled by the 28-30-h.p. Ariel Simplex driven by Mr. T. Cordery. It was on this Cairn o' Mount Hill that Mr. Thomas Shaw obtained second place with the 35-45-h.p. Ariel Simplex, which made the fastest time of any car in the Trial up hills. It was first at Glencroe, Trinafour, and Aberfeldy. On this severe day the C.C.C. car entered by Mr. A. H. Armitage, of Taunton, spoilt its absolute non-stop record for the Trial owing to a leaky radiator. Mr. Gordon Sharp, who



The Scottish Trials.—Mr. F. Coleman on the 30-h.p. White Steam Car at the Cairn o' Mount Hill Climb.

From the Cairnwell the route was to Braemar, where we lunched in two contingents, while the cars waited in the rain, sheets of it. It was a grand run, in the floods, to Ballater, through the wonderful plantations of fir and pine, with the yellow broom enlivening the scene. We slowed by the Dee to take a sidelong glance at Balmoral Castle and Aberfeldie Castle; then cast an upward turn to Crathie Church, on the left. Beech again predominated, and at Ballater and all the villages through which we passed a Highland welcome was given. Then a triangular route was taken in order to have tea at Stonehaven and a hill climb beyond the Clatterin' Brig over the Slack Burn. We went by Fettercairn to the famous Cairn o' Mount Hill, with its gradients varying from 1 in 5.4 to 1 in 20. The timed portion was two miles and thirty-five yards. It was a feast of things mechanical over natural difficulties. Along the burn shaggy cattle grazed with indifference to the advent of the hundred cars; around great hills formed a Coliseum for the chariots that were to struggle upward and onward for a couple of miles. The first cars arrived shortly after four p.m., and excitement rapidly increased. Many had trouble, but several fine runs were made, and among the big cars the 30-h.p. Daimler made the fastest time in Class 6, the 35-h.p. Iris, on which we strode forth, being third, with the 40-h.p. Berliet a good second. Mr. T. Cranham should have been the

had four non-stops to his record, had the misfortune to drop his passengers on this day, otherwise he would have given a completely clean account of his Reo, which has extended its reputation in this country since it was first introduced at last year's trial. Mrs. E. A. Riley, too, was unfortunate in losing a second owing to water getting into the carburettor. Otherwise she had no involuntary halts, and her performance was one of the best in the whole Trial. The 20-h.p. Rover had to fill in the remainder of the petrol, and so destroy the absolute non-stop record—a loss of time, however, in no way associated with the mechanism of the car. Captain Owen had to retire owing to the impossibility of getting a spare part from London, and so the 40-h.p. Junior, which made a perfect non-stop run on the first day, was out of the test. The 24-h.p. Junior did well but for a water leak on this fateful Wednesday. It ran consistently throughout the Trial.

A word should be said about the little cars, which had particularly bad luck in having to wait until all the big cars had ploughed up the surface of the hill. All the greater credit, therefore, to the 10-12-h.p. Swift for being the fastest in its class; and to the 8-h.p. Jackson for being the only car in Class 1 that had a non-stop on that terrible day. Misfortune dogged Mr. F. S. Bennett, who left his 9-10-h.p. Cadillac in charge of the Official Observer to go and watch the ascending cars from the

vantage corner of Clatterin' Brig. The Observer allowed other cars to go forward, and when Mr. Bennett returned to the halting place he found his Cadillac practically at the end of the string of cars. The rain was pouring in streaky lines that gave no impression of drops—so pitiless was the downpour. The surface of the hill, with its gradient in part of 1 in 5.4, had never been good; it was by that time of the consistency, to quote Mr. H. Massac Buist, of the porridge that is indigenous to the country. And so, when the little 9-h.p. Cadillac ascended the hill, it sunk in a soft part up to its axle, and the Observer and Mr. Bennett had to lift it bodily from the morass to a firmer part of the hill. Then it went well forward, but the surface of the hill had destroyed Mr. Bennett's hope of a triple record for the three years. He protested, as did others in the same class, and the point as to the inclusion of the climb in the records for Class 1 is now under official consideration.

The hill climb ended, all danger was not over. The descent was dangerous, and ruts were in the roadway. About five miles beyond the 16-20-h.p. Chenard-Walcker struck the bank and bounded seven feet away, throwing Mr. J. A. Peacock, of Edinburgh, and his three associates into the ditch. The car itself bridged the gulf upside down, and the wheels were revolving

while, when necessary, and that was seldom, to change gear, it was done with a silence that told how well Mr. A. Clifford Earp understood his car.

THIRD DAY.—Aberdeen to Inverness.

This was, by half a mile, the longest day's journey of the Trial, the minimum time allowed being 8 hours 21 min. By way of compensation there was no timed hill, but the Bridge of Avon and then the descent to the hazardous Bridge of Brown were compensating difficulties in the way of the *voyageurs*. The usual prompt start was made from the Granite City, and we were soon away from tram lines into the open country. We were on the 15-18-h.p. Swift, a car as good as its name, driven by Mr. R. H. Every, from the Coventry works. The first forty miles of the way were towards Huntly, with scenery reminiscent of the Peak of Derbyshire all the way. This part of the road had been familiarised to many of the drivers in the last two Trials, so that it presented nothing of novelty and little of difficulty. Historically the region is associated with Bruce and the defeat of the English forces—as our Scottish Observer was not slow to point out to the Southron who rode with him. The route



The Scottish Trials.—Cars waiting in Aberfeldy for the Hill Climb.

when the next car in the competition came along. Several vehicles stopped, and after a delay of an hour-and-a-half the car ran safely into haven at Aberdeen. Fortunately no one was hurt—an almost miraculous escape. Then we went beyond the hill over a road that had been planned, laid out, and never finished. It led the way to a bridge wide enough for a dog-cart, but scarcely sufficiently broad for motor-cars. Even the heavens wept, and all the lochs must have deluged their waters upon the wayfarers. The rain came down as straight and pitilessly as an avalanche. Thanks to our Palmer tyres the Iris skidded not on the roads, while one car just ahead slithered over the highway like a variety entertainment. But all lost interest in the outlook. We dashed on through mud and water, bespattering the pedestrians, who sheltered where they could, while the motorists went into Aberdeen to escape the floods. Once in the Granite City they comforted themselves as though they had been Noahs, while one, the Pilgrim, which ran short of petrol four miles from Aberdeen, found a motoring Samaritan who lent a tin, enabling them to get on when the rain had ceased.

As to the Iris car, we can only say that an hour's dosing after luncheon, when comfortably seated in the tonneau, gave us proof of the absence of vibration and the steadiness of running,

from Huntly was to Dufftown by way of Deveron Bridge, where the 12-14-h.p. Unic had a minor trouble. A non-competing Delaunay-Belleville was descried in the ditch, but otherwise little was seen of motor matters. The scenery now developed into woodland, and it was a splendid run by Glen Rinn to Glenlivet, where the tall shafts of the distilleries formed a variation in the landscape, which was brightened by the glistening streams that frolicked in the sunlight. Thus we strode along for a few miles until the trees disappeared, and we were on a great plain of bog land leading into Tomintoul, the highest village in Britain. Its trim square, hotels with garages, and general appearance, gave it an air of prosperity not usually associated with hamlets in such an elevated position. Then we had a severe run to the Bridge of Avon, where occurred some of the most exciting incidents of the 1906 Trial. This time nothing particular happened. At the foot of the bridge the cars halted to allow the earlier ones to get clear before they made the ascent. Fortunately the surface was good, and most of the cars strode well forward, Captain Wentworth's Daimler and the 24-h.p. Mass being well observed. Here, unfortunately, trouble overtook the 20-h.p. Climax, which, having secured a non-stop on the previous day, broke its differential at the Bridge of Avon, and had to retire from the contest.

Then came one of the great impressions of the Trial—the drop down to the Bridge of Brown, one of the most dangerous bits of the whole tour, the turn at the bridge being particularly vindictive and requiring careful negotiation. The route map had emphasised the need for care at this point, so that all knew the risks they were taking, and took them with caution. From thence the way was to the delightful overgrown village of Grantown-on-Spey, where the travellers took lunch and rested awhile. The succeeding eighty miles were new to most of the competitors, and interesting to all. They were comforting, too, being without dangerous descents or stiff ascents—in fact, much of the way was park-like. The Spey Valley was in most delightful mood, but, the road having dried somewhat, dust was a bit troublesome, and the 14-h.p. Vulcan and Clement cars were delayed—the former owing to dirt in the carburettor, and the latter was bothered with engine troubles. But nothing untoward happened. As we went north the enthusiasm of the people seemed to accelerate and crowds greeted us at Forres and Nairn—two fine towns of popular resort and pleasing appearance. A few miles further an unfortunate mishap occurred to the 24-h.p.

FOURTH DAY.—Inverness to Pitlochry.

Glorious is the situation of Inverness. Overnight we had heard the plaintive music of the bagpipe, and some had wandered to the statue of Flora Macdonald in front of the Castle-prison. Between the town the river Ness flowed like a delicate silver stream to the sea, and our Scottish humour was maintained by boarding the 26-30-h.p. Argyll, fitted with an engine developing 30-h.p. at 1,100 revolutions per minute, and capable of a range of speeds equal to 9½, 19, and 30 miles per hour, the direct drive being on the third. It was one of the Argyll team—a quartette that, as the results showed, fully sustained the reputation of their country of origin. Driven by Mr. J. Allen the vehicle ran well, although a leaky water tank necessitated refilling at the luncheon stop. The run was through a delightful district, opening up to those who only know canals in industrial centres a picture of riparian beauty and serenity of view. Leaving the town we were soon in the Great Glen and in the presence of the Caledonian Canal—and of a stranded car, the 16-h.p. Bell, which had fallen a victim to mechanical worry. Later it suffered from a trouble none



The Scottish Trials.—Cars waiting to ascend Trinafour Hill.

Albion, driven by Mr. G. M. Young. We were going over Culloden Moor, with its cairns to the clans who fell in the Great Rebellion, and the famous Culloden Stone, when some cars were seen backing. The first car, apparently, was stopping and the others came back. A third car ran successfully between the bank and the second vehicle, but just as the Albion was following, the latter reared still more and Mr. Young found two wheels in the ditch. The tie rod of his steering gear was buckled in the operation. Inverness was but a few miles away and there we entered a cheering crowd. The Swift had behaved capitally all the way, securing a well-deserved non-stop and, taking the hills in good style—a feat worthy of note, for, while there were no timed hills there were many of severe gradient up which we had to go.

In the capital of the Highlands tales of woe were plentiful, more regrettable because so many slight causes vitiated non-stop records. Mr. Reynold Jackson had to buy lubricant in Grantown—and so lost marks, although his other four days were straightforward runs. As an instance of the way in which observations were made, we may mention the note of the Observer on the 60-h.p. Thames, that “the bonnet was opened to close the compression tap.”

are immune from. A couple of cyclists were in front of the vehicle riding in a desultory fashion all over the road. The only way to avoid them was to run up the bank, and this Mr. P. A. G. Bell did. The car swerved as though it would topple over, but luckily righted itself, although the driver was thrown on top of the bonnet. Unhappily, however, one of the springs was broken, causing its retirement.

The next twenty miles was a succession of sharp descents, bad corners, a very stiff hog-back bridge, and other road peculiarities, testing the skill of the drivers. The scenery was grand, and the darkened waters of Loch Dochfour stood boldly out from the greenery of the landscape. And along the shore of Loch Ness Nature seemed to have lavished a richness of colouring which gave a rich setting to the grey ruins of Urquhart Castle. Wonderful mountains loomed large on the landscape, and so we went along, in the wake of the Chenard-Walcker that, despite its turtling behaviour of the previous day, was “still running.” We were upon fields of renown in Scottish history, and the scenes around were associated with the memory of famous clans and doings. At the head of Loch Ness, Fort Augustus, with its abbey and monastery, stood guard, and we crossed the canal, again re-crossing by the Bridge of Oich to

Invergarry Bridge. There were some difficulties in the way, of which all drivers had been warned, but which nevertheless almost occasioned alarm when they actually occurred. After leaving Laggan Locks an exciting experience happened. On the left hand the hills rose precipitously to a great height, and on the right ran the uneasy waters of Loch Lochy by the burial place of Glengarry. Down the mountain side the waters rushed, in places forming watercourses across the road. Their impetuous rush prevents the construction of culverts, and at times they are impassable. But just before the trial they had been partially filled in, thus halving their terrors to the springs of even the best made motor-cars. Bump, bump, bump we went—and still the springs stood. And yet another bump, and so on for ten times, until we got to less exciting conditions, and arrived safe and sound at Spean Bridge, the first control of the day. It speaks well for motor-cars that not a mechanical defect was discovered among the eighty and more cars that passed over those watercourses, and the accident list at the end of the day only showed choked carburettors, replaced sparking plugs, adjustment of electrical connections and similar minor ills that motorists are heir to.

We noticed the behaviour of the N.E.C. car, driven by Mr. J. C. Mort, as it crashed over the watercourses, the passengers riding easily and without jolting, owing to the peculiar springing

1,380 yards, with a total rise of 351 feet, equal to an average gradient of 1 in 12.9, these ranging, as a matter of fact, from 1 in 7 to 1 in 21. Last year the 2-10-h.p. Swift, the 14-h.p. Vulcan, the 16-20-h.p. Beeston-Humber and the 30-h.p. Daimler distinguished themselves at Trinafour. This time the fastest cars in their respective classes proved to be the 15-h.p. Ford, which made a capital showing throughout the Trial, the 18-h.p. Mass, another consistently fast car; the 18-h.p. C.C.C., driven by Mr. A. Armitage, of Taunton, which ran well on all the hills, and, but for a leaky radiator on the second day, would have had an absolute non-stop record; the 24-h.p. Mass, well handled by Mr. A. F. King, which was first of its class on every hill, and which also would have had a non-stop run but for a two minutes' driving stop—no mechanical defect; and the three Ariel Simplex cars.

An amusing incident occurred at the foot of the hill, when a short procession was formed of the vehicles awaiting permission to go. Mr. W. T. Clifford-Earp was on his 60-h.p. Thames, almost the largest car in the Trial, his engine running with its characteristic quietness, when the marshal told him he should not have stopped the motor. In vain did the hero of Douglass—for his feats and "moving accidents by flood and field" in Manxland have been retailed anew by the Scottish press—assert that the engine was not stationary, and only when



The Scottish Trials.—The 12-14-h.p. Argyll Car arriving at Pitlochry.

of the vehicle, the back axle being well behind the body of the car. Then the run was by Roy Bridge and the junction of the Trieg with the Spean, where we noticed several cairns to commemorate the temporary resting-place of some on their passage to a little God's acre high among the mountains. Towering above us on the right was Ben Nevis, his great head swathed in foamy clouds hiding his massive brow to our view. But on all the peaks around the snows of winter whitened the scene—such an abundance of snow as our Observer (who knew the Grampians well) had never seen before at the end of June. Amid scenes of luxuriant vegetation and lonely beauty the cars pursued the journey to Newtonmore on the way to the larger town of Kingussie—another place of historical note, forming a link in the sequel to Culloden.

At Kingussie the cars were drawn up in several short lines, and made the targets for amateur photographers, with the great rugged peaks rising high above, their bare sides shivering in the dull day, and vegetation almost non-existent. Then we ploughed along the mountain pass to Dalwhinnie, a sweet, restful, little Highland village with its bit of woodland an oasis in a great barren land, and then a succession of forestal beauty through Glen Erochy enabled us to reach Trinafour for the hill test of the day.

At the hill climb the cars were not long in getting away; nor did many of them delay in the trip uphill—a distance of

he actually saw that such was the case was the marshal satisfied. The Thames was conspicuous for its quiet behaviour, even among a host of well-behaved vehicles, and although one or two driving stops—caused by the driver's anxiety to avoid mishaps to others on the road—were recorded, there was no mechanical trouble throughout the 750 miles. The brakes were never adjusted, no lubricating oil other than the original supply was taken aboard, and the thirst was quenched with only five pints of water up to the evening of Thursday. Altogether the Thames made a very encouraging debut, doing so well that Captain Hayter, who represented the War Office in the Trial, selected it for his seat on the last day—and was as gratified as other passengers with whom we conversed.

From the Trinafour hill the road was through delightful scenery all the way to Pitlochry, one of the most delightful towns in the Highlands. Descending to Tummel Bridge the road skirted the north bank of Loch Tummel for some miles until, through the trees, we saw the Queen's View of the loch—an aspect that monarch and motorist may appreciate in common. Still falling nearer the level of the sea we passed Fincastle Glen to the Bridge of Garry, at the foot of the famous Pass of Killiecrankie, and then, between an avenue of larches with their lissom branches waving a welcome in the breeze, our Argyll followed Mr. Frederic Coleman, going strong on his 30-h.p. White steam car, into Pitlochry, where a "tented field"

proved their resting-place for the night. Fortunately tales of woes were few, and only one need be added to those already recited, Mr. R. Crossley's 60-h.p. Belsize being placed out of the running by a pin dropping from the driving shaft a few miles from its destination for the night. Tyre troubles had been noted earlier in the day; but the final mishap destroyed the sole remaining chance of three annual non-stop runs in succession. It was Mr. Crossley's first breakdown in the Scottish competitions.

FIFTH DAY.—Pitlochry to Glasgow.

Not so late as in previous years we started from Pitlochry for the return to Glasgow—a run of 114½ miles, with a hill climb and a starting test thrown in. Most of the competitors had forgotten about the latter; but one of the rules gave permission for the momentary stopping of the cars on any hill on the route, and the deduction of marks in the event of failure to restart within thirty seconds. For the first four days nothing had been said, and rumour was equally silent on the morning of the fifth. That was a pleasure to come.

Class 5 was the first to go, and being anxious to have an early return we again rode on the Straker-Squire, on which Mr. W. T. Lord led the procession from the Highlands to Scotland's commercial capital. Professor Stanfield, of Edinburgh, was the Observer, being asked to head the cavalcade in order to superintend the measuring of the petrol at the garage. There is an advantage in being first. Dust does not choke the petrol pipe nor clog the throat; but the passengers see nothing of other cars on the road, unless some venturesome driver risks the loss of marks by an excess of speed in order to relieve the tedium of the way. And yet there was plenty to observe in the change from the Highlands to the Lowlands, wild patches of landscape alternating with woodland glen and well-cultivated farms; and then the succession of inland resorts and the frequency with which villages occurred as compared with the sparse populations of the districts we had left. A picturesque view was presented, as the bridge over the Tummel was crossed, and a tall stone cross on the top of a lofty eminence opposite Ballinluig made a landmark. Our Observer knows Scotland and its history, and with no thoughts of car worries the journey was pleasant indeed.

At Aberfeldy was the hill climb. Loch-na-Craig hill has a total distance of 3 miles 484 yards, with a rise of 979 ft., equal to an average gradient of 1 in 17, the range being from 1 in 10 to 1 in 50. Up we glided in fine style into the colder region nearly 1,000 ft. higher than the town of Aberfeldy. It was decidedly chilly, but the ascent did not give much trouble to the cars that followed, the fastest in their respective classes being the 10-12-h.p. Swift, the 18-h.p. Mass, the 20-h.p. Belsize, the 24-h.p. Mass, and the three cars of the Ariel Simplex.

After the climb there was a grand succession of mildly wild country, tame, perhaps, after the experiences of the week, but exciting enough to the southerner who sees that part of Scotland for the first time. On to Crieff and Comrie, with their orchards and fruit farms, and through the Garden of Scotland the way was delightful indeed. At St. Fillans Loch Earn was sighted, and for seven miles we led the cars by the shores of that enchanting stretch of water with its ever-varying colourings in the sunlight and the shadow. Through Kinghouse and Strathgrywe we passed along a narrow road and skirted the shores of Loch Lubnaig, through the Pass of Leny, and strode straight into Callander on scheduled time, followed by Mr. Tom Thornycroft, from whom we had kept our distance all the way from Pitlochry.

At Callander the drivers lunched—the division into two sections for feeding purposes being again to the general convenience. Punctually to the minute we started for the last run of the tour—one of 43½ miles, for which a minimum of 2 hours 16 min. was allowed. We neither exceeded it, nor did we go below it. Just beyond Kippen the Thornycroft and the Clement passed in front, and we were third into the clachan of Fintry. A little further on Professor Barr was discovered in charge of some blocks of wood, and Sir John Macdonald was pointing his camera at the oncoming vehicles. Here, indeed, was the stopping and starting test, which nearly everyone had forgotten in the morning. The cars were halted one by one—at least all except

the Laurin-Klement, which was stopped for nearly two hours from ignition troubles, and did not reach Fintry ere the officials had left the place. Practically all did well in the test, although the 18-h.p. Siddeley failed to hold its brakes and was started from the blocks. The driver of the 20-24-h.p. Werbell stopped his engine and had to re-start. The 16-25-h.p. Arrol-Johnston, too, had trouble, the driver stripping his first gear and having to re-start. Later further difficulties arose, and ultimately the vehicle was withdrawn at Blanefield, the only retirement of the day. It is a curious coincidence that all these troubles occurred in Class 4, every other section of the competitors escaping difficulties. But more remarkable than that was the fact that few of the vehicles required the thirty seconds limit allowed; most of them got away in five or ten seconds, and the test was a distinct tribute to the behaviour of the cars. For, it must be remembered, it took place after the cars had been running several days and had accomplished about 720 miles of travel over roads of all kinds—and of no kind at all.

At Lennoxatoun busy industry indicated the approach to some great centre, and the clouds seemed smoky after the clear atmosphere we had known. Strathblane was passed, a devious, sinuous road was negotiated through Bearsden, and then came



Mr. R. J. Smith, the popular secretary of the Scottish Automobile Club.

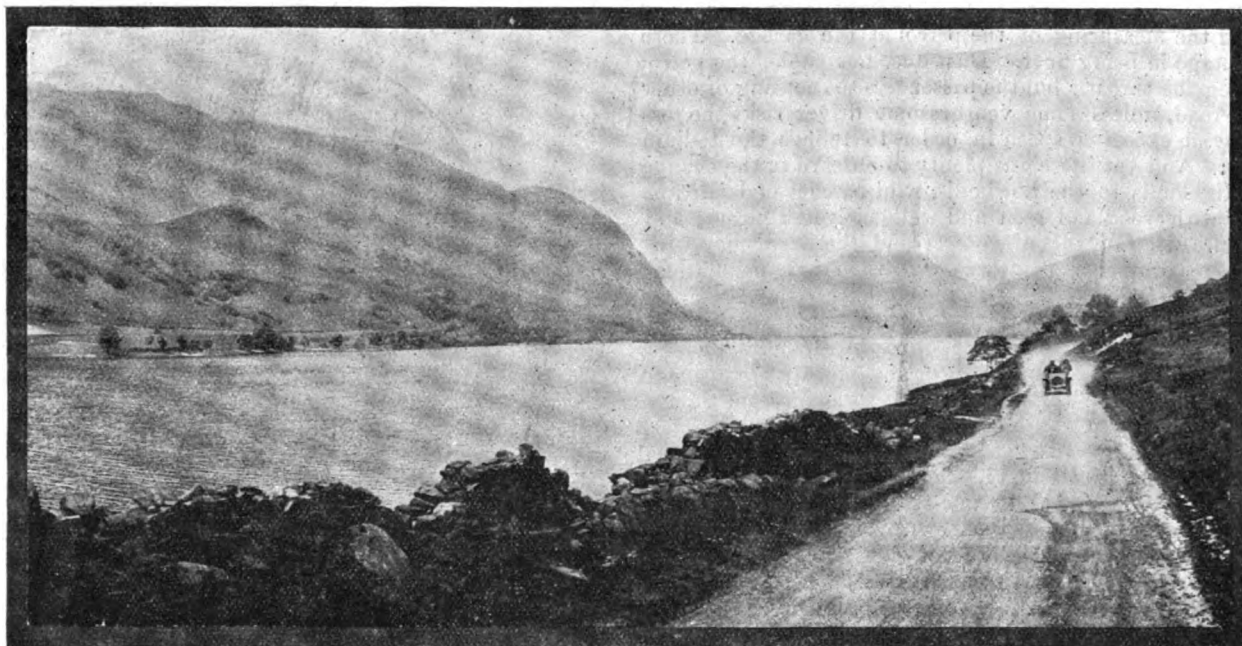
tram-lines. Here there was a great city—the city from which ninety-six cars had departed five days before and into which eighty-two went their way on Saturday—the last one literally working his passage home through storm and rain—rain that we had escaped by earlier flight and steadier running through the day. Of the eighty-two vehicles no fewer than fifty-seven made non-stop runs for the day, and, beyond what has been recorded, the causes of loss of marks were mainly trivial. There were five instances of choked carburettors, and the 18-h.p. Buick, driven by Mr. Huszar, an Austrian, who had never realised there were such roads in the British Isles as he went over last week, had the misfortune to lose seventeen minutes in replacing a broken sparking plug. This was all the more regrettable, as the Buick, upon which, by the way, Mr. F. Eason was a passenger, had had a succession of such good runs that at least one of its Observers has become an owner of such a vehicle. Mr. J. W. Stocks, too, had to replace a sparking plug and make other sundry adjustments, which destroyed the record of his 24-h.p. De Dion. Trouble, too, overtook Mr. Frederic Coleman, who, after three non-stop runs on his White steam car, had a solitary finish, pluckily driving into Glasgow some time after the others

of his class. A broken water pump caused an hour's delay, and he the choking of his burners necessitated another halt of similar length. He literally worked his passage home, pumping all the way.

OPINIONS OF THE TRIAL.

Mr. John Adam received the cars at the garage, when their petrol was measured under the supervision of Professor Stanfield, who entered thoroughly into the spirit of the Trial, and who secured a rapid release of the cars as they were reported. We had a few moments' chat with the first score of arrivals, and never a grumble did we hear. All gave praise to the Scotch A.C. in general and Mr. R. J. Smith in particular. Col. Jopp, who rode on the West-Aster during the Trial, agreed that the tour had been very severe, "but," he added, "it has been run on magnificent lines. I have never seen a competition better organised than this." Mr. Ross Browne, of Nottingham, who has had previous experience, regarded the present as the best, and would congratulate Scotland on the possession of such a trial ground. Mr. W. McLean, who drove the 24-30-h.p. St. Vincent, suggests that next year the quantity of lubricating oil used should be checked in the same way as is the petrol consumption. Several cars smoked and smelt terribly at various parts of the route, and Mr. McLean's idea,

generally congratulated on his first Scottish Trial success in securing a non-stop throughout the five days, and the second place in the hill climb on the last. Mr. W. A. Vincent, of Gamage's, was a passenger on a car throughout the run. He, too, was surprised at the unparalleled severity of the route, and rightly observed that the Scottish Trials will give a list of cars in purchasing which no owner need fear, for the vehicles that went through the Trial are good enough to travel anywhere in the British Isles. And here we may advise the reader of the official returns to give no heed to what are described as driving stops, for they indicate no mechanical blemishes on the part of the car, or, for the matter of that, on the driver. Mr. Vincent's view was also shared by Mr. G. H. Slaney, who steered the 20-h.p. Armstrong-Whitworth. He declared that the car which would go through the Scottish Trials would go anywhere. Hence the value of performance in the Trial. Mr. C. Harman Wigan, who has been responsible for the appearance of the Vinot car in each one of the series of the Scottish Trials, thought that the 1907 test was the best of all. Among those who went the round was Mr. Harry Austin, a brother of the designer of the car of the same name. He, too, was delighted with the completeness with which the Trial was organised, as well as the comprehensive quality of the test. In fact, we believe the



The Scottish Trials.—The Cars passing by Loch Lubnaig en route for Callander.

with regard to the lubricant used may be commended to the organisers of the event and to discussion by some of the competitors. Hard as the most recent trial has been, Mr. Harry Prosser, who drove the 30-h.p. Siddley, believes that there is one road in Scotland worse than any yet included in the course, so that possible further development in difficulties may be on the agenda for 1908. But we doubt whether there is really any need to increase the severity of the trial in that respect, for Mr. Sidney Girling, whose experience has been as varied as any other driver, declares that the course is the most difficult he has ever gone over in this or any other country. In fact, Scotland has almost a monopoly in this respect. Mr. Gordon Usmar, who last year drove the Vinot, and this year acted as amateur mechanic to Mr. Tom Thornycroft, regarded the conditions of the Trial as not putting such a severe strain on the driver as the shorter course but longer days of 1907. Mr. Thornycroft believes the five days to be absolutely necessary in order to secure the requisite testing of a marketable touring vehicle, and apparently felt the strain of driving as little as any one at the wheel. Mr. W. T. Lord, of the Straker-Squire, found the course much more severe than he anticipated, and was

latter was a revelation to Mr. J. C. Mort, who drove the New Engine Company's car that attracted considerable attention by reason of its unorthodox appearance. He had scarcely realised before what a Scottish Trial really meant. He knows now—and can look back to a successful *debut* with a vehicle that had been on the road only a week before for the first time. Some other drivers, like Mr. McLean, were suggestive, and did not see why a speed trial on the level could not be instituted, and the bore and stroke brought into a formula in connection therewith.

Honour where honour is due. First and foremost to Mr. R. J. Smith, most accessible of secretaries, most ubiquitous of officials, and most efficient of organisers in the automobile world. Mr. John Adam, too, the convener of the Trials sub-committee, deserves the thanks of the competitors for his readiness to make easy the path of the stranger. Mr. A. W. J. Ferguson is another member of the committee to be signalled out for distinction, for he drove round the course each day after the last car had gone on its journey, picking up spare parts, rescuing passengers and observers fallen by the way and generally assisting the committee to account for everybody and every car at the end of each day.

SCOTTISH NOTES.

LAST year Mr. R. J. Smith was asked what was likely to be the course of the Scottish Reliability Trials for 1907, and replied that it might be the 1906 route partially reversed. The prognostication proved reasonably reliable. When we saw him in Glasgow on Sunday the subject of next year's event was raised, and with a characteristic twinkle in his eye he thought it might not be possible to find a more difficult course, "but," he added, "we may be able to turn this year's route upside down."

WE give the number of starting and finishing cars in the last three Trials. Previously the Scottish tests had taken the form of a run to London from Glasgow with a night stop at Leeds.

	Started.	Finished.
1905	43	31
1906	79	66
1907	96	82

The course for the first year was one of 595 miles; in 1906 it was lengthened to 671; this year it was 717½, being spread over five days instead of four.

IRELAND was represented by Mr. J. H. Chambers, who drove the new 10-h.p. car named after himself, and Mr. W. F. Peare, a pioneer among the motorists of the Emerald Isle, came from Waterford to drive the Tourist Trophy Gladiator, which has been purchased by Sir W. G. Goff, Bart. Mr. T. W. Murphy, of Dublin, was also a driver, taking his 8-h.p. Rover over hill and dale with a determination that won the admiration of brother Pressmen, who viewed the Trial from the rear in preference to the driving seat.

FROM Mr. Peare's car came a suggestion for the improvement of the Scottish Trials. He had as friend and passenger throughout the long run a gentleman named Murphy, who was delighted with the Highlands. When asked if he could suggest a better route, "Ah, bedad," said he, "just you should the Scottish Trial at Killarney."

A PASSENGER on the Spyker car throughout the Trial was Mr. S. A. Frijling, from Amsterdam, who drove a car at Bexhill. He was delighted with the scenery, and the hills were particularly attractive, for, while there are a few steep bits in Holland, there are no such mountains as those in North Britain, but the Spyker took them all with easy nonchalance.

THE average weights of the cars in each class were as follows:—

	cwt.	qr.	lb.
Class 1	13	0	4.76
Class 2	18	3	11.7
Class 3	22	0	7.5
Class 4	24	3	27.9
Class 5	26	1	14.16
Class 6	29	2	11.71
Class 7	33	2	1.8

THE Pilgrim's progress was unfortunate, inasmuch as Mr. F. L. Martineau, who drove the car, had had no opportunity of tuning it up before the Trial. The particular vehicle that he had intended to run was disabled a few days before and the engine put into another car. This was taken up to Glasgow by road. On the way the big end seized on three separate occasions, and had to be seraped up as many times. Consequently there was no opportunity for overhauling before the Pilgrim was garaged the day before the Trial. Misfortune seemed to attend Mr. Martineau, as, for instance, at Aberdeen, when four miles away, the day's petrol supply gave out, causing a stop which vitiated an otherwise good performance that day.

DURING the Trial it was evident that military manœuvres were in progress, but few knew that the Duke of Connaught was in Pitlochry on Thursday. It transpires, however, that while returning from that town after the operations at Loch Ordie, near Dunkeld, on Thursday, the Duke was in a motor-car mishap.

His Royal Highness was in one of three cars descending the rough hill road to the main road. In seeking to draw to the side to pass the Lovat Scouts the car stuck. The wheels of one side of the vehicle in which the Duke was sitting sank into a side drain, thus canting up the car. The ditch had a very soft bed, and, though stones were laid in to enable the wheels of the car to get a firm hold and so move off, it would not budge, and a light traction engine was thereupon sent for from the Scots Greys camp at Tullymet.

MR. S. SAUNDERS, who made his debut as a driver in this Trial, handling the 30-40-h.p. Brasier with skill and judgment, was retailing over dinner at Aberdeen his encounter with a cat which lost its life in attempted negotiations. "That's unlucky," was the suggestion. "Is it?" queried the unwitting despoiler of poor pussy. "Yes, for the cat," slyly added a confrere, with resultant laughter from the motorists, who, tired and weary each night, regarded the dining hour as a time for relaxation.

TWO names familiar in connection with the British eliminating trials for the Gordon Bennett team again came before the motor world—Mr. C. Clifford Earp, the hero of Douglas, in driving the 60-h.p. Thames, and Mr. Sydney Girling, who steered the 50-h.p. Darracq. Mr. Earp's brother Arthur, who was his mechanic at Douglas, was also a driver last week, handling a 35-h.p. Iris in good style, another brother, Hubert, ably steering one of smaller degree.

MR. T. C. PULLINGER was a prominent "free lance" during the Trial, rendering assistance to stranded pressmen and photographers with his 30-h.p. Beeston-Humber. The car of similar type in the Trial was driven by young Reid, who was second in the Tourist Trophy race, and who drove with a careful regard to economical running. The average was about twenty miles to the gallon of petrol. Only three gallons of lubricating oil were used on the 750 miles run.

RARELY has a trial taken place with such comparative immunity from tyre troubles, forcing upon competitors the conviction that the leading makers have considerably improved in manufacture, or that motorists are now fitting more suitable sizes to their cars. The number of tyre troubles recorded was as follows:—Tuesday, 7; Wednesday, 8; Thursday, 9; Friday, 8; Saturday, 9. The total loss of time caused by tyre troubles among the cars that suffered such delay was less than ten hours. Only five new inner tubes appear to have been fitted, and the Dunlop, Continental, and Palmer companies are to be congratulated on the success attained.

AS a team the Argylls did exceptionally well, and to have secured the only absolute non-stop runs in Classes 2 and 3 was an achievement that should delight Alexandria. Then C. J. Waldie, of Glasgow, is to be commiserated with on his hard luck in driving the 16-20-h.p. car. When on the hill climb he put out the sprag, and in trying to lift it broke the wire, refixing it in three minutes. Of the other Argyll in Class 4 it is to be noted that it was among the first four or five cars in the category on the hill climbs, and that a leaky pump necessitated the water tank being refilled at Kingussie; otherwise it, too, would have had an absolute non stop. The 12-14-h.p. and the 14-16-h.p. Argylls not only made non-stop runs, but also did well on the climbs, the latter being first in its class on Cairn o' Mount.

THE 16-20-h.p. Calthorpe car, notwithstanding the terrible roads which resulted after all the other cars had already gone up, and which made the car sink into its depth in mud, not only made fastest time in its class on the hill climbs, but did so without having to shed a single passenger. On the Thursday a stone thrown up by the tyre unfortunately got into the sprag, and damaged in the first place the ball race, and, as a further result, damaged the aluminium case enclosing the differential. This was a very unfortunate incident, which had nothing to do with the reliability of the car, but was sheer bad luck.

THE SCOTTISH TRIAL—PERFORMANCE OF ALL THE CARS IN THE EVENT.

Car.	First Day.	Hill.	Second Day.	Hill.	Third Day.	Fourth Day.	Hill.	Fifth Day.	Hill.
CLASS 1.									
28. 10-h.p. Adams ..	N.S.	2	Two momentary stops..	2	Broken spring in carburettor, 36 min.	N.S.	4	Broken petrol pipe, 2 m.	6
39. 9-10-h.p. Cadillac ..	N.S.	6	Shed observer on hill ..	7	N.S.	N.S.	8	N.S.	9
47. 8-h.p. Jackson ..	N.S.	4	N.S.	6	Carburettor, 12 m.; hill stop, 1 min.; filling oil, 2 min.	N.S.	7	N.S.	7
52. 6-h.p. Rover ..	Stopped on hill ..	10	Shed observer on hill ..	8	Observer shed at a hill..	N.S.	10	Broken earth wire, 5 m.	—
60. 10-12-h.p. Swift ..	Valve cotter, 10 m.; two hill stops; shed passenger on hill.	1	Driving stops, 2 min.; changing sparking plugs, 2 min.	1	N.S.	N.S.	2	—	1
71. 8-10-h.p. Darracq ..	N.S.	5	Shed observer on hill ..	4	N.S.	N.S.	6	N.S.	5
92. 15-h.p. Ford ..	Hill stops ..	8	Filled water tank; engine stop on hill owing to shortage of fuel.	—	Shed passenger for restart; shed passenger, 3 min.	N.S.	1	N.S.	2
96. 10-h.p. Chambers ..	N.S.	3	Hill stop, 25 sec.; two momentary stops.	3	N.S.	N.S.	5	N.S.	4
99. 8-h.p. Rover ..	Driving stop, 2 min.; hill stop.	9	Shed observer on hill ..	9	Ignition changed from accumulator to magneto; shed passenger. Driving stops and missing gears, 12 min.; observer shed on hill.	1½ min. late in leaving Kingussie.	9	N.S.	8
105. 8-9-h.p. Laurin-Klement	N.S.	7	Shed observer on hill, and assisted up-hill.	5	N.S.	N.S.	3	Ignition, 1 hr. 56 min.	3
CLASS 2.									
3. 18-h.p. Reo ..	N.S.	9	Filling water and repairing leak, 18 min.; shed passenger on hill.	10	N.S.	N.S.	8	N.S.	8
15. 14-h.p. St. Vincent ..	Foul sparking plug, 7 min.; carburettor, 2 m.	11	N.S.	2	Choked carburettor, 40 m.	N.S.	3	Petrol connection, 3½ m.	2
24. 12-14-h.p. Argyll ..	N.S.	5	N.S.	5	N.S.	N.S.	5	N.S.	5
36. 8-h.p. De Dion ..	Broken water connection, 2 min.; filling water tank, 14 min.	10	N.S.	9	New pipe for water tank, 14 min.	N.S.	10	N.S.	10
46. 18-h.p. Buick ..	Driving stop, 1 min.	6	Hill stop, 1 min. ..	7	N.S.	Engine stop, 10 sec.	6	Replacing broken spark-plug, 17 min.	7
51. 16-h.p. Bell ..	N.S.	4	Clutch trouble, 25 sec.; passengers shed on hill.	8	Filling lubricating oil, 1 m.; engine stop, 10 sec.	R.	—	—	—
62. 15-20-h.p. Calthorpe ..	Driving stop, 4 min.; hill stop, 2 min.; clutch trouble and adjusting brakes, 9 min.	1	Clutch slipping, 16 min.; gear change loss, 8 sec.	1	Engine stop, 2 min.	R.	—	—	—
72. 10-12-h.p. Darracq ..	Changing sparking plug, 5 min.	7	N.S.	6	N.S.	—	4	N.S.	4
76. 15-20-h.p. Alisa ..	N.S.	8	Shed passengers on Cairnwell and on Cairn O'Mount.	11	N.S.	N.S.	9	N.S.	9
82. 14-h.p. Vulcan ..	N.S.	3	N.S.	4	Dirt in carburettor, 9 min.	Choked carburettor, 14 min.	2	Carburettor trouble, 5 m.	6
97. 18-h.p. Mass ..	N.S.	2	N.S.	3	N.S.	—	1	N.S.	1
100. 10-12-h.p. Leader ..	Shed passengers on hill; fixing fan belt, 4 min.; filling water, 12 min.	2	Stop on hill, 1 min.; tightening nut, 1 min.; adjusting water joints, 4 min. and 13 min.	12	Shed passenger ..	N.S.	7	N.S.	3
CLASS 3.									
5. 16-h.p. Albion ..	N.S.	12	Hill stop, 4 min.; shed passengers.	13	N.S.	—	12	N.S.	11
6. 12-15-h.p. New Arrol-Johnston	N.S.	13	Adjusting magneto ..	9	N.S.	N.S.	13	Carburettor, 8 m.; other troubles, 30 m.	—
18. 14-16-h.p. Argyll ..	N.S.	3	N.S.	1	N.S.	N.S.	4	N.S.	2
22. 20-h.p. Belsize ..	N.S.	2	1 sec. stop owing to water in carburettor; renewed petrol at Cultra.	3	N.S.	N.S.	6	N.S.	1
26. 15-h.p. Coventry-Humber	N.S.	10	N.S.	5	N.S.	N.S.	6	N.S.	8
38. 12-16-h.p. Vauxhall ..	Adjusting accelerator rod, 2 min.	8	N.S.	6	N.S.	N.S.	11	N.S.	9
44. 14-h.p. Germain ..	R.	1	—	—	—	—	—	—	—
48. 18-22-h.p. C.C.C. ..	N.S.	5	Leaky radiator ..	4	N.S.	N.S.	1	N.S.	4
53. 20-h.p. Rover ..	N.S.	4	Refilling petrol, 4½ min.; shed passenger on hill	12	N.S.	N.S.	2	N.S.	5
61. 15-18-h.p. Swift ..	N.S.	6	Removing jammed sprag, 3 min.; hill stop	7	Driving stop, ¼ min.	N.S.	10	—	8
86. 12-14-h.p. Unic ..	Hill stops, 4 min.	14	Hill stop, ¼ min.; passenger shed at Cairnwell, water in carburettor, 1 min.	8	Plug blown off, 5 min.; shed passengers; plug, 2½ min.	N.S.	9	Cleaning carburettor, 8 min.	10
95. 20-h.p. Bell ..	N.S.	9	Succession of short stops; engine stop, 1 min.; passengers alighted on hill.	10	N.S.	—	6	N.S.	6
101. 20-24-h.p. Werbell ..	Driving stop, 2 m.; adjusting carburettor, 6 m.; engine stop, 1 m.; adjusting steering gear, 3 m.	11	Replacing broken pin in starting handle, 5 m.	2	Shed passengers; missed gear, 3 min.	—	3	Choked carburettor, 1 min.; filling water tank, 4 min.	12
106. 16-20-h.p. West-Aster	Driving stop, 1 min.	7	Several stops on hill ..	11	N.S.	—	6	N.S.	7
CLASS 4.									
1. 30-40-h.p. C. Walcker	Driving stop, 1 min.	1	Car upset; delay, 1 h. 26 m.	11	N.S.	N.S.	10	N.S.	1
9. 16-25-h.p. Arrol-Johnston.	N.S.	—	N.S.	8	Three new wheel bolts, tightening of petrol pipe, taking sand out of throttle, 9 min.; adjusting throttle, 14 m.	N.S.	9	Retired; stripped gear	8
11. 30-h.p. B. Humber ..	N.S.	4	N.S.	4	N.S.	N.S.	2	N.S.	2
17. 16-20-h.p. Sunbeam ..	N.S.	5	N.S.	5	N.S.	N.S.	4	N.S.	5
19. 26-30-h.p. Argyll ..	N.S.	2	Delay in starting	3	Water tank refilled ..	N.S.	6	Filling water tank, 4 m.	4
23. 18-h.p. Siddeley ..	N.S.	6	Adjusted fan belt, 9 m.; hill stop, 1 m.; burst joint in water tank refilled, 17 m.	12	N.S.	N.S.	7	N.S.	7
25. 16-20-h.p. Argyll ..	—	7	Broken sprag wire, 2 m.	7	N.S.	N.S.	5	N.S.	6
30. 20-h.p. White ..	Safety valve spring, 3 m.	14	Burner troubles, 24 m.; filling water tank, 22 m.; vaporiser troubles, 10 m.; tightening valves, 9 m.; emergency petrol used.	13	R.	—	—	—	—

The figures in the "Hill" column indicate the order of the cars in their respective classes.

THE SCOTTISH TRIAL—PERFORMANCE OF ALL THE CARS IN THE EVENT—*continue L.*

Car.	First Day.	Hill.	Second Day.	Hill.	Third Day.	Fourth Day.	Hill.	Fifth Day.	Hill.
CLASS 4—continued.									
32. 18-24-h.p. Horbick ..	Engine stop, 1 min. ..	12	R. ..	—	—	—	—	—	—
42. 24-h.p. Mass ..	N.S. ..	1	Driving stop, 2 min. ..	1	N.S. ..	N.S. ..	1	N.S. ..	1
49. 18-24-h.p. Austin ..	N.S. ..	8	N.S. ..	2	N.S. ..	N.S. ..	8	N.S. ..	8
58. 24-h.p. Junior ..	—	8	Adjustment of pump spindle, 1 min.; repairing pump, 14 min. Adjusting petrol pipe, 1 min. ..	10	N.S. ..	N.S. ..	10	N.S. ..	9
102. 20-24-h.p. Werbell ..	Driving stop, 1 min.; adjusting ignition, 1 m. ..	13	Adjusting petrol pipe, 1 min. ..	6	N.S. ..	Adjusting bush of contact breaker, 1 min.; delay in starting, 1 m. ..	8	N.S. ..	10
104. 26-30-h.p. Nordenfelt ..	Defective petrol supply, 1 min. ..	9	R. ..	—	—	—	—	—	—
CLASS 5.									
2. 30-40-h.p. C. Walcker ..	N.S. ..	10	Passenger shed on hill..	8	N.S. ..	N.S. ..	10	Releasing clutch, 1 min. ..	11
13. 30-h.p. Siddeley ..	N.S. ..	4	Engine stop owing to want of pressure. ..	7	N.S. ..	N.S. ..	4	N.S. ..	5
16. 24-30-h.p. St. Vincent ..	20 sec. lost in changing gear. ..	12	N.S. ..	11	N.S. ..	N.S. ..	7	—	7
34. 22-h.p. Berliet ..	Petrol pipe choked, 1 m. ..	6	R. ..	—	—	—	—	—	—
37. 24-h.p. De Dion ..	Two driving stops, 2 m. ..	16	N.S. ..	10	N.S. ..	N.S. ..	17	Contact breaker blade, 2 min.; petrol pipe, 5 m.; float chamber, 17 min.; carburettor, 1 h. 17 m.; new sparking plug, 3 min. ..	16
40. 28-30-h.p. A. Simplex ..	N.S. ..	1	Driving stop, 1 min. ..	1	N.S. ..	Tightening nut, 1 min. ..	1	N.S. ..	1
50. 25-30-h.p. Austin ..	N.S. ..	8	N.S. ..	2	N.S. ..	N.S. ..	3	N.S. ..	3
55. 25-h.p. Straker-Squire ..	N.S. ..	8	N.S. ..	6	N.S. ..	N.S. ..	11	N.S. ..	2
56. 28-h.p. Armstrong-Whitworth ..	Driving stop, 1 min.; engine stop, 1 min. ..	5	N.S. ..	5	N.S. ..	N.S. ..	2	Two hill stops of 5 sec. each. ..	13
63. 25-h.p. Iris ..	Weak pressure in petrol tank, 8 sec. ..	14	N.S. ..	9	N.S. ..	N.S. ..	8	N.S. ..	12
65. 24-32-h.p. Vinot ..	N.S. ..	9	N.S. ..	4	N.S. ..	N.S. ..	6	N.S. ..	6
70. 20-30-h.p. Pilgrim ..	Emergency petrol used ..	19	Overheating, 5 min. stops on hill. ..	18	Broken petrol pipe repair 34 min.; emergency petrol used. ..	Filling petrol, 3 min. ..	16	Engine stop, 1 min.; new air valve, 32 m. ..	10
73. 20-28-h.p. Darracq ..	Adjusting brakes, 30 sec. ..	18	N.S. ..	15	—	Water in petrol pipe, 1½ min. ..	12	N.S. ..	14
77. 14-h.p. Thornycroft ..	Ignition trouble ..	17	N.S. ..	14	N.S. ..	N.S. ..	13	N.S. ..	9
79. 18-28-h.p. Clement ..	N.S. ..	11	N.S. ..	12	Engine trouble 3 & 5 m. ..	—	9	Engine stop, 1 min. ..	8
80. 12-28-h.p. Gladiator ..	—	2	Tightening water joints and filling, 4 min. ..	3	Repairing water pipes, 5 min. ..	N.S. ..	6	N.S. ..	4
91. 20-h.p. Climax ..	N.S. ..	15	Hill stops 3 min.; passenger shed on hill. ..	16	R. ..	—	—	—	—
93. 40-h.p. Ford ..	—	7	Filled oil and water tanks. ..	13	New accumulator, 4 m.; emergency petrol used ..	Connection to fresh battery, 3 min.; changing plug, 3 min. ..	14	—	17
98. 30-40-h.p. Mass ..	—	13	R. ..	—	—	—	—	—	—
107. 28-32-h.p. West-Aster ..	Engine stop, 1 min. ..	20	Clutch troubles, 27 min.; adjusting carburettor, 40 min.; shed passengers on hill. ..	17	Delay in starting, 2 m.; three engine stops totalling 2 min. 40 sec. ..	Cleaning petrol pipe and carburettor, 14½ min. ..	15	N.S. ..	15
CLASS 6.									
4. 24-h.p. Albion ..	N.S. ..	15	N.S. ..	13	Delay in starting, 5 sec. ..	Clutch accidentally let in and engine stopped. ..	15	N.S. ..	13
8. 24-30-h.p. A. Johnston ..	N.S. ..	12	N.S. ..	10	Stop 20 sec. ..	—	10	N.S. ..	10
10. 38-45-h.p. A. Johnston ..	R. ..	7	N.S. ..	—	—	—	—	—	—
14. 40-h.p. Berliet ..	N.S. ..	2	N.S. ..	2	N.S. ..	N.S. ..	3	N.S. ..	2
20. 30-h.p. Daimler ..	N.S. ..	4	N.S. ..	1	N.S. ..	N.S. ..	2	N.S. ..	3
31. 30-h.p. White ..	N.S. ..	6	Choked vaporiser, 5 m.; bolt tightened. ..	9	N.F. ..	Putting in washer in pump, 2 min. ..	9	Broken water pump, 1 h. 5 min.; burner choked, 1 h. 3 min. ..	15
41. 30-40-h.p. A. Simplex ..	N.S. ..	1	N.S. ..	7	Hill stop, 12 m. 24 sec.; dust in petrol pipe, 1 min. 50 sec. ..	N.S. ..	1	N.S. ..	1
45. 30-h.p. Spyker ..	N.S. ..	11	Air lock in petrol pipe, 10 min. ..	8	N.S. ..	N.S. ..	5	—	6
51. 30-h.p. N.E.C. ..	N.S. ..	14	Filled water tanks; stops on hill. ..	15	N.S. ..	N.S. ..	13	N.S. ..	14
59. 40-h.p. Junior ..	N.S. ..	5	R. ..	—	—	—	—	—	—
64. 35-h.p. Iris ..	N.S. ..	3	Petrol choke, 1 min. ..	3	N.S. ..	N.S. ..	4	N.S. ..	4
66. 35-45-h.p. Maudslay ..	R. ..	—	—	—	—	—	—	—	—
67. 20-30-h.p. Maudslay ..	N.S. ..	13	N.S. ..	11	N.S. ..	N.S. ..	12	N.S. ..	11
78. 30-h.p. Thornycroft ..	Hill stops, 3 min.; driving stop, 2 min.; adjusting change-speed lever, 3 min. ..	16	Delay in starting, driving stop, 3 min.; jammed change-speed lever, 17 min. ..	12	N.S. ..	N.S. ..	11	N.S. ..	9
81. 35-45-h.p. Gladiator ..	N.S. ..	8	N.S. ..	5	Sand in accelerator, 20 min. ..	N.S. ..	6	N.S. ..	5
87. 30-40 h.p. Brasier ..	N.S. ..	10	N.S. ..	6	Delay in starting, 2 m. ..	N.S. ..	8	N.S. ..	8
88. 30-35-h.p. S. Weilbeck ..	N.S. ..	9	N.S. ..	4	N.S. ..	N.S. ..	6	N.S. ..	6
94. 24-32-h.p. Porthos ..	Petrol pipe choked, 2 m.; driving stop, 1 min. ..	17	Hill stop, 1 min. ..	14	Missed gear, 1 min. ..	Missed gear, 5 sec. ..	14	N.S. ..	12
CLASS 7.									
12. 40-50-h.p. Rolls-Royce ..	N.S. ..	2	Petrol pipe choked, 1 m. ..	4	N.S. ..	N.S. ..	4	N.S. ..	5
21. 60-h.p. Belalze ..	N.S. ..	4	N.S. ..	6	N.S. ..	R. ..	7	—	—
27. 45-h.p. Mercedes ..	N.S. ..	5	Ignition, 9 m.; changing sparking plugs, renewing radiator connections and filling water, 105 min. ..	5	N.S. ..	N.S. ..	6	N.S. ..	6
29. 35-45-h.p. A. Simplex ..	N.S. ..	1	Repairing radiator, 2 m. Fixing bolt of front mud guard, 5 min. ..	2	Adjusting throttle, 11 m. ..	N.S. ..	1	N.S. ..	1
35. 60-h.p. Berliet ..	N.S. ..	3	—	1	N.S. ..	Fresh lubricating oil used. ..	2	N.S. ..	2
74. 50-h.p. Darracq ..	N.S. ..	7	Hill stop, 1 min., emergency petrol used; hill stop, 58 min., owing to magneto & terminals. ..	8	Engine stop, 1 min. ..	Cleaning carburettor, 9 min.; fresh petrol, 3 min. ..	8	—	7
83. 40-45-h.p. Hotchkiss ..	N.S. ..	6	N.S. ..	7	N.S. ..	N.S. ..	5	N.S. ..	4
103. 60-h.p. Thames ..	Failure of pressure to carburettor 3 times, total loss 2 min. 49 sec. ..	8	Driving stop, 1 min. ..	3	Bonnet opened to close up compression tap. ..	N.S. ..	3	N.S. ..	3

N.S. = Non-stop.

R. = Retired, the cause being given in the description of the day's run. Where the blank appears the Observer's report is under consideration.

The A.C.F. Grand Prix Race.



THE great race of the motor year in France is now an event of the past, and has once again demonstrated the very high place in the automobile industry that has been taken by Italian manufacturers. For the past week Dieppe has been practically *en fete*, and the scene on the way to the Tribunes in the early hours of Tuesday morning was a memorable one—a long continuous stream of vehicles of every kind, from a rambling horse-drawn wagon conveying people at 5 francs a head to the powerful racing motor-car—while at the grand stand itself the crush of traffic was so great that it seemed an almost impossible task to evolve any order out of the chaos. The starting point was about a couple of miles from Dieppe, and here quite a little town had sprung up, every convenience having been provided for the spectators, even to a large open-air garage, in which were collected more cars than we have ever before seen together. Arriving on the scene about 4.30 a.m., we had an opportunity of passing along the long rows of wire cages in which the monster cars were innocently standing under lock and key, all ready for the fray. To the rear, armies of men were busily engaged in making the final preparations—filling up water cans, arranging rims and tyres and the like, while many of the drivers were sitting quietly enjoying a final cigarette. The leading tyre firms each had a large depot in which was a stock of tyres apparently large enough to have shod a thousand cars rather than the thirty-seven which actually ran. Practically all the vehicles were fitted with detachable rims to enable a rapid change to be made whenever necessary. Just before six the work of clearing the course was commenced by the soldiers and the police, and the boom of a cannon announced that the long anticipated hour had arrived.

Of the thirty-eight entries as given in the last issue of the *M.C.J.*, thirty-seven duly faced the starter, the only absentee

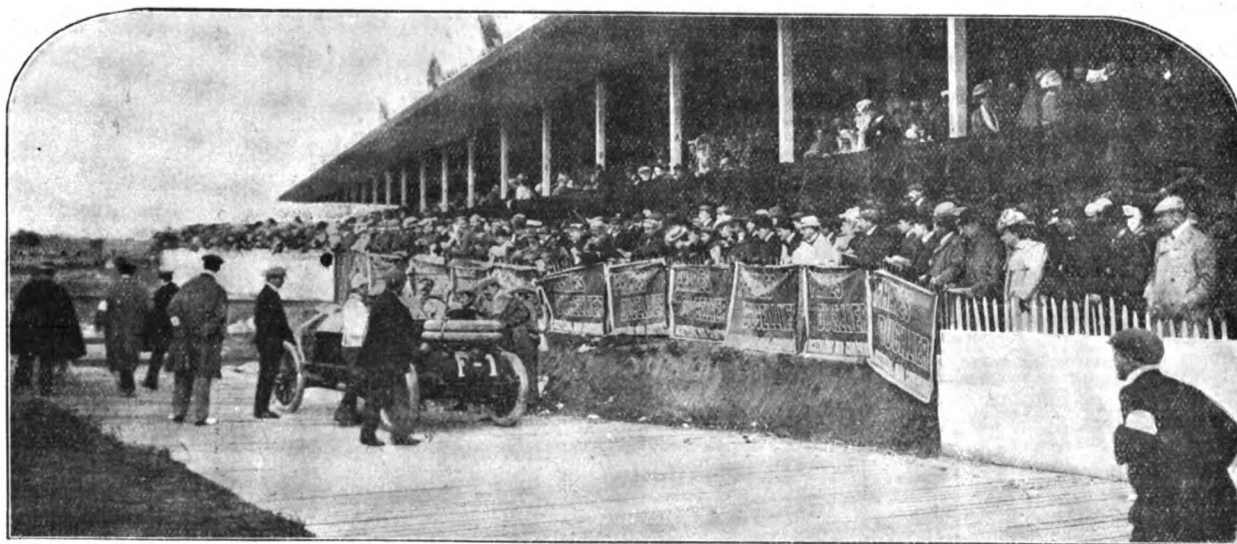
the third, while the order of the De Dietrich team was Duray, Gabriel, and Rougier. As is now well known, the cars were allowed a quantity of petrol equal to 9.47 miles per gallon, and had to make ten rounds of a 76.9 kilometre circuit, giving a total of 769 kilometres, equal to roundly 480 miles. Lancia was the first away at 6.1 a.m., the others following at minute intervals, all making fairly good starts with the exception of Le Blon (Panhard), who let his clutch in too fiercely and stopped his engine. All the cars finished the first round, although some of them took a tremendous time, notably Richez (Renault) and Bablot (Brasier), who, it is reported, collided at Londinieres, the former's car overturning. The best time, 39 min. 53 sec., for the first circuit was made by Wagner (Fiat), Duray (Lorraine-Dietrich) being, however, only 7 sec. behind. The position at the end of the second round still gave Wagner as first,

with Duray second, Heath (Panhard No. 1) being the only one to fall out in this circuit. Just as Jenatzy (Mercedes) was completing the round one of his tyres flew off the rim not far from the grand stand. The tyre was flung among the spectators, one of whom is said to have been slightly injured. Jenatzy and his mechanics worked like Trojans to replace the flying ring, and was given a lusty cheer as he quickly got going again. Thirty-six cars finished the third lap, at which point Wagner was still leading, with two Lorraine-Dietrichs now close upon his heels. The fourth round saw the withdrawal of Le Blon (Panhard), Wagner (Fiat), and Laxon (Weigel). The latter had great trouble with his detachable rims, which failed to hold at the great speed attained. We learned that in one round alone he had to fit as many as seven tyres from this cause. Duray was now the first man, and enthusiasm among the French ran very high as he dashed by the Tribunes at a tremendous speed.

Stricker (Porthos), Christie (the only American competitor), and Alezy (Bayard-Clement) disappeared in the fifth round, so



Nezzaro the Winner of the Race



Lancia (No. 1) waiting to start.

being the Aquila-Italiana—the six-cylinder Italian vehicle. A number of changes took place in the drivers and their order of starting, Collomb taking the place of Count d'Hespel on the Corre, and Henri Farman, the old Panhard crack, appearing at the wheel of the second Renault, vice Edmond, who was ill. Hanriot drove the first Darracq, Caillois the second, and Rigal

that of the thirty-seven starters only thirty completed the half distance. Both Duray and Lancia, between whom the struggle had been very keen, pulled up at their respective supply stations. Only the drivers and their mechanics were permitted to do any necessary work on the cars, and the way Lancia literally stabbed the petrol tins to cause the spirit to flow faster had to

THE A.C.F. GRAND PRIX RACE.

No.	Car.	Driver.	1st Lap.	2nd Lap.	3rd Lap.	4th Lap.	5th Lap.	6th Lap.	7th Lap.	8th Lap.	9th Lap.	10th Lap.	Order at Finish.
1	Fiat ...	Lancia ...	m. s. 41 33	h. m. s. 1 21 48	h. m. s. 2 2 5	h. m. s. 2 41 36	h. m. s. 3 27 9	h. m. s. 4 6 42	h. m. s. 4 46 18	h. m. s. 5 37 59	h. m. s. 6 23 10	h. m. s. —	—
2	Corre ...	Collomb ...	54 48	2 0 54	3 10 0	4 13 13	5 5 27	6 8 22	7 2 36	8 10 25	9 23 33	10 24 57	16
3	Darracq ...	Hanriot ...	41 47	1 22 20	2 2 48	3 49 19	5 39 26	7 28 20	—	—	—	—	—
4	Lorraine-Dietrich ...	Duray ...	40 0	1 19 54	2 0 21	2 39 10	3 24 55	4 3 55	4 43 13	5 23 35	—	—	—
5	Porthos ...	Stricker ...	52 33	1 44 14	2 47 38	3 39 40	—	—	—	—	—	—	—
6	Dufaux-Marchand ...	Dufaux ...	70 45	2 8 9	3 32 6	4 25 38	5 34 19	6 32 33	8 19 2	—	—	—	—
7	Bayard-Clement ...	Garcet ...	47 1	1 35 15	2 23 27	3 4 45	3 45 18	4 31 0	5 25 9	6 12 11	6 53 10	7 34 17	8
8	Motobloc ...	Pierron ...	54 49	1 48 11	2 35 53	3 17 58	4 16 48	5 8 33	5 54 9	—	—	—	—
9	Renault ...	Szisz ...	40 39	1 21 55	2 2 28	2 53 27	3 32 42	4 11 56	4 54 13	5 35 18	6 13 45	6 53 10	2
10	Germain ...	Perpere ...	68 24	2 6 12	3 7 11	4 20 45	5 26 13	6 34 44	7 43 47	8 45 30	9 49 15	—	—
11	Panhard ...	Heath ...	52 33	—	—	—	—	—	—	—	—	—	—
12	Christie ...	Christie ...	80 13	2 9 2	3 20 59	4 58 0	—	—	—	—	—	—	—
13	Mercedes ...	Jenatzy ...	50 11	1 49 49	2 29 5	3 33 41	4 12 49	5 2 15	5 46 53	—	—	—	—
14	Weigel ...	Laxon ...	142 32	3 10 21	3 58 5	—	—	—	—	—	—	—	—
15	Gobron ...	Rigolly ...	53 25	1 36 9	2 22 32	3 33 50	4 23 47	—	—	—	—	—	—
17	Brasier ...	Barillier ...	43 19	1 26 41	2 7 37	2 48 37	3 40 1	4 23 12	5 8 3	5 57 14	6 42 20	7 27 54	7
18	Fiat ...	Nazzaro ...	42 45	1 23 29	2 3 37	2 42 40	3 28 30	4 7 20	4 46 0	5 29 34	6 7 38	6 46 33	1
19	Darracq ...	Caillois ...	42 6	1 23 34	2 4 55	2 46 6	3 33 15	4 16 14	5 0 7	5 48 24	6 30 11	7 15 58	6
20	Lorraine-Dietrich ...	Gabriel ...	41 32	1 22 13	2 1 27	2 43 2	3 32 25	4 13 20	5 3 8	5 45 23	6 28 30	7 11 39	4
21	Clement-Bayard ...	Alezy ...	44 33	1 26 23	2 12 5	3 42 49	—	—	—	—	—	—	—
22	Motobloc ...	Page ...	103 19	3 59 27	4 53 21	5 52 34	7 12 16	—	—	—	—	—	—
23	Renault ...	H. Farman ...	51 19	1 41 0	5 36 55	6 34 52	7 24 32	8 11 39	—	—	—	—	—
24	Germain ...	Degrais ...	61 43	2 1 3	2 57 34	3 59 33	4 56 25	5 54 10	6 31 57	7 55 56	8 52 12	9 50 36	14
25	Panhard ...	Le Blon ...	42 1	3 37 33	5 51 42	—	—	—	—	—	—	—	—
26	Mercedes ...	Salzer ...	41 17	1 32 39	2 23 34	3 20 25	4 1 51	5 2 45	5 52 53	6 36 31	8 0 28	—	—
27	Weigel ...	Harrison ...	46 37	1 46 55	3 9 14	4 34 0	5 20 41	—	—	—	—	—	—
28	Brasier ...	Baras ...	43 46	1 27 25	2 9 10	2 52 57	3 38 3	4 23 8	5 3 25	5 44 8	6 24 42	7 5 5	3
29	Fiat ...	Wagner ...	39 53	1 18 47	1 59 1	—	—	—	—	—	—	—	—
30	Darracq ...	Rigal ...	41 59	1 24 44	2 6 6	2 50 42	3 39 11	4 21 11	5 4 12	5 46 1	6 28 40	7 12 36	5
31	Lorraine-Dietrich ...	Rougier ...	41 35	1 23 6	2 14 33	2 56 26	3 37 25	—	—	—	—	—	—
32	Bayard-Clement ...	Shepard ...	46 20	1 32 6	2 16 54	3 1 38	3 53 59	4 37 47	5 21 40	6 5 38	6 55 1	7 39 56	9
33	Motobloc ...	Courtade ...	51 13	1 40 26	2 31 27	3 19 21	4 17 8	5 4 28	6 7 58	7 1 5	8 0 1	8 48 33	11
34	Renault ...	Richez ...	136 53	3 4 35	3 55 43	4 48 45	5 32 41	6 16 40	7 6 18	7 50 46	8 35 7	9 30 52	13
35	Germain ...	Roch-Brault ...	72 8	2 8 1	3 14 42	4 8 42	5 7 10	6 5 14	7 5 47	8 8 39	9 12 41	10 10 45	15
36	Panhard ...	Dutemple ...	54 26	1 44 18	2 37 8	3 23 12	4 39 38	5 29 59	6 13 17	7 44 25	—	—	—
37	Mercedes ...	Hemery ...	42 25	1 24 34	2 22 16	3 9 5	3 50 36	4 56 45	5 57 26	6 45 15	7 34 48	8 25 25	10
38	Brasier ...	Bablot ...	114 19	2 36 34	3 19 41	4 1 43	4 51 30	6 7 6	6 49 27	7 32 40	8 14 48	9 12 59	12

be seen to be appreciated. The second to arrive, he was the first away, having replenished in double-quick time. At the half-distance Duray led, his time being 3 h. 24 min. 55 sec., Lancia being second in 3 h. 27 min. 9 sec. Rigolly (Gobron), Page (Motobloc), Rougier (Lorraine-Dietrich), and Harrison (Weigel) fell out in the sixth lap. The latter suffered from detachable rims in the same way as Laxon, so that the hopes of the English spectators in general, and of the Weigel Company in particular, were dashed to the ground. The order at this point was—Duray, Lancia, Nazzaro, and Szisz. Of the twenty-six which set out on the seventh circuit, those that failed to complete it included Hanriot (Darracq), and Farman (Renault, magneto troubles). Lancia fell back somewhat, his place on time being taken by Nazzaro, Duray still leading. The eighth round saw the withdrawal of the Dufaux-Marchand eight cylinder car, which had suffered from overheating troubles, Pierron (Motobloc) and Jenatzy (Mercedes). It was in the ninth round that the position of the race was entirely altered. Duray, who was then leading by six minutes, to the great grief of the French, arrived at the grand stand on foot, he having left his car some distance away *en panne*, the cause of his stoppage being a damaged ball-bearing in the gearbox. Dutemple (Panthard) retired, and Lancia had fallen back considerably, the struggle for supremacy now lying between Nazzaro and Szisz. The last lap was disastrous to Lancia, the engine of whose Fiat gave trouble, and Salzer (Mercedes).

Szisz (Renault) the winner of the Grand Prix last year, was the first to complete the ten rounds, and the anxiety of the French spectators was very great as the minutes flew by; but Nazzaro, on his Fiat, arrived well in advance of the allowance, and was duly proclaimed the victor, thus making the wonderful achievement of winning the three principal races of the year so far—the Targa Florio, the Kaiser's Prize, and the Grand Prix. Nazzaro's average speed works out at just over

seventy miles per hour; his lap times varied between 45 min. 50 sec. and 38 min. 24 sec., the latter, made in the ninth round, being the fastest circuit of the day by any of the competitors. His car is fitted with a four-cylinder engine, 180 mm. bore by 150 mm. stroke, and is nominally rated at 130-h.p. No information was available as to the quantity of petrol consumed, but it was said that Nazzaro had sufficient left for a further thirty miles.

The order of merit at the conclusion of the race was as follows:—

	H.	M.	S.
1. Nazzaro (F.I.A.T.) ...	6	46	33
2. Szisz (Renault) ...	6	53	10
3. Baras (Brasier) ...	7	5	5
4. Gabriel (Lorraine-Dietrich) ...	7	11	39
5. Rigal (Darracq) ...	7	12	36
6. Caillois (Darracq) ...	7	15	58
7. Barillier (Brasier) ...	7	27	54
8. Garcet (Bayard-Clement) ...	7	34	17
9. Shepard (Bayard-Clement) ...	7	39	56
10. Hemery (Mercedes) ...	8	25	25
11. Courtade (Motobloc) ...	8	48	33
12. Bablot (Brasier) ...	9	12	59
13. Richez (Renault) ...	9	30	52
14. Degrais (Germain) ...	9	50	36
15. Roch Brault, junr. (Germain) ...	10	10	45
16. Collomb (Corre) ...	10	24	57

Of the sixteen cars which finished, one was of Italian construction, twelve French, one German, and two Belgian, one of the Germans being still running when the race was called off.

The contest for the Coupe de la Commission Sportive, which commenced at 9 a.m., attracted little or no attention. This was for a smaller type of car, for which petrol to an amount equal to just under nineteen miles to the hour was allowed, on which they had to make six rounds of the course—a total of 288 miles. All the nine competitors started, they being despatched at five-minute intervals. The result is appended:—

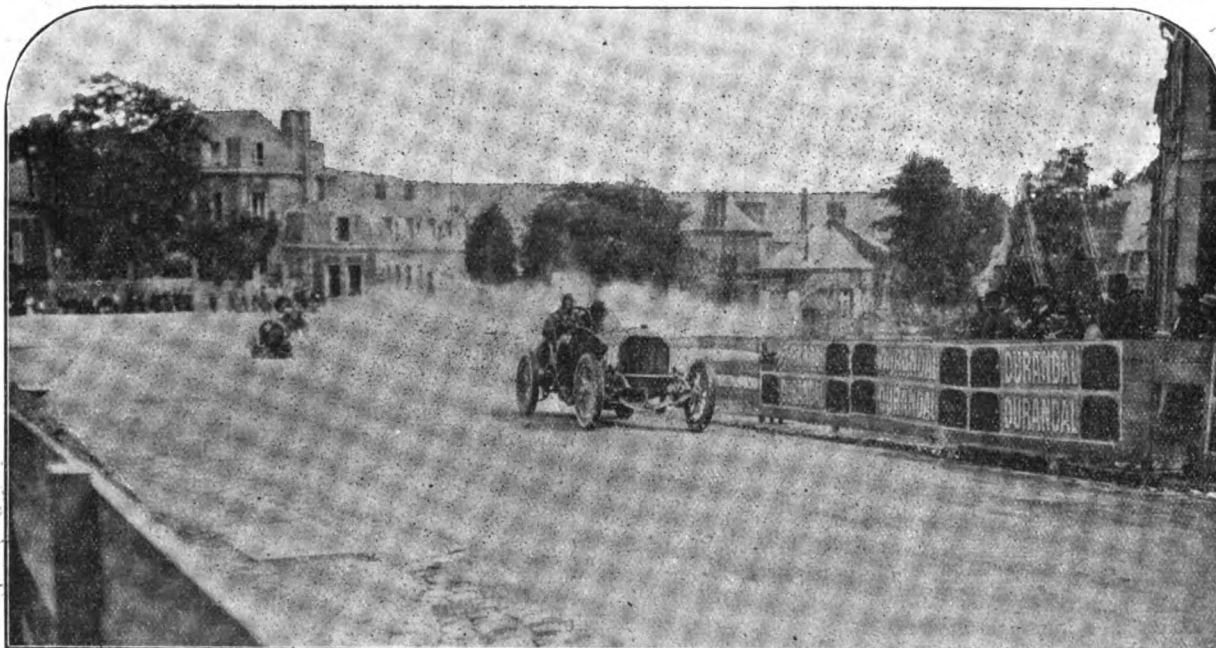
The result of the Coupe de la Commission Sportive contest :—

Order at finish.	Car.	Driver.	Time for six laps.		
			H.	M.	s.
1.	Darracq ...	De Langhe ...	5	13	25
2.	La Buire ...	Mottard ...	5	26	19
3.	Darracq ...	Demogeot ...	5	27	56
4.	Le Buire ...	Sibour ...	5	29	2
5.	La Buire ...	Dumaine ...	5	45	40
6.	Porthos ...	Defries ...	6	25	10
—	H.I.S.A. ...	Moulin ...	completed two laps.		
—	Gillet-Forest	De La Touloubre	did not complete first lap.		
—	H.I.S.A. ...	Dupasse ...	ditto.		

Throughout the whole of the day the weather was all that could be wished—indeed, at one time the sun shone brilliantly. The drivers at the end all showed signs of the severe strain they had been subjected to, many of them suffering so terribly with their eyes that they had to have them bandaged up and be led off the field by their friends.

A NEW CONTACT SCREW.

THE Traders' Speciality Company, of St. George's House, 82, Borough, London, S.E., have recently introduced a useful



The Grand Prix Race.—The Dufaux-Marchand and the Mercedes (No. 1) passing through Eu.

little accessory in connection with induction coils known as the Hunter Automatic Contact Screw, which consists of a hollow metal cylinder, with a small plunger inside, supported upon spiral spring; the end of the plunger carries a pure platinum point one-sixteenth of an inch in length. When the contacts come together the action is to push the plunger into the screw barrel against the tension of the spiral spring; thus severe concussion is avoided and the contacts are relieved of all undue strain. It is also claimed that the new device has a great advantage over the rigid screw, inasmuch as it accelerates the speed of the break, this being due to the fact that the two platitudes descend a short distance together, when the plunger in the screw barrel is arrested, whilst the flat spring blade continues on its descent. The platinum points may also be set closer together, so giving a longer period of "make" to allow the trembler to come into operation, there being at the same time no strain on the flat spring blade which carries the other platinum point. The screw head is split to allow for the spring adjustment piece to be locked by the usual locking screw.

SOME USEFUL NOTES.

WHILE there is usually nothing fragile about accumulators and their component parts are not over easily broken, it will be found a wise precaution to carry them on the car as if such were the case. They should not be rigidly fastened to any part of the vehicle, but rather should be packed with some springy, yielding material that will absorb the greater part of the shocks due to jolting over the road, as well as the more or less constant vibration to which they are subjected. The reason for this does not arise from any motive of cleanliness, as the matter of spilling electrolyte is taken care of in the majority of cases by patented devices which permit the escape of the hydrogen, but prevent the acid from being shaken out through the vent. The greatest danger arises from the possibility of loosening the active material from the plates. When sufficient of the active material has been loosened the cell will be short-circuited and put out of action.

AN unusual grating or crunching sound arising from any part of the car should immediately lead the motorist to stop the vehicle, in order that the breakage which may have taken place shall extend no further than need be. Such a warning may indicate a stripped pinion in the gear-box, trouble in the

differential or in the universal joints. Prompt action may limit the destruction as compared to what it might amount to if the car and engine were not immediately brought to rest. Unusual rattling sounds usually denote that something is loose about the frame or body of the car, and should be heeded at once. In the case of a chain-driven car sudden snapping sounds from the rear of the vehicle may indicate the faulty action of the chains, probably caused by their having worn out of pitch, thus allowing the links to ride the sprocket teeth and suddenly snap into place. A broken chain may be the penalty for a failure to act upon the information thus conveyed.

VERY often a squeaking sound proceeding from the engine gives timely warning of a failure of the lubrication, and enables the oil supply to be renewed before the cylinders have become overheated. The driver's ears should be alive to squeaking sounds proceeding from any part of the car, as they are indicative of faulty lubrication.

ON ESTABLISHING A GARAGE.

IN choosing premises for a garage business, it is of the greatest importance that one should not be cramped for space, and whilst, of course, position is a serious item for consideration, plenty of elbow room is equally so. Want of sufficient room is one of the bugbears that sooner or later confront a very large proportion of those who have embarked in the motor industry without sufficient knowledge or experience of its requirements in this direction, or who have relied on incompetent advice in the matter. Motor-cars take up a lot of space, and it requires a trained eye to reckon with any approximation of accuracy the number of vehicles that can be conveniently stored in an empty building. And moreover, as time is money, it is the height of imprudence to have to pack cars together like sardines in a box, so that the men's time is continually being wasted in manœuvring and contriving, not to mention the accompanying profanity thereby invoked.

Another evil from a profit-earning point of view lies in the fact that owners of cars object to make use of garages where the problem of space is always cropping up, and where, perhaps, several other vehicles must first be pushed out into the street before it is possible to admit another. Besides this, there is the question of damage to be considered. Mudguards get scratched and bent, and lamps get broken, and in consequence the price earned for storing a car is lost many times over in making good damages that ought never to occur. The risk in case of fire is also greatly enhanced owing to the impossibility of extricating the vehicles stored quickly enough in the inevitable confusion and excitement.

It is of the utmost importance that ample room be left between and behind every car, so that anyone can walk comfortably around them, and, if necessary, do any desired adjustment *in situ*. A good method of stacking cars is in herring-bone fashion—that is to say, arranged on either side of a central aisle, with their bonnets pointed at an angle of about 45 deg. towards the door. Needless to say, the central passage must be wide enough for the cars to be turned into without a lot of struggling, backing, and locking.

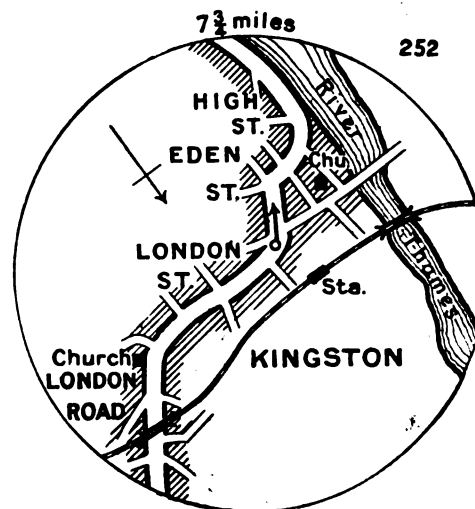
With a great number of repairs that come in it is necessary to remove the bodies, which, of course, take up nearly as much room as the chassis; and, in fact, when it is considered that they must be placed in a position of safety, as being the most likely part of the vehicles to suffer damage, liberal space must be available for their storage. Here, then, is an additional space to be borne in mind in basing calculations of the area required to cope satisfactorily with the size of the business it is proposed to cater for. Some people hang the bodies up over the cars, but there are several objections to this procedure.

As competition becomes keener, and the prices for storage, &c., will inevitably commence to be cut, it will be found that a small garage will hardly pay expenses, and therefore it behoves anyone to very carefully consider the minimum number of cars that it is proposed to deal with. We have already stated that we consider sufficient space of as great importance as position, and, in fact, we know already of several garages in first-class sites whose proprietors would gladly change places with their rivals more abundantly provided with floor space in some back street. We trust that these remarks may prove of service to some of our readers in doubt as to a locality for establishing themselves, and that they will at least keep a weather eye open for future expansion. Very frequently an option of securing adjacent premises may be obtained when taking a lease, which, if the precaution be neglected, may afterwards be lost.

THE Whalley, Clitheroe and District Motor-Bus Company, of which Mr. Wm. M. Cunningham is manager, have just achieved a notable performance with their motor char-a-banc. On Saturday, the 22nd ult., a party from Rishton was conveyed to Llandudno for a week-end's outing, and on Sunday, with a load of twenty, a successful attempt was made to drive the vehicle to the top of Great Orme's Head.

FINGER POST GUIDES.

A NEW volume in the handy "Finger Post" guides published by Messrs. George Philip and Son, Ltd., is to hand. This is compiled by Mr. Gerald Fothergill, who deals with the twelve main routes from London. The system adopted has been to devise a series of diagrams of road junctions enabling the tourist to know how to avoid the next difficult point directly he has left the previous one. By leaving out the many straight pieces of road without junctions, a larger scale has been given to these than would otherwise have been possible. By having the diagrams disjointed the difficulty of road maps (when roads are at a right angle and reach the edge of the paper) does not occur, and the plan thus ingeniously



followed should prove of considerable value to motorists. By permission of the publishers we give one of the 500 circular plans contained in the volume, and which is typical of the arrangement that is followed throughout. Here is a stretch of the London-Portsmouth road, so that motorists will see clearly their way and avoid making detours. In most cases it has been found practicable to give an indication of the approach of a turning by showing some adjacent object, such as an inn, bridge, river, tower or church, but in all cases the mileage between the diagrams is given, and this will act as a guide to the position of the difficult junction. Each set of circular diagrams is prefaced by a route map of the particular road with which that section of the work is concerned.

Just as cycling developed a kind of "road sense" in the people of the last generation, so motoring is developing the same kind of interest in those of this age. And some may appear dubious as to the value of such guides as that mentioned. They acquire the "scent" of the main road, and by almost unerring instinct seem to find the right roads. Increasing use of the highway gives added confidence, and such experience, coupled with a system of road signs, will ultimately enable the traveller by road to find his way about without so many of the maps and routes that now guide or confuse him. Meanwhile some of the northern districts deserve similar attention to that which Mr. Fothergill has given London.

IN view of the motor touring season Messrs. A. W. Gamage, Ltd., have laid in a stock of Tabloid motor-car medicine cases. It is now becoming recognised that it is essential to have on a car, when touring, some means of treating the minor, or even more serious, accidents which may befall the motorist, and the Tabloid motor-car case has been specially designed by Burroughs, Wellcome and Co. to give, in the smallest possible space, the dressings, &c., necessary under such circumstances. It takes up very little room, is neat in appearance, and is inexpensive. It is, of course, intended for first aid in the absence of a medical man, or before his arrival, for which purpose it is one of the most useful cases yet introduced.

CONTINENTAL NOTES.

The Brescia Race Meeting.

The Automobile Club of Milan is sparing no efforts to render the Brescia race meeting in September next a brilliant success, and with the view of securing a large entry list has just issued the rules and regulations in no less than four languages. The first race, which will be run on September 1st, is for the Florio cup; it will be held on a 61-kilometre circuit, which, starting and finishing at Brescia, takes in Castiglione and Lonato. The total distance to be covered is not yet definitely fixed, but will be between 400 and 550 kilometres. The contest will be open to vehicles having engines of a maximum cylinder capacity of 8 litres, and the minimum weight of the car, including racing body, tyres, mudguards, &c., is fixed at 1,175 kilogs. Other conditions with regard to wheelbase, wheel track, distance behind the dashboard, road clearance, &c., are also provided for in the rules, which further require the use of artillery wood wheels, to which detachable rims may be fitted. The winner will be awarded a cup presented by the King of Italy, and will also hold for a year the Florio challenge cup, which has to be competed for seven times, the trophy eventually becoming the property of the firm winning it the largest number of times. It is at present held by the Itala Company, who won it in 1905, no

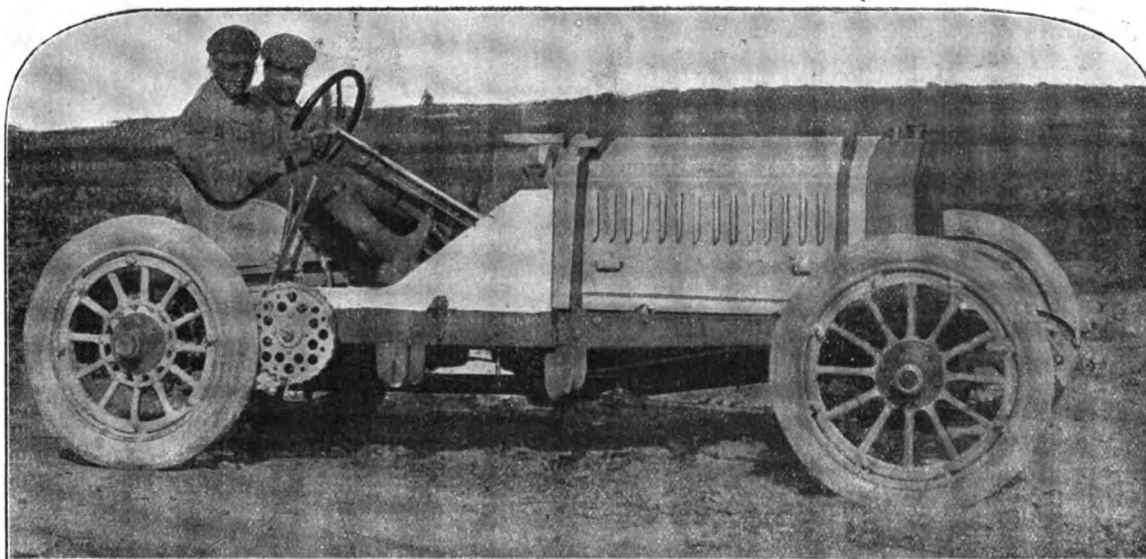
protest the passengers in bad weather. A front glass is optional. The body must comprise a chest 75 centimetres wide by 75 centimetres deep and 70 centimetres high, and must weigh 150 kilogs., these dimensions being taken as representing the weight and volume of the samples usually carried by a commercial traveller. The total weight of the car, including the special body and passengers, is not to exceed 1,100 kilogs. The awards will be made in accordance with a formula which takes in the average speed, the consumption of fuel, and the first cost.

The Circuit des Ardennes.

Preparations for the three races on the Circuit des Ardennes on the 25th, 26th, and 27th inst. are now well in hand. In order to prevent the public getting on to the course, a wire fence is to be erected on each side right round the circuit, while at the dangerous bend at Bastogne a wooden balustrade is to be erected. The races will start at 5 a.m., and must be finished by mid-day, at which time the road will be opened for the ordinary traffic. Practising is being allowed between the hours of 3 and 6 a.m. as from the 5th inst.

International Racing Rules.

In view of the conference of recognised national automobile clubs which is to be held at Ostend on the 14th inst., the Italian



Ecuyer on the De Dietrich Car he drove in the A.C.F. Grand Prix Race.

contest having been held last year. No firm may enter more than three cars, and entries have to be made before the 10th inst. at the rate of £120 per vehicle or £320 per team of three. On the following day, September 2nd, the event known as the Coppa della Velocita will be held over the same course, the distance being between 400 and 650 kilometres. This will be open to all types of petrol cars, irrespective of weight or power, and will be run on a petrol allowance basis, viz., 30 litres per 100 kilometres. Entries, which will be limited to a maximum of three cars from any one firm, can be made up to July 5th at £120 per vehicle, and for a further ten days at a 50 per cent. increase. The first prize in this consists of the Coppa della Velocita, valued at £1,000, which will be awarded to the maker of the successful car, while the driver will win a cup offered by the Automobile Club of Milan.

A Reliability Trial of Motor-cars adapted for Commercial Travellers' Use.

The Automobile Club of Bordeaux is organising a trial of motor-cars adapted for the use of commercial travellers. It will take place on July 7th and the following days, during which time a distance of 2,500 kilometres will be covered. The competing cars will be required to have comfortable seats for two persons and a hood or canopy with curtains to thoroughly

Club has just held a meeting at which representatives of the leading car builders in Italy were present. It was decided to recommend that, if any restrictions are to be imposed, that of a limit to the cylinder capacity is the best, and that speed contests should in future be entirely confined to cars built in accordance with the conditions agreed upon. The French Automobile Club is in favour of a fuel restriction of 20 litres per 100 kilometres, and also of a chassis weight of at least 1,200 kilogrammes.

Miscellaneous Items.

Three six-cylinder Siddeley cars have been entered for the Brescia Circuit by the Società Wolsit Officine Legnanesi Automobili, of Legnano, concessionnaires for the manufacture of Siddeley vehicles in Italy. —The German Daimler Company has lately supplied a motor chemical fire engine to the fire brigade of Frankfurt-on-the-Main. —Messrs. T. Cook and Son are now running a series of daily motor-car excursions in and about Paris. —It is reported from Berlin that there will be no further contests for the Herkomer Touring Trophy, but that a trial is to be organised in which more regard will be had to reliability than to speed. —A banquet in honour of Nazzaro's "hat trick" is to be given in Turin on Monday next, by the Automobile Club of Italy.

HERE AND THERE.

THE R.A.C. inquiry into the recent motor meet at Bexhill has been fixed for Wednesday, the 24th inst.

THE Motor Manufacturing Company (1907), Ltd., which is now located at its new works at Manor Street, Clapham, S.W., is, in addition to building a new car, devoting considerable

AN examination under the auspices of the R.A.C. will be held on the premises of the West Sussex Motor Company, Ltd., East Street, Chichester, on Saturday, the 13th inst.

IN the Scottish Trial Palmer tyres were fitted on ten cars. One of the latter withdrew from causes other than tyre troubles, the others went through without a single cover being replaced, while only two punctures occurred in 27,000 tyre miles.

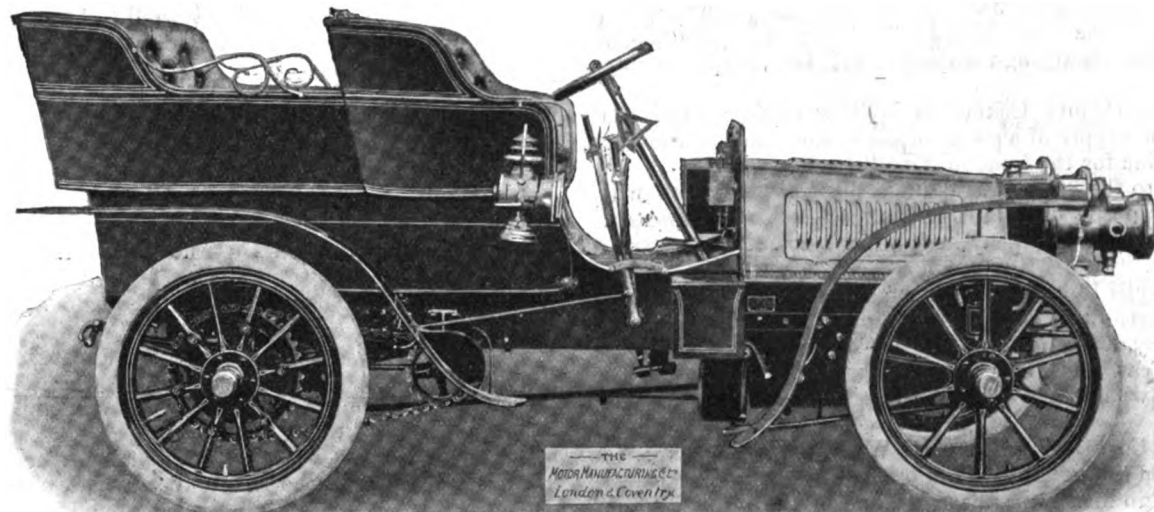


Fig. 1.—The 1902 20-h.p. M.M.C. Car in its original form.

attention to the modernising of old vehicles. Some idea of what can be done in this way can be gathered from the accompanying illustrations, Fig. 1 of which depicts a 20-h.p. M.M.C. car built in 1902, and Fig. 2 the same vehicle after it has been rejuvenated by the company, and this at a comparatively small cost. As will be seen, the car has, with its neat bonnet and combined radiator and tank, as also with a side-entrance body in place

ST. ALBANS is so well known to motorists of the north as well as those of the south, that interest is likely to be general among our readers concerning the great pageant to be held there from July 15th to 20th. The mayor is chairman of the committee, with the Rev. Canon Glossop as hon. secretary, and it is intended to set forth eight episodes illustrating the military, ecclesiastical, and general history of the city

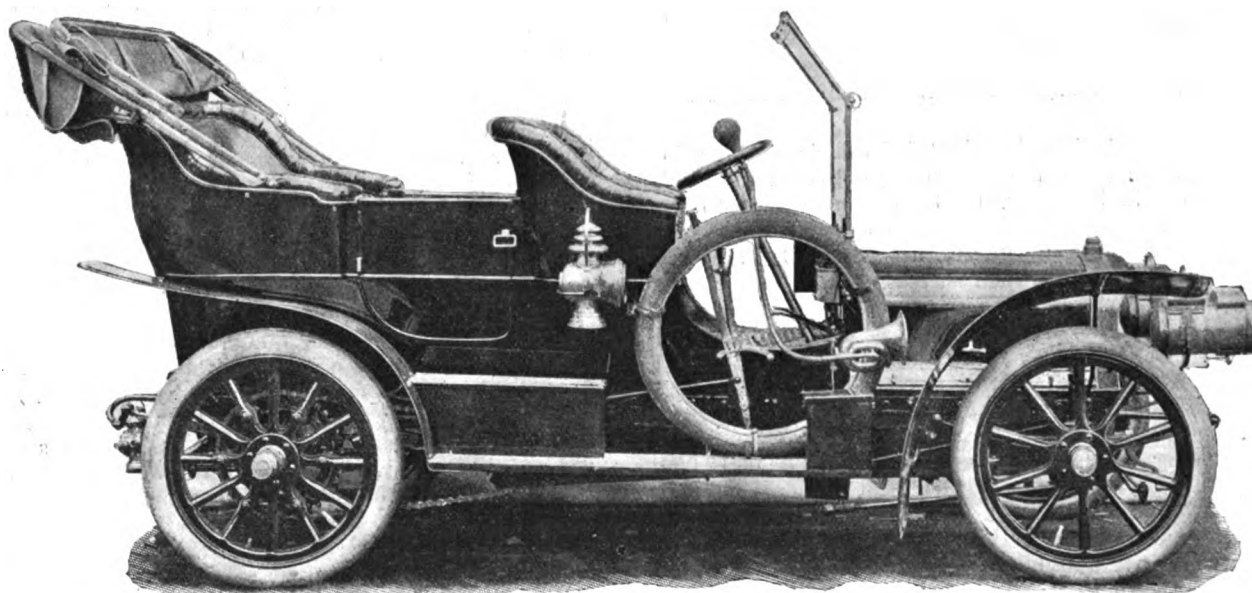


Fig. 2.—The 1902 20-h.p. M.M.C. Car after being brought up-to-date.

of the old rear entry tonneau, quite an up-to-date appearance. The Motor Manufacturing Company can, of course, modernise any type of car in this way, and, having regard to the low prices which second-hand cars are at present realising, there will no doubt be many motorists who will prefer to have their old cars dealt with in this way rather than part with them at a considerable loss.

St. Albans is twenty miles north of London, from whence it can be reached *via* Barnet; by the Edgware Road *via* Hatfield. From the north it is found by the Great North Road to Hatfield, or by the Holyhead road, upon which it is situated. That the pageant will be thoroughly up to date is suggested by the intimation we have received as to the provision of an open-air motor garage adjoining the grand stand.

REPORT has it that a new motor-car works will shortly be established at Reading.

A NEW garage has been opened in the High Street, Aylesbury, by Mr. A. T. Adkins.

THE municipal authorities of Southampton are inviting tenders for the supply of a motor chemical fire engine.

IT is reported that the scheme for the establishment of motor-car works in Walsall has been dropped for the present.

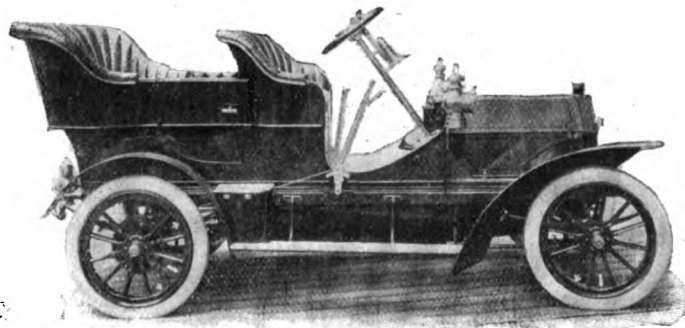
WE hear that the new M.M.C. 35-45-h.p. six-cylinder car of the Motor Manufacturing Company, 1907, Ltd., is approaching completion.

THE London County Council is inviting tenders until the 9th inst. for the supply of a petrol motor escape van and a motor steam fire engine for the London Fire Brigade.

VISITORS to the Bury St. Edmunds pageant next week will find a fully equipped garage in High Baxter Street, where Messrs. Thomas H. Nice and Company keep a full stock of spare parts and accessories.

FROM Argylls Ltd., Liverpool, comes an interesting circular showing the varied facilities they have for assisting the motorist, both in his early days and when he has become experienced in the use of the car. The firm's repair shop and depot is at 25, Leece Street, where driving and workshop instruction is also given.

THE Star Engineering Company, Wolverhampton, have, we learn, now been successful in obtaining an order from the Royal Automobile Club for another Star car, one of the latest 12-h.p. vehicles, fitted with a side-entrance body, as shown in the accom-



The New Star 12-h.p. Four-Cylinder Side-Entrance Double Phaeton.

panying illustration. This makes the third vehicle the Star Co. have supplied to the Club, the first being delivered in 1902, and the second car in February, 1906. Having regard to the fact that the car has been bought in open competition with the whole of the British manufacturers, the Star Co. are not unnaturally very pleased with their success.

THE Daimler car presented to the Coventry and Warwickshire Hospital by the Daimler Company has not been disposed of in consequence of the fact that the authorities have declared that a "raffle" is a lottery. Hence the hospital above named has a Daimler car for disposal, and offers are invited from readers of the *M.C.J.*

THE six-cylinder Hotchkiss car undergoing the trial of 10,000 miles under the supervision of the Royal Automobile Club did its work during the past week with the usual brilliancy. Running from south to north, the car has made a circular tour round about Glasgow and Edinburgh, returning *via* Carlisle, Keswick, Bradford, Doncaster, Newark, Sléaford to Norwich, the week's journey, which totalled 941 miles, being accomplished without any involuntary stoppage. The following is a summary of last week's journeys:—Monday, June 24th, Glasgow, Ayr, Lanark, Airdrie, Glasgow, 123 miles; Tuesday, Glasgow, Kilmarnock, Dumfries, Edinburgh, 159 miles; Wednesday, Edinburgh, Lanark, Peebles, Edinburgh, 181 miles; Thursday, Edinburgh to Keswick, 140 miles; Friday, Keswick, Kendal, Doncaster, Newark, 168 miles; Saturday, June 29th, Newark, King's Lynn, Lowestoft, Norwich, 170 miles. The total distance covered, so far, is 8,221 miles.

A FACETIOUS correspondent suggests that the Brooklands track should be renamed the Edge-wear Road.

ON the 15th inst. General Booth will commence his fourth motor-car campaign, starting from the Crystal Palace.

THE Kew Bridge Motor Company have recently opened a motor garage and well-equipped repairing workshops at Kew Bridge, W.

THE Home Secretary is reported to be contemplating the introduction of legislation sanctioning taximeters and sixpenny fares for horse drawn cabs.

MOTORISTS will be gratified at the distinction of knighthood conferred on Professor Hubert Von Herkomer, R.A., whose enthusiasm for motoring is well known.

MESSRS. T. H. FIRTH, BEN HIND AND W. ROBINSON, members of the Sheffield Automobile Club, are organising a motor outing for Sheffield crippled children for the 13th inst.

THE O'Connell fund opened by Mr. R. J. McCreedy, of Dublin, and referred to in a recent issue, has reached £200. We are glad to learn that motorists have made a good response to the appeal.

MESSRS. ASHWORTH AND WILSON, LTD., of 265, Deansgate, Manchester, have supplied the Department of Agricultural and Technical Instruction of Ireland with a 22-h.p. Berliet car, for the use of the visiting committee.

MESSRS. YEATES AND SON, of 2, Grafton Street, Dublin, have sent us a copy of the motor accessory catalogue, they have just issued. It contains illustrations and particulars of a large number of useful fitments and should be of interest to motorists in Ireland.

BY arrangement with Messrs. Brunner, Mond and Co., and the Stirlingshire County Council, one mile of road over which the cars in the Scottish Trials passed on Saturday last, between Lennoxtown and Strathblane, was treated with calcium chloride.

OUT of thirty meetings in which Daimler cars have been entered this season, the Daimler Company have secured no less than twenty-seven fastest times and seven first and second fastest times. In the Irish Trials they made a non-stop run throughout and fastest times (in both hill climbs), and in the Scottish Trials non-stop throughout and the fastest time in their class in the Cairn o' Mount Hill Climb. Moreover they have secured the Wilson Challenge Cup, the Henry Edmunds Hill Climb Cup and the Yorkshire A.C. Trophy.

THE Ordnance Survey Map for Torquay and district has just been issued by Mr. T. Fisher Unwin, who is now the publisher of this useful series of maps, among the excellent features of which we notice that the metalled roads are indicated in three degrees, first, second and third class, and that unmetalled roads, double crossings and even letter boxes are now shown. In view of some unfortunate accidents which have occurred of late, the dangerous corners and hills may some day be pointed out in these official maps of the country.

AN interesting revival, reminding one of the old coaching days, is to be made in purely modern style by Messrs. Teste and Lassen, who are about to start a service of 40-h.p. Weigel cars running up the Great North Road from London to York and back during the next three months. A regular service will be run every Saturday, starting from Warwick Street, W., just after breakfast, and lunch will be taken at the famous old Coach Inn at Grantham. The Great North Road is one of the most picturesque roads in England, and there are few pleasanter all-day runs to be found than a journey by road to York.

FROM the Touring Club Italiano, of Milan, comes a copy of the 1907 edition of their *Annuario dell'Automobilismo*, or Motoring Annual, which will be found exceedingly useful by all motorists who contemplate a tour in Italy. The work gives, among other matters, particulars of the scope and objects of the T.C.I., a list of the automobile clubs in Italy and other countries, Customs duties and motor-car regulations, lists of automobile manufacturers and agents, &c. Of principal interest to motorists is the last section of the book, which gives an alphabetical list of towns and villages in Italy, the principal hotels, garages, petrol depots, &c., in the same being duly set forth.

CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

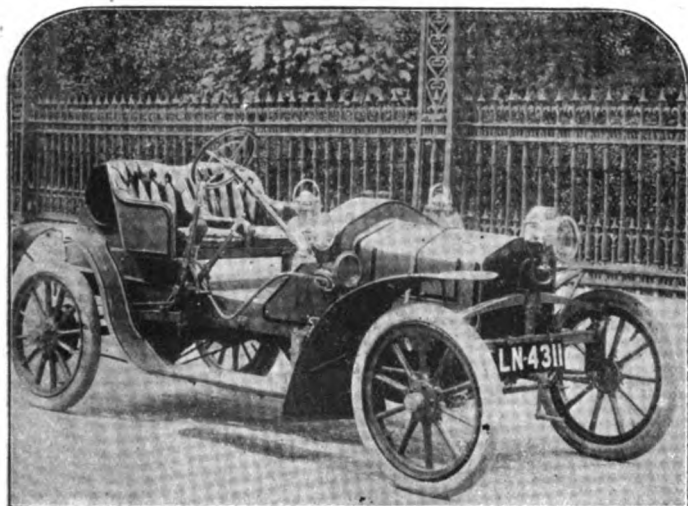
CAR ACCIDENTS AND INEFFICIENT BRAKES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The recent serious accident to a runaway motor-car shows that there seems to be great need for a reliable system of brakes. In our opinion, far too much use is made of, and reliance placed upon, expanding shoe brakes covered up with a light shell. The result is that the requisite attention to these small and necessarily delicate parts placed in so inaccessible a position is overlooked, and their failure spells disaster.

In our cars we have four brakes instead of three, none of which act upon gear shafts, &c., but direct on the proper part, namely, the road wheels. The brakes are of the contracting band pattern, compensated and adjustable, and, not being enclosed in a metal shell, they do not overheat. As they are of sensible diameter and width they pull up with ease, and, indeed, it has constantly been remarked that both our foot and hand operated brakes act with all the "vigour" and instantaneous certainty of the electric brake, than which it would be hard to find a better. The manufacture of this special system of band brakes is more expensive than that of enclosed brakes, but we prefer not to place the lives of our clients in jeopardy by any cheaper and far less efficient kind.—Yours truly,

THE OWEN MOTOR COMPANY.



The 9-h.p. Sizaire Car which Messrs. Jarrett and Lettis have just supplied to the Brooklands Automobile Racing Club, to be used as the Marshal's car on the Brooklands Track at Weybridge.

The car is painted in the club's own colours—yellow and black—and has an exceedingly smart appearance.

"THE GRAPHIC" TROPHY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to letters which have appeared in the Press on the subject of the disqualification of Mr. Edge's car in the race for the "Graphic" Trophy in the Isle of Man, it would be extremely interesting to learn the precise reasons which led the Royal Automobile Club's officials to adopt the course they did. Perhaps Mr. Edge would enlighten us, and, in so doing, put an end, once for all, to the wild rumours which have been so rife. Is it a fact that the car was disqualified on the ground that the body did not conform to the dimensions laid down by the Club for the definition of a touring car, or was objection taken on the score of inaccurate engine dimensions?—Yours truly,

W. T. CLIFFORD-EARP.

THE DEFINITION OF A TOURING CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—We should like to fully support the letter addressed by Mr. Edge to the secretary of the Royal Automobile Club, and published in your issue of the 22nd ult. In connection with the Saltburn Speed Trials a rule reads:—"Vehicles entering in the touring sections shall be of a recognised tourist type similar to the tourist vehicles sold by the maker

in the ordinary way, with finished body. . . ." Amongst the cars in the above competition we noticed 45-h.p. vehicles, with swing front seat bodies measuring from the dash to the back of frame about six feet, with no room for luggage in the tonneau, or, for the matter of that, for one's legs. We also noticed another standard touring car of 30-40-h.p. in which it was a work of art for two passengers to squeeze in the tonneau, and the engine had such a high compression that it was presumably impossible to start by means of the starting handle, as each time the car could only be started by getting an army of willing helpers to push it bodily along. This particular car, on paper, did very well in the trials, but we should be interested to know if it is the recognised touring type as usually sold to the public? We contend the public would not purchase such a car, and are therefore being deceived by the results of such competitions, and such rules made to be ignored are a farce.—Yours truly,

ARIEL MOTORS, LIMITED.

THE BROOKLANDS TRACK.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In many published reports and interviews concerning the Brooklands track, there seems to be an indication that the curves are difficult to negotiate at very high speeds. It has occurred to us that possibly the extra weight thrown on the springs due to centrifugal force may have something to do with the idea that the track is bumpy and the steering heavy. At 90 m.p.h. on the smaller curve this extra weight amounts to no less than a 55 per cent. increase on the original weight, being thus equivalent to a heavy body. Possibly some of your correspondents who have driven on the track might be able to verify the correctness or otherwise of the above. In any case it appears to be a matter of interest, especially to competitors.—Yours truly,

VAUXHALL MOTORS, LTD.

POOR COMPRESSION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your last issue I note a letter from G. Collis complaining of poor compression on a 6-h.p. Wolseley. A half-compression cam is fitted for starting, and if this became disconnected, or even improperly replaced, the car might be on half-compression all the time. The most frequent causes of loss of power on these cars are weakening of the exhaust spring, which causes the valve to close too slowly, and insufficient lubrication of the piston rings. The expansion of the inlet valve stem would not affect the valve, and if the exhaust stem were too long surely the seatings would be dimmed. But it is best to see to the exhaust spring first.—Yours truly,

IC-14.

THE FUTURE OF THE TOURIST TROPHY RACE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the future of the Tourist Trophy race, I do not think that an extended reliability trial would be any more severe than racing over 241 miles of roads in the condition they were during the last Tourist Trophy race. My long and varied experience of testing both high and low power cars has taught me that any defective part of the vehicle is almost certain to show itself under such a test as this year's race was, and anyone who has bumped down the mountain road on a car with a load of 12½ cwt. on the chassis and going at full speed cannot help but wonder how on earth the vehicle can possibly hold together at all.—Yours truly,

E. COURTIS.

CHARGING ACCUMULATORS FROM PRIMARY BATTERIES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, "Enquirer," refers to a letter in a recent issue, giving satisfactory experiences with a Boron battery. There were several, of which I wrote one. Let me state my method of preparing the battery, &c., 4 oz. bicarbonate of soda dissolved in a small quantity of water, to which is afterwards added 4 oz. commercial sulphuric acid. I am describing the process for each cell, of course. I then place the carbon in the jar and the porous pot, with the zinc in position to sink it. Then fill the jar nearly to the top with water. Pour 1-12th sulphuric acid into twelve parts of water by measure, not weight, into porous pot and connect up. While the battery is not in use I take the opportunity of filing off the roughest of the surface of the zincs and amalgamate carefully in a bath of quicksilver, and when charging is completed give the battery a thorough cleaning. I never allow my accumulators to go below four, and when charging them—two 20 ampere hour car accumulators—give each one eighteen hours of the battery. Like our friend "Enquirer," I find mine show 4.5 immediately after charging and in a few hours go down to about 4.3, where they remain for weeks and then gradually fall. My batteries are Lithanodes.

There is a small reduction in the voltage of the battery after the first eighteen hours, but it apparently makes no difference in the charging of the second accumulator.—Yours truly,

G. A. L. RAWSTORNE, Lieut.-Col.

DIFFICULTY IN STARTING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you could tell me what is the matter with my car; it has a 40-h.p. engine and starts up with half a turn in a morning, but after it has been running a while and I stop the engine I cannot get it started up again without a lot of turning. The valves have all been ground in, and everything seems all right excepting the starting up when the motor gets a little warm. There is always plenty of power when the car is running.—Yours truly,

THOMAS.

[It is somewhat difficult to assign the reason for this trouble from the data given. Most engines start up easier when warm, but we have occasionally experienced cases similar to this one of "Thomas." It must, we believe, be due to the initial mixture, when the motor is warmed, being incorrect. We can suggest the following reason: after an engine has been running, the heat gradually creeps along the induction pipe and warms all the air between the cylinders and the carburettor. Therefore in drawing, by turning the starting handle, hot rarified air past the hot ports and into the cylinders, also heated, a different mixture will result from that obtained when the motor is started from the cold. As "Thomas" finds his engine starts with only half a turn when cold, it is evident his initial charge thus obtained is correct, whilst for the reason we have assigned it may be otherwise when hot. Once the engine is running, the mixture may again become correct, seeing that the velocity of the inrushing vapour keeps the induction pipe and ports quite cold.]

BRAKE OPERATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you or any of your readers tell me why so many makers of light cars fit the foot brake on to the countershaft and the side brake on to the road wheels? I have noticed this in almost every car out here in Ceylon except the 8-h.p. Rover. The consequence is the foot brake is always used and the side brake seldom. The foot brake acting on the countershaft is naturally a strain on the driving shaft or chain wheels and the braking strain goes through the differential gear. The hills and roads out here, especially up country, are fair twistlers and would almost break a snake's back, and the bends, curves and corners necessitate very frequent application of the brake.

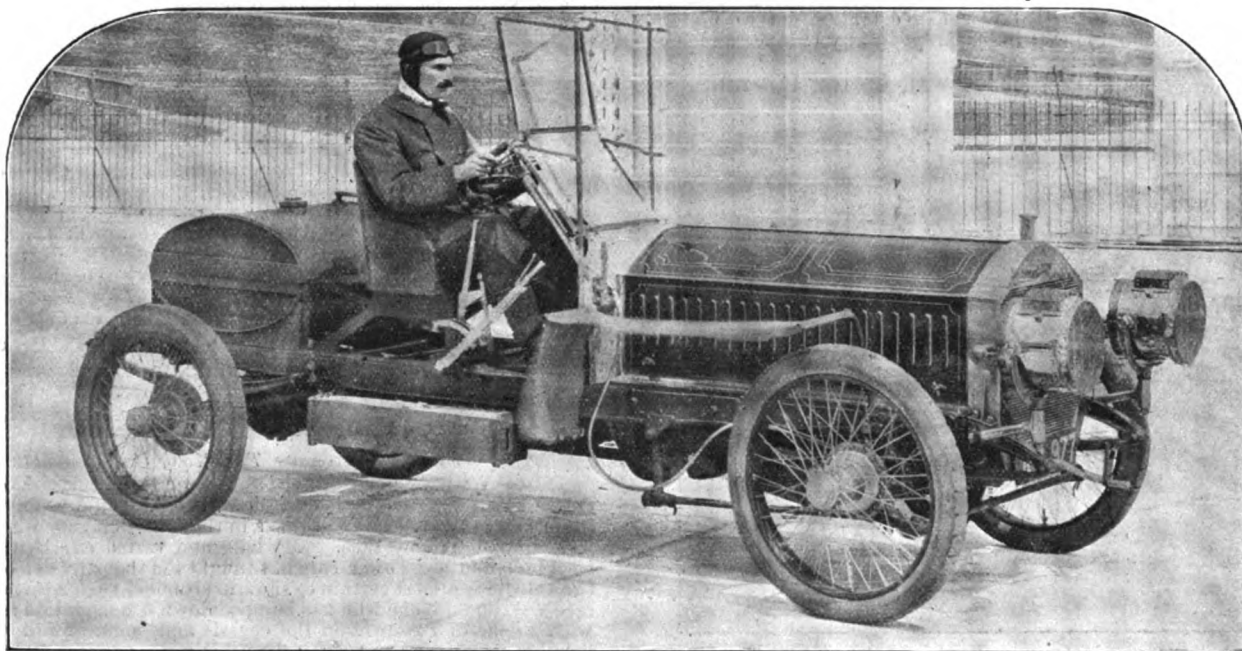
As the before mentioned practice is so common in cars, I feel sure there is some good reason for it, but it does appear to me that if the brakes were the other way about, i.e., the foot brake went on to the road wheels and the side or emergency brake acted on the countershaft, there would be much less wear on the shaft pinions and differentials, as the foot brake is the one that is I might almost say invariably used. I should like to hear your readers' opinion on the matter.—Yours truly,

U 16, CEYLON.

AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Would you kindly let me know through the columns of the *M.C.J.* what is the best solution to use to fasten in the plugs over the



Mr. S. F. Edge on the Napier Car on which he last week established his wonderful record on the Brooklands Track.

ENDORSEMENT OF LICENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Being a constant reader of your interesting and instructive paper, I take the liberty to ask your opinion and advice on the following: I am a motor mechanic, and occasionally take out cars for testing purposes, and whilst testing a car last week I neglected to see that the identification plates were on, with the result that I was stopped for driving with only one. What I wanted to know was, had the clerk to the justices any authority to write on my licence? The judge, in fixing the fine, said nothing about any endorsement, and on waiting to pay the fine the clerk asked for my licence and wrote on it the offence committed and the sentence—5s. and costs or seven days—the latter I don't like to see.

I may as well mention that I was not exceeding the limit or driving to public danger; as a matter of fact the car would not allow of the former. I shall esteem it a favour if you would inform me whether the clerk was justified in writing on my licence, not being told to by the judge; and if not, whether, on appearing at the next sitting, I could have it crossed out.—Yours truly,

ROB.

[We are afraid our correspondent will have to be put up with the endorsement on his licence, which is in accordance with the Motor Car Act, which provides for endorsement for all offences against the Act, except the first and second conviction of exceeding the legal limit.]

valves? I have been told to use boiled linseed oil, but find this does not answer, and also that washers do not hold the compression.—Yours truly,

CHARLES PRIEST.

[Our correspondent does not state whether the plugs complained about screw into the cylinders, or whether they are held in place by a bridge. If the latter, it is usual to rely on a metal-to-metal joint, the flange on the plug being ground like a valve on its seating. A little boiled linseed oil may be smeared round. But if the plugs are screwed into the cylinders there is nothing to beat copper and asbestos washers. The best variety of these have the asbestos visible on the inner circumference. If washers will not make a tight joint it is the fault of the plug or its seating, and not the washer. Our correspondent should carefully clean the contact surfaces of the plugs and seatings, and then smear the flanges of the former with a little lampblack and oil. Then, on screwing down the plugs, he will probably find that they only bear at one point. The reason for this will be that the screw thread is not square with the face on the top of the cylinder, or the thread on the plug may be "drunk." When the faulty bearing surface is corrected he will have no further trouble in making a tight joint with a washer.]

TYRE LOST.—Mr. J. B. Beal, 42A, Wardo Avenue, Fulham, S.W., recently lost a 915 by 105 mm. Continental tyre on the road between Galashiels, Melrose, Jedburgh, Wark, and Hexham, and will be pleased to reward the finder on its restoration.

MR. S. F. EDGE'S GREAT RECORD.

At six p.m. on the evening of the 28th ult. Mr. S. F. Edge began, on the new Brooklands track, an attempt at a world's record in connection with motoring, and by the same hour on the following day he had finished his self-imposed task. In a recent issue of the *M.C.J.* we dealt with the course at Weybridge on which the long distance record has now been made. Mr. Edge drove a 60-h.p. six-cylinder Napier car, remaining at the wheel for twenty-four hours. A supply of petrol sufficient for a twelve hours' supply was carried on the car, and the track was brilliantly illuminated throughout Friday night, five Bleriot lamps, many Wells lights and thousands of fairy lamps lighting the course for the racers and spectators.

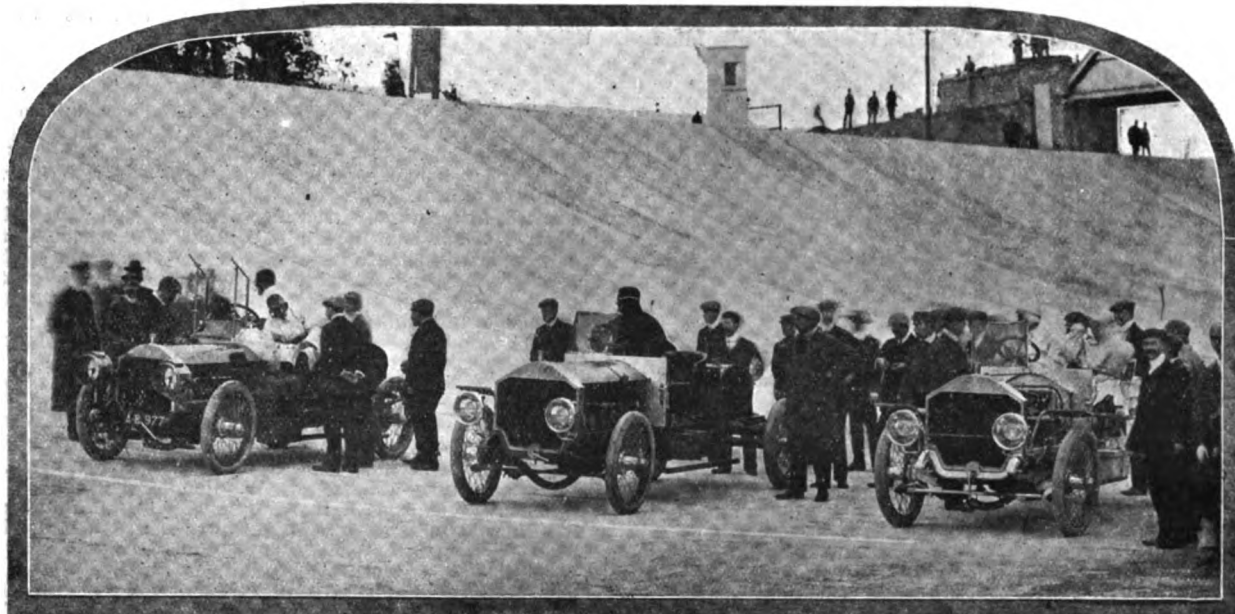
Mr. J. W. Orde, the secretary of the R.A.C., was the starter and Mr. A. V. Ebbelwhite was in charge of the timekeeping arrangements, being assisted by Messrs. J. T. Dutton, H. Glazebrook, J. H. Burley, and E. Fattorini, appointed by the Royal Automobile Club. Mr. Edge was accompanied on his ride by two other Napiers of the same power. These two, however, were operated each by two drivers, taking spells of three hours each. One was handled by Messrs. H. C. Tyron and A. F. Browning, whilst Messrs. F. Draper and F. Newton took turns at the wheel of the other, the former being geared slightly lower than the others. Both these pacing cars accomplished fine performances, the former covering a distance of 1,538 miles 160 yards and the latter 1,521 miles 80 yards.

The first lap was covered at the rate of sixty miles per hour. In the first hour 70 miles 130 yds. were travelled, while at the end of four

Brooklands.			Speed.		Philadelphia.	
Hours.	Miles.	Yards.	per hour.	Miles.	Miles.	Yards.
19	1,263	...	60	...	641	...
20	1,327	...	64	...	668	...
21	1,390	...	63	...	703	...
22	1,458	...	68	...	738	...
23	1,519	...	61	...	769	...
24	1,581	...	62	...	791	...

Average speed per hour 65.1594 at Brooklands.

There were very few stoppages for other than tyre troubles. After the first two hours Mr. Edge had to stop to take in a fresh supply of water; early in the morning one of the other cars had to have a new plug fitted, which delayed it about eight minutes; after driving for seventeen hours Mr. Edge stopped to change his clothes, and during the twentieth hour the third car had some trouble with the springs, but this was quickly put right. During a stoppage for refreshment a bat, which had been caught in the radiator of Mr. Edge's car, was extracted. The management of matters of detail during the run, viz., feeding, lubricating, tyre repairing and petrol supply, was in the hands of Mr. Cecil Edge, whose task, it may be imagined, was no easy one, and his close attention to details assisted not a little towards the success of the performance, while J. Blackburn acted as mechanic. It is significant of the great powers of endurance possessed by Mr. Edge that at the end of his huge task, and after innumerable handshakes, he turned into a tourist car, and himself drove to his hotel in Cobham to rest.



Mr. S. F. Edge starting for his 24-hours' ride on the Brooklands Track in company with two other Napier Cars.

Photo by

(Campbell Gray.)

hours the distance to his credit was 271 miles 1,160 yds., an average of over 67 miles per hour. In the next hour the distance was increased to 342 miles 1,350 yds. How this rose during the rest of the time can be seen from the following table, the times in the previous best figures for a 24 hours' motor-run by Messrs. Merz and Clemens at Philadelphia in 1905 being also given.

Brooklands.			Speed.		Philadelphia.	
Hours.	Miles.	Yards.	per hour.	Miles.	Miles.	Yards.
1	70	130	70	...	44	41
2	140	1,320	70	...	84	83
3	207	800	64	...	123	124
4	271	1,160	67	...	155	160
5	342	1,350	71	...	199	198
6	407	60	65	...	231	238
7	474	360	67	...	276	275
8	537	1,210	63	...	307	306
9	609	720	72	...	349	344
10	670	1,200	61	...	378	362
11	737	480	67	...	409	299
12	799	1,600	62	...	440	429
13	866	330	67	...	469	460
14	938	480	72	...	498	494
15	1,006	1,640	68	...	529	523
16	1,068	400	62	...	560	553
17	1,139	1,100	71	...	579	584
18	1,203	830	64	...	609	616

The freedom of the trio of Napier cars from mechanical troubles was a feature of the display, especially when it is remembered that the aggregate mileage was nearly 5,000.

In chronicling this wonderful feat we would mention that as the mileage increased the track showed signs of wear and tear in many places, and the holes that have already shown themselves on the surface required careful negotiation. It is to be hoped that these matters will have been attended to by to-day (Saturday) when the first great race meeting takes place.

The three cars used on the track were fitted with Bleriot headlights, and during the whole of the night powerful new Bleriot petrol oxygen projectors fitted to private cars were sending their beams of light on the finishing line, so that the timekeepers could easily identify the vehicles. Bleriot projectors were also used to light up the cars when they had to stop for changing tyres or filling with petrol or changing drivers.

On all the three cars the ignition used was the Castle accumulators, Castle coils, and Napier plugs. No change of the coils was made, and not even spares were carried. Mr. Edge switched on from his first set of Castle accumulators to the second after 1,000 miles, but simply as a precautionary measure.

Another point of interest in connection with this great run is that it was made on Shell motor spirit.

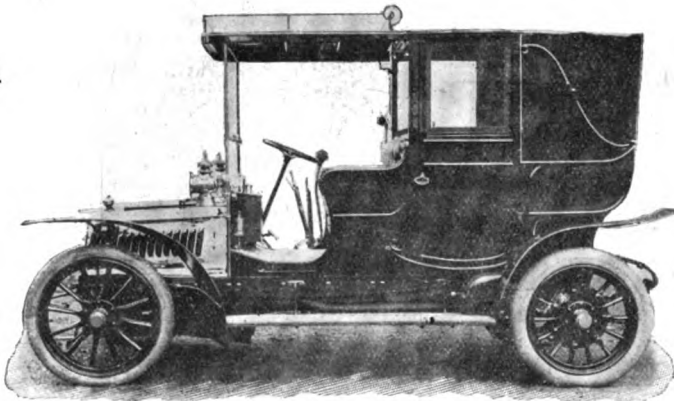
To their string of Dunlop successes must be added this marvellous record ride, for, at the conclusion of his arduous task, Mr. Edge wired:—"Dunlop tyres on my twenty-four hours were splendidly. Stood nearly 500 miles at over seventy miles an hour, then removed as a precaution."

CLUBS AND ASSOCIATIONS.

THE AUTOMOBILE ASSOCIATION.

THE annual meeting of the Automobile Association was held on Friday last week. Colonel W. J. Bosworth presided, and in presenting the report, which was published in the last issue of the *M.C.J.*, congratulated the members on the success of the association. There was one grievance which he could not refrain from ventilating, and that was the action of the Motor Union in adopting a badge which, when cars were running, was undistinguishable from that of the association. While paying a well-deserved tribute to the good work done by the Union, especially in the prevention of speed limit legislation, he considered that it would have shown a more friendly spirit if it had adopted a more distinctive badge. The report having been adopted on the motion of Sir Archibald Macdonald, seconded by Mr. Walter Gibbons, the following members of the committee retiring by rotation were re-elected: Mr. D'Arcy Baker, Captain J. Bennett-Stanford, Mr. C. W. Brown, Mr. C. Cordingley, Mr. S. F. Edge, Mr. Walter Gibbons, Mr. Alfred Harris, and Mr. Charles Jarrott.

Among the 354 new members elected at the last committee meeting of the Automobile Association were:—The Duke of Westminster, the Countess of Dundonald, the Earl of Northbrook, the Earl of Home, the Marchioness of Ormonde, the Earl of Fitzwilliam, the Duke of Roxburgh, the Earl of Normanton, Admiral Lord Charles Beresford, Lady Idina



The above illustration depicts a handsome 15-h.p. Panhard with single landaulet body built by W. Vincent, of Reading, which he has just supplied to Her Highness the Rane of Sarawak.

There are numerous refinements in the car, which is also fitted with a detachable front extension, so that it makes when required an entirely open vehicle. The car is upholstered in green morocco and painted a dark rich green with black mouldings.

Brassey, Lord Moreton, Lord Hastings, Lady Vivian, Sir George Cooper, Lord Henry Neville, Sir E. John, Sir Thomas Dewar, Major Bulkeley-Johnson, Admiral Tillard, the Hon. C. Baring, the Right Hon. Sir E. Carson, the Hon. H. H. Tracey, Sir James Rothschild, Sir Lewis Michell, and Sir Felix Schuster.

NORTH-EAST LANCASHIRE.

THE North-East Lancashire Automobile Club will hold an open hill-climbing competition on the 19th inst., at Rivington Pike, about a mile from Horwich, on the main road from Manchester to Preston, and seventeen miles from the former place. The hill is on private ground, and admirably suited for a contest of this nature. The trial will be held over a kilometre, the average gradient of which is 1 in 10.84.

Two valuable silver cups (presented by Mr. William Birtwistle, J.P., of Billinge Scar, Blackburn, and Mr. George Burton, of The Lindens, Fulwood, Preston), and twelve gold medals and twelve silver medals (the latter presented by Mr. J. Davis, of Hoghton, and Mr. F. Pearce, of Wilpshire), are to be competed for.

The competition will be divided into six classes:—Class A.—Cars whose cylinder D²N is under 35. Class B.—Cars whose cylinder D²N is 35 and under 50. Class C.—Cars whose cylinder D²N is 50 and under 75. Class D.—Cars whose cylinder D²N is 75 and under 100. Class E.—Cars whose cylinder D²N is 100 and under 150. Class F.—Cars whose cylinder D²N is 150 and over.

The competition will commence at 10.30 a.m. at a place marked "start" on the selected road. No one will be allowed to make a trial run over the course on the day of the competition.

Every car in Class A must carry one passenger at least in addition to the driver, and all other competing cars three passengers at least in

addition to the driver. The average weight of the passengers shall not be less than ten stone, and cannot be supplemented with ballast. No car can be entered in more than one class. Entries must be upon the form supplied by the club, and reach the hon. secretary of the club, at Kensington Place, Blackburn, by 12 o'clock on Monday next, at the ordinary entrance fees, and by 12 o'clock noon on Friday, the 12th inst., at double such fees.

The weighing in will take place near the Crown Hotel, Horwich, or at some other place to be hereafter notified, on Thursday, July 18th, from 2 p.m. to 8 p.m.

THE MOTOR CYCLING CLUB.

THE following cars made non-stop runs in the recent Rover Cup twelve-hour reliability test, and received the awards mentioned:—

Order.	Entrant.	Car.	Driver.	Award.
1.	R. H. Head	12-14-h.p. Singer	W. Perks	The Cup.
2.	F. J. Jenkins	16-20-h.p. Rover	Entrant	Silver Medal.
3.	Chas. Jarrott	9-h.p. Sizaire-Naudin	R. O. Clarke	Bronze Medal.
4.	J. Platt Betts	8-h.p. Rover...	Entrant	Certificate.
5.	J. S. Harwood	8-h.p. Rover...	Entrant	Certificate.
6.	F. J. Jenkins	8-h.p. Rover...	E. R. Folker	Certificate.

The Inter Team competition for the Motor Cycle fifty guinea challenge cup will be held on July 27th. This competition is open to a team of six riders from all recognised clubs. Particulars can be obtained from the trials hon. sec., Mr. R. G. Booth, 118, Dartmouth Road, Brondesbury, N.W. The 150 miles reliability trial for the Reeves Cup, and the 100 miles private owners' trial fixed for Saturday last had to be postponed in order that the conditions of the Reeves Cup competition may be slightly altered to comply with the wishes of the donor of the cup.

ESSEX.

THE Essex Club held a 200 miles non-stop competition for light cars, tri-cars, and motor-cycles on Saturday, the 22nd ult., the start being made from Ongar. Twenty-six competitors started at 6.30 a.m., the first round of 100 miles being through High Ongar, Writtle, Chelmsford, Witham, Marks Tey, Coggeshall, Braintree, Dunmow, Hockerill, Stansted, and Newport, and then back through Hockerill, Sawbridge-worth, Harlow, and Epping to Ongar. The scheduled time for the journey was 5 hours 15 minutes. Of the twenty-six starters, eighteen completed the first round in the maximum time, and three others finished outside time. The second round was the reverse journey, the start being made immediately after luncheon.

Non-stop Run.—Tri-cars, M. W. Randle, 10-h.p. Lagonda; and F. Cozens, 10-h.p. Lagonda. Light cars, G. Hunnabell, 8-h.p. Rover; E. J. Underwood, 8-h.p. De Dion; J. Van Hooydonk, 8-h.p. Phoenix; H. A. Bate, 15-h.p. Ford; and J. Browning, 9-h.p. Riley. Motor-cycles, G. W. S. Merriman, 3½-h.p. Rex; F. C. Mustard, 3½-h.p. Triumph; F. Applebee, 3½-h.p. Rex; S. Webb, 3½-h.p. Triumph; P. S. Anderson, 3-h.p. Acacia (De Dion engine); and C. C. B. Morris, 3½-h.p. Rex.

Speed Test.—Tri-cars, M. W. Randle, Lagonda; 2, F. Cozens, Lagonda. Light cars: 1, H. A. Bate, Ford; 2, J. Browning, Riley; 3, Van Hooydonk, Phoenix. Motor-cycles: 1, Mustard, Triumph; 2, Applebee, Rex; 3, S. Webb, Triumph.

Slow Test.—Tri-cars: 1, Randle; 2, Cozens. Cars: 1, Hunnabell, 8-h.p. Rover; 2, Van Hooydonk, Phoenix; 3, H. A. Bate, Ford. Motor cycles: P. S. Anderson, Acacia; S. Webb, Triumph; G. W. Merriman, Rex.

Hill Climbing.—1, J. Van Hooydonk, Phoenix; 2, H. A. Bate, Ford; 3, J. Browning, Riley.

The awards in each class consisted of a silver cup, gold medal, and centre gold medal for first, second, and third, respectively; and certificates were given to all competitors completing the distance within schedule time and making a non-stop.

SHEFFIELD.

THE awards in the recent hill climbing competition held by the Sheffield and District Automobile Club have now been announced. In Class 1 Mr. F. W. Huband (10-h.p. Alldays), holds the cup for the coming year and takes the club gold medal. Mr. W. Watts (8-h.p. De Dion) holds the cup for single-cylinder cars (Class 3), and also takes the club-gold medal. In Class 3 Mr. W. Johnson (15-h.p. Clement-Talbot) wins the first prize, given by Mr. W. T. Flather; and Messrs. F. R. Watson (15-h.p. Darracq), and H. Beesley (6-h.p. Wolseley), the prizes given by Mr. P. J. Benson and Mr. G. E. Senior.

HERTFORDSHIRE.

ON Saturday last the members of the Hertfordshire County Automobile Club met at Chaulden Boxmoor, Herts., the residence of Mr. Colliver, whose hospitality and charming grounds the members present much enjoyed. Unfortunately the weather was unpropitious, a fine morning being followed by violent thunderstorms all over the county, which prevented many members from accepting Mr. Colliver's invitation. Tea was served in the conservatory, which we believe is the largest in the county, and afterwards the members amused themselves with croquet, golf, or a stroll through the grounds, as fancy dictated, and the cordial thanks of the club are due to Mr. Colliver for a most enjoyable afternoon.

SUSSEX MOTOR BOAT CLUB.

ON Saturday last the club held a sealed handicap for Baron Van Bissing's cup. The course was ten miles. Ten boats had entered for the event, but for various reasons only five started, viz., Annie, Messrs. Akers and Barca; My Lady Ada, Mr. H. J. Preston; Firefly, Mr. W. T. Ashdown; The Grand, Mr. R. Berner, and Wema, Mr. W. J. Flack. The Firefly went away at the start and kept the lead for eight miles, when she stopped for want of petrol. The Grand had only one cylinder running and retired. The other three boats finished in the following order:—

	Actual Time.		Handicap.	M. s.	Corrected Time.		
	H. m. s.				H. m. s.		
Annie...	1	25	5	...	1	25	5 3rd.
My Lady Ada	1	27	14	...	1	25	4 2nd.
Wema	...	1	41	21	...	1	23 51 1st.

IRISH.

THE Irish Automobile Club is organising a hill climbing competition for the 27th inst. The cars will be classified as follows:—A, cars the selling price of the chassis of which with tyres does not exceed £200; B, between £200 and £300; C, between £300 and £450; D, between £450 and £600; E, between £600 and £750; and F, over £750. The selling price for the purposes of the foregoing classification shall mean the price for the year 1907 of a chassis of the same make and horse power, or in the event of none such being then made, the original price of the chassis when new to an ordinary purchaser. All cars must be driven by internal combustion engines, and must have ordinary touring bodies substantially constructed and properly upholstered, and, except in Class A, must have fixed seating capacity for at least four adults facing forwards with independent side entrance doors to the rear seats. In Class A, seating capacity need only be provided for two. In addition to the driver, all cars, except in Class A, must carry three passengers weighing at least 10 st. each, or a gross weight with driver of 40 st. In Class A, each car must carry 20 st. The persons carried will be weighed at the foot of each hill, and any deficiency in the weight of passengers from the above amount will be made up with ballast consisting of sand in bags to be provided by the club. Except for cars competing in Class A the competition will take place on two hills, the locality of which will not be disclosed until the morning of the trial, and the car in Class A climbing the first hill in the shortest time, and the car in each of the other classes which climbs both hills in the shortest aggregate time, will be the winner, and will be awarded a gold medal. A special certificate will be given in each class to the car which, on a handicap prepared by the committee, has, in their opinion, done the best performance; and a silver cup, presented by Messrs. Humber, Ltd., will be awarded to the car which has done the best performance on the handicap in the entire competition. A silver cup, presented by Mr. Thos. Henshaw, will be awarded to the car in any class which climbs both hills in the shortest aggregate time. The entry list closes on the 13th inst.

MR. A. J. SALMON, 15, Westland Road, Watford, has been appointed Press secretary of the Hertfordshire County Automobile Club.

MESSRS. W. FORSYTH AND H. NORTH have been elected representatives of the A.C. of Ceylon to the General Council of the R.A.C.

MR. LEVESON SCARTH and Mr. J. B. Geake have been appointed representatives of the Motor Union on the committee of the Children's National Guild of Courtesy, which is endeavouring to acquaint its members with the rules of right conduct on the road.

IN view of the trouble experienced by the Southern Motor Club, the committee of the Crystal Palace Automobile Club has decided not to hold an event at Captain Kydd's Hill on July 27th. Another suitable venue is being selected, due notice of which will be sent to entrants at the earliest moment.

COMPANY NEWS.

THE annual report of Messrs. Brown Brothers, Ltd., for 1906 states that the profit for the year, after making provision for the depreciation of leaseholds and fixtures, amounts to £17,319, to which must be added the amount brought forward from last account, £2,274, making £19,593.

The dividend on the preference shares at the rate of six per cent. per annum (less tax) to 31st December last, amounting to £5,699, has been paid, and £853, being the ten per cent. on net profits referred to below, has been set aside.

They now recommend that a dividend at the rate of five per cent. per annum, free of income tax, be paid on the ordinary shares, amounting to £7,500, and that the balance of £2,455 be carried forward. In accordance with the articles of association, ten per cent. of the profits available for dividend on the ordinary shares have been carried to reserve fund, which will now stand at £20,127.

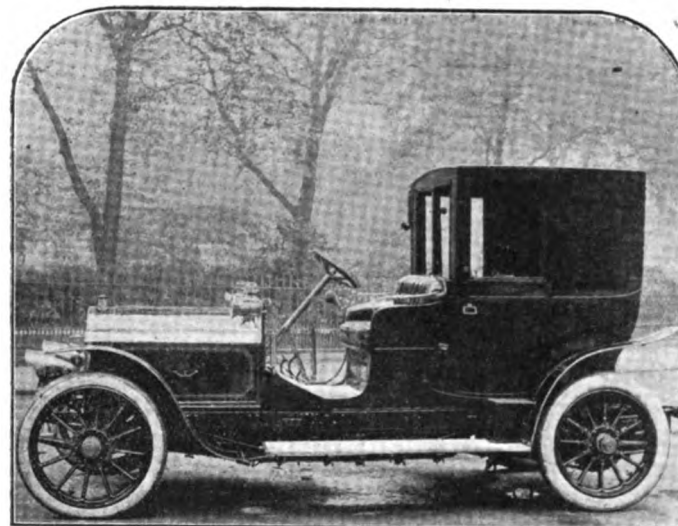
NEW COMPANIES REGISTERED.

JANES DETACHABLE RIM COMPANY.—£1,000. No initial public issue. Registered office: 50, Moorgate Street, E.C.

THE Daimler Company have received an order from Sir Edward Wills for a 28-h.p. chassis fitted with a Hampton body.

AUTOMOBILE PARADE AND GYMKHANA AT HASTINGS.

AN automobile parade and gymkhana, organised by the Automobile Association and the Motor Club in conjunction with the Hastings and St. Leonards Borough Entertainments Committee, was held at Hastings on Wednesday last week, and notwithstanding the dull weather which prevailed the proceedings went through very satisfactorily. The cars, to the number of about sixty, assembled in the morning in Warrior Square, St. Leonards, when an appearance and floral decoration competition was held. The weather was fair and the course was in good going. Mr. W. Perkins was awarded the first prize for his 15-20-h.p. De Dion, Mr. W. Lewis's 45-h.p. Mercedes being second, and Mr. P. Hitchman's Panhard third. In the floral decoration contest, the first prize went to Mr. Chas. Jarrott, whose Crossley was decked out in pink blooms. Mr. J. G. Hickman, whose Star car had the appearance of a floral basket on wheels, took the second place, while Mr. A. H. Philpot's Renault was third. The gymkhana, which was held in the afternoon, was originally arranged for on the Central Cricket Ground, but the recent rains prohibited its use, so that an adjacent field was used. Six motor events were down on the programme, including obstacle, bending, starting and stopping, lady passenger, and other races. The novelty of the meeting was the automobile musical chairs. Fourteen cars, each with a lady passenger, were driven round in a circle. Chairs, one less in number than the ladies, were arranged in the centre. When the band stopped the ladies had to dismount and run for chairs, the one unable to secure a seat having to retire with her car. One chair was then taken away, and the process repeated until two competitors and only one chair were left. The spectators were highly amused at the



The 40-h.p. De Dietrich Brougham recently supplied by Messrs. Jarrott and Letts to the Duke of Sutherland.

The body has been specially fitted up for His Grace, and the interior is lighted by an electric lamp in the roof.

struggles of the ladies to reach the chairs, and as the numbers lessened the interest increased. The winning ladies were Misses Phyllis Carlisle and Gladys Hocking, and they rode on Mr. Moyse's 30-h.p. Thornycroft and Mr. B. C. Carr's 12-h.p. Brasier respectively. The obstacle race was a test of skill in driving, and in this race Mr. F. Herbert Shaw won on a Napier, with Mr. F. Baisley's 18-h.p. Gladiator second. The lady passenger's race, consisting of the picking up of ladies at given points, proved an easy win for Mr. J. Moyse, who completed the lap in 58 sec., Mr. C. Jarrott being second in 1 min. 12.5 sec. The starting and stopping race was won by Mr. Williamson on a 14-20-h.p. Hills-Martin, Mr. Shaw being second. The "Turk's head and tilting at the ring" prize fell to Mr. Williams, with Mr. Moyse second. The bending race, in which the competitors had to thread in and out of dummy figures both forward and backwards, was won by Mr. C. Jarrott on a 9-h.p. Sizaire-Naudin, with Mr. Williams second. At the conclusion the prizes were presented by Mrs. Harvey du Cros, who, on the motion of Alderman B. H. W. Tree, J.P., was heartily thanked. Colonel Bosworth, Sir Archibald Macdonald, Mr. L. Schlentheim, Mr. George du Cros, Mr. Harvey du Cros, jun., and Mr. Walter Gibbons acted as judges.

AERONAUTICS.

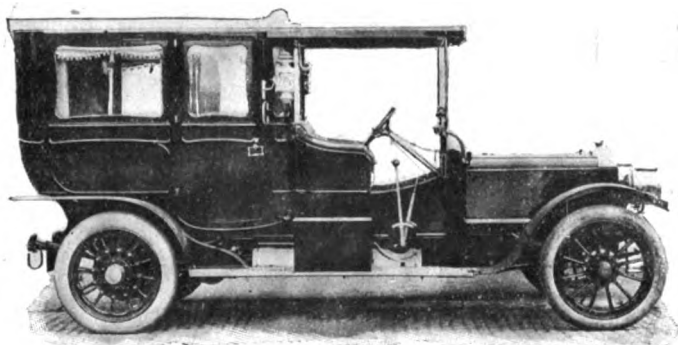
AN interesting display of kites was given on Monday, at Sunningdale, Berks., by the Aeronautical Society, in the presence of about 3,000 people. Scientific kites flown by Messrs. Balston, Brogden, and Salmon attained great heights. Mr. Weiss exhibited two model gliders, one of which travelled nearly a quarter of a mile.

A JOINT CLUB MEET AT BUXTON.

THERE was a large meet of automobilists at the Buxton Football Club ground on Saturday last, and a gymkhana was held in the afternoon, the clubs represented including the Bradford, Cheshire, Derby and District, Halifax, Lincolnshire, Liverpool, North Yorkshire, Mid-Staffordshire, North-east Lancashire, Sheffield and District, Wolverhampton and District, Manchester and Yorkshire, the credit for the organisation of which belongs to the Manchester Automobile Club. Rain fell heavily when four of the six events had been concluded and stopped further proceedings. The grass, moreover, was slippery and the ground soft through previous rains.

The events began with a starting and stopping competition. Each competitor stood about fifty yards from his car. At the fall of a flag he sprinted to the vehicle, started his engine, and drove to the end of the course, stopping with all wheels between a chalk line and a dummy wall. The first prize for this event went to Mr. V. G. New, who drove a 30-h.p. Siddeley car. Mr. W. Kenyon took the second prize with a 12-14-h.p. Clement. In an obstacle race, small obstacles were placed along the course line, and competitors had to thread their way between them both forwards and backwards. In the final round Mr. Crowley won on an 18-h.p. Siddeley in 1 min. 15 sec., Mr. F. W. Huband, on a 10-h.p. Alldays, being second in 1 min. 22 3-5 sec.

In the lady passenger's race the competitors were required to drive about fifty yards, alight, assist a lady from a chair to one of the back seats of the car, close the door, resume his seat, and drive another fifty yards and take up another lady; then return and repeat the process of taking up a passenger. Mr. A. Birtwistle, on a 35-45-h.p. Daimler, was adjudged the winner, and Mr. V. G. New, with his 30-h.p. Siddeley, was second. A bomb race was a decided novelty. Little balloons were laid on the course, and the driver of the car that traversed the distance in the quickest time and burst most bombs was the winner.



The above illustration depicts a special Saloon Carriage recently completed by Messrs. Sayers and Co. for H.H. the Rajah of Alwar, who is at present staying in London.

The body, which is mounted on a 30-h.p. Daimler chassis, is on exceedingly novel lines, the interior arrangements being of a distinct and most complete character.

In the end the prizes went (1) to Mr. Hooydonk, who drove a 14-16-h.p. Argyll car, and to Mr. V. G. New, with a 30-h.p. Siddeley car.

In the evening the competitors and many friends assembled at the Empire Hotel under the chairmanship of Mr. J. A. Morris, president of the Manchester Club, when Mrs. Morris presented the prizes. Afterwards an entertainment was given by Mr. Foden Williams.

POLICE TRAPS.

MOTORISTS passing through Rugby should "gang warily," as the police have lately issued several summonses for driving to the public danger.

AN electrically-operated police trap has recently been in operation at the village of Killinghall, near Knaresborough.

A CORRESPONDENT advises us of a police trap on the old road between Leamington and Warwick, between the G.W.R. station at Leamington and the Castle Bridge at Warwick. There is also a trap between Warwick and Gaydon, on the Warwick-Banbury road.

THE police have lately had a police trap in operation at the village of Sturry, between Canterbury and Margate, as a result of which several motorists have been fined for exceeding the legal limit.

AT Little Stukeley, near Huntingdon, the police have lately been very active.

A NEW trap has been established between Warnham and Horsham Sussex.

A TRAP is in almost daily operation between Epping and Harlow.

THE Morecambe Motor Garage Company will be pleased to supply motorists visiting their district with particulars of local police traps.

IN the Essex Automobile Club's 200 miles Reliability Competition, a Ford car did a non-stop high gear run, winning the gold medal. The petrol consumption was equal to thirty-four miles to the gallon.

THE BROOKLANDS RACING TRACK.

THE following races will be run on the Brooklands Track on Saturday, the 20th inst.

THE SURREY STAKES of 50 sov., added to a sweepstakes of 5 sov. each (the entrant of the second to receive 20 sov. out of the stakes.) For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension 95 to under 105. Weight 3,200 lbs. About 3 1/2 miles. To close July 12th. Entrance: 5 sov., the whole of which goes towards the stakes.

THE HOLLYCK SELLING PLATE of 200 sov. (the entrant of the winner to receive 150 sov., and the entrant of the second 50 sov.) For motor-cars propelled by means of internal combustion engines only, the winner to be sold by auction for 500 sov. Weight 2,600 lbs., for cars of a cylinder dimension 75 or under, and 3,465 lbs. in addition for every additional 0.1 of dimension. About 8 1/2 miles. To close July 12th. Entrance: 10 sov. p.p. (12 entries, or the race may be void at the option of the executive.)

THE WEYBRIDGE STAKES of 50 sov. each (the entrant of the second to receive one quarter of the stakes.) For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension under 220. Weight 2,600 lbs. About fourteen miles. To close July 12th. Entrance: 50 sov., the whole of which goes towards the stakes.

THE CENTURY STAKES of 100 sov., added to a sweepstake of 10 sov. each for starters only (the entrant of the second to receive 50 sov. out of the stakes.) For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension under 145. Weight 3,500 lbs. About 19 1/2 miles. To close July 12th. Entrance: 3 sov., the only forfeit if declared by July 15th.

THE MANX STAKES of 200 sov., added to a sweepstake of 10 sov. each for starters only. (The entrant of the second to receive 100 sov. out of the stakes, the entrant of the third to save his stake.) For motor-cars which were entered for the Tourist Trophy Race, 1907, and which consume 1 gallon or less of petroleum spirit, measured and supplied by the club at the start. Weight 2,200 lbs. About 29 miles. To close July 10th. Entrance: 6 sov., the only forfeit if declared before July 10th.

THE HUMBER PLATE of 100 sov. (The entrant of the winner to receive 75 sov., and the entrant of the second 25 sov.) For motor-cars manufactured by Messrs. Humber, Ltd., with 4-cylinder engines of a bore of 3 1/2 inches and a stroke of 3 3/4 inches. Weight 3,200 lbs. About 6 miles. To close July 10th. (20 entries, or the race may be void at the option of the executive.)

THE COMMERCIAL VEHICLE TRIAL.

THE following is the list of entries for the R.A.C. Commercial Vehicle Trial to date:—

Entrant.	Class.	Nett load.	Nature of Vehicle.
1. Messrs. Milnes-Daimler, Ltd.	B	20 cwt.	Motor Van.
2. Messrs. Milnes-Daimler, Ltd.	B	20 cwt.	Motor Van.
3. Messrs. Milnes-Daimler, Ltd.	E	60 cwt.	Motor Lorry.
4. Messrs. Milnes-Daimler, Ltd.	E	60 cwt.	Motor Lorry.
5. Messrs. Milnes-Daimler, Ltd.	F	100 cwt.	Motor Lorry.
6. Messrs. Milnes Daimler, Ltd.	F	100 cwt.	Motor Lorry.
7. Halley's Industrial Motors, Ltd.	C	30 cwt.	Halley Petrol Van.
8. Halley's Industrial Motors, Ltd.	D	40 cwt.	Halley Petrol Van.
9. Messrs. Savage Bros., Ltd. ...	G	120 cwt.	Steam Wagon.
10. Messrs. J. and E. Hall, Ltd.	E	60 cwt.	Omnibus or Lorry.
11. Wolseley Tool and Motor-Car Co., Ltd.	C	30 cwt.	Siddeley Commercial Vehicle.
12. Wolseley Tool and Motor-Car Company, Ltd.	C	30 cwt.	Siddeley Commercial Vehicle.
13. Wolseley Tool and Motor-Car Company, Ltd.	E	60 cwt.	Siddeley Commercial Vehicle.
14. Wolseley Tool and Motor-Car Company, Ltd.	E	60 cwt.	Siddeley Commercial Vehicle.
15. Sidney Straker and Squire, Ltd.	B	20 cwt.	Covered Van.
16. Sidney Straker and Squire, Ltd.	D	40 cwt.	Covered Van.
17. Sidney Straker and Squire, Ltd.	E	60 cwt.	Bus chassis with open body.
18. Sidney Straker and Squire, Ltd.	F	100 cwt.	Wagon with open body.

Applications for entry forms continue to be very numerous, and intending entrants are reminded that entries at ordinary fees close at 12 noon on Saturday the 13th inst. In order that the arrangements may be completed as soon as possible, the R.A.C. has purchased a 12-h.p. Star Car, which is at present surveying the routes for the trials.

FROM Messrs. Jarrott and Letts comes an illustrated pamphlet giving an interesting account of Mr. Jarrott's recent record run from London to Monte Carlo, on a 30-40-h.p. Crossley car.

CASES UNDER THE MOTOR CAR ACT.

FURIOUS DRIVING.

At Retford, last week, Herbert G. R. Slings was charged with driving a motor-cycle to the danger of the public, and also with exceeding the speed limit. Mr. A. Barlow (Nottingham) defended for the Motor Union, and objected that the latter summons was bad, as the necessary twenty-one days' notice had not been given. The Bench upheld the objection and dismissed the case, but fined defendant £2 for driving to the danger of the public.

At the Knaresborough Police Court, last week, Alfred Hardy, of Harrogate, was fined £10 and costs for driving through the village of Killinghall at a dangerous speed on June 16th.

At Ayr Sheriff Court several motorists were last week fined for furious driving.

The Earl of Carnarvon, of Highclere Castle, was fined at Newbury, last week, £10 for driving a motor-car at a dangerous speed through Thatcham village on June 16th.

Herbert Warren was fined £10 and £10 costs at Newport on Saturday for recklessly and dangerously driving a motor-car at Rumney, and with failing to give audible warning of his approach, on May 21st. The defendant was driving the car from Caerleon to Cardiff, and when near Rumney ran down a cyclist named John Tobin, who had since been in hospital.

At King's Heath last week, Richard Hargreaves, employed by the Wolseley Motor Company, was fined £10 and costs for driving a car on the Alcester Road, Wythall, on June 17th, at a speed dangerous to the public.

EXCEEDING THE LIMIT.

At the Kingston-on-Thames County Police Court, last week, J. P. Spence, Kensington, formerly chauffeur to the Prince of Wales, was fined £5 and costs for exceeding the ten miles an hour motor-car speed limit at Richmond Park.

Several motorists have lately been fined at Harlow, Essex, for exceeding the legal limit between Harlow and Epping, where the police have lately been very active.

At the Lancaster County Petty Sessions on Saturday last, fines amounting to £25 were imposed in four motor cases, as the result of a trap on the Burton Road at Carnforth.

Nearly twenty London and other motorists were summoned on Monday at Haywards Heath for exceeding the legal limit on the Brighton road at Handcross, Belney, and Burgess Hill. The speeds ranged from twenty-eight to forty miles an hour. Forty or fifty cars from the Motor Club were stated to be on the road at the time of the Handcross "trap," and it was said that the party had been warned of the timing operation when at Crawley, but, in spite of this, two or three got into the net. The penalties imposed ranged from £15 and costs to £2 and costs, and amounted to over £100 with the costs.

At Dublin, Mr. Robert Burns, of Coventry, has been fined £10 for having, according to the police, driven at an excessive rate of speed and on the wrong side of the road—"Just," said the magistrate, "as if he were an ordinary Irishman."

MOTORING IN THE MALAY PENINSULA.

MOTORING in the Malay Peninsula is far from being an unknown art, writes Mr. J. H. Robson, a medical practitioner of Kuala Lumpur, in the Selangor. Mr. Robson, who was the first medical man in the Peninsula to use a motor-car in connection with his profession, reports that Perak, Selangor, and Negri Sembilan, the three States on the west coast of the peninsula, have excellent roads, flat on the coast and hilly in the interior. A very interesting trip could be made to the peninsula by visitors to the Far East, by landing at Penang from any of the steamers from Colombo, Madras, Calcutta, or Rangoon, and staying fourteen days for the next steamer from China. This would give sufficient time for a detailed visit of the peninsula and would allow the tourist to see something of the rubber estates and tin mines.

Landing at Penang, a very interesting trip may be made right through the States as far as the old British territory of Malacca, to the south of Negri Sembilan. The trip could be spread over four days as follows:—First day, Penang to Taiping, capital of Perak; second day, Taiping to Ipoh (Perak), a tin mining centre; third day, Ipoh to Kuala Lumpur (Selangor), the Federal capital; fourth day, Kuala Lumpur to Malacca. The distances average about one hundred miles a day. Steamers do not go alongside at Malacca, so that, except in the case of small light cars, it would be well to work back again from Malacca to the chief port of Selangor (Port Swettenham). If arriving at Singapore, it would be necessary to tranship into a local steamer for Port Swettenham, for there are no roads up north through Johor, the mainland opposite the island of Singapore. There are no customs duties on automobiles. A tourist would probably not be asked to take out a licence if he had papers with him. Petrol costs about two shillings a gallon. At Kuala Lumpur, the Federal capital, there is a garage.

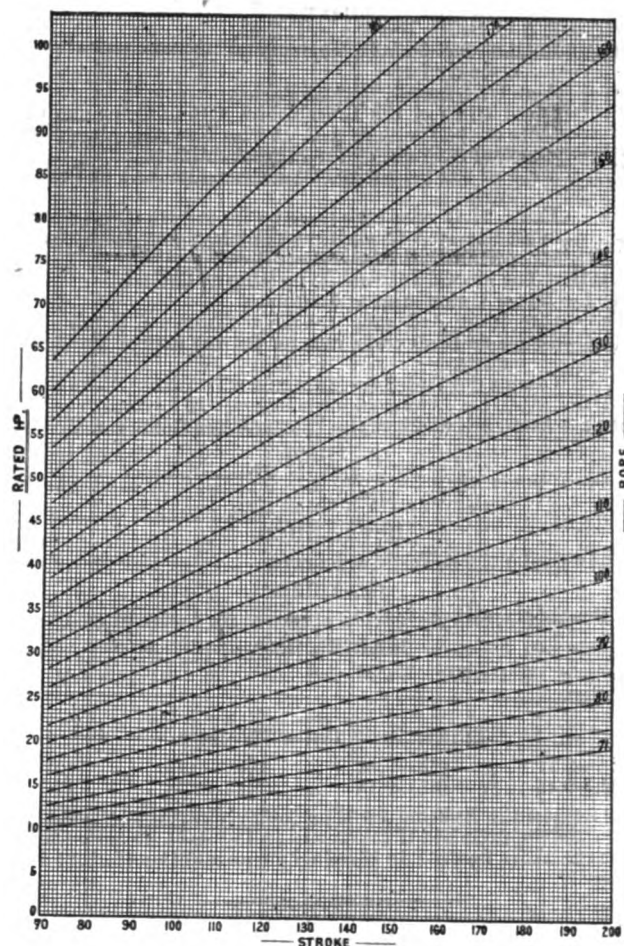
A uniform automobile law applies to the four States of the Federation, and is largely based on the regulations in operation in England. There is, however, no speed limit, the rules stating that no car shall be driven at a greater speed than is reasonable or proper, having regard to other traffic on the thoroughfare.

THE HORSE POWER RATING OF PETROL MOTORS.

THE committee of the Hertfordshire County Automobile Club have given considerable time and thought to the evolution of a satisfactory formula for expressing the power developed by internal combustion engines. Thanks to the careful research and calculations of Mr. Tom Thornycroft they have at last arrived at one which they consider comes nearer to desired results than any other known formula. It is expressed thus:—

$$\frac{R^2 \times \sqrt{S}}{35,000} = \text{No. of cylinders.}$$

So much interest has been aroused by this formula that the committee have had a set of curves produced which graphically illustrate it.



FORTHCOMING EVENTS.

JULY.

- 6th (Sat.).—Inaugural races on the Brooklands Track.
Motor Yacht Club and Notts. A.C. joint meet and races on the Trent.
Speed judging competition of the Essex County A.C. at Saffron Walden.
Kent A.C. gymkhana at Holwood.
100 miles trial of the North London A.C.
Run of the Northamptonshire A.C. to Compton Wyngates.
East Lancashire C.C. speed judging competition.
7th (Sun.).—Non-stop run of the Newcastle and District M.A.C.
Southern M.C. launch party.
10th (W.).—R.A.C. South Harting hill climb.
13th (Sat.).—Entries for R.A.C. commercial vehicle trials close at ordinary fees.
Aero Club ascent, Crystal Palace.
Speed trials of the Lincolnshire A.C. at Grimsthorpe.
Meet of the Cheshire A.C. at Plas Newydd, Llangollen.
Sheffield A.C. outing for crippled children.
Meet of the Bristol and Gloucestershire A.C. at Badminton Park.
Essex, M.C. open race meeting for the Du Cros trophy.
West Surrey A.C. picnic at Thursley, preceded by (weather permitting) dust competition.
15th to 18th.—The annual automobile meeting at Ostend.
20th (Sat.).—Motor Union meet at Southport.
25th (Th.).—Circuit des Ardennes race under German A.C. rules.
26th (F.).—Coupe de Liedekerke race for touring cars, on the Ardennes course.
Circuit des Ardennes Race under Belgian A.C. rules.
26th & 27th.—Auto C.C. twenty-four hours' ride to Plymouth and back.
27th (Sat.).—Aston hill climb of the Hertfordshire County A.C.

AUGUST.

- 20TH.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

- 9TH.—Industrial Vehicle Trials commence.

OCTOBER.

- 19TH.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

- Cordingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

July 6th—9.17	...	8th—9.16	...	10th—9.14	...	12th—9.13
„ 7th—9.16	...	9th—9.15	...	11th—9.14	...	13th—9.12

In Glasgow the lighting up time to-day (Sat.) is 10.2 p.m., and to ascertain the approximate times on succeeding days 45 min. should be added to the above figures; in Birmingham an addition of about 13 min. is necessary.

ROAD REPORTS.

WITHAM.—A motor danger signal is to be erected near the Bridge School at Witham, Essex, and another on the railway bridge, subject to the consent of the G.E.R. Company.

BRIDGNORTH.—The roads generally in this district are in good order, with plenty of metal on the surface. The steam roller is at work on the Shifnal road.

TAMWORTH.—The roads generally in this district are in good order. The Lichfield road is undergoing repair. The Burton and Ashby turnpikes are in excellent condition.

ESSEX.—The annual report of the Essex County Surveyor, Mr. Percy J. Sheldon, states that on March 31st the total mileage of the main roads in the county was 796 miles $4\frac{1}{2}$ furlongs, of which 678 miles 2 furlongs were under the direct control of the County Council. The net expenditure on the roads outside urban areas was £72,560, and in addition £42,210 was paid for the maintenance of the main roads in the urban districts under the control of the local authorities. Mr. Sheldon states that the locomotive traction traffic continues to increase, and this, together with the increase of heavy motor-cars on the more important roads—few of the cars being registered in Essex—makes it impossible to decrease the cost of maintenance.

STIRLINGSHIRE.—The road between Lennoxton and Strathbane, which was included in the Scottish Trial itinerary on Saturday, had been previously treated with calcium chloride.

PUBLIC MOTOR SERVICES.

AN Argyll 16-20-h.p. char-à-banc has lately been supplied by the Western Motor Company, Ltd., Glasgow, to Messrs. Anderson, of Greenock. It is being used on a circular route from Greenock, taking in Gourock and Inverkip.

THE Paddington Borough Council, having recently had many discussions regarding the nuisance caused by motor traffic in the borough, decided to take proceedings. A case was laid before Mr. Danckwerts, K.C., and in face of the opinion given by him legal proceedings were abandoned. The Council now expresses the opinion that as the nuisance appears to be general throughout London a deputation representative of the whole of the Metropolitan Borough Councils should wait on the Commissioner of Police on the matter.

AVOIDING litigation, St Pancras Borough Council has agreed to accept £98, half the cost of making good damage done to the Cobden statue base, seven electric arc-lamps, and seventeen gas-lamps damaged at different times by motor-omnibuses belonging to the Vanguard Company.

IN the new licences issued by the General Purposes Committee of the Worthing Town Council to the owners of motor-buses, &c., several conditions are imposed with regard to the emission of smoke, the dropping of oil and the splashing of mud by the wheels—threefold objections raised by opponents.

AUTOMOBILE ACCIDENTS.

A MOTOR-CAR accident occurred at Sheffield on Sunday. The car, containing Mr. and Mrs. John Meal, of Ashton-under-Lyne, with their two children and a friend, Mr. Albert Stringer, of Manchester, skidded on the tram lines and dashed into a tramway standard. All the occupants were thrown out and suffered from cuts and bruises.

MR. J. C. BATE, the West Cheshire coroner, has inquired into the motoring accident in which Reginald Ireland, the six-year-old son of John Ireland, of Rowton, was killed on the Whitechurch road, about three miles out of Chester. The evidence showed that Mr. William Swift Keyser, a timber merchant, of Florida, U.S.A., and his family were travelling in a hired motor-car from Liverpool to Shrewsbury. They left Chester between six and seven o'clock in the evening, and when three miles along the Whitechurch road came up to a party of boys playing on the roadside. The chauffeur, George Woods, of Leese Street, Liverpool, sounded his horn repeatedly, and the boys ran across the road. He swerved his car to the right with the intention of getting behind them, and Ireland, the last boy, according to the motorists, seemed to hesitate which way to go. He attempted to follow the others, and was nearly across when he was struck by one of the head lamps. The driver had slackened speed as he approached them, and stopped within eight yards after the accident. The jury returned a verdict of accidental death, and attached no blame to anyone.

BUSINESS NEWS.

CAV. CARUSO, the celebrated vocalist, visited Great Eastern Street, E.C., a day or two ago, and purchased several "Harvey Frost" vulcanisers, on behalf of his brother, who carries on a motor garage in Florence, Italy.

A CABLEGRAM has been received from Cape Town stating that Mr. R. L. Jefferson, on his 8-h.p. Rover, fitted with Dunlop tyres, has just made the trip from Durban to Cape Town, via Johannesburg and Kimberley, without a puncture.

THE United Motor Industries, Ltd., have just issued a booklet giving the opinions of some users of the Wagner electric motor horn.

FROM Messrs. W. T. Clifford-Earp, Ltd., 74, Mortimer Street, London, W., comes a copy of their latest catalogue of Thames and Nordenfellt cars. The former are made in two sizes, 50 and 60-h.p., both being fitted with six-cylinder engines. The Nordenfellt cars are built in three sizes, 14-16-h.p., 26-30-h.p., and 35-40-h.p., they being all provided with four-cylinder motors. The list is very complete and is accompanied by a number of very clear illustrations.

AMONG the firms making a speciality of timber for the construction of motor bodies and road wheels are Messrs. Joseph Owen and Sons, Ltd., Liverpool.

NO time has been lost by some manufacturers in entering for the 1908 T.T. race. Amongst others, entries have already been sent by Ariel Motors, Ltd., to the Royal Automobile Club for two Ariel-Simplex cars in the Tourist Trophy race and for the 1908 Heavy Touring Car Race.

ARGYLL MOTORS, LTD., announce that during the months of July, August, and September they will offer monthly cups, each of the value of 50 gs., for the most meritorious performance of any description, either speed record, hill-climbing feat, or long-distance record. The competitions will be open to all Argyll cars, irrespective of the date of purchase or the place where they were bought. A special prize of another 50 guineas cup is to be given for the best performance during the three months in question of any car purchased after the date of this announcement.

IN the Sheffield hill climb competition, the President's Cup and gold medal was won by a 10-h.p. Alldays car, which was fitted with Dunlop tyres.

WE are informed that both the Beeston-Humber cars, which were successful in completing the course in the Tourist Trophy Race and the Heavy Car Race, have been awarded gold medals by the Automobile Club. It is satisfactory to note that so essentially a British firm as Humber, Ltd., has been successful not only in winning one of the two events, and having their car second in the other, but that the vehicles so commended themselves to the Committee of the Automobile Club that a gold medal has been awarded to each of them.

THE Motor-Car Journal.

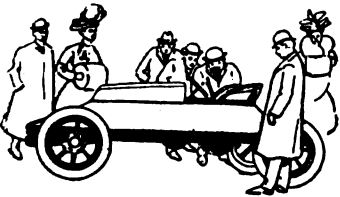
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COMMENTS.



SOME notable decisions with regard to the programme of competitions for the next few months have just been arrived at by the committee of the Royal Automobile Club which is responsible for trials and competitions. It has decided that the Tourist Trophy race shall take place in 1908 on an improved basis as compared with previous trials and not necessarily with fuel consumption as the leading essential. Then, too, it is proposed to hold a 2,000 miles Reliability Trial next year, commencing at the end of June and including as many features of the Scottish Trials as can geographically be arranged, as well as a high-speed run on the Brooklands track. This suggestion, which was put forward by the Expert Technical Committee, seems to comprehend many proposals that have lately been made in our columns and elsewhere, and, should it materialise, will give increased zest to the motoring programme of 1908. The Club has also decided upon a repetition of the Town Carriage Competition and also the Vapour Emission Tests, these two events taking place towards the end of October next. Elsewhere we give a supplementary list of the entries for the Commercial Vehicle Trials which will be held in September, so that the Club activities will be well to the front during the next few months.

Motor Union Wins.

SINCE the middle of June several important legal victories have been obtained by the Motor Union on appeals to the Divisional Courts and to the Quarter Sessions, and we would congratulate the General Committee on the success of their efforts in this direction. In fact, appeals have been allowed to such a degree that it would seem to warrant further activities of this kind. Not the least interesting of the cases was heard at the Warwick Quarter Sessions last week, when the allegation of the appellants that the police evidence against a motorist was much exaggerated was actually allowed by the Bench of magistrates, who quashed the previous conviction. Not often do the County J.P.'s disregard the evidence of the police in motor cases; hence the interest which attaches to this particular instance.

What Becomes of Famous Cars.

It would be interesting to learn what becomes of the old cars that are distinguished as containing innovations of note or have won fame on the sporting side of Motorism. Some are still travelling about the country. Many an old Benz with its engine at the rear is still in service, ancient Daimlers are even now carrying passengers in some rural districts, and as recently as last month we saw absolutely one of the first Argylls turned out at the old works at Bridgeton in private use near the Grampians. Mr. S. F. Edge's Gordon Bennett racer had a varied career. After winning the event it was sold to the late Marquis of Anglesey, who later gave it to his mechanic in lieu of other things which were due. The engine of another well-known 50-h.p. car of the same year ultimately found its way into one of the rail motor coaches of the North Eastern

Railway Company. The car upon which Mr. W. T. Clifford Earp met with disaster at Douglas had an accidental career. Originally it was driven by Mr. C. Jarrott in the Irish Gordon Bennett race, and went to grief. Its mishap in the Isle of Man is still remembered. Then it was sold to a Kentish gentleman, who met with so many accidents while using it that he was glad to find an American customer. In the United States it participated in several events, and ran third in a 100 miles race, competing with well-known native productions of that day. Ultimately it had a serious collision, and the engine was taken out of what remained in order to provide the motive power for a motor-boat. And thus are the mighty fallen.

Narrow Escapes.

THERE are "moving accidents by flood and field" happening to motorists almost every time they go for any distance into the country of which their friends never hear. Risks are run even in such well-regulated events as the Scottish Trial, e.g., the overturning of a car and the projection of its occupants into a field yards away. We hear of a remarkable accident which occurred a few days ago in Ireland. A 15-h.p. Humber was proceeding from Dublin to Killiney—a pleasant drive of about ten miles—when, about half-way, a large elm tree was blown down on the car. It fell right across the front of the vehicle, smashing the radiator, bonnet and headlight in its sudden descent. Although there were four passengers in addition to the driver, no one was hurt. The remarkable thing about the incident was that the engine was not damaged, and the driver soon had it running again. He tried to back the car from underneath the tree, but found it was too firmly locked. Assistance was obtained, and with the help of half-a-dozen men the tree was raised whilst the car was backed. It is now being repaired in the Irish capital, and is little the worse for the adventure. But the motorists might have been.

Motor Services.

IN the House of Commons the other night, Mr. Chiozza Money raised the question as to the alleged nuisance of motor-omnibuses in London, and asked the Home Secretary to urge upon the London County Council the construction of a complete London tramway service, so as to render these vehicles unnecessary on the road. Fortunately, Mr. Gladstone recognises that the Government has no right or desire to give to any description of traction the monopoly in the metropolis or anywhere else. In fact, he went on to say that the early objectionable features of the motor-bus are disappearing, and to suggest possibly that in time the difficulties would be quite overcome. This attitude of mind is not exclusive as far as Mr. Money is concerned, for on the same evening Sir Wilfred Laurier, in a speech in celebration of the anniversary of Dominion Day, urged that nothing was so potent in binding people together as a means of transport, and the best of these was railways. In view of the success of the motor vehicle in developing communication in new countries, we are sorry that Sir Wilfred seems so engrossed in the vehicle that must necessarily run on a specially made track. It occurs to us that it might be well if, when the present enthusiasm for the sporting side of automobilism has somewhat waned, a really organised attempt could be made to demonstrate the commercial possibilities of a road motor service

in this country. The unfortunate policy of the Irish local authorities prevented the development of the Iveagh-Pirrie scheme a few years ago, but, having regard to the proved reliability of the motor-car since then, there is no reason why such a suggestion should not have a good chance at the present time. Several folks have proposed to establish such services; their experiences would be welcomed in our columns.

The Notts Club's Meet.

QUITE an interesting variant of the usual motor meets organised by county and other automobile clubs was given on Saturday by the Nottingham organisation, which was able to combine motor-boating with motor-caring for the entertainment of the public. Ascents by balloon had also been promised, but unfortunately the wind made the inflation of the great silk bags impossible, so that had to be abandoned. But in place of the Skegness races, which it has usually organised, the Notts Club was able to run an interesting gathering, affording the public some idea of the diversified character of the automobile movement.



Mrs. E. A. Riley, of Haslingden, on the 20-h.p. Belsize she drove throughout the Scottish Reliability Trials, only having one momentary stoppage recorded against her during the whole five days.

Photo by]

[Lafayette.

Dust.

A FEW evenings ago there was a public meeting at the village of Forest Row, which is on the main road from London to Eastbourne and Bexhill, to consider the ways and means of remedying the dust nuisance, which is somewhat pronounced in that region. Ultimately it was decided that certain portions of the roads in the village should be tarred in accordance with an offer of the East Sussex County Council to pay one-half the cost if the other moiety was raised locally. It must not be assumed, however, that only those who reside by the roadside are interested in the prevention of dust, for motorists are also contributing their quota to the solution of the problem—as was shown by Dr. H. S. Hele-Shaw in his address to the Congress of the Royal Institute of Public Health at Douglas last week. His paper on "Road Locomotion in relation to Public Health" was a thoughtful contribution to the literature of the subject. He reminded his audience of Professor Tyndall's emphatic illustrations of the connection between dust and disease, and showed that motorists generally are fully alive to the necessity of alleviating the nuisance. In support of this statement he was able to mention the various trials and experiments that have taken place during recent years under motoring

auspices, and to incidentally refer to the forthcoming tests arranged by the R.A.C. at Brooklands. The truth is that motorists suffer in common with others, and the public are really indebted to men like Dr. Hele-Shaw for the trouble they are taking in finding a way out of present difficulties.

No Appeal.

MAGISTRATES seem to be averse to having their judgments reconsidered by Quarter Sessions, and the action of those at the Shoreham Petty Sessions is fairly typical of the general eagerness to escape such possibility of revision. A motorist was summoned for what is technically known as "furious driving." It was generally conceded that the case would never have been brought into court but for the fact that an accident occurred to a cyclist. He, it was acknowledged by the Bench, was wandering about the road, and thus placed himself in the way of danger. Therefore they only fined the motorist £1 and costs (£4 15s. in all), but declined to make it a guinea as the solicitor for the defence suggested. The latter said that his client wanted to appeal—that apparently decided the Bench in adhering to their decision.

A Bishop's Motoring Activity.

THE motor-car presented by the laity in the diocese of St. David's to Bishop Owen has reached Carmarthen, and his lordship is finding it of valuable service in covering his extensive diocese. The car, a Daimler of 28-30-h.p., was put to a severe test on Saturday week, when Dr. Owen, after attending a garden party at Windsor, motored to Cheltenham in the company of Archdeacon Evans. His lordship remained in the Gloucestershire town over Sunday, and on the following day proceeded to Swansea. On the Tuesday he visited Abergorlech, and on Thursday the car conveyed the Bishop of Llandaff to Lampeter for the Degree Day. Friday's programme included a visit to Llanfihangel-Penbedw, in North Pembrokeshire, for the re-opening of a restored church, while on the 29th ult. Dr. Owen completed his week's public engagements by consecrating a burial ground at Felinfoel, near Llanelly—all made easy so far as travel was concerned by the motor-car.

Prosecution of a Fraudulent Motor School.

THE Sussex County A.C., one of the clubs included in the membership of the Motor Union, have recently performed a very useful service by successfully prosecuting a motor school at Brighton, and the Union have decided to make a financial grant towards the costs of the prosecution. The procedure of the motor school in question (which we exposed at the time) was to advertise that on receipt of 5s. they would secure a place for any motor-car driver who might be out of work. They received money from several men, but never secured, or even attempted to secure, one of them a situation. They also advertised that they taught driving for the sum of £2 10s., though they did not possess a car, and one or two men who paid the money were never taught to drive, nor did they see their money again. It was in respect of these frauds that the Sussex Club took action, with the result that one of the offenders—there were two of them—was sent to prison, and the other was given the benefit of the First Offenders Act and released.

Lawyers as Motorists.

IN the old days it was customary for barristers on Circuit to move about in a "four-in-hand," a system that was not finally dispensed with until a quarter of a century ago. We hear, however, that something of a revival of this is occurring in the Leinster Circuit, where some half-dozen members of the Bar have chartered a motor-car to convey them from the Four Courts at Dublin to the various Assizes in which they are engaged. Many instances have lately been given of ecclesiastical favour for the motor vehicle. This, however, is a pioneer

illustration of its adoption by the legal profession. Possibly this close acquaintance with the motor-car may save a good many foolish legal jokes at its expense in the future.

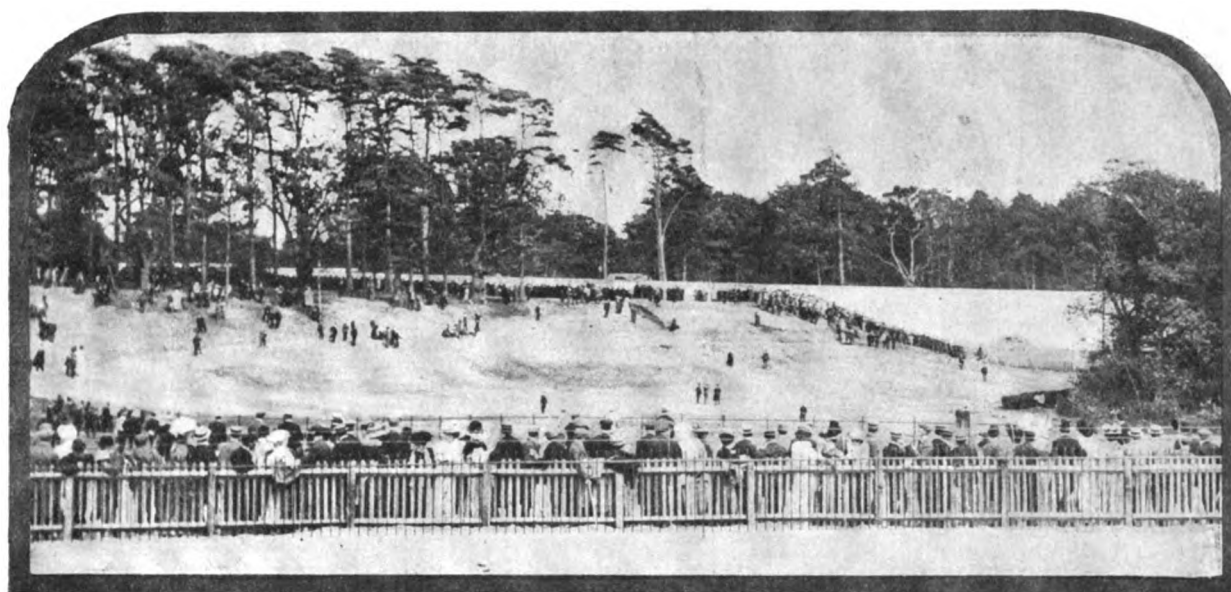
The Press at Brooklands.

THE promoters of motor race meetings at sea-side places do not appear to have been fortunate in escaping troubles during the last few years, litigation having followed the gatherings at Bexhill, Brighton and Blackpool with considerable effect. At the first-named resort only has there been any serious attempt to continue the sport as a permanent attraction. At Bexhill local opposition has lately been very pronounced, and the Commercial Association of that town have protested against the holding of race meetings during the holiday season as not conducing to the financial prosperity of the place. It would appear that the objection occurs in closing the main roads to the public for even a day or two; and all things point to Brooklands Track as likely to become the centre of speed work in this country. In this connection we would suggest to those responsible for the management of the pioneer Motor Course in Europe that they should recognise and assist the Press more than they have done thus far. All sections of the motor business

licences, but also declining to inspect motor vehicles for which such permissions were sought. In view of the development of motor-bus traction in London, Birmingham, and other large cities, the inaction of the Manchester authorities would appear unwarranted and unreasonable.

Running the Blockade.

THERE is a Naval Motor Club at Portsmouth that has recently attempted to avoid the ordinary ruts along which club gymkhanas seem to run. They had a meet in which the idea was developed that the blockade had to be run. Petersfield was imagined to be in the hands of an invading army and held by twenty-six motor-cars or motor-cycles. The blockade runner was to be a member well acquainted with the roads of the district and mounted on a car. Mr. F. T. Jane, the naval author, who is an honorary member of the club, was selected to run the blockade, and he made the attempt on his 30-h.p. Beeston-Humber. The invading army was under the general command of Lieutenant A. Rice, R.N., with Sub-Lieutenant Tracey, R.N., secretary of the club, as second in command. The vehicles available for the blockaders ranged from a 70-h.p. Panhard down to a 3½-h.p. motor-bicycle. The



The Inaugural Race Meeting on the Brooklands Track.

will acknowledge that those journals which have devoted themselves exclusively to their interests have been great educators of public opinion, and have rendered substantial advantage to the industry as a whole. The position of the motor vehicle from its commercial side having thus been assisted, we are surprised that those responsible for its development in the sporting sense have not shown greater eagerness to facilitate newspaper arrangements for duly recording and describing the events taking place on the track. Previous associations will make clear to the responsible parties the suggestion that "a nod is as good as a wink," and probably they will see it is to their interest as well as to that of the public that the regulations with regard to the various members of the staffs of important motoring journals are not restricted in such a way as to minimise the importance of the gatherings to be held on Brooklands during the season.

Motor-buses for Manchester.

THE fact that the Stretford authorities have just determined to give a trial to a motor-bus for the convenience of the public should do something to revive interest in the adoption of such vehicles in and around Manchester. Hitherto the authorities of that city seem to have adopted an attitude of hostility to the motor-bus, not only refusing applications for

invading army's cars were by the rules divided into twelve groups, the units of which had to keep within a few miles of each other at all times. In the result, Mr. Jane succeeded in getting the whole way into Petersfield unobserved. He did so by traversing roads over which no motor-car has ever before been or is likely again to go, as the route necessitated descending precipitous hills on a road that has been practically disused for a hundred years. It is to be found upon the ordnance map, running from Hambledon Race Course to the village of East Meon.

MR. CLAUDE BULLMORE, of Paignton, Devonshire, while attending the Grand Prix Race, was so impressed with the excellent running of the Weigel cars that immediately on his return to London he placed an order for one, the Weigel No. 1 being his particular fancy. To show how enthusiastic this gentleman is, he has entered the car for the Circuit des Ardennes race, which is being held on the 27th inst. Mr. R. Laxen, who was one of the drivers in the Grand Prix race, will drive the car, and Mr. Bullmore, whose initiation into motor racing this is, will act as his mechanic. Weigel Motors (1907), Ltd., have entered their other racing car, along with Mr. Bullmore's, for the Vanderbilt Cup and the Circuit des Ardennes.

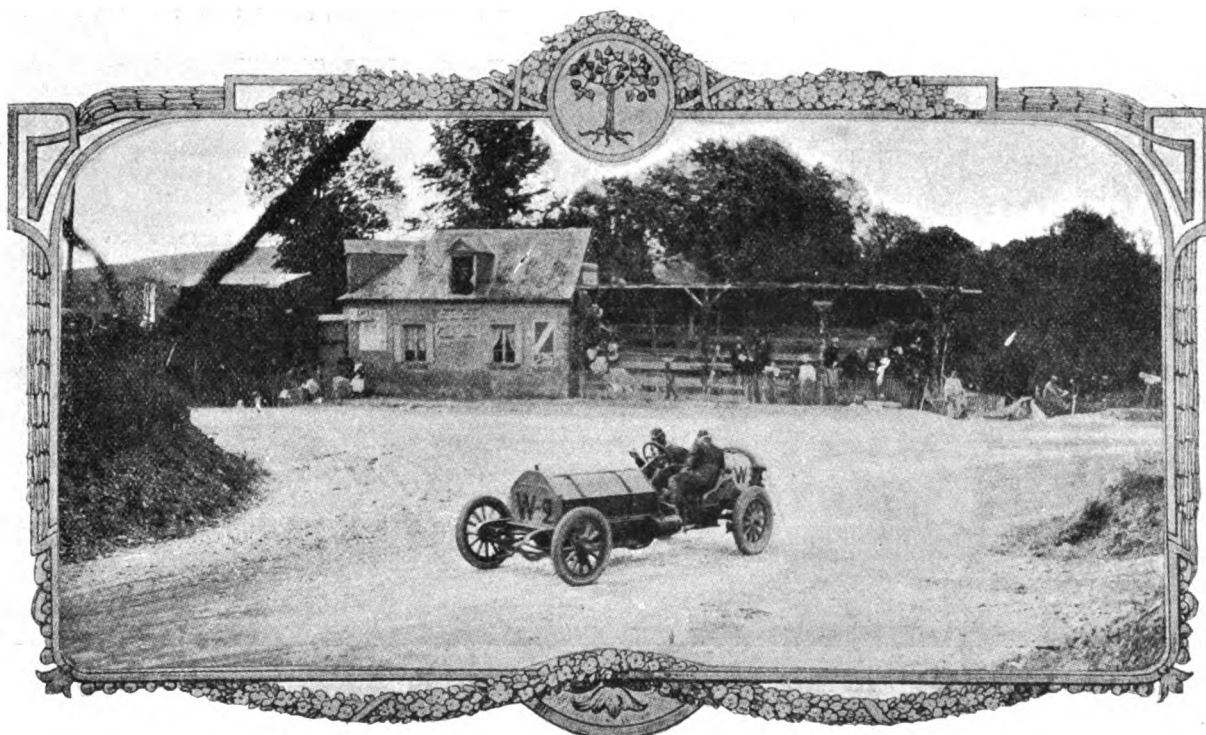
Notes on the A.C.F. Grand Prix Race.



By D. M. WEIGEL.

TUESDAY last week, when the contest for the A.C.F. Grand Prix was held, was hardly a lucky day for England, or for the two Weigel cars. The bad luck, however, which was experienced had nothing to do with either the vehicles or the men who drove them, any chance that they may have possessed for victory being utterly ruined by the detachable rims employed. I prefer not to mention the name of the rims. Unfortunately we had not a chance to try them, or we should have found out the error of our choice in plenty of time. They only came into our possession on the Saturday before the race, when we were in France, and immediately we tried them we knew that any chance of success was out of the question. The experience of Mr. Laxen in the race was unique for the trouble he had with his rims. He started

with wheels which had not detachable rims, and Laxen, together with his mechanic, working like niggers, got the front pair on in twenty minutes—a very creditable performance. His next lap was without any of these unfortunate experiences, but, naturally, he had hardly the courage to go full speed, seeing that he still had two of the troublesome detachable rims on his back wheels. Without stopping he passed on for his third circuit, and again he was a long time in turning up. When he eventually did arrive he gave us the information that one of the back rims had come off, and, unfortunately, injured a man. I examined the wheels myself and found there was daylight between the detachable rim and the permanent rim in places over one-quarter of an inch, and that the whole thing was relying upon two very little bolts, and, coming to the conclusion



The Grand Prix Race.—Pryce Harrison on the Weigel car, near Londiniere.

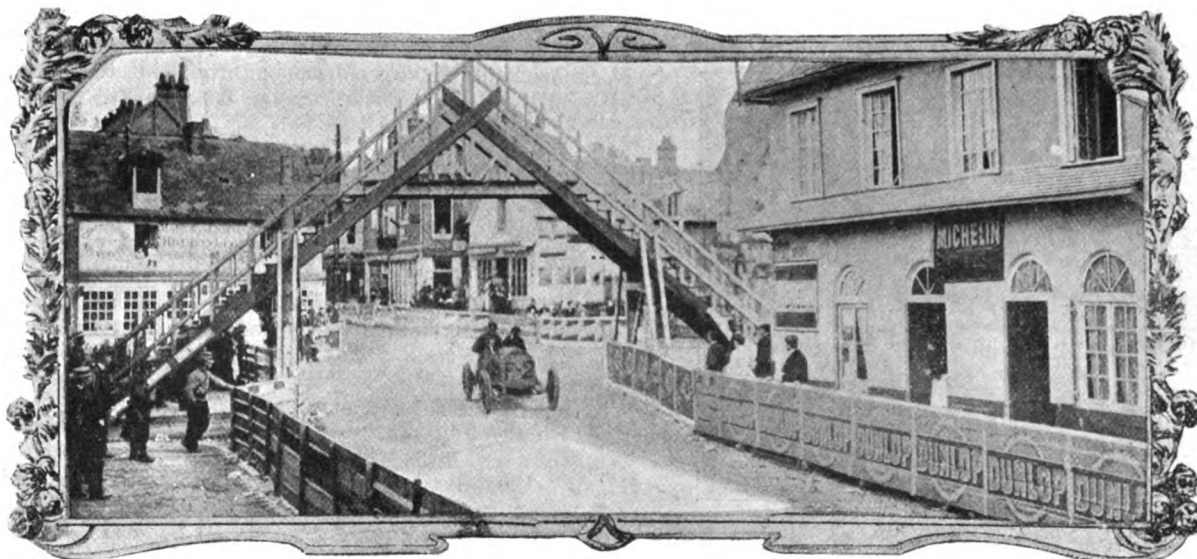
well, but about two and a-half miles from the grand stand his first rim and tyre came off, flew up into the air, hit a temporary wooden bridge, and rebounded on to the mechanic, who was stunned for a few minutes. Laxen naturally looked to the latter first, believing he was killed. He was anything but dead, however, and after a short rest from the shock put the rim back again, they believing they had badly attached it in the first place. Off they started again, but three or four miles further up the same rim (a front one) flew off and disappeared into a field, where in all probability it still remains. They put on their spare rim and started off again, but in the next three or four miles the back rim flew off, and that also disappeared over the hedge. They put on their remaining rim, but within two or three hundred yards the other side back rim came off, and Laxen drove on to the first tyre control on three wheels, where he picked up another rim and replaced it, and took with him two spare rims. To cut an unfortunate story short, he had the same experience in the second half of the lap, and finished his first circuit with the two front rims tied on with rope. Altogether the rims came off five times in the first lap. On his arrival at the Tribune he replaced the two front wheels

that to continue was dangerous to the drivers and also to the public, I instructed Laxen to stop.

Harrison's experience was practically the same. He, unfortunately, started badly, missing a minute in his start. He punctured a tyre, and occupied, roughly speaking, a minute in changing, and he completed his first circuit in 46 min. Seeing that he had never been over the course before excepting once, on the Thursday morning before the race, when the track was covered by a crowd of about 30,000 townspeople from Dieppe, I think it is sufficient proof that the cars were fast enough for the object they were made for. Harrison finished his first circuit in a fair time, and we were all somewhat recompensed for the non-arrival of Laxen. But he failed to turn up on the second circuit, and we again became anxious. When he eventually did appear he arrived without any spare rim, and without any rim upon his off side back wheel. He had therefore shed two rims in the course of the second circuit. He started the same operations as Laxen, but instead of taking off his front wheel he took off the back one, and replaced with wheels not having detachable rims. This occupied 35 min., and whilst he was working we were given the unfortunate information that one of the rims had in the

course of its flight unfortunately hit a woman, and I have since been informed that there is a possibility of the unfortunate person not recovering. Having changed his wheels, he started on his journey, still having two front wheels with detachable rims. Whilst he was away on his third journey Laxen arrived, and I made up my mind to stop Harrison as soon as I had the chance, but he went by the grand stand before I had an opportunity of stopping him. He did not go far, however, and eventually walked home across the field, with the information, on this occasion, that both rims had come off together, and he was minus any front tyres at all! All the efforts we had made to put up a creditable performance in the Grand Prix were absolutely spoiled by the use of unsuitable rims. The cars behaved splendidly, and so did the men, and I have no hesitation in saying that there was not a more reliable car in the race than the vehicles we had entered. As regards their chance of winning, I am quite candid in saying that I do not believe they were fast enough to beat the Mercedes, Fiat or Lorraine-Dietrich, but I am convinced there was not another vehicle in the contest that they could not have beaten on that course in speed alone, and taking all the luck and chance that helped to throw out the unlucky ones, I have no hesitation in believing that had the cars been fitted with good rims we could have been placed third or

ready. The cars that gave me the best impression were the Lorraine-Dietrich, and they were unfortunate in losing. Duray's performance, in my opinion, was wonderful; he had Lancia at his mercy at the end of the first lap, and I believe could have passed him in the second one. But, from my own experience, I know how difficult it is to pass on a narrow course, and he had to wait his time. In the race between Lancia and Duray there was, in my opinion, only one in it, and that was Duray. The two men were ultimately unlucky, both breaking down. Nazzaro's victory, in my opinion, was a piece of luck. At one time Wagner was miles ahead of him, and his other stable companion equally so. Now, as these three men were upon the same cars, it appears, upon the face of it, that Nazzaro was not able or did not care to go the pace his friends did, or possibly he was driving to instructions. But, no matter what the cause may have been, he had no chance at eight and a half laps, and it was purely by the misfortune of his two stable companions and the Lorraine-Dietrich driver that he came home a winner. As regards the other cars, I was disappointed in the Darracqs. They were beautiful little cars to look at, and I greatly fancied them, but they had no speed in comparison with the other vehicles. The Renaults I did not fall in love with, and although, through the accident which occurred to Duray and Lancia, Szisz was actually



The Grand Prix Race.—Nazzaro (the winner) on his Fiat car, passing through the little town of Lendiniere. The illustration shows how all the towns and villages on the course were barricaded for the protection of the public.

fourth. I should like to say that the Dunlop tyres fitted to the cars behaved splendidly, and, as a matter of fact, no fault of any description can be attached to the tyres. The whole fault was in the rims, which were not of our make.

So much for England's unlucky venture. As to my general impression of the race, I think it was the finest that has ever been held. On the day of the contest itself the organisation was perfect. The rules were carried out within their meaning—leniently, yet sufficiently strict, and taking into consideration the fatigue of the men. I consider the officials were just and fair to everybody, no matter what their nationality. I can hardly say as much for the day of verification. If races on fuel limit are to continue, some other system of organisation will have to take place. My cars were not passed until close on midnight, which, seeing that racing started a few hours afterwards, is distinctly unfair to the drivers. There was too much rushing about; everything was done correctly, but it was Bedlam let loose. There were thousands of people all round the cars who had no right to be there, and who impeded the work in progress.

My impressions of the cars, borne out by the times, are distinctly that the Mercedes were the fastest cars on the course. Jenatzy's wonderful lap proved that, but either the vehicles had been lightened too much or the Mercedes Company were not

leading at one time, the machines were not by any means sufficiently fast to win the race on merit.

We have been very unlucky in the Grand Prix, but we have had our lesson and will take it to heart. Two cars will race in the Circuit des Ardennes, and, without hoping to win it, I believe they will be well placed. It must be taken into consideration that the two Weigel cars are practically touring vehicles, being the mere coupling of two touring engines, and I repeat that I have no hesitation in saying that these cars with the exception of the three I have named were the fastest on the Seine Inferieure course.

Viewing the A.C.F. Grand Prix race as a whole, I consider that France is still the centre of motor-car racing, and if British manufacturers wish to obtain a world wide repute and not merely a local one, they would be well advised to assist each other in entering cars for the Grand Prix, and I hope that next year, instead of there being two Weigel cars entered to battle for England, there will be a good assortment of Daimlers, Napiers, Wolseleys, and other leading makes. If they all entered three cars, our chance of winning would be 500 per cent. greater, and, no matter who might be the winner, he would certainly shower credit upon the losers, to the general benefit of the whole of the British industry.

SCOTTISH TRIAL NOTES.

WE cannot but view with repugnance the action of the police authorities who, on the road between Glasgow and Carlisle, on the day following the Trial, were on the outlook for motorists travelling south upon the conclusion of the event. They doubtless counted upon the fact that the drivers had been carefully limited to twenty miles an hour for the whole of the previous week, and that their natural instinct would prompt them to race southwards on Sunday afternoon. There is something almost contemptible in thus planning to trap them instead of affording them a warning, which would have served the purpose. As it was the police were foiled. Two motorists were caught at Ecclefechan, but they succeeded in warning a car which was going north, which in turn warned others going south.

A NEAT pamphlet has been issued by the Dunlop Pneumatic Tyre Co., Ltd., giving the results of the performances of their tyres fitted to cars in the recent trials. The percentage of non-stop runs on these has increased year by year until last month, when 64 per cent. of such runs were accomplished on the Dunlop tyres. Telegrams from sixty of the competitors in the trials are given, showing their appreciation of the performances of Dunlops over roads which were often in a very bad state.



The 12-14-h.p. Argyll on the "Rest and be Thankful Hill," in the Scottish Trial.

DR. A. H. DEANE, a member of the committee of the Motor Union of India, was among the passengers taking part in the Trial.

FROM London, Major Lindsay Lloyd and Mr. G. T. Langridge went to render assistance at the Trial, the latter being merrily engaged in marshalling the vehicles in their resting places for the night. Then, too, the thanks of the Club are due to the dozen firms who lent cars for the transport of officials; to the police, who directed the cars through villages and towns; to the road authorities, who did much to improve the roads the month before the Trial; and to the good fellows who, driving free-lance cars, bothered the competitors on the first day, and who accepted the Club's invitation to resist the temptation subsequently. To all these, and many others, the Scottish Club and the competitors in the Trial are rightly grateful—and we are glad to be a means of communicating this appreciation of willing work to the gentlemen directly concerned and the motoring community that is interested in the success of their efforts.

DESPITE the care taken with regard to the petrol supplies some serious mistakes were made. Water was supplied to one of the Argylls instead of petrol, and the mixture of water with the spirit spoiled Mr. Sidney Girling's chances of a clean non-stop record on the 50-h.p. Darracq.

ON the last day memories of the Stuarts rose at Logierait, where was also a picturesque poorhouse—one of the most admirably located of such institutions in northern Britain. Then by the Tay, splashing and winding along the valley, dashing over boulders and murmuring along by Grandtully, with its fine baronial castle, we entered into a region of agricultural prosperity. The scenery was reminiscent of fairest Devon, the atmosphere as delightfully soft, and the country looked as though 'twere yet spring. They have not had summer in Scotland, although the beaming sun of the last day of the Trial gave hopes to Glasgow in that respect.

By a clerical error on the part of the secretary's staff in posting up the provisional results, some hill stops and shedding of passengers were recorded against the 10-12-h.p. Swift car. This was, however, incorrect, and was only discovered when a more minute examination of the reports was being made after the event. The mistake arose owing to the Observer having made some notes which had reference to other cars, and which were placed against the little Swift. This serious blunder on the part of the official Observer was copied into the columns of all the motor journals that gave a complete account of the event, including the official details. Those, however, who saw the way in which the car took the hills were puzzled at the entry, more especially as in the special telegram published in the *M.C.J.* of the 29th we were able to record that the 10-12-h.p. Swift was the fastest in its class up the hill on the first day. It made a remarkably good performance throughout the Trial, as did also the 15-18-h.p. vehicle from the same works.

THE bad luck of the Chenard-Walcker in turning over, and the good luck of the passengers in not being hurt, were two facts that gave excitement to the first day's run. This car seems dogged with misfortune in the Scottish Trial. Last year the transmission gear of the competing vehicle went awry on Deeside, sixteen miles from a railway station. It had to be stalled in a stable until equine efforts the next day enabled its return to town by train. Fortunately this year no such mishap occurred, although the somersaulting of the car constituted a driving stop, causing the loss of marks.

THE floral tributes were as profuse as ever, and bunches of broom, peonies, rhododendrons, and roses were thrown into the cars, particularly about Aboyne and Ballater. At the latter place for the third year, nosegays, with accompanying good wishes to the motorists, found their way to the cars from Miss Mary Pittar and Miss Jessie Noble, of Turner Hall. One car received a bottle of whisky; another a loaf of bread, in this way.

IN view of the success of Ariel-Simplex cars in the Scottish Reliability Trials, when they won ten hill climbs out of a possible twelve, it can hardly be a matter for surprise that other competitors should have questioned whether extraneous help was employed. "Oxygen" was so freely mentioned that the Chairman and Secretary of the Scottish Automobile Club made an inspection of the Ariel-Simplex cars, and particularly wished to know what was in the ordinary standard lubricating oil tanks attached to the chassis frames. These gentlemen were satisfied in every way, but to prevent any possibility of a misunderstanding, Ariel Motors (1906), Ltd., inform us that they know nothing whatever about the advantages or otherwise of oxygen. They have never even experimented with it, and have always used in all the various competitions in which they have been so successful the petrol supplied by the various clubs or the ordinary commercial article—sometimes bought from the local agent on the spot. Without exception they have always used cars of standard engine dimensions and wheel bases as supplied to the public and standard touring bodies; in fact, cars which they are selling regularly and which they are glad to supply to anyone and everyone.

THE HOTCHKISS SIX-CYLINDER CAR.

CONSIDERABLE interest is being taken in the long distance run which is at present being made by a Hotchkiss six-cylinder car, under the auspices of the R.A.C., the importance of the trial being increased by the fact that the identical vehicle had previously made a tour of France, during which time it successfully covered over 6,000 miles, bringing its record to date to about 15,000 miles. Some brief

cam-shaft. The plugs are mounted above the inlet valves and can be readily removed for inspection and cleaning. The carburettor is of a special type, the size of the jet being varied in consonance with the air inlet, thus the amount of petrol and air is automatically regulated in accordance with the position of the throttle, which latter is controlled by both hand and foot levers. The admission piping is arranged in such a way that an equal distribution of the gas to the six cylinders is obtained. The water circulation is maintained by a gear-driven pump and the Hotchkiss

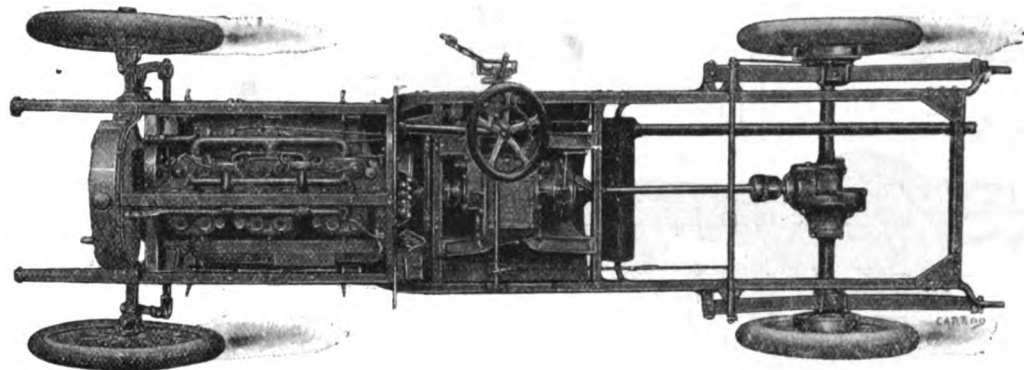


Fig. 1.—Plan of Hotchkiss Six-Cylinder Car.

particulars of the car have already been given in the *M.C.J.*, but we are now able to give a more detailed account of the various features, together with a number of illustrations of the principal parts. The frame of the vehicle, which is of pressed steel construction, is narrowed at the front to increase the lock of the steering wheels, and raised at the rear to give clearance for the differential casing. A general view of the motor, which is rated at 45-h.p., is given in Fig. 2, from which it will be seen that the cylinders, 120 mm. bore by 120 mm. stroke, are

Hotchkiss type of honeycomb radiator, an air-inducing fan being also provided. Compression taps are fitted, and large inspection covers arranged above the valves. Taps are also fitted to the lowest part of the water jackets so as to facilitate drawing off the water in frosty weather. Special attention has been devoted to the question of engine lubrication, which is effected by an improved form of lubricator. The oil tank is located under the bonnet, which not only prevents any dripping on to the floorboards but keeps the lubricant in a

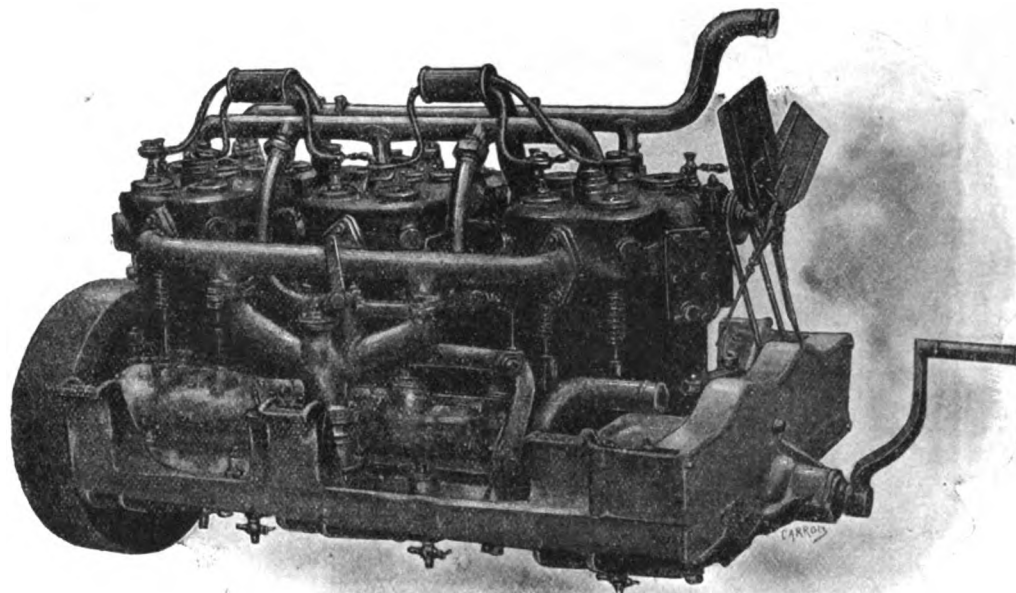


Fig. 2.—View of Hotchkiss Six-Cylinder Engine.

cast in three pairs. The interchangeable valves are located on opposite sides and operated off separate cam shafts. The half-time pinions are enclosed in an aluminium casing in front of the motor, thus effectually protecting them from dust and dirt, and also muffling all noise. The crankshaft, as is usual in Hotchkiss cars, is mounted on ball bearings.

The ignition is by Eisemann high tension magneto located on the left side of the engine and gear-driven off the exhaust valve

fluid condition even in the coldest weather. The circulation of the oil is effected by a pump operated by an eccentric off one of the cam shafts, which forces it through sight feeds on the dashboard and thence to the various parts of the engine.

Coming now to the transmission, and dealing first with the clutch, this is of the leather-faced cone type, small flat springs being fixed at intervals under the leather to give a progressive engagement. A double universal joint is fitted on the shaft

between the clutch and the gear-box, which compensates for any flexibility of the chassis due to road shocks and ensures it being always truly centred in the flywheel. The gear-box, a view of which is shown in Fig. 4, which is supported on cross members immediately behind the clutch, is adapted to give four speeds and a reverse with direct drive on the high gear. The control is by a single lever working in a "gate" quadrant. The final transmission is by a cardan shaft and bevel gear to a rear live axle. The former is provided at each end with a universal joint, that

are provided with very neat adjustment nuts, which are so made as to provide their own locking device and a "tommy-bar," a refinement which, by reducing the trouble of adjustment, increases the chance of the brakes being always in order. The frame is carried by semi-elliptic springs at the front and rear; the back springs lie outside the side members, and while their front ends are hinged, their rear ends are supported by a shackle on long dumb-irons. The front axle is bent downwards at the centre, and the forks of the steering heads are forged in

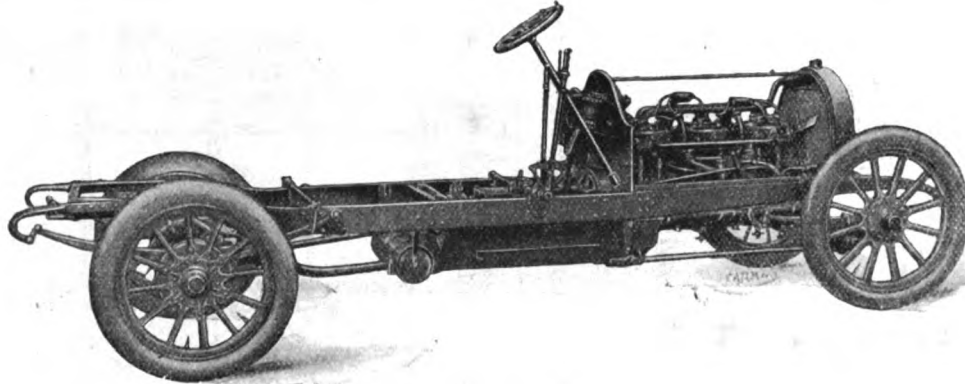


Fig. 3.—Elevation of Chassis of Hotchkiss Six-Cylinder Car.

to the front being of the ordinary gimbal type, while the rear one permits of the longitudinal as well as angular displacement. These joints are thoroughly lubricated, both of them being covered by a dust proof cap which is filled with grease. The rear axle comprises two tubular sleeves, which are bolted to a steel casing containing the differential and bevel gear. This casing is in two parts, assembled horizontally, an arrangement which permits the removal of the upper part, thus rendering the

one piece with it. The steering gear is of the screw and nut type, and the ball and socket joint between the lower end of the steering arm and the connecting rod is arranged in such a way that it cannot become disconnected. The car, which is remarkably quiet and flexible in operation, has a wheel base of 11 ft. 1 in. and a track of 4 ft. 7 in., enabling a roomy side-entrance body of the closed or open type to be fitted to the chassis. We may add that the London and Parisian Motor

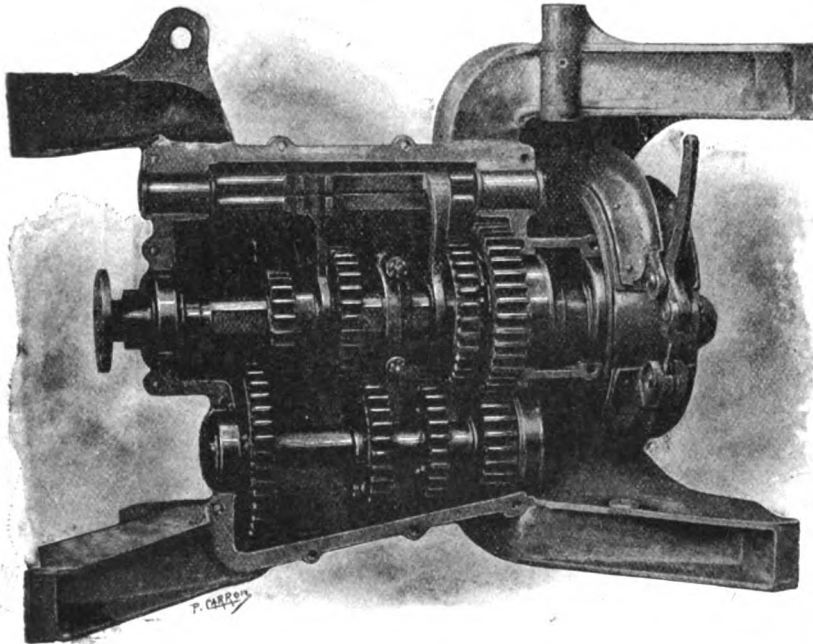


Fig. 4.—The Hotchkiss Change-Speed Gear.

differential readily accessible for inspection and cleaning, or for changing the gear. The rear road wheels are mounted on ball bearings secured to the tubular sleeve, and are driven by the shafts contained in the latter. The live axle proper has consequently only the driving chain to withstand, the weight of the car being taken by the sleeve.

The car is provided with two brakes: 1, A foot brake acting on a drum secured to the end of the main shaft of the gear-box. 2, An expanding hand brake acting on the interior of two steel drums on each of the back wheels. The brake rods

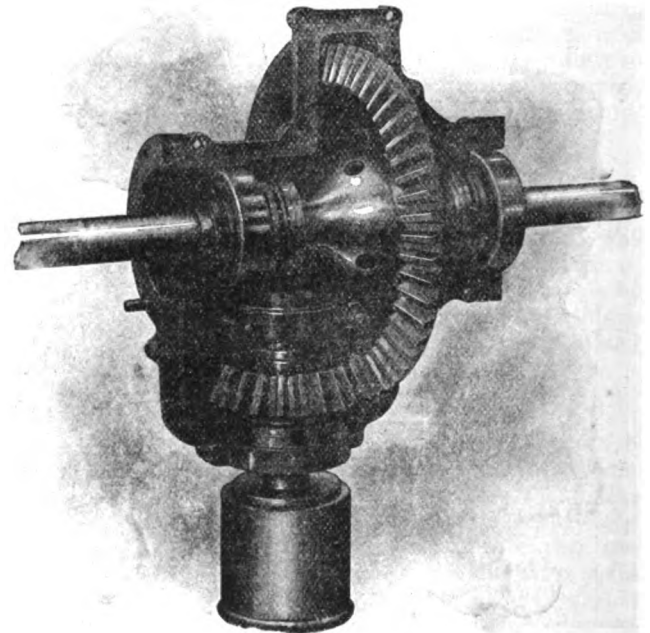


Fig. 5.—View of Bevel Gear Drive, with upper half of case removed, on Hotchkiss Six-Cylinder Car.

Company, Ltd., are the British agents for the Hotchkiss vehicles, which rank among the high-grade productions of France.

THE Rev. Dr. Eyre, of Scarborough, says that in the near future every young and vigorous prelate will have his motor-car.

THE Competitions Committee of the R.A.C. have investigated the records of the Tourist Trophy Race, and have come to the conclusion that 288 oz. of petrol were left in the tank of the 14-h.p. Vulcan car, and not 188 oz. as stated in error by the club officials at the time.

AN interesting little guide to the beauties of Scarborough has been issued by the proprietor of the Broadway Hotel in that resort.

MR. EDWARD COLES, of 10, Myrtle Road, Acton, W., has sent us some particulars of an improved two-cycle petrol motor he has devised, in the development of which he is anxious to meet with someone to financially assist him.

SEVERAL of the winning cars at the Birdlip Hill Climb used "Shell" spirit, including the Metallurgique driven by Mr. Oscar Cupper and the Mors steered by Mr. L. Carle.

MR. G. CHURCH, the proprietor of the "Grand" Motor Works and garage in South Street, Worthing, has now a complete plant for repair work of every kind on the premises.

It is worthy of note that not only did the Brasier Company secure the third place in the A.C.F. Grand Prix race last week, but it was the only firm whose complete team of three cars finished the entire race, thus repeating its achievement in the 1906 Grand Prix.

MOTORING visitors to Lancashire on the occasion of the Motor Union meet at Southport, on July 20th, will find the garage of Argylls Liverpool, Ltd., in Leece Street, Liverpool, well equipped not only for the storage of cars, but for carrying out any necessary repairs.

A MOTORIST was run down and seriously injured by his own motor-car at Bath recently. Having apparently not placed the change-speed lever in the neutral position, he was using the starting handle in the front of the car, which, thus set in motion, knocked him into a stone wall.

LORD KENSINGTON has collected over £900 towards the purchase of a car for the Bishop of St. David's. In a few days it will be informally handed over to the bishop, at whose request it is to be regarded as belonging to the bishop of the diocese, and not as his private property.

THE four Brown cars which have been touring Ireland with the members of the Royal Commission on the Congestion of Ireland, have now completed 7,152 miles on Irish roads, and the only mishaps have been two punctures and a broken petrol pipe—an excellent record, taking into consideration the state of the roads the vehicles have travelled over.

ON Tuesday the King went on a motor trip through Snowdonia, receiving addresses at Bethesda, Llanberis and Carnarvon, and at Capel Curig, from the Festiniog quarrymen, a slate fan. The Queen and Princess Victoria motored to Baron Hill, Beaumaris, where the King rejoined them. The party then motored back to Menai Bridge and returned to Holyhead.

AN 18-h.p. Buick car will go on a twelve hours' non-stop (engine) run in London traffic on Thursday of next week, the start being at 9 a.m. from the R.A.C., 119, Piccadilly. The route includes Trafalgar Square, London Bridge, Kingsway, Finsbury Circus, Marble Arch, the Bank, Sloane Street, Olympia, Rosebery Avenue, Regent's Park, &c.—a course involving repeated journeys to the City and through crowded parts of the West End.

THE Texaline Company, Ltd., of 33, Chancery Lane, London, E.C., have brought out a compound which they offer to motorists for the removal of dirt and grease from the hands. Texaline is a rich lathering cleanser, and is put up in small tins of a convenient size, so that the motorist can carry it with him when on tour. Those who have not yet found an effectual remover of dirt will be well advised in giving a trial to this new preparation.

THE last American mail brings the news that the week previous to Mr. Edge's record run on the Brooklands track a 40-h.p. Ford six-cylinder car set up a new American twenty-four hours' record, covering in that time a distance of 1,135 miles. The event took place on the State fair grounds track at Detroit, Mich., U.S.A. Nine cars competed, and eight succeeded in completing the long test. The Ford, which proved the winner by twenty-four miles, was driven in turns by Messrs. F. Kulick and B. Lorimer.

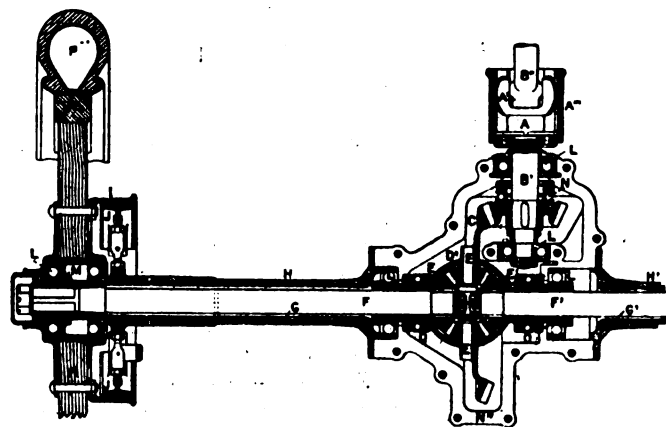
HERE AND THERE.

MOTOR char-a-bancs for holiday parties are being hired out from the Bearwood depot of the Smethwick Electric Supply Company.

MR. HENRY J. RANGER has lately opened a new garage at 174, Gloucester Street, Christchurch, New Zealand. The building is well lighted, and is fitted with a large turntable, inspection pit, tyre vulcaniser, charging plant, &c.

MR. CHARLES LYON has opened a new motor garage in Black Lion Street, Brighton, at the rear of the Old Ship Hotel. This is open by night as well as by day. Separate lock-ups are provided for cars, and the Black Lion garage has also a large stock of accessories, &c. Motor repairs, vulcanising, &c., are also undertaken.

THE great publicity given in the Press to the forthcoming Godiva Processional Pageant is certain to take a large number of visitors to the city of Three Spires on August 7th next. Those of our readers who intend being among the number may be glad to hear of means of securing viewing and car storage accommodation, as there will be no chance of doing so on arrival. They should communicate as early as possible with Mr. W. E. Ward, c.o. Messrs. Peto and Radford, Ltd., 128, Much Park Street, Coventry.



Part Sectional View of Live Axle on Hotchkiss Car. [See page 431.]

- | | | |
|---|--------------------------------|--|
| A ¹ , Cardan Joint. | E, Differential Case. | L, Ball Bearings. |
| B ¹ , Bevel Pinion Shaft. | FF ¹ , Live Axle. | M, Leather preventing oil leakage from axle. |
| B ² , Cardan Shaft. | GG ¹ , Axle Sleeve. | N, Bevel Gear Case. |
| CC ¹ , Bevel Wheels. | I, Brake Drum. | O, Ball Thrust Bearings. |
| DD ¹ , Differential Pinions. | K, Rear Wheel. | |

THE performances of the Beeston-Humber car in the Scottish Reliability Motor Trials have been shown on the bioscope at the Palace Theatre, London, during the week. The photographs were taken from a special Beeston-Humber car, and give an excellent idea of the delightful scenery of the Scottish Highlands, as well as of the character of the course and the severity of the trials.

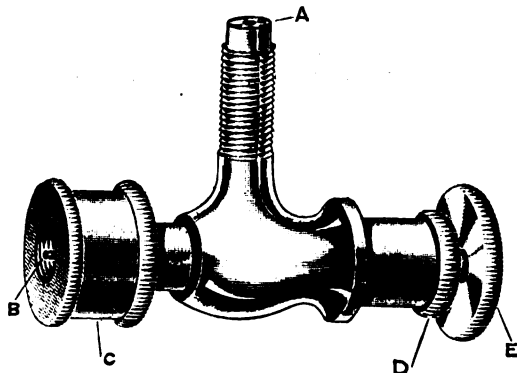
THE business of Mr. E. Hy. Jones has been transferred from Church Street, Islington, N., to Thames Bank Wharf, Lupus Street, and Grosvenor Road, Pimlico, S.W. The new premises cover an area of upwards of 100,000 ft., and the newest and most approved methods of production will be installed. The wood-working machine shop alone covers an area nearly equal to the total floor area at the Islington premises.

THE six-cylinder Hotchkiss which is at present undergoing a long-distance trial under the supervision of the R.A.C. has now completed 9,000 odd miles in Great Britain, in addition to 6,200 miles accomplished in France before the commencement of the present trial, making a total mileage done by the car of 15,200 miles, and this without any mechanical trouble. Last week's runs were as follows:—July 1st, Norwich to Leicester, 157 miles; 2nd, Leicester to Derby and back, 154; 3rd, Leicester to Buxton and back, 153; 4th, Leicester to Nottingham, 170; 5th, Nottingham to Buxton and back, 153; 6th, Nottingham to London, 155.

New members of the R.A.C. include Mr. W. J. Crossley, M.P., and Mr. F. Layland-Barratt, M.P.

It is stated that by his three victories this year—the Targa Florio, the Kaiser's Prize, and the A.C.F. Grand Prix—Nazzaro, who is only twenty-six years of age, gained about £8,000.

MESSRS. H. D. WOOLLEY AND CO., of 25-29, Coleman Street, E.C., have brought out the H.D.W. pump gauge perfecter which we illustrate herewith, the actual size of the device being thus shown. To use the device the end A is screwed into the pump connection. The swivel C is then attached to the tyre valve, care being taken that the end E is sufficiently unscrewed to withdraw the lifting pin B level with the washer inside the swivel. The end E is then screwed until



the needle in the pump gauge is deflected to show the actual pressure in the tyre. Should it be thought advisable to further inflate the tyre pumping is continued in the usual way, and when the required pressure is registered in the gauge the instrument is removed, care being taken to unscrew the end E, which controls the lifting pin B. By this means the motorist is provided with a gauge that registers the air in the tyre, not on the way to it. The simplicity and utility of the device are self-evident.

AN interesting demonstration was given last week at the Piccadilly Circus Garage, London, W., of a new puncture stop which has been brought by Mr. M. G. B. Jefferson from Australia, where it is said to have already proved its merits. "Miraculum," as the preparation is called, is a semi-liquid compound, of a consistency and colour similar to cream, which is injected in a cold state through the valve into the inner tube. As the wheel to which the treated tyre is attached revolves, the Miraculum is spread on the inside walls of the tube, ready for a small portion to be forced into the hole formed by the puncture when the latter is sustained. The nature of the preparation is such that when in contact with the atmosphere it congeals and forms a substance not unlike rubber, so completely filling up the wound. To demonstrate the efficacy of Miraculum a set of tyres on a 14-h.p. Star car had been treated therewith. Into one of these a 6-in. nail was forced by a hammer to a depth of 3 in. On withdrawing the nail the vehicle was quickly driven out of the garage for a short spin, and on its return it was found that the punctured tyre was standing up quite hard, indicating that the preparation had properly done its work. The tyre was afterwards purposely deflated, and the tube withdrawn, when it was found that it had at one time or another been punctured at least six times. Miraculum adds about 6 oz. to the weight of a cycle inner tube, the addition to those for motor-cars being in proportion to the size. It is claimed that there is no loss of resiliency by the use of the compound, and that its only effect on the rubber is in the direction of preserving the same. In proof of this we were shown a tube which was treated nearly two years ago, and which certainly appeared in excellent condition. Another advantage lies in the fact that it does not prevent any large hole or burst in the tube being repaired by vulcanisation in the usual way. Arrangements are now in hand for the manufacture of Miraculum in this country, and for treating motorists' inner tubes with the same, as well as for supplying new prepared tubes.

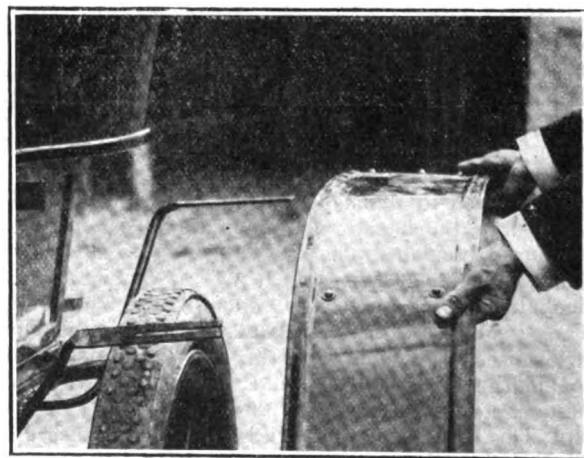
"No houses to let" is the notice which some Coventry house agents have lately been exhibiting—a result of the great development of the motor industry that has taken place there.

THE worst stage of the Pekin-Paris motor race has now been passed by four of the five cars that started from Pekin on June 10th. Prince Borghese on his Itala led the way to Irkutsk, and there M. Godard (Spyker), M. Cormier and M. Collignon (De Dions) last week enjoyed a short rest. The latest news to hand is to the effect that the Prince has reached Krasnoïarsk, 380 miles from Irkutsk.

MR. C. JARROTT has had to put off for the present his attack on Mr. S. F. Edge's twenty-four hours' record on the Brooklands track. Prior to Mr. Edge's run he had engaged the track for that purpose, but the proprietors have refused to allow any more twenty-four hours' records at present, on the grounds that the noise and turmoil cause great inconvenience to the neighbourhood of Weybridge and Byfleet, and that the track has proved to be too freshly laid to successfully withstand the continuous strain of wheels rolling over the same line during twenty-four hours. They have, however, promised to give Mr. Jarrott the first refusal of the use of the course whenever they decide to have another twenty-four hours' record.

ONE of the most extensive catalogues which we have lately received comes from Messrs. Mestre and Blatge, through their sole British agents, Messrs. Monnet Plasse and Co., 20, Store Street, London, W.C. This consists of more than three hundred pages of large size, with illustrations which must run into thousands. Each section is therefore complete in itself, and but the merest indication of the exhaustive character of the contents can be given. Mention may, however, be made of the "Dietz" and the Alpha lamps, scores of types of horns, whistles, goggles, tool kits, jacks, &c., trunks and boxes for motorists on tour, lubricators, electrical specialities, "Nieuport" magnetos, chains, and, in fact, everything that the agent or motorist is likely to require. Messrs. Monnet Plasse and Co. should find considerable accession to business from the issue of this comprehensive commercial volume.

THE illustration herewith depicts the patent detachable motor-car wings or mudguards recently devised by Capt. W. G.



The Patent Wing as fitted to the "Windham" Detachable Bodies.

Windham, of the "Windham" Sliding Detachable Motor Body Company. It will be noticed that the irons, which are slotted, fit into little bolts on the underpart of the wings and are tightened up with two butterfly nuts, spring washers being provided to keep them tight. The utility of the idea, which was invented by Captain Windham, can be readily seen. If one gets a puncture in the tyres, the wings can be easily detached in three to four seconds; also when washing the car, instead of washing the dirt off the wings on to the wheels, the former can be removed, turned upside down, and properly cleansed; also for fitting detachable bodies the wings, which can be adapted to any chassis, can be adjusted to suit a wide or a narrow body.

CONTINENTAL NOTES.

The Brescia Race Meeting.

Already close upon fifty entries have been received by the Automobile Club of Milan for the races which are to be held on the Brescia circuit on September 1st and 2nd. Among them are three Fiats, three Italas, three Rapids, three De Luca-Daimlers, three Isotta-Fraschinis, three Benz, three Wolsits, three S.P.A.'s, &c.

The Paris-Ostend-Paris Reliability Trial.

The awards in the four days' reliability trial organised by the Autocycle Club de France have now been made known. In the voiturette class (under 90 mm. cylinder bore) the Roussel car secured the gold medal, while in the 100 mm. section the first place was taken by the Demeester vehicle.

Cheaper Tyres.

The Continental and Michelin companies have just announced a reduction in the price of their tyres varying from a few shillings to over £3 per cover, according to the size.

The Belgium Criterium.

The Belgian motoring season opened on Friday, the 12th inst., with the weighing-in, at Spa, of the cars entered for the competiton known as Le Criterium Beige, organised by the Antwerp, Flanders, Liege, and Namur-Luxembourg, Spa and Verviers Clubs. The contest is a novel one, as it comprises an eliminating reliability run from Spa to Ostend (274 kilometres), where a series of speed trials on the level and on hills are to be held, the latter being worked in the programme of the Ostend automobile week. Afterwards the competitors, who will be divided into nine classes, ranging from single-cylinder cars to powerful four-cylinder touring vehicles, will continue the run to Calais, Boulogne and Rheims, Spa again being reached on the 20th inst.

Lap Times in the Grand Prix.

The appended list shows the lap times of the first three to finish the A.C.F. Grand Prix race. The best time of the day was that made by Nazzaro in the ninth round—38 min. 24 sec., which is equal to seventy-five miles per hour. It is noteworthy, too, that all the three drivers quickened up their speed in the second half of the race.

Lap.		Nazzaro. (Fiat.)		Sziiz. (Renault.)		Baras. (Brasier.)	
		M.	S.	M.	S.	M.	S.
1.	...	42	45	40	39	45	46
2.	...	40	44	41	16	41	39
3.	...	40	8	40	38	41	45
4.	...	39	3	50	59	43	47
5.	...	45	50	39	15	45	16
6.	...	38	50	39	14	45	5
7.	...	38	40	42	17	40	17
8.	...	43	34	39	5	40	43
9.	...	38	24	40	27	40	34
10.	...	38	35	39	25	40	23

Fuel Consumption in the Grand Prix.

It will be remembered that the Grand Prix race was run on a petrol allowance basis—30 litres per 100 kilometres, equal to 9.47 miles per gallon. Roundly, 231 litres of spirit were served out to each competitor, and the gold medal for the lowest petrol consumption has been awarded to the Darracq driven by Rigal, who, as will be seen from the following table, had 42½ litres of essence left.

Table showing amount of fuel still in hand at end of race:—

Driver.	Car.	Litres.
Rigal ...	Darracq ...	42.49
Barillier ...	Brasier ...	42.12
Baras ...	" ...	38.83
Caillois ...	Darracq ...	35.58
Sziiz ...	Renault ...	30.95
Shepard ...	Bayard Clement ...	30.32
Garret ...	" ...	13.70
Gabriel ...	Lorraine Dietrich ...	11.80
Nazzaro ...	Fiat ...	11.24

French Motor-Car Imports and Exports.

It was announced at the meeting of the French Chambre Syndicate de l'Automobile last week that the imports of foreign motor-cars and parts into France during the five months ending with May last had attained a value of only £131,640, a decrease of £23,720 as contrasted with the corresponding five months of 1906. On the other hand, the exports of motor-cars and parts from France during the same periods had advanced from £2,338,680 to £2,665,000.

Touring in Southern Europe and Northern Africa.

In the opinion of Mr. George C. Tyler, of New York, who recently completed an extensive tour in Northern Africa, that country will eventually become a paradise for motorists. This is Mr. Tyler's fifth season of motor touring in Europe, and in many respects he regards it as the most delightful. He found a country of perfect roads, beautiful scenery, and excellent accommodation, and at the same time was far removed from the beaten track and quaint surroundings to be found elsewhere. Mr. Tyler went from Paris to Marseilles, thence to Genoa, Florence, Rome and Naples, through Calabria and Sicily, and thence by steamer to Tunis. From Tunis a journey was made



The Grand Prix Race.—Duray and his *mechanicien* returning to the Grand Stand after the breakdown of their car.

through Soussa, Monastir, Sfax and Gabes to Tripoli, stopping at the famous mosque in Kirouan. Mr. Tyler's trip was made on his new 45-h.p. Renault car, on which he has covered nearly 10,000 kilometres.

Miscellaneous Items.

A six-wheeled Brillie motor-bus has recently undergone some trials in Paris, using naphthalene as fuel.—The N.A.G. Company, of Berlin, have lately supplied a single-deck motor-bus for service in Varna, Bulgaria.—A new compound known as Elastin, to replace air in the inner tubes of motor tyres, is just now attracting attention in Germany.—The first motorist to make the journey over the St. Gothard this season is said to be M. Andre Soares, of Cairo, who, driving a 30-h.p. Renault, found the road still thick with snow in many parts.—It is announced that the Spanish Army Council will shortly require tenders for about fifteen motor-cars for experimental purposes, scouting, &c.—The Automobile Club du Rhone is organising a hill-climbing contest on the road from St. Chamond to Mont Pilat for September 22nd next.—Twenty-three entries have so far been received for the first of the Circuit des Ardennes races and nine for the second.

CORRESPONDENCE

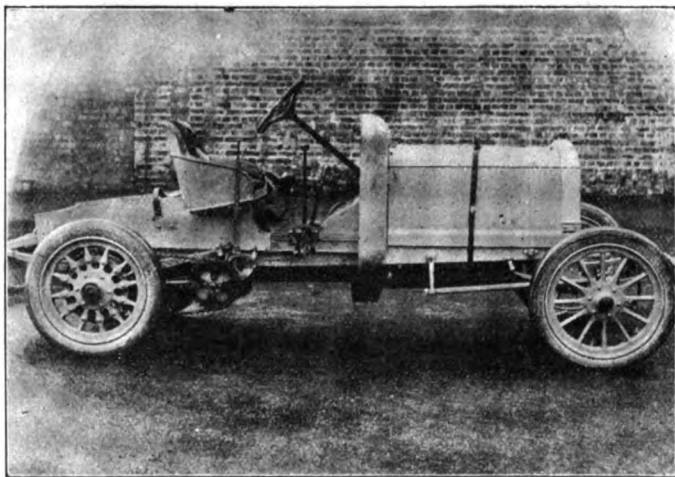
[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

THE RACES ON THE BROOKLANDS TRACK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am sure that every automobile sportsman appreciates the efforts which are being made at Brooklands to popularize the sport of motor racing. Before this can be achieved, however, good and fair racing has to be secured, and it is the duty of every entrant, particularly those in the trade, to assist the B.A.R.C. in every possible manner by playing the game fairly and squarely. I was therefore somewhat astonished and surprised to notice the flagrant manner in which certain cars competing at the open meeting held at Brooklands were fitted up with oxygen cylinders with special apparatus arranged so as to enable the driver to use the oxygen during the race at will. Many people expressed surprise at some of the cars being able to spurt for a short distance at a greatly increased speed, and will now be interested to know how it was done.

With the object of making good racing, certain limitations of engine size are imposed for each race, but if we are going to have this artificial method of obtaining increased power allowed, what is the good of trying to classify cars? If motor racing is to be of benefit to the industry, if it is to be of benefit to the public, and if it is to continue to be a sport, this sort of thing



One of the Daimler Cars which competed at Brooklands on Saturday last.

must cease. The curse of commercialism touches all things, but if certain competitors have such a poor idea of what sport is, and how the game has to be played, then those in authority should teach them. Before any more race meetings are held, the Royal Automobile Club should absolutely prohibit the use of oxygen, &c., on any car run in any event held under their rules, and any infringement of the rule should be dealt with by suspending the culprits—owner and driver—from all events for two years.

The B.A.R.C. is running its meeting on horse racing lines, and if race horses are not allowed to be doped, why should motor-cars?—Yours truly,

CHARLES JARROTT.

THE WORLD'S RECORD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Whilst the Press is full of the wonderful performance of Mr. S. F. Edge at Brooklands Track, when he put up a twenty-four hours' world's record, many enthusiasts who are writing up Mr. Edge's performance are overlooking true facts.

Mr. Edge undoubtedly beat the world's record by a very wide margin, but correspondents have variously mis-stated what the previous world's record was. In the interests of accuracy, I should be glad if you would kindly emphasise the fact that the previous twenty-four hours' world's record was held by a six-cylinder Ford, which on the 24th of June last, at Detroit, Michigan, ran 1,135 miles in twenty-four hours, officially observed by the Automobile Club of America.

This performance of the six-cylinder Ford beat all previous world's records by 300 miles.—Yours truly,

PERCIVAL L. PERRY.

THE "GRAPHIC" TROPHY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter from Mr. W. T. Clifford Earp, I very much appreciate the kindness that has prompted him to write and try and assist me in finding out why my six-cylinder Napier was disqualified for the "Graphic" Trophy Race. He very properly raises two queries in his letter, but both these and many others I have already taken up with the Royal Automobile Club, and I am sorry to say that the Club, no doubt from some very good reasons from their point of view, have not thought fit to tell me on what points my car was disqualified, nor am I able to find out from them, although I have asked by letter what alteration I can make to the car to make it conform with the Club's requirements. It could not have been in regard to body dimensions, as they were considerably larger than other cars which competed in the races. It could not be on account of cylinder dimensions, as they were correct and accurate in accordance with the conditions.

Personally, I have not the least feeling in regard to the Club, as they have acted in a thoroughly *bona fide* way under their rules in the matter. My only feeling of dissatisfaction is that they have not told me, and apparently will not tell me, what is the point they object to, as naturally I take a great pride in always keeping to the proper conditions in all these competitions. I still believe that my car was perfectly in accord with the conditions, but even if it was not in accordance with the R.A.C., I think that I am entitled to receive from them the point on which the car did not meet with their approval, so that I may alter it in any future vehicles. At present I am in the unhappy position of being told that my car is not suitable under the rules, but cannot get anything official or unofficial as to what I must do to make it suitable. Personally, I think this is a mistake on the part of the Club, as I am only too anxious to carry out the rules, but I have no means of forcing them to give me the information, and if Messrs. Earp can help me to get it or get it for me they will do me a favour of a greater magnitude, probably, than they appreciate.—Yours truly,

S. F. EDGE.

HELPING MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should like to make a remark through your valuable columns about the way, and the spirit, in which the motor repairers in this (Lancashire) police trapping county are acting towards the motor-ing public in general. I had left Lancaster recently on my way to Preston, and had got some four miles on when we were stopped by an official-looking individual. I naturally imagined that I had got into a trap, but no! This said person placed the enclosed card into my hand, with a few remarks about where to look out, &c. Now I am sure that all your readers will agree with me that if something was done like this universally, it would stop a number of the touring motorists from falling into their snares, especially in this district, where the magistrates seem to take a huge delight in making the fines as heavy as possible. I would make these traps known for the safety of your readers travelling from Preston to the Lake district, or, rather, to be more accurate, from Garstang to Lancaster. There are four measured lengths starting from the twelfth milestone from Lancaster, then again at the ninth, about fifty yards before the seventh, and a measured mile commencing from the first straight length after the sixth milestone. Woe betide the unhappy one who gets caught in the latter, as it seems to be the pet snare of the police.—Yours truly,

ROLAND RYMAN.

[Our correspondent encloses a card in which Messrs. W. Atkinson and Sons, North Road, Lancaster, say "it is not safe to drive at more than twelve to fourteen miles per hour from Lancaster for twelve miles. There are usually four police traps about this district."]

THE EDUCATION OF DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Regarding the motor-car wrecked at Sheffield with the resulting injury to six persons, as reported in the daily papers, I would like to point out that this emphasizes very strongly the necessity of the careful examination of each driver of a motor-car, professional or lay, before he is allowed to drive a motor-car on the high road. That official examination of the personal efficiency of each driver cannot be too seriously regarded is perhaps sufficiently obvious, but I may be permitted to point out a few reasons to more fully demonstrate my case.

In London, as an example, although the same thing is taking place in almost every large city of the world, horse traffic is gradually becoming ousted in favour of mechanical traction. Ignorant, bad, and criminally careless driving is due entirely to the absence of official examination of the drivers. As the motor-bus and motor-cab become more in evidence, as in the natural order of events they are bound to be, the danger through ignorant and bad driving will become far greater. These motor-omnibuses and motor-cabs will be chartered more and more for extended country trips, especially during the summer months, and this is only a loophole for more accidents to ensue.

A great many accidents are caused through skidding, and an accident of this kind is due generally to the driver, mainly by reason of his ignorance of some of the elementary rules in driving. A driver normally efficient, unless he has had sufficient experience, may be hopelessly at

sea and fall to bits in an emergency. There are thousands and will be many more thousands of new comers owning motor-cars and driving upon the highways, and as this traffic increases, without the official examination of each driver, accidents are bound to happen due to this increase.

Moreover, there is an enormous number of motor-car drivers who have not the faintest idea as to the margin of safety in the condition of their cars. It should be part of the official examination that each driver should answer, satisfactorily, questions with regard to the safe condition of his tyres, wheels, steering, brakes, and so forth. There is as much danger to the car, its occupants and the public, in a weak front tyre, defective steering, loose road-wheel bearings, or rickety steering wheel, as in careless or ignorant driving.

Before an engine-driver takes the rails on his own responsibility he is submitted to a most searching examination as to his capacity. And yet he drives on rails. In the same way an electric car driver is carefully examined, yet he drives on rails. But the Government has allowed many thousands of motor vehicles of all kinds to be put on to the streets and high roads of this country, with the tremendous traffic encountered in the streets, and the wicked corners and hills in the country to be negotiated, without any preliminary examination of their drivers whatever, and grant a driving certificate for the sum of 5s. to any lunatic or dumb and blind person that may apply with the necessary funds in his hand.

If arrangements are not very soon made for an efficient official examination of every motor-car driver on the road, a responsibility of the gravest kind will rest upon the Government. It would be interesting to have your readers' views on this subject.—Yours truly,

ARCHIBALD FORD.

WEEKLY WINS.

TO THE EDITOR OF *The Motor-Car Journal*

SIR,—The advertisements that have been appearing under the subject matter of "Weekly Wins" are, I think, open to a certain amount of criticism owing to other results, such as "Fastest Times," appearing under this heading, which are not actual wins. These advertisements are very easily apt to mislead the readers by making them think that all the results that are published in them are wins. As a case in point, in connection with the hill-climbing competition held by the Sheffield and District Automobile Club a few weeks ago, a certain firm advertised the fact under the heading of "Weekly Wins" that one of their make of cars accomplished the fastest time. As this car was by a long way the most powerful one in the competition it, of course, easily accomplished this, but on the official results being published the car was only placed fourth, having been beaten by no less than three other cars, including my own 20-h.p. Br.therhood, which was only approximately half the power of the car in question. The advertisement referred to has to my own knowledge been misread by several of my own acquaintances, and as I am sure your readers who follow these announcements can easily understand that no doubt it is misunderstood by numbers of others, and the result that this car accomplished the fastest time being published under the heading of this letter would insinuate that the car, besides making the best time, also won the hill climb.

I understand that the hill-climbing formula and regulations as laid down by the Royal Automobile Club was done by them in an effort to place all cars of varying powers and weight on an equal basis for competition, so that the most efficient car combined with the best driving should be the winner. In consequence, as the Sheffield hill-climb was held under these rules, it shows that the car referred to was only fourth as regards the two points of efficiency and driving that the competition would prove. Personally I think if firms are desirous of advertising under the heading of "Weekly Wins," they ought, to prevent these advertisements from in any way misleading the reader, to confine the matter of the same to actual wins, and, as I have before mentioned, the wording of some of these advertisements can very easily be misunderstood that I feel justified in bringing the point up, so that the actual winners of the competitions may have full credit for their victories, and not have them discounted in any way by advertisements, the matter of which is arranged in such a manner as to be easily misconstrued.—Yours truly,

PERCY RICHARDSON.

AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—When in any difficulty in motor-car matters, I usually turn to the huge mass of *M.C.J.*s I have accumulated for years. I am, however, unable to lay my hands upon an answer to the question as to whether there is danger connected with the frequent appearance of a little bluish vapour blowing out of the air inlet of the carburettor (Longuemare), while the engine is at work, also at the slot in the inlet bend where extra air is admitted. Is there any risk of fire passing through the carburettor and reaching the petrol tank on the dash?—Yours truly,

GALLOWAY.

[We are pleased to note that Galloway turns to the *M.C.J.* to solve his difficulties. A somewhat similar query, i.e., as to the danger of petrol and paraffin in tanks, was dealt with a short time ago. The appearance of the bluish flame out of the air inlet indicates that all the

vapour between the carburettor at the moment has been consumed, and for the time being the danger is over. For all that could happen would be the chance ignition of any extraneous petrol that might be within reach of the flame. There is not any risk of the flame igniting the petrol inside the pipe leading to the tank, which we gather our correspondent fears. Petrol must be in a state of vapour to explode, and cannot even burn without the presence of oxygen. The explosions in the induction pipe point to too weak a mixture, or a faulty induction valve.]

TIMING A FOUR-CYLINDER ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you would tell me how I can time my four-cylinder motor, which has mechanically-operated valves all on one side.—Yours truly,

SUBSCRIBER.

[This can be accomplished by the setting of one cylinder only—the cam being all fixed on the shaft in their proper positions, bring them into work at their proper time. The best method is to take the inlet in, say, No. 1 cylinder; turn the engine round in the direction it has to run, and determine the position of the piston in the cylinder. When this is about to descend, say about $\frac{1}{4}$ in. down the inlet stroke, the valve should commence to open, and close when the piston reaches the bottom of the stroke, or in some instances just over the bottom of the stroke. It will then be found that the inlets and exhaust are all in their proper order.]



The 40-h.p. Siddeley Car recently supplied by the Wolseley Company to Her Grace, Lily Duchess of Marlborough.

The body is of the limousine type, built by Messrs. Hooper and Co., Ltd. The rear wheels are fitted with "Easies."

HUB BRAKE DRUMS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Fractured and worn out brake drums are certainly a subject of serious concern, especially if the countershaft brake is not in working order, the sprag is non-existent, and you happen to be on a hill, you have to decide so quickly on what to do and how to do it. I can write feelingly, as this damp weather makes an old-fractured collar bone bring to my remembrance a rather precipitate rush down Hog Trough hill, Westerham. It is so easy to decide on the correct treatment when seated at one's desk near to a brightly burning hearth; anyway, more so when the drum is on the hill and the car with oneself in it is careering away. This actual personal experience is my excuse for now rushing into print. Hub brake drums are usually made of malleable castings, steel, or gun metal, and now that the metal-to-metal brake is so fashionable the drum is apt to wear, perhaps, sometimes more than the band liner. Steel drums are, of course, the best, and gun metal ones the worst for lasting, and my advice to all fellow motorists is, frequently inspect the drums and liners. It is, of course, important to use the correct material for the band which is suitable to the drum. Gandy belting and Frood's patent brake lining answer well with any kind of drum. The latter is fireproof and certainly has great stopping power. Wrought iron liners answer with a malleable drum and cast iron with gun metal and steel.

To fix a new brake drum is rather a trouble, and if by frequent inspection early wear is detected it can easily be remedied without much bother or expense. To do this take off the wheel and by fixing

the hub in the chuck of a lathe the remains of the drum can be "trued up." A wrought iron or forged steel ring can then be shrunk on. Any blacksmith will make such a ring, one made of $\frac{1}{4}$ or 5-16th stuff would do, and if it is made a shade smaller than the drum and put on hot it will hold, and in addition it can be fixed by a few counter screws. The hub can then once more be put in the lathe and the centre of the drum to the extent of the width of the band turned down about one sixteenth, and thus a flange will be made. Frequently a brake does not hold because the drum is no longer true and does not present sufficient surface for the band to grip. Gun metal drums frequently wear oval and thus fail to act. The treatment here set forth is a sure remedy for such complaints.

The recent casualties due to brake failure seem to be all put down to accident and chance. I honestly believe that with proper attention to brakes, including frequent inspection of bands and drums, over nine tenths could have been prevented.

"None pities him that's in the snare,
And, warn'd before, would not beware."

Yours truly,

H.

AN IGNITION QUERY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Would you kindly inform me what is intended when a coil is described as $\frac{1}{4}$ in. spark, or $\frac{1}{2}$ in. spark, as the case may be? I have made several alterations in my ignition apparatus at various times, but never succeeded in getting a spark even approaching such sizes. At present I am fitting a Hellesen dry battery, as at my country place in

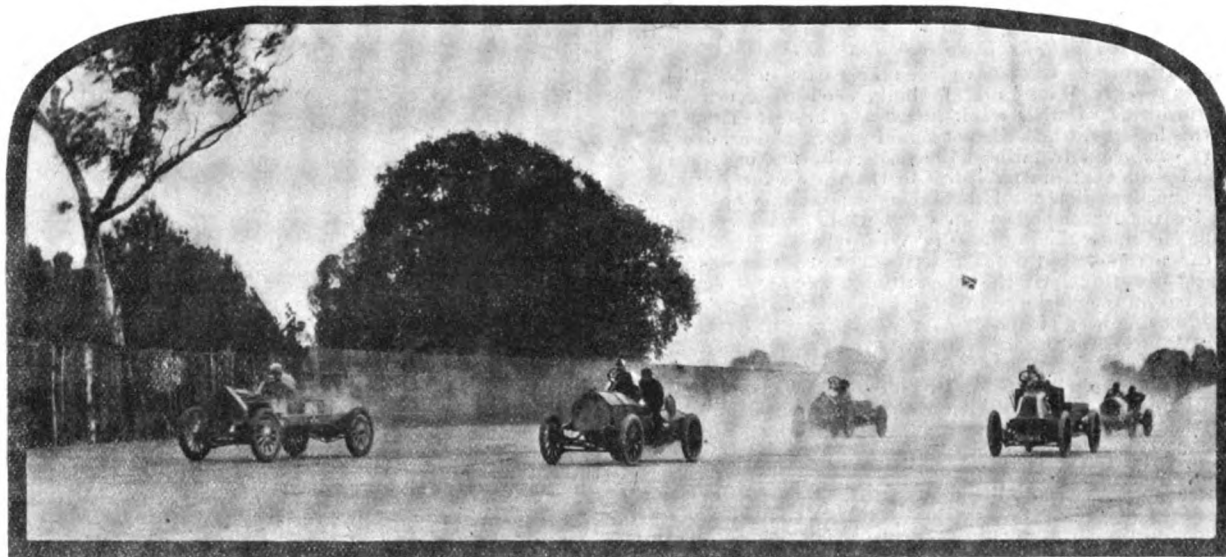
RACE MEETING AT BROOKLANDS.

THERE was a distinct air of novelty about the race meeting on the Brooklands Motor Track at Weybridge on Saturday. It was the first gathering of the kind, and, although the evidence of popularity was not conclusive, it showed that the initial effort to organise a motor race meeting on horse racing lines could attract a crowd of over 10,000 people. But for the substitution of motor-cars for horses the scene might have been an ordinary race-meeting, for all the paraphernalia of Epsom was there, including the bookmakers. The latter must have found business at first as monotonous as some of the contests, for not until the races were well on the way did there seem a disposition on the part of the public to speculate. And then a certain measure of wariness characterised the crowd.

Society people beamed upon the new sport, and among well-known people to be seen were the Duke of Westminster, Lord Lonsdale, Mr. Lionel Rothschild, Lord and Lady Sefton, Lord Essex, Colonel Holden, Mr. C. D. Rose, M.P., the Earl of Carnarvon, the Hon. A. Stanley, Mr. and Mrs. Locke King, Mr. Wilson Noble, Mr. Julian Orde, and Mr. Walter Gibbons. The members' enclosure was crowded with ladies.

Previous illustrations and descriptions of the track have prepared our readers for a mental picture of the scene. Most of the races were of the processional order, and it was generally agreed that the withholding of times from the public was in order to afford the basis of a system of handicapping which might secure close finishes in the future. The results of the various events were as follows:—

MARCEL RENAULT MEMORIAL PLATE of 550 sovs. (the nominator of the winner to receive 400 sovs., the nominator of the



The Brooklands Track Race Meeting.—The final of the Marcel Renault Memorial Plate Race.

Norfolk I find charging accumulators a great trouble, and, although the voltmeter shows plenty of force, I cannot get a visible spark larger, apparently, than the head of an ordinary pin, and it occurs to me that I may not be getting all I ought. My coil is a Nilmelior 7-16 in. spark. Can you help me with any suggestion, please?—Yours truly,

AH 26.

[When a coil is spoken of as giving a $\frac{1}{4}$ in. or $\frac{1}{2}$ in. spark, it means that if the secondary terminals, or the wire which goes to the plug, and a wire from the contact breaker terminal, are $\frac{1}{4}$ in. apart a spark will pass in the open air. It would also do so on the plug itself if the points could be put far enough apart. Any good coil will spark through $\frac{1}{4}$ in. in this manner, provided that it is properly adjusted, and the battery will give the necessary current. It will, however, not spark through this space under compression. When using dry batteries for ignition, care should be taken to employ a coil taking a very low current, as a dry cell will not easily give a high current for a long time, in the same way that an accumulator will.]

WILL Mr. Godwin, who wrote to the Editor of the *M.C.J.*, kindly send his address, which has been mislaid.

TAIL LAMP FOUND.—Mr. G. W. Hodgkinson, the motor agent of Scarsdale Place, Buxton, sends us a police notification that they have recently found two motor tail lamps in the Macclesfield district. Those to whom they belong should apply to Superintendent Downes, at the County Police Office in that town.

COST OF UPKEEP.—Mr. Cecil Wilson, of the Manor House, Shrivensham, Berk., writes:—"Noticing an advertisement of a car which has been in use for nineteen months (no distance stated) with expenses totalling 17s. 6d., I would like to place against it the record of my 10-12-h.p. Coventry-Humber bought last August. I have been 4,109 miles, my repairs or upkeep (not counting tyres) have been nil.

second 100 sovs. and the nominator of the third 50 sovs.), for motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 85 to under 110; weight, 3,000 lb.; miles, 11,4328; entrance 25 sov.

HEAT 1.

Mr. S. F. Edge's Napier	H. C. Tryon	1
Mr. A. Huntley Walker's Darracq	Owner	2
Mr. P. Kerr-Smiley's Renault	J. Groves	3

Also ran: Mr. C. Harman Wigan's Vinot Deguingand and Mr. K. Okura's Fiat.

HEAT 2.

Captain G. Hindes Howell's Iris... ..	A. Clifford Earp	1
Mr. F. R. S. Bircham's Iris	Owner	2
Mr. H. R. Pope's Itala	M. Fabry	3

Also ran: Captain W. E. D. Owen's Junior, Mr. J. E. Hutton's Berliet, and Mr. C. Sangster's Ariel-Simplex.

FINAL HEAT.

Mr. S. F. Edge's Napier	H. C. Tryon	1
Captain G. Hindes Howell's Iris	A. Clifford Earp	2
Mr. A. Huntley Walker's Darracq	Owner	3

Also ran: Mr. F. R. S. Bircham's Iris, Mr. H. R. Pope's Itala, and Mr. P. Kerr-Smiley's Renault.

Tryon, on the Napier, led from start to finish, and won by nearly the length of the straight, with the Darracq (which punctured) about 700 yards away from the Iris.

HORSLEY PLATE of 300 sovs. (the nominator of the winner to receive 250 sovs. and the nominator of the second 50 sovs.), for motor-cars propelled by internal combustion engines only, of a cylinder dimension of 60 to under 85; weight, 3,000 lb.; mile, 3-27995; entrance 15 sovs.

Mr. A. Huntley Walker's Darracq Owner 1
 Mr. Sidney Straker's Straker-Squire W. T. Lord 2
 Mr. S. Gore Browne's Thornycroft Owner 3
 Also ran: Mr. A. F. King's Mass, Mr. S. Saunderson's Brasier,
 Mr. P. Richardson's Brotherhood, Mr. G. Moss's Arrol-Johnston, and Mr.
 T. Thornycroft's Thornycroft.

This was an easy win for the Darracq, but there was a fine struggle for the second place, which was won by the Straker-Squire by a bonnet.

GOTTIEB DAIMLER MEMORIAL PLATE of 650 sovs. (the nominator to receive 500 sovs. and the nominator of the second 150 sovs.); for motor-cars propelled by internal combustion engines only, of a cylinder dimension of 120 to under 155; weight, 3,000 lb.; miles, 15-743; entrance 30 sovs.

Mr. E. M. C. Instone's Daimler Owner 1
 Mr. A. Huntley Walker's Darracq Owner 2
 Also ran: Mr. Charles Sangster's Ariel-Simplex, Mr. H. S. Keating's Daimler, Mr. S. F. Edge's Napier, and Mr. J. T. C. Moore-Brabazon's Minerva.

The Minerva led at the start, and when well ahead was brought to a standstill with a flooded carburettor. This let Instone's Daimler into first place, and he won by nearly a circuit. Some minutes later the other car ran home. It had jet trouble, while Keating's had a fuel mishap. Sangster's bonnet flew open and he retired when a stream of oil smothered his face, obscuring his vision, while the Napier also had trouble.

BYFLEET PLATE of 550 sovs. (the nominator of the winner to receive 450 sovs., and the nominator of the second 100 sovs.), for motor-cars propelled by internal combustion engines only, of a cylinder dimension of 110 to under 135; weight, 3,000 lb.; miles, 10-3078; entrance, 25 sovs.

Mr. C. Jarrott's Lorraine-Dietrich Owner +
 Mr. S. F. Edge's Napier F. Newton +
 Mr. A. Huntley Walker's Darracq Owner 3
 Also ran: Mr. J. E. Hutton's Berliet, Mr. J. T. C. Moore-Brabazon's Minerva, Mr. J. E. Hutton's Berliet, Mr. Charles Sangster's Ariel-Simplex, Mr. D'Arcy R. Baker's Fiat, Mr. H. R. Pope's Itala, and Mr. J. H. Bell's Fiat.

In this race Mr. Baker's Fiat was handled by Wagner (who had made fastest time in three laps of the Grand Prix race a few days before), but the interest was centred on Jarrott and Newton. The latter took the lead with his Napier, but Jarrott rapidly drove after him, and got on even terms. As they entered the finishing straight Jarrott slightly headed him on the outside. Newton, however, came again, and a slashing finish resulted in the judge giving the result as a dead heat. It was mutually agreed to divide the stakes. Jarrott used Continental tyres and Newton Dunlops.

FIRST MONTAGU CUP, of 2,100 sovs. (a cup value 200 sovs., and the remainder in specie); the nominator of the winner to receive the cup and 1,400 sovs.; the nominator of the second to receive 400 sovs.; and the nominator of the third 100 sovs.; for motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 155 to under 235; weight, 2,600 lb.; miles, 30-4562. Entrance 50 sovs.

Mr. J. E. Hutton's Mercedes Owner 1
 Mr. K. Okura's Fiat Owner 2
 Mr. F. R. Fry's Mercedes D. Resta 3
 Also ran: Mr. G. V. Baxendale's Darracq, Mr. W. J. Wright's Darracq, Mr. H. R. Pope's Itala, Mr. F. Rendle's Mercedes, Mr. A. Huntley Walker's Darracq, Mr. D'Arcy R. Baker's Fiat, and Mr. S. F. Edge's Napier.

Wright's Darracq suffered from a fractured base chamber. Edge's car ran out of water. Baxendale's Darracq retired early; while Walker's car, driven by Demogeot, punctured when leading. Hutton finished an easy winner, with Okura some distance away second, and Resta's Mercedes third. It afterwards transpired that Resta had covered one lap extra, this robbing him of the race. Through looking at his tyre, which was damaged, he failed to notice the signal to enter the finishing straight.

STEPHENSON PLATE of 300 sovs. (the nominator of the winner to receive 200 sovs., and the nominator of the second 100 sovs.) for motor-cars of a price not less than £600 and not exceeding £700; weight, 3,500 lb.; miles, 5-997. Entrance 25 sovs.

Mr. A. Huntley Walker's Darracq Marquis de Mouzilly St. Mars 1
 Mr. C. Sangster's Ariel-Simplex A. E. Harrison 2
 Captain W. E. D. Owen's Junior Owner 3
 Also ran: Mr. S. F. Edge's Napier; Mr. F. Coleman's White steam car; Mr. Coleman's White steam car, driven by Mr. P. Northey.

The Darracq car won this race by about 300 yards after a good contest for some distance with the Ariel-Simplex.

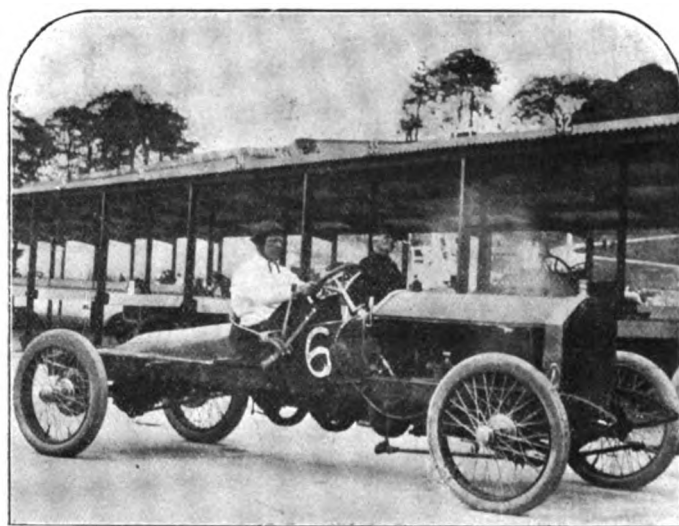
We are informed that there appears to be an impression prevalent upon the part of many motorists visiting the Continent that as soon as they cross the Channel they cannot obtain Dunlop tyres, and we are accordingly asked to point out that such an impression is quite erroneous, as the Dunlop Company have factories or depots in all the chief Continental cities, where locally-made Dunlop tyres can be obtained to accurately fit British Dunlop tyre rims.

CRIPPLED CHILDREN'S OUTINGS.

SOME sixty crippled children belonging to the London County Council schools at Mansford Street, Bethnal Green, were taken, under the auspices of the Beaumont Cycling Club, for a day's outing in motor-cars, kindly lent by Messrs. Humber, Brown Bros., the Daimler Company, Mr. S. F. Edge, and Mr. A. S. Reynolds. The children had a delightful day and visited various interesting parts of Epping Forest, being afterwards entertained to dinner and tea at Oak Hill Farm, Theydon Bois. During the afternoon a few of the children who had been brought down in the school ambulances were taken for rides in the cars, nursed by teachers and friends.

On Saturday a Manchester committee provided a motor-car ride for nearly 500 crippled children. About 120 cars were loaned for the occasion, assembling in Albert Square, where the children were gathered. The destination was Astle Hall, Chelford, the residence of Colonel Dixon. The cars were divided into two sections—one going to Chelford by Wilmslow and Alderley, and the other by Altrincham and Knutsford. Each child by this happy arrangement was able to vary the trip by seeing different country coming and going. The children had a good time in the grounds of Astle Hall, where they rambled about happily, and afterwards had tea in marquees erected for their reception. The cars set off back early in the evening, and the party reached the city in good time.

Mr. Ambrose Firth has offered to entertain the crippled children of Sheffield at his residence, The Knoll, Bamford, to-day. Cars will meet at Leopold Street, Sheffield, at 2.30 p.m., and start about 3 o'clock for Bamford via Hathersage, returning via Ashopton. Arrangements are in the hands of the Sheffield and District Automobile Club.



Mr. H. C. Tryon, the winner of the Marcel Renault Plate, on his six-cylinder Napier.

Photo by)

(Campbell-Gray.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

MOTOR SCHOOLS.—£6,000. To carry on in London and elsewhere schools for instruction in motor driving, &c., and to adopt agreements (1) with T. Smith, (2) with A. W. L. Morgan, and (3) with T. Smith, W. H. M. Burgess, F. N. Gibbs, and A. W. L. Morgan. First directors:—Messrs. T. Smith, A. W. L. Morgan, F. N. Gibbs, and W. H. M. Burgess. 10, Union Court, E.C.

MOTORS AND ACCESSORIES.—£1,000. Motor and accessory manufacturers, dealers, and agents, &c. No initial public issue. Provisional directors:—Messrs. G. M. Roberts, W. G. Cooper-King, H. M. Gowan, C. Piper, H. Ablin, S. Ablin, and R. R. Weston. 364, Birkbeck Bank Chambers, W.C.

THE Metropolitan Engineering Company have taken larger premises at 197, London Road, Norbury, and have fitted them up with modern tools to enable all classes of repairs to be dealt with. The depot is open day and night all the year round, and a fully qualified engineer is always in attendance.

At the recent Royal Agricultural Show at Lincoln, Messrs. Joseph Owen and Sons, Ltd., of Stanley Road, Liverpool, had on view some fine specimens of dry timber in ash, oak and other hardwoods, in boards and planks, suitable for builders of railway carriages, motor-cars, and trade and pleasure vehicles, in addition to a splendid assortment of wheels, wheel rims, felloes, spokes and flanges; every description of bent timber, including lancewood, hickory and ash shafts, tonneau bends, wings, and other requirements for motor-cars.

CLUBS AND ASSOCIATIONS.

NOTTINGHAMSHIRE.

THE first motor carnival organised by the Nottingham Automobile Club took place on Saturday on the Victoria Embankment, Nottingham. In many other towns the entertaining uses to which the automobile can be put have been made familiar by the clubs of the district, but the Notts. organisation had previously held what may be termed their annual public festival on the beach of Skegness. Owing to the sands becoming unsuitable, however, the Skegness speed trials, which were such a popular feature, have had to be abandoned, and instead there was arranged the gymkhana. The splendid asphalt track for the automobile events is in proximity to the Trent, enabling motor-boat events to be organised. The arrangement of this attractive portion of the programme was in the hands of the Motor Yacht Club, which presented two cups for competition. An enclosure had been made for non-competing cars, a band stand erected for the use of the band of the City Police, and for the accommodation of his Worship the Mayor (Alderman J. A. H. Green) and other distinguished visitors there was a covered enclosure. Alderman

Witty's 3-h.p. Wyvenhos; 2, Mr. P. W. M. Wright's 3-h.p. Billie, 16 ft. 4 in.

HANDICAP FOR BOATS OF ANY HORSE-POWER: (1½ miles).—1, Mr. T. Sharp's 4-h.p. Lady Rose; 2, Messrs. Riley and Sampson's 2½-h.p. Chip.

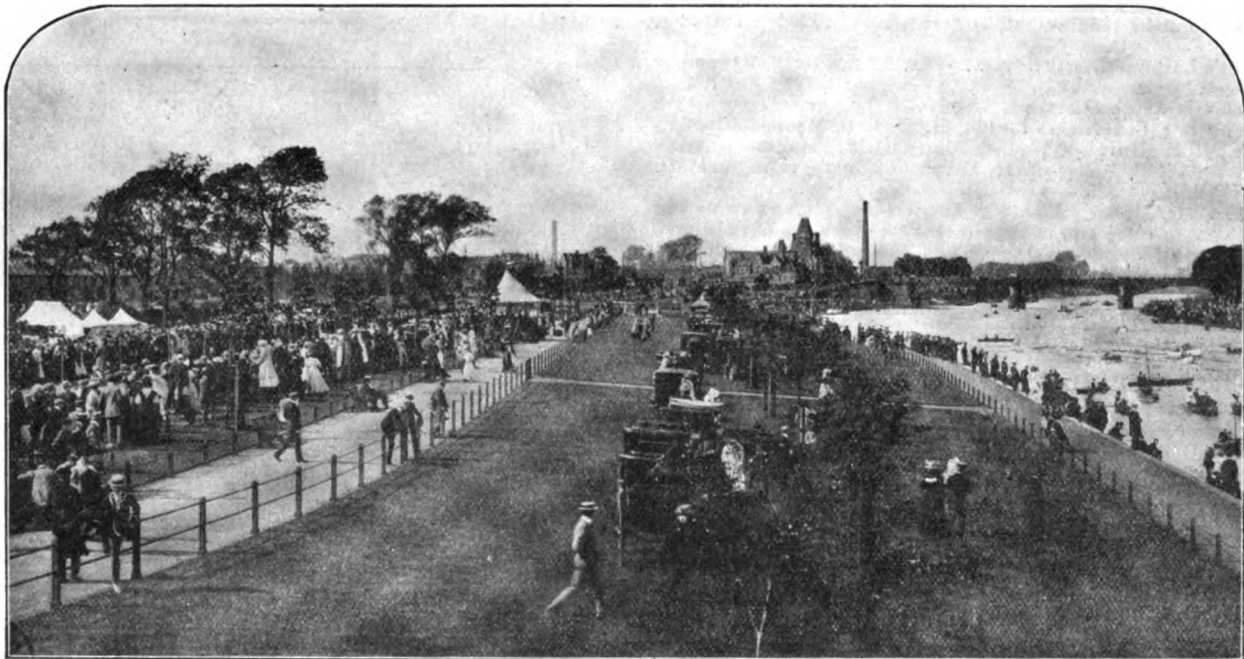
HANDICAP FOR BOATS OF 6-H.P. AND UNDER.—1, Messrs. Cartwright, Neilson, and George's 4-h.p. Togo; 2, Mr. H. Daubney's 4-6-h.p. Dorothy; 3, Mr. J. Redmile's 4-h.p. Lily.

FLYING QUARTER-MILE (Championship of the Trent).—Mr. R. W. Fairbank's 15-20-h.p. Fairbanks; runner-up, Mr. G. Cowen's 15-20-h.p. White Heather.

At the close the prizes were distributed by the Mayoress, who was accompanied by the Mayor (Alderman J. A. H. Green), and on the motion of Mr. Charles Hardy (president of the club) a cordial vote of thanks was passed to them for their presence and interest.

KENT.

IN surprisingly genial weather the Kent A.C.'s annual gymkhana was held on Saturday in Holwood Park, Bromley, by permission of the Earl of Derby. Some forty cars and about 150 members and friends were present. The judges were Capt. the Hon. F. W. Stanley, Dr. Charles Firth, and Mr. W. Ballin Hinde. Mr. G. T. Langridge, of the Motor Union, acted as starter. The other officials were Messrs. C. J. Morgan, Col. Latter, T. H. Nash, Owen Firth, L. C. Fox, J. E. Bennett, and Capt. Page. Lady Alexandra Stanley kindly presented the prizes to the winners at the termination of the programme.



The Nottingham Club's Motor-Car and Motor-Boat Race Meeting.

Sir John Turney and Councillor W. H. Carey (chairman of the Public Parks Committee) were amongst the members of the City Council who were present, amongst the visitors from the neighbouring clubs being Mr. E. G. Mawbey (president) and Mr. A. J. McAlpin (hon. secretary) of the Leicestershire A.C.

The charities of the city, to which the profits of the gymkhana are to be devoted, are likely to benefit substantially, for at the turnstiles, which were under the charge of Mr. H. Hallam, over a hundred pounds was taken. The details of the various events are as follows:—

GLASS OF WATER RACE.—Event A, two-seated cars under 12-h.p.; Event B, four-seated cars. Four seats: 1, Mr. G. B. Fletcher, 10-12-h.p. Coventry-Humber; 2, Mr. W. D. Wells, 30-40-h.p. Daimler. Two seats: 1, Mr. M. Ross-Browne, 10-14-h.p. Renault; 2, Mr. A. N. Lee, 8-10-h.p. Coventry-Humber.

LADY PASSENGERS' RACE.—1, Mr. W. D. Wells, 30-40-h.p. Daimler; 2, Mr. A. Barlow, 16-20-h.p. Argyll.

OBSTACLE RACE.—1, Mr. R. S. Clifford, 12-h.p. Richard-Brasier; 2, Mr. R. R. Latham, 6-8-h.p. Baby Peugeot.

STARTING AND STOPPING RACE.—1, Mr. M. Ross-Browne, 18-h.p. Gladiator; 2, Mr. A. N. Lee, 8-10-h.p. Coventry-Humber.

FLEXIBILITY COMPETITION.—1, Mr. A. Lee, 8-10-h.p. Coventry-Humber; 2, Mr. James A. Doran, 24-h.p. Minerva.

The Motor Union medal for the best performance of the day was won by Mr. A. N. Lee.

MOTOR-BOAT RACES.

TURNING, REVERSING, AND RESTARTING RACE.—1, Mr. A. J.

The results of the events were as follows:—

SLOW RACE.—Class 1.—Four-cylinder cars, Mr. Percival Foster, 18-h.p. Mercedes; Class 2.—Two-cylinder cars, Capt. Page, 7-8-h.p. Swift; Class 3.—One-cylinder cars, Mr. W. E. Brewerton, 6-h.p. De Dion.

BENDING RACE.—Class 1.—Wheel base over 9 ft., Mr. G. M. Kenyon, 22-h.p. Minerva. Class 2.—Wheel base under 9 ft., Mr. W. E. Brewerton, 6-h.p. De Dion.

SPEED JUDGING.—The competitors were timed over a measured half a mile and the speed was to be at the rate of twenty miles per hour. Mr. A. Booth Hearn was the winner and was awarded the cup offered by the chairman. Mr. G. M. Kenyon was awarded the second prize.

ACADEMY STAKES.—In this event each competitor selects a lady who takes her place at a blackboard. Each competitor is then given a slip of paper on which the name of an animal is written. The competitor starts his car (paid drivers not allowed to start engines in this event), races to the blackboard, stops his engine, alights, and draws the animal mentioned on the paper on the board. As soon as the lady names the animal, the competitor re-starts his engine and races to the starting point. The first back wins. A prize is also given to the lady. The prize was awarded to Mrs. Bradshaw, who guessed the drawing made by Mr. Nash.

TILTING AT THE RING.—The chairman's cup was awarded to Miss Rogers (driven by Mr. Nash) who took all four rings. Lady Alexandra Stanley (driven by Mr. Kenyon) was second, taking two rings and striking a third.

During the tea interval the judges had a most difficult task in selecting the best kept and turned out car out of the ten entries. Mr. Morgan's six-cylinder Brooke and Mr. Nash's Unic were eventually selected and pronounced a draw.

MUSICAL CHAIRS.—Miss Winnie Firth, driven by Mr. Kenyon, obtained the prize.

Captain Page was presented with the gold medal obtained by him in the R.A.C.'s mechanical proficiency examination at Maidstone in April last.

BARNSELEY.

THE first competition arranged by the Barnsley and District Automobile Club took the form of a hill climb up the gradient known as Stainborough Lowe, near Barnsley, on the afternoon of Thursday last week. The course measured 1,100 yards, and possessed an average gradient of one in ten, though in parts it was as severe as one in 6.5, but all the competing cars, carrying their full complement of passengers, negotiated the climb, which is regarded as probably the severest in the district.

The president of the club, which was only formed last year, is the Rev. T. T. Taylor, who offered a challenge cup for competition, gold and silver medals being also awarded to the owners of the two cars showing the best results, calculated on the usual basis of weight, time, and horse power. The officials were:—Judge, the Rev. T. T. Taylor; timekeepers, Messrs. E. H. Barker, J. F. M. Coles, and Mr. J. Taylor; secretary, Mr. H. J. Wells. The official placing of the cars, with the actual time occupied in covering the distance, are as follows:—

Dr. W. Craik, Thurnscoe, 8-h.p. Rover, 246.6 sec. ...	1
Dr. A. Thomson, Dodworth, 10-h.p. Alldays, 203.7 sec. ...	2
Mr. E. A. Barker, Barnsley, 10-h.p. Star, 205.5 sec. ...	3
Mr. A. Wainwright, Barnsley, 10-h.p. Alldays, 215.2 sec. ...	4
Mr. E. Turner, Barnsley, 16-20-h.p. Rover, 178.4 sec. ...	5
Mr. J. F. M. Coles, Barnsley, 15-20-h.p. Star, 209.4 sec. ...	6
Dr. F. J. Sadler, Barnsley, 10-h.p. Hallamshire, 286 sec. ...	7
Mr. W. A. Durnford, Elsecar, 15-h.p. Humber, 230 sec. ...	8
Mr. J. Carrington, Barnsley, 15-20-h.p. Star, 220 sec. ...	9
Mr. W. H. Hanson, Barnsley, 20-h.p. Horbick, 173.6 sec. ...	10
Mr. C. E. Hoyland, Brierley, 10-12-h.p. Humber, 256 sec. ...	11
Mr. H. J. Wells, Barnsley, 10-h.p. Star, 239.3 sec. ...	12
Mr. W. A. Durnford, Elsecar, 12-h.p. Darracq, 258.3 sec. ...	13
Dr. H. A. Banham, Worsbro', 7-h.p. Star, 317.4 sec. ...	14

SOUTHERN.

THE results of the Southern Motor Club's hill climb at Toy's Hill, Kent, on the 22nd ult., and described in our issue of June 29th, are now to hand as follows:—

Class I.—1, Sizaire; 2, De Dion; 3, Alldays; 4, Riley; 5, Rover; 6, Rover; 7, Cadillac; 8, Darracq; 9, Gregoire.

Class II.—1, Talbot; 2, Vulcan; 3, Clement-Talbot; 4, Vauxhall; 5, Osterfield.

Class III.—1, Clement-Talbot; 2, Metallurgique; 3, Martini; 4, Germain; 5, Clement-Talbot; 6, Gladiator; 7, Arrol-Johnston; 8, Vinot; 9, Deasy; 10, Darracq; 11, Belsize and Malcolm; 12, Darracq; 13, Rover.

Class IV.—1, Daimler; 2, Mors; 3, Austin; 4, De la Buire; 5, Napier.

Class V.—1, Daimler; 2, Daimler; 3, Gobron-Brillie; 4, Iris; 5, Brooke; 6, Gracile; 7, Thornycroft; 8, Napier. The first two cars in this class were entered and driven by members of the Southern Motor Club, the third car also driven by a member of the same club.

Class VI.—1, De Dien (Mrs. Kirton); 2, Deasy (Miss Hind).

Class VII.—1, Metallurgique; 2, Arrol-Johnston.

Team contest.—1, Clement-Talbot; 2, Rover; 3, Darracq.

R.A.C.

ON Wednesday the South Harting Hill Climb of the R.A.C. was held, the competitors being subsequently entertained to tea by Lady Russell at Telegraph House. In the open competition for the Yellow Trophy there were fifty-five entries and for the closed events twenty-five, making eighty in all. The proceedings were commencing as we went to press.

SCOTTISH A.C.

THE offices of the Scottish Automobile Club have been removed to 163, West George Street, Glasgow. The new telephone numbers are: National 2424 Argyle, Post Office 5948 Central.

The handbook of the Scottish Automobile Club for 1907-8 has just been issued, the primary object being to afford a concise means of information to members of the Club on matters relating to motor touring in Scotland. A list of officially appointed and registered hotels and repairers is given, the detailed information with regard to charges, &c., being most comprehensive, as is usually the case in such official publications. The list of ferries with their tolls in Scotland and steamship charges will be useful to those on tour, and the selected routes have been thoroughly overhauled for publication. Altogether the handbook is characterised by the thoroughness which has become a feature of the work of the Scottish A.C.

NORTH LONDON.

ON Saturday a reliability trial arranged by the above club took place, the following three finishing:—

1. Mr. Max Graddon, 18-h.p. Fiat.
2. Mr. C. Cutler, 15-h.p. White steam.
3. Mr. Perry, 15-h.p. Ford.

Marks were awarded for consistency of running, the times being taken of three circuits. Competitors were not allowed to look at their watches. Mr. Graddon had only a difference of 3 min. 50 sec. on the three circuits of 36 miles each, Mr. Cutler of 4 min. 29 sec., and Mr. Perry did his third round with only a difference of 2 sec. from his first.

LINCOLNSHIRE.

THE Lincolnshire A.C. having invited the Lincolnshire Motor Cycle Club to a combined meet, and offered prizes for a hill-climb for motor-cyclists, advantage was taken of the presence of the two types of automobiles to compare the speeds on the same hill. In the motor-cycles, W. H. Brookes, Market Rasen, 2½-h.p. Humber, won the class for machines 80 × 80 mm., in 1 min. 9½ sec., with 15 marks. In class 2, for machines over 80 × 80, single cylinder, R. M. Wright, Lincoln, 3½-h.p. N.S.U., won in 54½ sec., 16.2 marks. Alan L. Shaw, Grantham, 3½-h.p. Minerva, made fastest time in this class, getting up in 50 sec. In class 3, twin-cylinder machines, G. F. Cusworth, Louth, 5-h.p. Peugeot, won in 39½ sec., 12.7 marks. The best times in the three classes were thus 39½ sec., 50 sec., and 69½ sec. In cars Sir E. B. Bacon, Bart., 18-h.p. Wolseley, made 50 sec., Mr. H. Martyn, 10-12-h.p. Humber, 89 sec.

IRISH.

IN the forthcoming hill-climb of the Irish A.C. the chassis will be handicapped in the following manner:—Cars in Class A (under £200



The above amusing sketch is reproduced from a drawing sent us by Mr. A. House, of the Northern Automobile Company, Manningham, Bradford.

chassis, two seaters) will receive 14 sec. handicap for each £10 they are under £200. In Class B (£200 to £300 chassis, four seaters) 10 sec. for each £10 under £300. Class C (£300 to £450, four seaters) 7 sec. for each £10 they are under £450. Class D (£450 to £600) 5 sec. for each £10 under £600. Class E (£600 to £750) 4 sec. for each £10 under £750. Class F (over £750) 3 sec. for each £20 under £1,150. The winning car in each class will be weighed, and the one showing the highest result obtained by dividing its time ratio by its actual time will be awarded the Humber cup. The time ratio of any car is found by the following:—

$$\frac{120,400 \times \text{weight laden}}{\text{bore 2 mm.} \times \text{stroke} \times \text{number of cylinders}} + 14.34$$

HERTFORDSHIRE.

THE Hertfordshire County Automobile Club issue a list of members with their fixtures for the season. The rules are also included and a notice issued to members urging them to drive their vehicles "in such a manner as to cause the least possible inconvenience to others," in order to educate the non-motoring public to look upon the motor-car with favour.

THE open hill-climbing competition of the North-East Lancashire A.C. will be held at Rivington Pike, Horwich, near Bolton, on Friday, the 19th inst.

WE are informed by the British Petroleum Co., Ltd., that all the winning cars at Brooklands on Saturday used "Shell" motor spirit.

THE Doherty Motor Components, Ltd., held their annual outing last Saturday, the venue being Stratford-on-Avon. Over forty employees had a very pleasant day. A sports meeting was held in the afternoons and prizes distributed by Councillor J. V. Stevens, J.P., to the winner, of the various races. The evening was given over to harmony.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING THE LIMIT.

On Tuesday the Wokingham magistrates heard a batch of summonses against motorists for driving at excessive speed at Sonning, Wokingham, and other places within the area of their jurisdiction.

At Beaconsfield petty sessions, on Monday, the Earl of Portarlington, of Emo Park, Portarlington, was fined £3 and costs for driving a motor-car beyond the regulation speed on the Bath road, near Taplow, on June 16th. The officer who stopped him said his lordship was most civil; in fact, it was a pleasure to meet him, and that was more than they could say of some motorists.

The following appeared at the Kingston Petty Sessions the other day for exceeding the legal limit: H. Fleck, Tournay Road, Walham Green, fined £5, and 8s. 6d. costs; G. S. Taylor, Horseferry Road, Westminster, £5, and 8s. 6d. costs; G. Jones, Rothschild's Road, London, £5, and 8s. 6d. costs; L. G. Turner, Mitcham Lane, Streatham, £5, and 8s. 6d. costs; S. Hame, Oxford Mansions, Oxford Street, £5, and 8s. 6d. costs; W. Batchelor, of Clarence Street, Kingston, £5 and costs. The following were fined £3 and costs: H. L. Doherty, Kennington Gore, S.W.; A. J. Wainwright, Holland Road, Brixton; F. W. Gorman, Kinnerton Street, Knightsbridge; J. Price, Lower Kennington Lane, S.E.; J. P. Scott, Eaton Mews, South Eaton Square, London; E. Hedeck, Rutland Gate, Kensington; F. Crocker, Chilverton Road, Putney (fined £4); and H. Earons, Claridge's Hotel, Brook Street, W.

At Mortlake Petty Sessions, Henry Anthony, a sergeant of the Army Service Corps, of Government House, Aldershot, has been fined £2 and costs for exceeding the speed limit in Richmond Park with a War Office motor-car on June 21st. General Sir John French was in the car.

DANGEROUS DRIVING.

A fine of £10 and costs has been imposed on a chauffeur at Slough, for driving a motor-car at a speed dangerous to the public. The defendant was a Frenchman named Leon Ostinelli, in the employ of Mr. Arthur Du Cros. The car came collision with a milk cart and the horse was killed.

FURIOUS DRIVING.

At Westminster, on Saturday, George Mauder, of St. Edmund's Terrace, St. John's Wood, was before Mr. Horace Smith, charged with recklessly driving a motor-car and causing injury to Henry Ledger, of Juer Street, Battersea. P.C. Gattling deposed that shortly before one o'clock on Saturday morning he was at Parliament Square. The defendant, driving at a fast rate, went on the wrong side of a refuge and overturned Mr. Ledger, who was riding a bicycle in the direction of Victoria. The witness took the accused to the station, where he expressed sorrow for what had occurred. Mr. Smith said it was a very providential thing that the injured man was not killed outright. He fined defendant £20 for driving the car in a manner dangerous to the public. The fine was paid.

A sequel to an accident which occurred at Lancing in May, whereby a Worthing cyclist, named Jordan, was injured, was heard at the Shoreham Petty Sessions on Monday, before General R. T. Godman and other magistrates, when Mr. Warwick Wright denied driving a motor-car at a speed dangerous to the public along the lower Lancing Road, at Lancing, on May 12th. For the defence Mr. Harker said it was practically certain that if the accident had not occurred nothing would have been heard of the case, and he remarked that the mishap was entirely the fault of the cyclist. After considering their verdict for some little time in private the Chairman stated that the Bench were of opinion the cyclist had contributed to the accident, as he was wandering about the road. But, inasmuch as the driver of the motor-car did not reduce his speed so as to be able to avoid running into the cyclist, the Bench considered he was driving at a speed which was dangerous to the public, and would therefore convict. Defendant was fined £1 and costs (£4 15s. 1d. in all). Mr. Harker asked that the Bench would fix the fine at a guinea, in order that his client might have the chance of appealing at Quarter Sessions, but the Chairman stated that the Bench must adhere to what they had decided.

The Macclesfield magistrates were occupied two hours on Monday in hearing a summons against Gerald Higginbotham, for riding at a dangerous speed and not sounding the horn in Park Lane on June 21st. Mr. Higginbotham on his car and a telegraph messenger on a bicycle collided, and it was alleged by numerous witnesses that the car was driven very fast. Rebutting evidence was given by several witnesses. The magistrates were equally divided for and against a conviction. The case will be retried next Monday.

APPEAL ALLOWED.

Last week, at the Warwick Quarter Sessions, Captain Briggs was successful in appeal, in which he was supported by the Motor Union, against a conviction for driving to the danger of the public at Upton. Mr. Stope, the Motor Union local solicitor, contended before the Justices that the evidence of the police had been exaggerated. Captain Briggs said he saw a constable's helmet through a hedge, and guessed that he was passing a police timing arrangement; he therefore slowed down considerably, and denied that he was driving at a dangerous pace. The two policemen who gave evidence did not make any attempt to stop the car or speak to the occupants. Under cross-examination one of the constables admitted that a man, who was practically blind, further down the road, was really resting on the side of the road, and that a woman with a perambulator had ample time to get on to the path before the car got to the spot. Further evidence was called at the re-hearing in

support of Captain Briggs, with the result that the appeal was allowed and the conviction quashed.

BRAKESMEN ON TRAILERS.

Several firms have recently been prosecuted in the Bury county police district for not employing a man on a trailer behind a motor-vehicle to apply the brake. On Monday Messrs. Beyer, Peacock and Co. defended at the Radcliffe Police Court a charge of this nature. Though they contended that their method of having a man on the front of the motor vehicle was better than having him perched on the trailer behind, fines and costs amounting to about £2 were inflicted.

DRIVING TO THE COMMON DANGER.

At the St. Albans County Sessions, Henry Wilkinson, Kilburn, was charged with an offence under the Motor Car Act. Mr. Arthur Clark, who prosecuted, explained that the proceedings were not taken under Section 9 for exceeding the speed limit; they were taken under Section 1 for driving to the common danger. The alleged offence took place on May 19th last, when the car was driven by the defendant from London Colney in the direction of St. Albans. After hearing evidence Mr. Robinson said it laid upon the prosecution to show that defendant was driving to the danger of the public. But here they had to take the evidence for the prosecution as it stood. Had defendant had the benefit of the quarter of a minute each way that would have reduced the speed to 25 miles an hour. London Road was a broad road, there was not a single cross-road anywhere between London Colney and St. Albans, and at the side there was a footpath. The driver had been three times warned that morning that there were police "traps" about, and Mr. Robinson submitted that knowing this a person would not be likely to exceed the limit. The Bench retired, and on their return the Chairman announced that they held the charge to be "not proven" under Section 1.

PERSONAL ATTENDANCE REQUIRED.

The Earl of Caledon, of Carlton House Terrace, was summoned at Bow Street on Monday for exceeding the ten-mile motor-car limit in the Mall, St. James's Park, on the 23rd ult. The defendant did not appear, and was not represented. In these circumstances the magistrate adjourned the case, and directed the defendant to be served with a summons to attend the court on Monday next.

THE COMMERCIAL VEHICLE TRIAL.

LAST week we gave the first eighteen entries for this trial. The following have since been received:—

Entrant.	Class.	Net Load.	Nature of Vehicle.
19. Darracq-Serpollet Company, Ltd.	Omnibus	C. 30 cwt.	Lorry.
20. Darracq-Serpollet Company, Ltd.	Omnibus	C. 30 cwt.	Van.
21. Darracq-Serpollet Company, Ltd.	Omnibus	D. 40 cwt.	Lorry.
22. Darracq-Serpollet Company, Ltd.	Omnibus	D. 40 cwt.	Char-a-banc.
23. Darracq-Serpollet Company, Ltd.	Omnibus	E. 60 cwt.	Omnibus.
24. Darracq-Serpollet Company, Ltd.	Omnibus	E. 60 cwt.	Lorry.
25. Messrs. Charles Burrell and Sons	H.	120 cwt.	Steam Tractor.
26. St. Pancras Ironwork Company, Ltd.	F.	100 cwt.	Steam Wagon.
27. Wolseley Tool and Motor-Car Co.	E.	60 cwt.	Petrol electric chassis with body.

Entries at ordinary fees close to-day (Saturday) at 12 noon.

The representatives of the R.A.C. on the judges' committee for the trial will be Col. H. C. L. Holden, R.A., F.R.S., Messrs. W. Worby Beaumont, Dugald Clerk, Major T. H. Cochrane, R.E., M.V.O., J. Lyons Sampson, E. A. Cozens-Hardy, A. G. New, and Captain F. E. Dyke-Acland.

It is interesting to learn that the camp, which was a feature of the starting point of the A.C.F. Grand Prix, was equipped by a British firm, Messrs. C. Groom, Ltd., of Leadenhall House, London, E.C., who erected 150 Army bell tents and fitted them with 1,000 bedsteads, mattresses, blankets, washstands, &c.

MESSRS. MARKT AND COMPANY, 6, City Road, Finsbury Square, London, E.C., have issued a new catalogue of their automobile accessories, &c., which will be preserved in many motor establishments for ready reference. The catalogue is based upon the loose leaf system, so that the firm's clients will be able to insert as insets the additional pages which Messrs. Markt and Company will publish from time to time. Among the specialties illustrated are the Jones speedometer, the new Veeder hub odometer, motor horns with grille and tube, the Clarion motor bells, volt and ampere meters, the Royal Flarefront searchlights fitted with the Bausch and Lomb mirrors, securing a powerful and penetrating light. The fronts of these lamps are flared so that more light is shed directly in front of the car. The Washburn pressure gauge recently illustrated in our columns is also described, as well as many motor sundries indispensable to the motorist and the motor agent.

DUST AND THE MOTORIST.

IN a paper read last week before the British Institute of Public Health, Dr. H. S. Hele-Shaw, LL.D., F.R.S., referred to the steps taken by the Roads Improvement Association, the Dust Committee of the Royal Automobile Club, and the National Dustless Roads Association, to grapple with the evil of dusty roads. "Those who read the journals devoted to automobilism," he said, "will be aware how much progress has been made recently in investigating and experimenting on materials for the preservation of the road surface and the prevention of dust. Quite recently very important trials were held on the Staines road, and also of materials themselves for sprinkling on the road. These materials may now be numbered in large quantities, and have quite a vocabulary of their own—those, for instance, treated in the above competitions bearing such names as 'Crepoid,' 'Compo,' 'Ormenite,' 'Hahnite,' 'Pulvicide,' 'Marbit.' These materials for treating the surface of the roads must not be confounded with the processes for constructing the road surface, by which a more permanent surface is obtained, which, though costing more, last as a rule for a considerably longer period. To these also have been attached a number of weird names, as 'Tarmac,' 'Quarrite,' 'Taafalt,' 'Tarlithic,' 'Kleinpflaster,' 'Strongite.' The surveyors of nearly every county, and some city engineers, have been making experiments with the view of the prevention of dust on the roads under their control, and there is every reason for thinking that the dust nuisance will in the immediate future be grappled with in a way that has never been done before. The fact must not be overlooked that the more care and expense that is involved to give a surface of any real value to the macadam road, the more important it is that this surface should not be destroyed by heavy motor vehicles. Speaking at Liverpool before the Incorporated Association of Municipal and County Engineers, on June 20th, the City Engineer of Liverpool (Mr. J. A. Brodie) remarked that 'the ever-increasing use of heavy vehicles for the conveyance of goods along the ordinary roads is in many districts causing road engineers a good deal of anxiety on account of the damage done to their road surfaces, and it appears not unlikely that the provision of satisfactory road surfaces for the conveyance of merchandise may presently form a very important portion of the duties of the municipal and county engineer.' The increase in the motor traffic and the use of traction engines naturally tend to accelerate the destruction of road surfaces, and I have held a strong belief for many years that some substitutes for the ordinary wheel will come into use before long.

I have now strong reasons for believing that such a device is quite practicable, and that it is possible to carry heavy loads at a fairly high speed economically upon ordinary roads, without injury to them. With the ordinary wheel I do not believe that this is possible. Mr. Brodie, in the address above quoted, remarks 'it cannot be doubted that roads so constructed have fairly met the conditions for moderate traffic up to the present time. It is, however, well known that the macadam road is entirely unsuitable for roads carrying really heavy traffic.' He himself only appears to suggest relief from making the roads of more suitable character. It is important to remember that there are two factors to deal with in the road question, viz., the road itself, and the moving thing in contact with it. It is the mutual relation of these two to each other that constitutes the real problem to be grappled with. We have undoubtedly much to learn, but have we done anything during the last few hundred, or let us say thousand, years to improve the wheel, that is, as far as its destructive action on the road is concerned? I am, of course, not alluding to the pneumatic tyre, although the recent extraordinary developments in steel-studded tyres, I think, make the road-destroying properties of the pneumatic tyre in a new state equal to the diagonal bar of a heavy traction engine. We must look to an early answer to the question, can we really modify the wheel under its ordinary conditions of working so as to enable it to carry heavy loads at high speeds, so that it will neither be destroying itself unduly, nor destroy the road in contact with which it works?"

PUBLIC MOTOR SERVICES.

THE Great Eastern Railway Company has twenty-one motor-buses in service in the Eastern counties.

REPRESENTATIVES of various religious bodies in Wandsworth have met to consider the disturbance to Sunday services caused by the noise of motor-buses in particular, and motor traffic in general. They have forwarded a resolution on the subject to the Commissioner of Police.

AT the meeting of the Stretford District Council, a resolution of the Sanitary Committee has been submitted in favour of granting a licence for a month to Mr. W. Stanway, permitting his motor-bus to ply for hire between the boundary of the township in Edge Lane and the boundary in Urmston Lane.

IN connection with the development of Farnham Common, near Burnham Beeches, the Great Western Railway Company have augmented the road motor service to and from that place and the railway station at Slough, while a waiting room has been provided by the Burnham Beeches Estate Company, Limited.

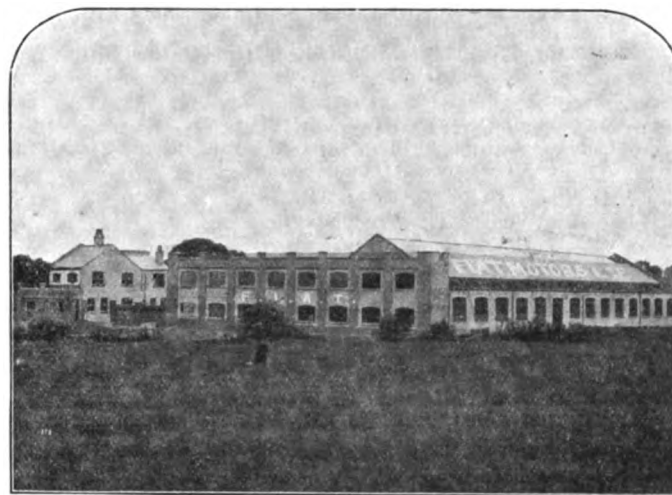
THREE motor char-à-bancs have been bought by a firm at Conway, with the object of running trips to places of interest within a radius of fifty or sixty miles. One of them will confine its service to the loop tour, via Nantfrancon and Bettws-y-Coed.

THE House of Lords has decided that a railway company has no right to carry on the business of an omnibus company. The effect of

this verdict is that the motor-bus service, which has for a considerable time been run by the Mersey Railway Company, must be abandoned. The matter came before the House of Lords on an appeal by the Birkenhead Corporation from a decision of the Court of Appeal. The bus service was started in connection with the company's trains, and the buses were run at a six minutes' interval, but besides carrying railway passengers they took ordinary travellers, picking up and setting down at any point on the route. The company's special Act contains no power to carry on the business of an omnibus company, and the local corporation, who own a system of tramways as well as the Mersey Ferry, brought an action to restrain the company from continuing to run the buses. Mr. Justice Warrington held that a motor-bus service was ultra vires, and granted an injunction. The Court of Appeal, while agreeing with the learned judge, thought that if the company gave an undertaking to run buses for the sole purpose of carrying passengers to and from the station, the buses could be brought within their contention that it was incidental to their business of a railway. The undertaking was given to the satisfaction of the Court, but the corporation were not satisfied and carried the matter to their lordships' house. The Lord Chancellor said he thought the case was covered by the Attorney General v. London County Council—the case of the halfpenny buses across the London bridges. It seemed to him that the decision of Mr. Justice Warrington was perfectly right, and must be restored. The other noble and learned lords concurred. The appeal was therefore allowed with costs.

ROAD REPORTS.

AVOIDING BRENTFORD.—A correspondent, recognising the difficulty of widening the High Street, Brentford, advises motorists to avoid the place as far as possible. "A glance at the map of Middlesex," he says, "shows that the road to Windsor—practically the only road—is



The Fiat Company's New Factory at Wembley.

linked up at Hounslow with the southern of the two western arteries, whereas the logical continuation of what, in this instance, is more than ordinarily the King's highway, should be through Heston to Hanwell. If a junction were effected between the Bath road, just before it emerges at the western end of Hounslow, and the main Oxford Street or Uxbridge road route, one half of the problem would be solved. The Uxbridge road runs due west through Acton to Southall, then takes a north-westerly direction.

FLIXTON.—The Flixton Parochial Committee have agreed to widen the Carrington road, leading up to the new bridge over the Mersey between Flixton and Carrington, at a cost not exceeding £900.

A SUGGESTION.—Mr. Arthur Pimm, of 76, Stoke Road, Guildford, continues his "circular-plan" of educating the British public with regard to dustless, dirtless, permanent roads. His latest pamphlet advocates that, to meet the growing motor traffic, we should "abolish the use of natural stone and form a better shape of road with harder material, especially iron for wheel tracks."

BATTLE.—The Surveyor of Battle Rural District Council has been instructed by that authority to report as to the necessity of providing a danger sign at Henley Down Corner, Catsfield.

DROITWICH.—The town council are arranging for large notice boards requesting motorists to drive slowly through the town, fast driving being dangerous to the many invalids using the roads in chairs and pony carriages.

"THE Motor House," of Euston Road, N.W., have bought the whole of the assets of the Edinburgh and District Motor Omnibus Company, including thirteen chassis, and valued at approximately £11,000. This deal was followed up two days later by a purchase of fourteen 45-50-h.p. Leon Bollees, fitted with handsome bodies.

FORTHCOMING EVENTS.

JULY.

13th (Sat.).—Entries for R.A.C. commercial vehicle trials close at ordinary fees.

Motor Cycling Club hill climb.

Aero Club ascent, Crystal Palace.

Speed trials of the Lincolnshire A.C. at Grimthorpe.

Meet of the Cheshire A.C. at Plas Newydd, Llangollen.

Sheffield A.C. outing for crippled children.

Meet of the Bristol and Gloucestershire A.C. at Badminton Park.

Essex, M.C. open race meeting for the Du Cros trophy.

West Surrey A.C. picnic at Thursley, preceded by (weather permitting) dust competition.

The Leicestershire Automobile Club will meet at Ashleigh, Knighton, by invitation of Sir Herbert and Lady Marshall.

15th to 18th.—The annual automobile meeting at Ostend.

20th (Sat.).—Motor Union meet at Southport. Reception at Knowsley (fourteen miles distant) by the Earl of Derby, K.G., at 3 p.m.; dinner at the Prince of Wales' Hotel, Southport, at 7.30 p.m.

Ladies' A.C. meet at Bookham, Churt.

Newcastle M.C.C. speed-judging contest.

Wolverhampton A.C.'s r-liability trial.

23rd (Tu.).—R.A.C. Dust Trials on the Brooklands track, commencing at 11 a.m.

25th (Th.).—Circuit des Ardennes race under German A.C. rules.

26th (F.).—Coupe de Liedekerke race for touring cars, on the Ardennes course.

Circuit des Ardennes Race under Belgian A.C. rules.

26th & 27th.—Auto C.C. twenty-four hours' ride to Plymouth and back.

27th (Sat.).—Aston hill climb of the Hertfordshire County A.C.

Irish A.C. hill climb.

Motor-Yacht Club eliminating trial for the British International Cup Race.

AUGUST.

19th to 24th.—Auto Cycle Club's six days' trial.

20th.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

9th.—Industrial Vehicle Trials commence.

OCTOBER.

19th.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

Cordingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

July 13th—9.12	...	15th—9.11	...	17th—9.8	...	19th—9.6
„ 14th—9.12	...	16th—9.10	...	18th—9.7	...	20th—9.5

In Glasgow the lighting up time to-day (Sat.) is 9.57 p.m., and to ascertain the approximate times on succeeding days 45 min. should be added to the above figures; in Birmingham an addition of about 13 min. is necessary.

AUTOMOBILE ACCIDENTS.

A TERRIBLE motor-car accident has occurred near Leicester, on the main road to Narborough, resulting in the death of one person and severe injury to two others. The car was owned by Mr. Harry Oliver, who took two young men, named Isaac Gilbert and Walter Higginson, for a drive. During the return journey late at night the party were taking a sharp turn in the road, when they suddenly saw a bicycle light on the wrong side of the road. The hooter was sounded, but as the car was going down hill, the speed was only slightly checked. As both cycle and motor-car were nearing each other they changed their direction. The brake of the motor-car was rammed on suddenly to avoid a collision, if possible, but this caused one of the wheels to come off, and the car turned over into the hedge. Gilbert was thrown forward with great violence, and the overturned motor-car fell on him, killing him instantly. Higginson was also thrown out on to his head and rendered unconscious, and he is in a serious condition. Mr. Oliver, the owner and driver of the car, was also thrown out, but he had a very fortunate escape from injury.

A MOTOR accident occurred at midnight on Monday on the main London road at S'aines. A motor-car was being driven by Henry Rump in the direction of Virginia Water, when it collided with a cart, smashing it to matchwood. The driver was thrown out and badly injured about the legs. The steering gear of the car was damaged, and it crashed through an iron railing surrounding the Metropolitan Water Board's reservoir, twisting it into a shapeless mass.

A MOTOR-CAR, hired for a London touring party by Mr. Hexton, ran into a train at a level crossing on the Isle of Wight Central Railway, between Newport and Cowes, on Sunday night. The car was smashed, and a lady occupant of the car sustained concussion and other injuries. Mr. Hexton's son was also slightly hurt.

LORD MILNER, who is staying at Sandhurst, Kent, has narrowly escaped serious injury while motoring. His lordship was being driven through the country around Sandhurst when some defect developed, and the car, which was passing through a narrow lane at the time, ran into the bank by the side of the road. Lord Milner escaped with nothing worse than a shaking.

SOME excitement was caused in Leicester Square, London, on Saturday night by a motor-car suddenly bursting into flames. The chauffeur and his fare escaped injury by jumping out, and the fire brigade were summoned, the prompt arrival of a couple of escapes causing some amusement. The firemen put out the flames with chemical extinguishers, but the car was practically destroyed.

A FOUR-CYLINDER F.I.A.T. car, containing Mr. Cousins (the owner), Mr. Christian, Mr. Jackson, and a chauffeur, met with a serious mishap on Hindhead on Sunday. Running along the Portsmouth road, the party had just passed the Royal Huts Hotel when the car left the road, ran into a ditch, and then crashed into a telephone-pole. Mr. Cousins and the chauffeur luckily escaped serious injury, but Mr. Christian was removed to Haslemere Cottage Hospital, where he lies with three ribs broken and his head hurt. Mr. Jackson was removed to the Royal Huts Hotel with his head badly injured.

CLAIM AGAINST A CORPORATION.

A CASE of importance to motorists has been heard at the Preston County Court, when Judge Hamilton awarded Frederick Sharples and Henry Charnley, of Blackburn, £35 damages against the Preston Corporation for damages caused to a motor-car through collision with an electric tramcar. During a block in the traffic in Church Street a tramcar ran into the motor-car, which had been brought to a standstill, the accident, it was alleged, being due to negligent driving by a Corporation employee.

POLICE TRAPS.

MANY police traps have lately been notified in the county of Dumbarton.

SEVERAL police traps have lately been reported in the Esher district.

THE number of police traps in Essex continues to increase; especial care should be taken when passing through Coggeshall.

THERE is a police trap at Wistaston, the victims of which are sent to the Crewe Court.

A POLICE trap in West Hill Wandsworth, has been in active operation this week. It is between Wandsworth main street and Wimbledon Common.

BUSINESS NEWS.

THE Singer car which won the Rover Cup in the M.C.C. competition was fitted with "Castle" accumulators and coil and L.M. sparking plugs, for which the United Motor Industries, Ltd., are agents.

DUNLOP tyres were fitted to the winning Mercedes car in the Montagu cup race at Brooklands on Saturday, also to the winning Napier in the Marcel Renault plate, to the winning Darracq in the Horsley plate, and to the winning Darracq in the Stephenson plate.

MESSRS. MORS (ENGLAND), LIMITED, have sent us a copy of a booklet they have issued, entitled "The Story of a Long Drive," giving a description with illustrations of a 20,000 kilometre tour of France, accomplished by three 17-h.p. Mors cars shod with Falconnet-Perodeau tyres.

FROM Ariel Motors (1906), Ltd., comes a copy of the new catalogue of Ariel-Simplex cars they have just issued. Three sizes of four-cylinder vehicles and an equal number of six-cylinder cars are being turned out, full particulars and illustrations of which are given in the list, together with some useful instructions for the efficient maintenance of these vehicles.

MESSRS. JAMES BUCHANAN AND WILSON, of 47-51, Stockwell Street, Glasgow, have been appointed sole wholesale agents for the whole of Scotland for Messrs. Avery and Roberts's well-known specialities, the Auto adjustable box spanner, Auto vice, and Auto nut pliers.

THE Stepney spare wheel continues to make friends wherever it is used. Lord Amphil, writing from Mitton Ernest Hall, Bedford, says:—"I have no hesitation in saying that I consider the Stepney spare wheel invaluable. I have had occasion to use mine on some half-dozen occasions, with the result that great inconvenience and delay were avoided. There was no difficulty about adjusting the wheel in three or four minutes on each occasion, and after it had been fixed there was no appreciable difference in the running of the car."

THE LONDON AND PARISIAN MOTOR COMPANY, LTD., have sent us a photograph of the six-cylinder Hotchkiss car which Captain Corbet drove straight through in the day, on Saturday, the 22nd ult., from London to Hopetoun House, the residence of the Marquis of Linlithgow, fourteen miles beyond Edinburgh, a total distance of 409 miles. Stops were made at Doncaster for breakfast, at Northallerton to fill up with petrol, at Berwick for tea, and Edinburgh, which was reached at five minutes past eight. On the following Monday the car was driven from Hopetoun House to Glasgow, in order to take part in the Scottish Reliability Trials, in which it was the only vehicle in its class to go through with an absolute non-stop run.

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COMMENTS.

Legislative Matters.

SOMEWHAT unexpectedly the Lights on Vehicles Bill passed its third reading in the House of Commons on Friday week, and is now on its way to the House of Lords. The main provisions are familiar to regular readers of the *M.C.J.*, but at the last moment two new points were added, one of which illustrates the danger of the hasty consideration of important measures. A new clause now appears in the Bill exempting from the operation of the Act, when it comes into force, any vehicle carrying farm produce to stack or barn during the months of August, September and October. Evidence of the influence of the agricultural interests is seen in the acceptance of such a proposal by Major Renton, M.P. Our Scottish and Irish readers, however, will be glad to know that the provisions of the Bill are to be extended to their respective areas. Another matter of Parliamentary concern was Earl Russell's interrogation of the Government on Tuesday with regard to their inclusion of the Motor Car Act in the list of statutes to be revised. He took advantage of the occasion to deprecate the Chancellor of the Exchequer's proposed further inroad into the pockets of motorists, and also denounced police traps as ridiculous and unnecessary, two points which were emphasised by Lord Montagu. Lord Allendale on behalf of the Government replied that they did not intend to continue indefinitely the practice of keeping the Motor Act alive by means of the Expiring Laws Continuance Bill. The most important question raised in the report of the Commission was that of the speed limit, which was the crux of the whole matter, and it behoved the Government to walk warily. Existing legislation would therefore be continued in the Expiring Laws Continuance Bill. We agree with his lordship that the delay might not be regrettable in view of the fact that the industry was a new one, but cannot help wondering why the Marquis of Londonderry should have joined in the debate at the last moment to suggest a tax on cars, graduated according to their horse-power.

The World's Record.

THE certificate of the official time-keeper to the R.A.C. in connection with the twenty-four hours' record made on the 29th ult. by Mr. S. F. Edge on a six-cylinder Napier car has just been issued. It confirms the accuracy of the hour by hour times given on page 419 of our issue of the 6th inst., and certifies that in the course of the long run he made the following records:—50 miles in 42' min. 46 2-5 sec.; 100 miles in 1 h. 25 min. 13 2-5 sec.; 799 miles 1,600 yards in twelve hours; 1,000 miles in 14 h. 54 min. 15 2-5 sec.; 1,581 miles 1,310 yards in twenty-four hours. In celebration of the twenty-four hours' ride a dinner was held in London on Monday, when Mr. S. F. Edge presented souvenirs of the record to those who drove the other cars on the track at the time, and also to his mechanic, J. Blackburn, who accompanied him throughout the run. Lieutenant-Colonel Mayhew then handed Mr. Edge a silver plaque upon which was a representation of the famous motorist and his car. In reply Mr. Edge made an interesting speech, thanking all who had assisted him on the eventful journey, promising that his cars should take a prominent

part in international races next year, and enlarging upon the conditions of the industry in Italy.

Dust on Roads.

IN his annual report to the Essex County Surveyor, Mr. P. J. Sheldon, who was the first county surveyor in this country to use a motor-car in the performance of his public duties, draws attention to a point in connection with the solution of the dust problem that has not been greatly considered hitherto. He says he coated about ten miles of roads with tar with satisfactory results as regards dust prevention and surface preservation. In his view, the only drawback to impervious road surfaces, and one too little considered by enthusiasts desirous of reforming road administration, is that the nature of the dust will be entirely altered, and from being comparatively of a harmless character, as on a macadamised road, it will consist mainly of pulverised horse manure with a percentage of dried or absorbed human sputum. This can be dealt with in towns where there is an expensive system of orderlies constantly attending to the streets, but is quite impracticable elsewhere. The ultimate solution of the dust problem lies rather with the manufacturers of motor-cars and their users than with altered road surfaces, and the sooner this is recognised by the legislature the quicker will relief be afforded to those who live upon main roads outside urban areas.

Next Week's Trial.

ON Tuesday next some important dust trials will take place on the Brooklands Track under the auspices of the R.A.C., and, should the weather be favourable, important results are hoped for by those responsible. The tests will be divided into three classes, one being for makers' standard cars, another for amateurs' cars (this taking the form of an interclub competition limited to two cars from each organisation entering), and experimental cars which have been specially altered or added to in any way for the purpose of lessening the dust raised. In the first class ordinary pneumatic tyres must be used without non-skid bands. It is suggested that some makers will also enter their vehicles in the third class, fitting them with other tyres or with non-skid bands or with other types of wheels, so that some comparative results may be arrived at. It is intended that vehicles shall be run at twenty and also at thirty miles per hour over a layer of dust, and that the vehicle will be photographed at each test so as to ensure accuracy of comparison. No such important trials have taken place since those held at the Crystal Palace some few years ago, and the public will not fail to recognise the efforts made by motorists to satisfactorily deal with one of the most troublesome problems now attaching to motoring.

Two Charges Dismissed.

CONGRATULATIONS are extended to Mr. Gerald Higginbotham, of Macclesfield, on the dismissal of the cases against him at the local courts. On the first hearing there was a disagreement among the magistrates, and the matter was re-tried on Monday. Mr. Higginbotham was charged with driving his car at a dangerous speed, and failing to sound his horn. In the course of the evidence, it transpired that the motorist came

into collision with a telegraph boy on a bicycle. In swerving in order to avoid the lad he crashed into a lamppost, smashing it in two. On the other hand, it was shown that the accident was due to the carelessness of the boy, and in the end both cases were dismissed. Mr. Higginbotham was fortunate in not having to appear before a southern bench.

The Ladies' Club.

IN the new motor house of the R.A.C. space is being reserved for the cars of members of the Ladies' A.C., which is within five minutes' drive of the new place in Brick Street, W. This portion of the establishment is now open to members of the Ladies' Club upon the same terms as to the members of the Royal Club. Arrangements have also been made so that in the event of the reserved space being fully occupied by members' cars, and there being space elsewhere in the garage, the cars of the ladies may be allowed to stand there—a concession likely to be appreciated by the members of the Ladies' A.C., one of the most flourishing and prosperous of the ladies' clubs of London.



Carmen Sylva, the Queen of Roumania, in her W.A.G. Car at the Municipal Orphans' Home in Bucharest. [*Allgemeine Automobil Zeitung, Berlin.*]

Brooklands.

REMONSTRANCE with the management of the Brooklands track as to their attitude towards the Press has been fairly general, and what we have already written on the matter has met with general endorsement. A relaxation of the regulations with regard to the public has already taken place, and will be observable at the meet to-day (Saturday), the programme of which appeared in the *M.C.J.* of the 6th inst. We understand that access to the car enclosure will be obtained free from any enclosure at any time during the afternoon. Motorists will thus be enabled to meet friends there without difficulty. Cars entering the grounds will proceed to the vehicle enclosure by the same road as heretofore, but a separate exit has been provided in order to avoid the steep hill by the entrance gates. Free passage will be permitted from any enclosure to a cheaper one. Not only members of the club, but visitors also in the £1 enclosures will be allowed to circulate in the paddock between the races. In order that the race officials may carry out their functions expeditiously and with satisfaction to the competitors, it is requested that visitors to the paddock will kindly refrain from crowding round the marshalling line. Evidently things will be made right in time; but there need not be too long a wait for that happy period.

General Booth's Fourth Tour.

THERE was a novelty about the first motor-car tour undertaken by General Booth in the interests of the Salvation Army. Now these journeys have become almost an annual event. On Monday the forty-second anniversary of the foundation of the Salvation Army was celebrated at the Crystal Palace. Following a demonstration in the central transept, the General virtually commenced his "motor campaign," leaving the grounds of the Palace in the evening in a torchlight procession, and proceeding to his home at High Barnet. He started with five motor-cars on Tuesday morning, the first halt being made at Ware. The trip will last a month, during which period from seventy-five to one hundred places will be visited, at each of which meetings will be addressed. The General hopes to be able to give, on an average, four addresses a day, finishing up at the Dome in Brighton on August 16th. The towns visited will be mainly those urban centres in Lancashire, Yorkshire and Wales which he has been unable to touch in his previous motor journeyings.

Road Signs.

THE fact that nearly 10,000 sign posts, denoting dangerous corners, precipitous places, cross roads, and other points of danger on the great highways of the country have been put up under the Motor Car Act of 1903, will, we imagine, be news to most people. That it is so, however, is fairly certain, for the information is given on the authority of Mr. Burns, President of the Local Government Board. The counties that have been most active in this work are Berkshire, Hertfordshire, Lancashire, Northumberland, Surrey, East and West Sussex, Essex, and Kent; the latter heading the list with no fewer than 655 such posts. Surprise will, doubtless, be expressed that Somerset, Derbyshire, the Holland division of Lincolnshire, Norfolk, and Monmouth should be reported as not having yet put up warning signs. The fact, however, that 9,025 are set up will give something of confidence to those who are in the habit of frequently using the roads, for the good work is being hastened forward.

Motor-cars in London.

IN July, 1906, the London County Council authorised application being made to the Local Government Board for an additional index-mark in connection with the registration of motor-cars, the limit of four figures under the marks "A" and "LC" having been reached. The Board assigned "LN," but as the available numbers thereunder are now rapidly becoming exhausted it has become necessary to make application to the Board for a further index-mark, and the Public Control Committee recommend that it should be "LB." During the month of June last applications were received by the Council for the registration of 648 motor-cars, 56 heavy motor-cars, and 154 motor-cycles, bringing the total number of these vehicles registered up to 15,959, 1,527, and 7,460 respectively. The number of licences to drive motor-cars and motor-cycles issued during the month was 2,235, bringing the total number up to 58,052.

Motor-car Imports and Exports.

THE returns just issued relating to the importation of foreign motor-cars and parts into the United Kingdom during June last show a decrease as regards complete cars and an increase in parts, in which chassis are comprised. The number of complete vehicles which reached this country last month was 400, their value being given as £187,831. Parts were responsible for an additional £214,181, which gives a total of £402,012, as against £388,987 in the corresponding month of last year. For the first six months of the current year the figures are:—Number of cars imported, 2,801; value of same,

£1,172,557; imports of motor parts, £1,316,345; total, £2,488,902. For the similar period of 1906 they were:—3,217 cars of a value of £1,299,262; parts, £1,010,819; total, £2,310,081. Turning to the exports of British motor-cars and parts, these continue to show a steady expansion. The number of vehicles shipped during the six months ending with June last was 886, of a value of £326,476; to this have to be added parts estimated at £246,730, which gives a combined total of £583,706, as contrasted with only £304,108 in the corresponding half of 1906.

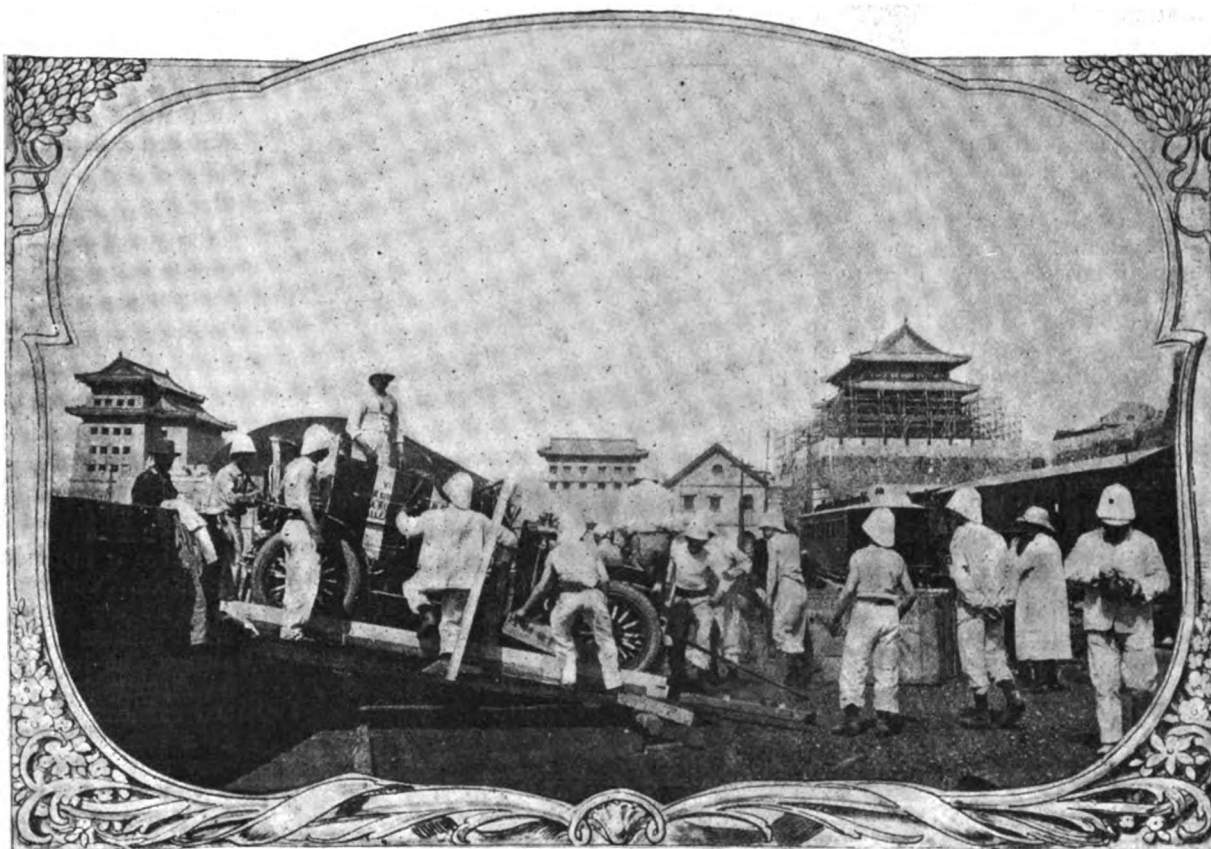
Touring in Germany.

At present any person before taking a motor-car to Germany has to obtain the authentication of the Home Secretary and a German Consulate of the entry in the British registering authority's list relating to the car and of the driver's licence—a process which involves delay. The German Consul-General has now expressed his willingness to authenticate such

he advises the names of the destinations should be painted legibly above the driver, so that they may be read from the side walk as well as from the roadway in front of the vehicle—a suggestion which, if acted upon, would be to the convenience of the public. From the police courts comes another proposal of value and interest to the effect that motor-buses should be provided with speed indicators for the guidance of the drivers, who are now liable to be summoned for exceeding the legal speed, and yet who have nothing with which to assist their mental estimates. The point has been raised before, but has not yet been acted upon.

North Wales.

MOTORISTS, in common with others on holiday bent, have been searching for fine weather. According to Mr. A. T. Storey, they should have a fair chance of meeting some in North Wales, where the climate is as varied as the scenery. A Guide to the half-dozen counties comprised within that title



The Paris-Pekin Race.—Unloading the Spyker Car at Peking.

documents without further formality if they bear the seal of the registering authority and are signed, and the Home Secretary concurs in the proposal. It is proposed, therefore, by the Public Control Committee of the London County Council that in future licences to drive motor-cars, and copies of entries in the register of motor-cars, be stamped with a representation of the Council's seal. Doubtless other authorities throughout the country will adopt a similar procedure.

Motor 'Bus Suggestions.

MR. J. BROWN, of Belfast, one of the best known of Irish motorists, suggests that the motor-'bus companies in London should guard their vehicles from the confusion associated with the names of the stations on the railway. He points out that the words "Vanguard," "Union Jack," &c., convey little or no meaning to the man from the provinces, whose desire is to avoid mounting the wrong 'bus. To prevent such a contretemps

has just been issued by Messrs. Methuen and Co., and special attention seems to have been given the roads of the northern part of the Principality. The district is well provided in this respect, and, apart from the great main arteries, the country is traversed in every direction by branch roads and mountain byways. There is the great western road from Shrewsbury to Holyhead, and at right angles are two important roads running on either side of the Conway. Bangor is a good point from which to make excursions into and about Anglesey, which has one good highroad, that to Holyhead, running through Gwalchmai Valley. The way from Chester to Conway and Bangor has many ups and downs, and at the chief towns *en route* are roads opening inland to spots of exceptional interest or beauty.

THE Hertfordshire County Council is applying to the L.G.B. for the limitation of the speed of motor-cars through Watford to ten miles an hour.

SOME FACTS ABOUT VALVES.

ABOUT the first job an amateur motorist indulges in is the grinding in of an exhaust valve, and the quantity of energy and emery so employed may be good for the liver and makers of emery powder, and probably much more so than for the engine. It is so easily carried out, and when it is done there is the satisfied feeling that the compression is good; it is, however, just as well to recollect that emery is not a lubricant, and neither a good application for valve guides nor piston rings. Of course valves do occasionally want grinding in, and for this purpose Davies' 220 corn emery or Richford's grinding compound can be employed, and if, after the operation is ended, all remains of the substance is washed away with a little paraffin no harm results. The inlet valve and its seat can usually be removed together, but the seat of the exhaust valve, as a rule, is part of the combustion chamber, and thus the exhaust has to be ground *in situ*, generally through the inlet valve box opening. The top of the exhaust valve has either a tapped hole so that a tool provided for this purpose can be screwed in, or a groove is cut so that a screwdriver can be employed. To perform the operation, dab with a clean finger a little emery rubbed into a paste with linseed oil, or some of the prepared compound, on the seat, then lower the valve into position and with the tool or a screwdriver slowly twist it first one way and then the other, keeping the valve well pressed down. After doing this some dozen or so times wipe away the emery and replace it by a drop of oil and repeat the movements; then wipe with a paraffin rag the valve and its seat, and notice if a clean ring has been obtained on both without any depressions; if so, the job is done, and by marking the seat with a little chalk, and replacing and twisting the valve when dead home, its perfect fit can be demonstrated.

When the valve is home there should be just room to insert a piece of cigarette paper between the valve stem end and the valve lifter; this will allow for the expansion due to heat. If, as a result of much grinding, the valve seats a little lower, then either the stem or lifter must be adjusted so that there is such a gap between the two, otherwise when running, as a result of heat expansion, trouble will ensue owing to the valve not closing properly, with consequent loss of compression and power. In cars with mechanically-operated inlet valves the same care must be exercised. When seeing to the valves it is as well to notice that the spindles work easily in the guides. A little graphite is a useful application to the spindles, being a good lubricant unaffected by heat. If, as a result of wear, the spindle has too much play in its guide, the lifter may catch, bend, and be thrown out, with the consequence that the engine is no longer capable of "pulling." It is wise to carry a spare valve guide and lifter, because a bent one requires a blacksmith's fire to straighten, and these accidents do not, as a rule, occur outside a forge. Worn

guides can be used again by getting them rebored a shade larger and fitting new lifters with a spindle turned up a little larger so as just to fit the rebored guide.

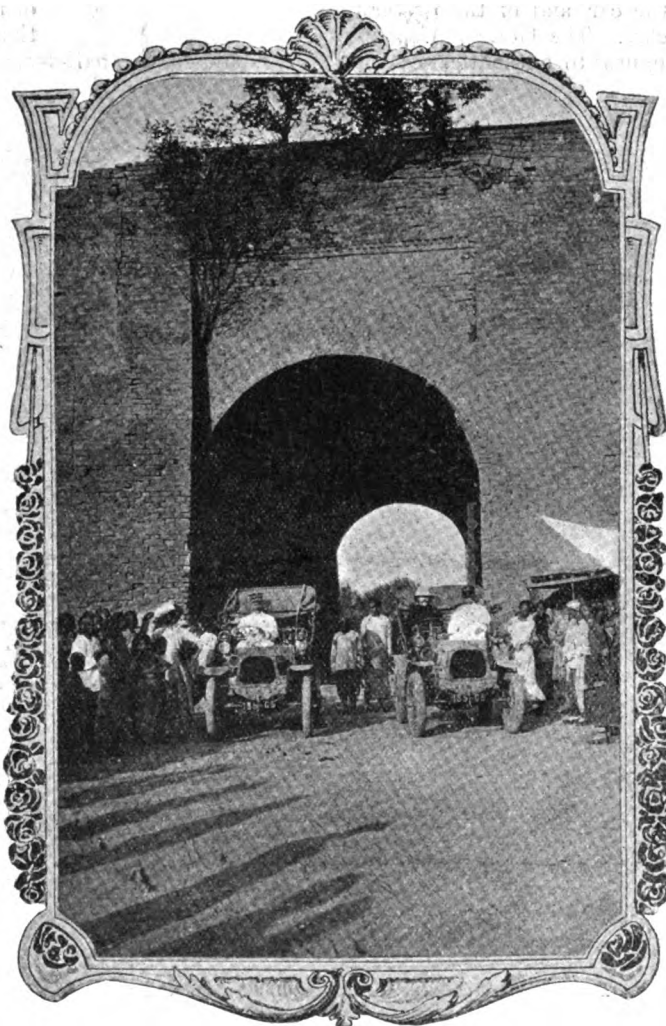
Most valves are now machined from hammered forgings, and are thus not so apt to fracture at the neck as the older kind, which were made from the bar. When they do break just near the mushroom the result is interesting, but the accident is pregnant with dire possible complications. The mushroom may, if luck is in one's way, break up, and find its way along the exhaust, and its remains be ultimately discovered when the silencer has its spring cleaning. This, unfortunately, is not the general termination; instead, the mushroom has a trial of strength with the piston, which, being a casting, gets the worst of it, with the effect that on the post mortem table a cracked piston is found and a lump of metal with many flats on it which once

upon a time, though its altered state renders it incredible, was the head of a well-behaved valve. Occasionally, as a result of heat and burnt oil, the inlet valve seating is fixed; paraffin and patience will effect its release, and this may be hurried up by placing a cloth over the hole and, with the ignition current switched off, pulling the engine round. The inlet valve seating is in some cars coned so as to make a gas-tight joint with the combustion head, in other cases a copper asbestos ring is used for this purpose; failing such a ring a grommet made of asbestos cord rubbed up with red lead answers.

A rather common source of loss of power is wear of the exhaust cams, with consequent diminution in the lift of the valve and thus throttling of the engine, the exploded mixture being not all got rid of and therefore a full new charge not admitted. The remedy for this is to fit new cams. Spare inlet and exhaust springs should always be carried, as they occasionally break; in addition, the exhaust ones may suddenly, as a result of the great heat they are subjected to, become weak and so not keep the exhaust valve down, and to have to ask for a tow for so simple a cause is exasperating. The inlet valve is kept up by its spring, which bears against a cap, a cotter pin passed through the spindle keeping the latter in position. Occasionally the cotter breaks, and, failing

another, a thick split pin makes a good makeshift to carry one home.

CHARLES T. W. HIRSCH.

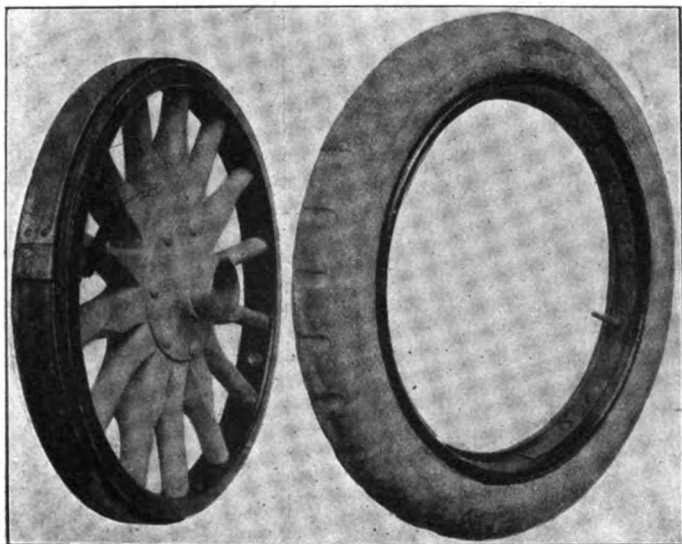


The Paris-Peking Race.—The two De Dion Cars at the Ten Chang Man Gate, Peking.

THE roads on Vancouver Island, British Columbia, are well adapted for motoring, the soil being generally gravel and rocks, the heaviest rains not leaving standing water thereon, but drying up with great rapidity. While three years ago only one or two cars were owned in Victoria, B.C., and two years ago there were not twenty, now there are over 100 in the town; and a correspondent writes that, in view of the growing demand, British manufacturers of motor vehicles should give special attention to Victoria, Nanaimo, and other places on Vancouver Island.

THE DUNLOP DETACHABLE RIM.

WE illustrate herewith, in Figs. 1, 2, and 3, the new detachable rim which has just been introduced by the Dunlop Pneumatic Tyre Company, Ltd. It has been known for some time that the Dunlop people were at work on such a device, and the one they have produced is noteworthy not only for the ease of attachment and detachment but for its great simplicity. As will be seen from the photos reproduced herewith, there are no loose parts connected with the arrangement; the components comprise simply the rim carrying the inflated tyre (Fig. 2), the wheel (Fig. 1), and the key (shown at the top of Fig. 3), used to lock the rim on the wheel. Both the wheel and the rim have four driving pieces X, so placed that the two fit as one, precisely as though they were dove-tailed into each other. The locking member consists of a wide U-shaped ring A of spring steel, of a size to envelope the under and side surfaces of the felloe. This ring is split, the two ends being connected at each side by an adjustable link B, which, when moved to the proper position, pushes apart the two ends of the ring, causing it to expand to an abnormal diameter. The link holds the two ends apart, but when this is released the rim regains its normal circumference, which is smaller than that of the tyre rim, and the latter can then be removed altogether by a pull forward,



Figs. 1 and 2.—Views of Wheel and Tyre Rims.

care being taken so to tilt the rim that it clears the hole in the wheel. When fitting a new tyre it is only necessary to reverse the process, using the key to expand the loose ring. A flange is thus formed on each side of the wheel, which prevents any lateral or rolling movement of the tyre and its rim, which cannot take any circular movement, being dove-tailed to the wheel rim proper. The expanding ring, it should be understood, is put on the wheel prior to its being finally built up, the spokes penetrating its under surface, the holes for the latter having sufficient clearance to allow for the movement in the expansion of the locking ring. As already mentioned, only one tool is necessary to manipulate the new rim—the key, which fits over the locking-bar of the link. This, as will be seen, has been given a handle of adequate length, so that it can be operated quite easily. The new device has had a very lengthy trial ere being finally adopted; and some idea of its utility in lessening the delay and trouble caused by punctures may be gathered from the fact that in a recent demonstration a tyre and its rim were detached and replaced in $7\frac{1}{2}$ sec., so that the Dunlop Company are well within their claims in stating that the rims could, if necessary, be changed seven times in a minute.

THE examination for driving certificates held by the R.A.C. at Chichester was a great success.

CONTINENTAL NOTES.

International Motor-Racing Rules.

An important conference of representatives of the recognised national automobile clubs was held in Ostend on Sunday last to discuss the question of the unification of the rules and regulations with regard to important international road races, such as the Targa Florio, Kaiser's Prize, and the A.C.F. Grand Prix, each of which have been run on a different basis, necessitating special vehicles for each event. Delegates were present on behalf of England, France, Belgium, Spain, Germany, Austria, Hungary, Holland, and Italy, and, the principle of a maximum bore and minimum weight having been decided upon, the English representatives proposed a limit of 152 mm. cylinder diameter, the French 160 mm., and Germany 135 mm. After a lengthy discussion it was unanimously agreed that the regulations for all high-speed road races should in future be on the basis of a maximum cylinder bore for four-cylinder cars of 155 mm. and a minimum car weight of 1,100 kilos, such weight being without passengers, water, or spare parts, but with lubricating oil and petrol. The matter of fixing the equivalents to be allowed to six and eight cylinder vehicles was referred to a

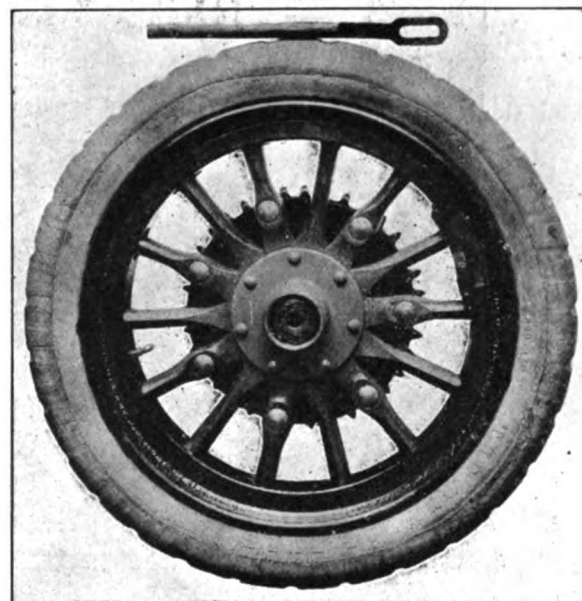


Fig. 3.—View of complete Wheel and Tyre, together with the only tool required.

technical committee. The next Congress is to be held in Paris in November next.

The Scheveningen Automobile Week.

The annual automobile meeting at Scheveningen, the well-known Dutch seaside resort, has been held during the past week. The meeting opened on the 8th inst. with a carriage body competition, the first prizes in the three classes falling to two Fiats and a Spyker. On the 9th inst. there was a fuel consumption trial from Scheveningen to Haarlem and back for single-cylinder cars, which was won by a locally-built car known as the V.L.A.M. This was followed by a tyre-changing contest and a procession of ancient and modern cars, in which great interest was shown, the vehicles in line ranging from an 1896 German Daimler to a 1907 30-h.p. Beeston-Humber. Wednesday, the 10th inst., was devoted to a reliability run from Scheveningen to Daal and back, a distance of 94 kilometres, the announcement of the result of which was postponed. Thursday was set apart for a series of kilometre speed trials, the cars being divided into categories on a cylinder bore basis, and a flying kilometre handicap. There were ten events, five of which were won by Spyker cars, one of which also secured the Scheveningen gold cup. This event was also over a kilometre, and a 15-20-h.p. Spyker, which received

260 metres, did the distance in 49 3-5 sec., a 50-h.p. Opel being second, from scratch, in 50 4-5 sec., and a Fiat (233 metres start) third in 53 3-5 sec. Hoboken, on a 90-h.p. Mercedes, won the heavy car class in 49 2-5 sec. The meeting was brought to a close on Friday, the 12th inst., with a procession of decorated cars and a flower fete.

The Belgium Criterium and Speed Trials.

Spa was on fête on Friday last week, when the weighing-in of the cars entered for the Belgium Criterium took place. On the following morning about thirty-five cars set out for the first stage of the contest—to Ostend, a distance of 274 kilometres. This was safely reached by practically all the competitors after a stop for lunch at Malines. The first of the series of speed trials at Ostend was run off on Monday. There were categories for touring and racing vehicles, the tests being over a distance

Martin-Lethimonnier, three Regina, a M.R.G., a Brillie, a Rebour, a Charron, and an Argyll—the latter being the only British competitor. The cars must be fitted with four-seated side-entrance bodies, and be of a total minimum weight of 1,650 kilog., including the passengers or equivalent ballast. The contest starts on August 2nd with a run from Paris to Clermont Ferrand; on August 3rd the journey is from Clermont to Bordeaux; on August 4th to Nantes; and on August 5th to Trouville. The daily distance is about 250 miles, which is to be covered at an average speed of twenty-five miles per hour. Those competitors who successfully go through the four days' reliability trial will qualify for the speed contest, which is to be held on August 6th on a 78.5 kilometre circuit near Trouville, which, starting and finishing at Lisieux, passes through Pont l'Eveque, Cormeilles, Lieurey and les Quatres-Routes, this having to be covered five times to give a total distance 392½ kilometres. This



The Belgian Criterium.—The Cars preparing to leave Spa.

of five kilometres from a standing start. Owing to the large number of entries and to the late start, the times made by the different competitors are not available at the time of going to press.

The Criterium de France and the Coupe de la Presse.

Preparations are now actively in hand for the Criterium de France and the Coupe de la Presse contest, which is to be held by the A.C.F. early next month. The event is a new one, and is practically a combination of the Scottish Trials and Heavy Touring Car race lately held in this country. No less than forty-two entries—thirty-five French and five foreign—have been received for the event, these comprising three Peugeotts, two Gladiators, a Unic, two Mercedes, three De Dions, a Vinot, two Germains, a Lorraine-Dietrich, a Gobron, two Aries, three Cottin-Desgouttes, a Prod'homme, three Cornilleau-St. Beuve, three Mors, two Martini, a Gillet-Forest, a Motobloc, two

part of the trial will be run on a petrol allowance basis, viz., 19 litres per 100 kilometres, equal to, roundly, fifteen miles to the gallon.

The Semmering Hill Climb.

The annual hill climb up the Semmering organised by the Austrian Automobile Club is to be held on September 22nd. There will be classes for motor-cycles, touring cars, racers, and vehicles built to meet the conditions of the Kaiser's Prize race.

A NEW garage has been opened at Dunoon by Messrs. Hubbard and Young. In addition to a workshop for repairs the firm have a vulcanising plant for tyres.

MESSRS. TILLEY, GIFFEN AND CO., of the City Motor and Electrical Works, London Road, St. Albans, had charge of the garage in the field in connection with the pageant at St. Albans this week.

THE VAUXHALL 12-16-h.p. CAR.

AS was stated in a recent issue of the *M.C.J.*, the great development, during the last twelve months, of the motor-car department of the Vauxhall and West Hydraulic Engineering Company, Ltd., has resulted in the establishment of a separate company. The new concern, Vauxhall Motors, Limited, is now in going order with a largely augmented staff both for management and works, and a large quantity of machinery and appliances of every description has been laid down for the manufacture of cars, the whole of which are made and assembled at the works at Luton, which comprise turning, fitting and erecting shops, smithy, body building, and painting and upholstery departments. At present the company are largely devoting attention to a 12-16-h.p. vehicle which is of British construction throughout and of which a description is appended.

The main frame is of pressed steel with perfectly straight side members; the engine and gear-box are supported on a sub-frame, to which a long mud-protecting shield is attached. The engine (Fig. 1), which is rated at 12-16-h.p., has four separate cylinders, $3\frac{5}{8}$ in. bore by $3\frac{3}{4}$ in. stroke. The inlet and exhaust valves are interchangeable and arranged on opposite sides, and are mechanically operated. The cam shafts are driven by silent spur gearing located at the end of the engine, and atten-

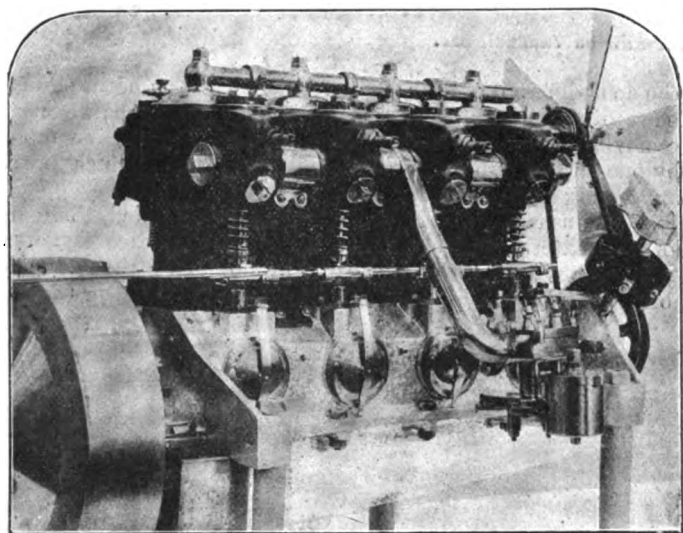


Fig. 1.—View of Inlet Side of Vauxhall Engine.

tion may be drawn to the fact that the front cross member of the frame is dropped, so that the cam shaft, complete with its bearings and half-time wheels, may be withdrawn for purposes of adjustment or timing. The crank shaft, which is forged and machined from the solid, is supported by five long phosphor bronze bearings, carried by bolts which pass through to the top of the aluminium crank case. Four large inspection doors are provided on each side of the latter, which allow of immediate and thorough inspection of all the working parts. The crank case cover has at its rear end an oil sump, from which oil is forced by means of a plunger pump into the main bearings, and through the hollow crank shaft into the big end bearings of the connecting rods. This is a useful feature, as only the right quantity of oil required for lubricating the main parts of the engine is used, the emission of blue smoke from the exhaust being, consequently, entirely eliminated. The lubricating pump is so fitted that it can instantly be dismantled for inspection.

The carburettor is of the automatic float feed spray type; a sectional view of it is given in Fig. 2, from which it will be seen that the spirit emerges through the jet B, and is sprayed against the adjustable atomising cone C. An automatic air valve is provided at D. Not only can access be had to all the main parts of the carburettor by removing three butterfly nuts, but

the whole device can be detached in a similar way. The fuel, which is gravity fed, passes from the 8-gallon tank through a strainer, so that there is no danger of the jet becoming blocked. The ignition is by coil and accumulators, with a synchronised high-tension distributor. Magneto ignition can be fitted if desired, and the engine is designed to receive two sets of

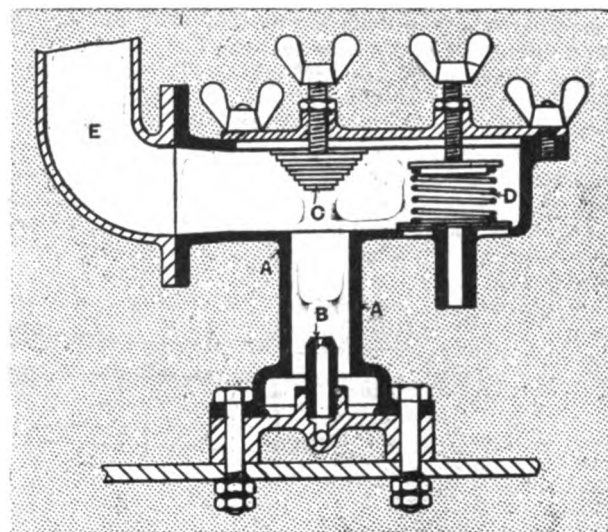


Fig. 2.—Sectional View of Vauxhall Carburettor.
A. Body of Carburettor. C. Adjustable atomising mushroom.
B. Jet. D. Adjustable automatic air valve.
E. Induction pipe.

sparkling plugs for dual ignition. The contact maker and distributor are simple and perfectly accessible, being mounted on the end of a spindle set at an angle of about 45 degrees to the horizontal, and driven off the radiator end of the inlet cam shaft. The water circulation is maintained through a framed

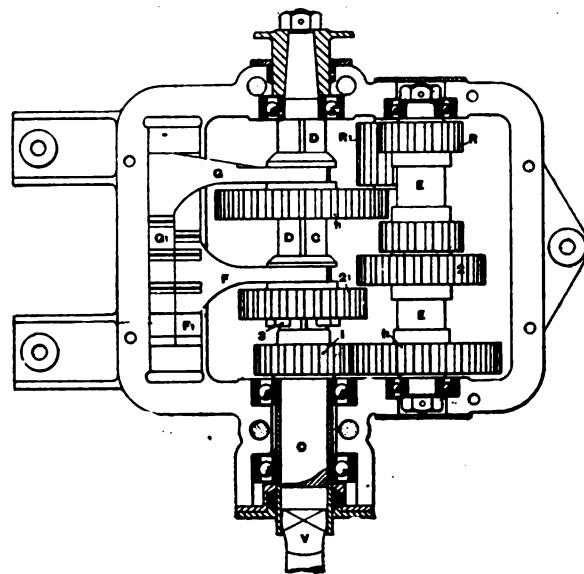


Fig. 3.—Sectional View of Vauxhall Change-Speed Gear.
C. Intermediate and direct drive gear-shaft. G'. First and reverse gear striking bar.
D. Primary squared gearshaft. RR. Reverse gear wheels.
E. Secondary gearshaft. V. Clutch shaft.
F. Third and second speed striking fork. II. Driving and driven first speed wheels.
F'. Third and second speed striking bar. 22. Driving and driven second speed wheels.
G. First speed and reverse gear striking fork. 3. Direct drive third speed clutch.

ribbed-tube radiator and a glandless centrifugal pump. The latter has a spring drive, so that it is impossible for any foreign substance which may become jammed between the impeller and pump casing to damage the pump. The cooling is assisted by a

fan driven from the exhaust cam shaft by a spring belt, which requires no adjustment for permanent stretching. Each exhaust valve has a separate pipe, which conveys the burnt gases to a collecting chamber, from whence they pass to the silencer. The speed of the engine is controlled by means of a hand lever and a foot accelerator. The throttle and ignition levers are mounted on a bracket attached to the column immediately below the steering wheel in such a way that they can be operated without taking the hands from the wheel.

The clutch is of the internal metal-to-metal cone type,

by a metal cover, which can be readily dismantled for inspection, and only needs filling with grease every 1,000 miles. The back axle, of which a horizontal section is given in Fig. 4, is contained in a stiff gunmetal casing, which is stayed to the frame by torque rods. From each end of the casing project two very stiff steel tubes upon which the rear road wheels are supported. The live shafts, which are of nickel steel, have squares formed on their outer ends, which fit into the hub plates, so driving the rear wheels. The differential casing is fitted with a large inspection door, through which it is filled with oil, and all the pinions of

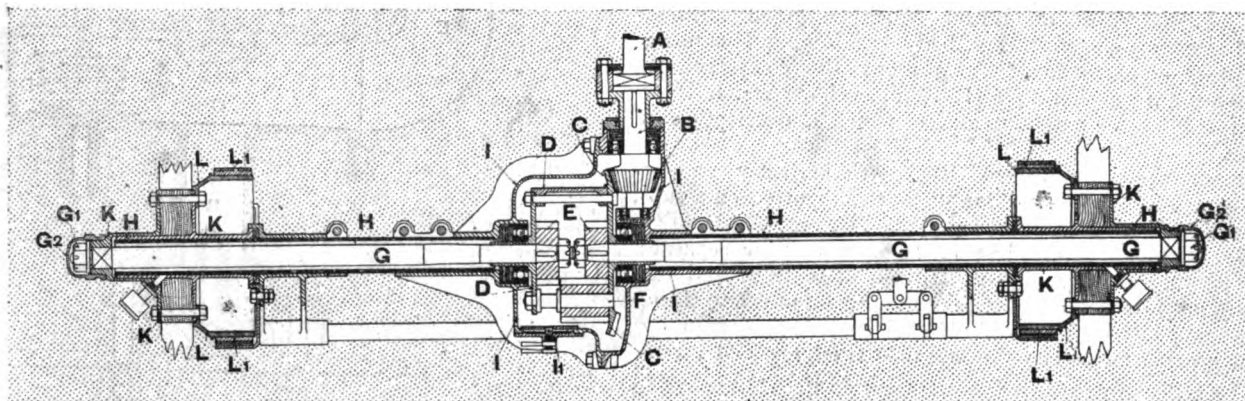


Fig. 4.—Horizontal Section of Back Axle on Vauxhall Car.

running in oil, and so arranged that it can be readily dismantled without disturbing either the motor or the gear. From the clutch the power is transmitted by a universally-jointed shaft to the gear-box to allow for any want of alignment between the two parts due to bad roads. The change-speed gear, which is carried at three points on an underframe (Fig. 3) is adapted to give three forward speeds and a reverse. The gear-box shafts are made of nickel steel, in order to eliminate all chance of springing; they run on ball bearings, and a packing gland is

the spur differential gear, &c., are visible. The bevel pinion can be readily removed by swinging the propeller shaft clear and removing two nuts on the front of the casing. It is supported by one large ball bearing and a tail ball bearing, which prevents any spring in the pinion shaft.

The usual foot and hand brakes are provided, these being of the external metal-to-metal type. Every care is taken to prevent any rattle when the car is in motion, all the brake leads being straight and direct, while easy means of adjustment are

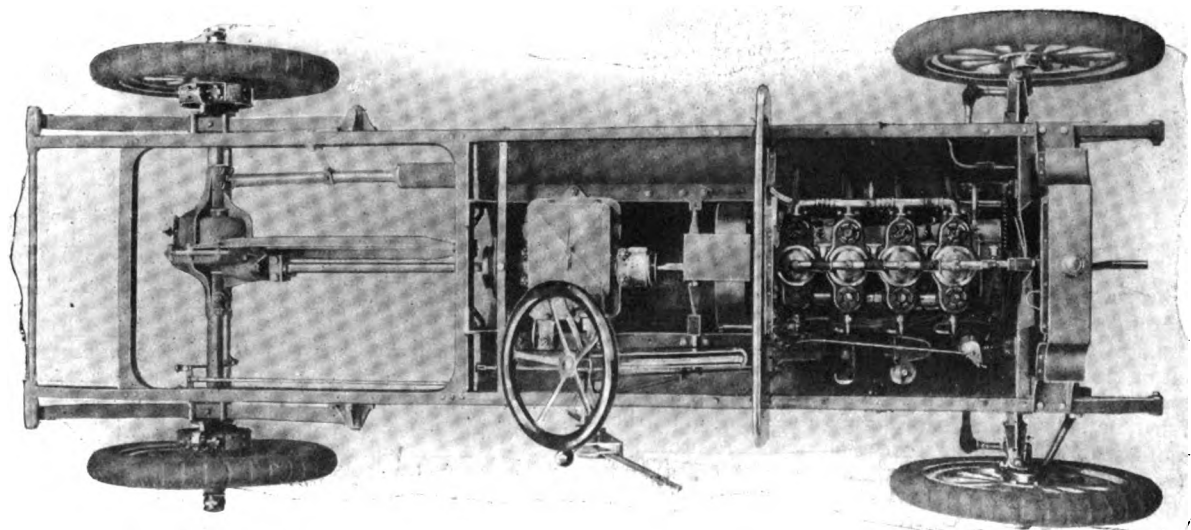


Fig. 5.—Plan of Chassis of Vauxhall 19-16-h.p. Car.

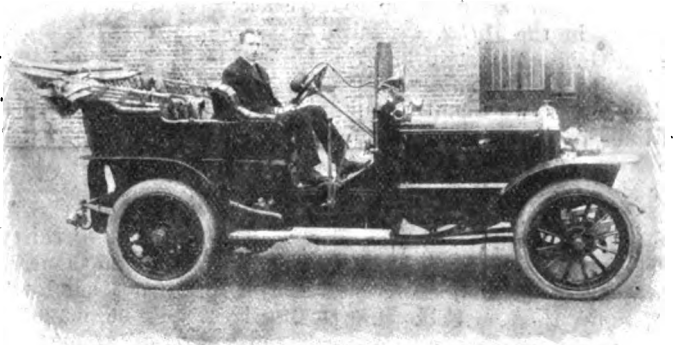
fitted at each end to make the case perfectly oil tight; as for the change-speed pinions, these are of large diameter, with teeth 1 in. wide. The control is by a single lever working in a "gate" quadrant, there being only three moving parts. A large and instantly detachable cover is provided to the top of the gear-box to allow for easy inspection and filling with lubricant. The final transmission is by a nickel-steel cardan shaft and bevel-gear to the rear live axle, which runs on ball bearings. The propeller shaft is provided with universal joints at each end. The latter are of substantial design, all the wearing surfaces being case hardened; they are completely protected from dust

provided. The steering gear is of the worm and sector type; the sector lever is bolted directly to the sector, so that there are no keys to work loose, a special feature of the arrangement being an eccentric adjusting spindle to readily take up any wear between the worm and sector. The rear springs, which are arranged to act as radius rods to the back axle, are 40 in. long, rendering the vehicle very easy riding. The road wheels are all of equal size, shod with 810 mm. by 90 mm. tyres. It may be mentioned that ball bearings are used throughout, except the engine and the back hubs. The car has a wheel base of 8 ft. 6 in., enabling a roomy side-entrance body to be fitted.

COLONEL HAMERSLEY, the Chief Constable of Cheshire, is to be provided with a motor-car by the Cheshire Joint Police Committee.

THE calculations necessary to the awards in the Scottish Reliability Trial are proceeding as rapidly as possible, and the Trials Committee hope that the results will be available for publication next week.

FROM the Continental Tyre and Rubber Company, Ltd., comes a selection of telegrams received from competitors in the recent Scottish and Irish Trials who had excellent runs through-out these events on cars fitted with the Continental tyres.



Mr. E. M. C. Instone on his 45-h.p. Daimler Car on which he won the Gottlieb Daimler Memorial Plate at Brooklands.

THE report of the Fuels Committee of the Motor Union may be presented to the general committee at the Southport meeting to-day (Saturday).

THE Endolithic Manufacturing Company, Ltd., of 61, Fore Street, London, E.C., is specialising in name plates for motor-cars, &c. Quick delivery is one of the factors in their success.

IN conjunction with the local military tournament on the 9th prox. at Lytham, a motor gymkhana will be held, of which Mr. A. Vincent Robinson, Featherstones, Lytham, is the hon. sec.

THE PRINCE OF WALES, on his way from London to Newmarket on Tuesday, reached Baldock, Herts, when the tyre of the off-side front wheel of his motor-car was punctured. At the George and Dragon garage the chauffeur, with local aid, repaired the damage in three-quarters of an hour.

SUFFERING from tyre troubles recently on the way to the South Coast, we found the establishment of Messrs. Rice Bros., Springfield Road, Horsham, well adapted to meet the urgent requirements of motorists. The firm has not only a garage but are well equipped for small repairs and carry a stock of useful accessories.

IN our report of the Scottish Trials we referred to the stop which was forced upon the 24-h.p. Albion driven by Mr. G. M. Young owing to the backing of another car on Culloden Moor. We understand that the committee of the Scottish Automobile Club have now awarded a non-stop run to this car for the five days of the trial.

A NEW type of radiator has been introduced by the Doherty Motor Components, Ltd., of Coventry, who have long been associated with the manufacture of motor parts. In the construction flat tubes of thin section are used, these being fitted in double rows embodied with a new type of gill. The latter are produced from flat sheet brass, being first punched to the section of the tubes and perforated. When the punched pieces are formed into tubes the holes are situated on each side of the tubes and substantially assist in dividing up the air current through the radiator. This promotes a most effective cooling. The tubular gills are about one half inch in diameter, and are threaded on the tubes into close contact with those above and below as well as those threaded on neighbouring tubes. This new type is well calculated to withstand vibration.

HERE AND THERE.

AT Causeway Head, near Stirling, motor repair works and garage are being erected by the Grampian Engineering and Motor Company, Ltd.

PASSING along Long Acre, W.C., the other day, we noticed that Messrs. Morgan and Co., Ltd., have now on view a new type of Adler car—a 9-h.p. vehicle, the engine of which comprises two V-shaped cylinders 85 mm. bore by 90 mm. stroke.

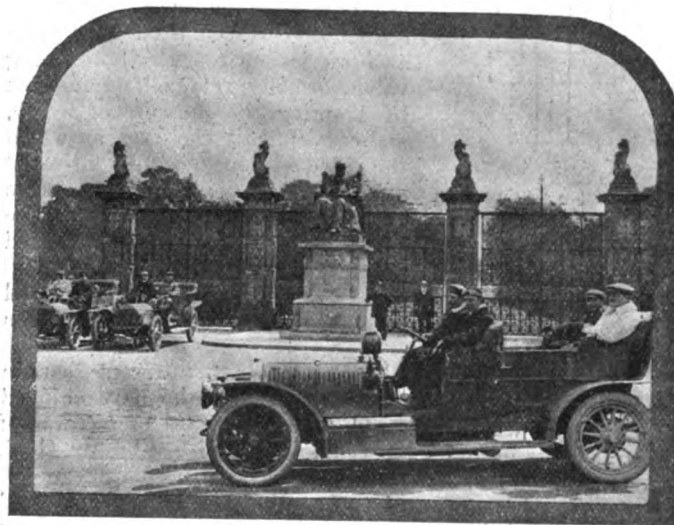
THE L.G.B. have, it is understood, decided to issue an Order limiting the speed of motor-car to five miles an hour on the hills south of Frog Firle, Alfriston, Sussex.

MR. R. WOODHEAD will give free accommodation at his garage in Lord Street, Southport, to the members of the Motor Union attending the inter-club meet there to-day (Saturday).

It was only last week that we wrote about "old cars and what becomes of them." A day or two later one of the very earliest Renault cars pulled up outside the offices of the M.C.J.; the miniature car—its wheel base is no more than the length of some modern engine bonnets—afforded striking evidence of the wonderful progress that has been made in motor-car construction during the past few years.

HITHERTO better known in connection with solid rubber tyres, the Avon India Rubber Company, Ltd., of Melksham, Wilts, are now devoting considerable attention to the motor pneumatic tyre trade. We gave an illustration of the "Avon" tyre with non-slipping cross grooved tread in the M.C.J. of the 29th ult.; they also make them with square and round treads; the firm have sent us a sample pair of the latter for trial, and we hope to report on them at a later date.

SATURDAY last saw the concluding day of the arduous task of the Hotchkiss six-cylinder car of a 10,000 miles tour over the roads of England, Ireland, Scotland and Wales, under the supervision of the Royal Automobile Club. This feat has been accomplished with singular success and the car finished in splendid condition. In fact, its condition was so perfect that the London and Parisian Motor Company, Ltd., the sole concessionnaires, have decided to send the vehicle a further 5,000 miles,



The completion of the 10,000 miles Trial of the Hotchkiss Six-Cylinder Car.—The vehicle at the gates of Hatfield House, Hatfield.

which on completion will, with the trial in France, make a total journey of 21,250 miles. The following is a summary of last week's runs:—July 8th, London, Folkestone, Margate, Canterbury, London, 179 miles; July 9th, London, Hastings, Brighton, London, 169 miles; July 10th, London, Petersfield, Brighton, Lewes, London, 166 miles; July 11th, London, Salisbury, Winchester, London, 178 miles; July 12th, London, Banbury, Oxford, Maidenhead, London, 135 miles; July 13th, London, Hatfield, 21 miles.

THE grant to the War Office for instruction in motor-driving and other trades has lately been doubled.

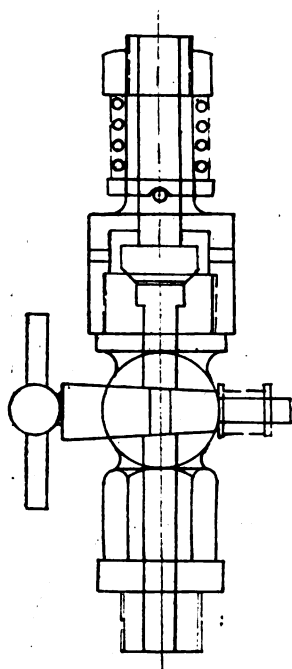
A FINE new garage has been erected in the Ashton Lane, Byars Road, Glasgow, by the Kelvinside Garage and Motor Company, Ltd.

THE Bombay, Baroda and Central India Railway have recently put into service several covered carriage trucks, specially built for the transport of motor-cars.

THANKS to the efforts of Messrs. H. Armstrong and W. T. Codrington, a number of inmates of the children's homes at Southport have been taken for a motor-car drive, concluding with tea and entertainment at Edge House, Sefton, by invitation of Mr. James Birch.

The value of the motor-cars and parts exported from the United States during May last reached a total of £131,090 as compared with only £96,908 in the corresponding month of 1906. The United Kingdom heads the list with £47,150, Canada taking the second place with £30,015.

WE illustrate herewith a new compression tap for use on petrol motors to facilitate the starting of the same, which has recently been devised by Mr. Geo. Johnson, of Messrs. Johnson, Hurley and Martin, Ltd., Coventry.



The feature of the arrangement is the provision of a valve by means of which the amount of compression in the engine to which it is applied may be regulated so as not to exceed a predetermined limit when starting the motor. It is so arranged that when in potential action any surplus contents of the cylinder above the amount necessary to produce the pressure fixed upon automatically escapes into the atmosphere or to the silencer. As will be seen from the drawing, one end of the valve body is adapted to be screwed into the combustion chamber of the cylinder in the usual way, a plug cock near the base enabling the passage to be opened or closed at will. The body also carries an outwardly opening valve normally retained on its seat by a spring, the pressure of which, and consequently the load at which the valve will open, can be adjusted

by means of a nut on the valve spindle. One of the advantages claimed for the arrangement lies in the fact that any excessive pressure in the cylinder is immediately eased, and shocks caused by back firing are buffered or done away with. A perfect mixture may also be drawn into the cylinder and is not interfered with beyond that any surplus at once escapes when the valve is in action.

SKEGNESS has come well before motorists in recent years in connection with the motor races, and many who have enjoyed their stay there will be pleased with the series of pictures of interesting spots in and about the town published by Mr. G. F. Ball, of Lumley Road, under the title of "Picturesque Skegness." Many owners of motor-cars have visited the town lately, and local attention is being given to their requirements. The Lion Hotel has accommodation for cars, and Mr. W. T. Berry has a repair works in the High Street, Skegness.

THE Elephant Chemical Company, of Neate Street, Camberwell, S.E., have sent us a sample of the new "Vulstop" tyre-stopping they have lately introduced. This is a preparation for filling up cuts and holes in motor tyres, which will be found exceedingly useful in keeping down the tyre bill. It is claimed that the preparation will not harden in the tyre, but remains pliable and full of life so long as the cover is in usable condition. Vulstop is easily applied, so that motorists need not fear trying it on that account, and as the tyre can be used within six hours after treatment, it is well worthy of attention.

AT 10, Bank Street, Coatbridge, Messrs. Kyle Brothers have a repair depot.

THE "Morning Advertiser" is the latest of the London dailies to adopt a motoring column as a regular feature.

THE Gaelic League has arranged a motor-car tour of the Irish speaking districts in the interest of its propaganda. The first part of this will be in Donegal, for which county a motor-car has been placed at the disposal of the League by Mr. F. J. Biggar, of Belfast.

IN a recent issue we referred to the new "Ideal" motor hood which has been introduced by the "Ideal" Motor Hood Company, of Parson's Green Lane, Fulham, S.W. We learn that the company has secured an order from the Regent Carriage Company to fit one of the hoods to a large motor landaulet belonging to the Right Hon. A. J. Balfour.

IN addition to making the automatic lever for raising the bodies of motor-cars in order to give access to the mechanism, described in the *M.C.J.* a month or so ago, Messrs. Pack and Sons, of George Street, Brighton East, are devoting much attention to motor body building. On the occasion of a recent visit to their works, we found a number of bodies of the landaulet and limousine types in course of construction. The firm have also taken up the district agency for Minerva cars, of which they have already sold several.

MR. AND MRS. CHAS. J. GLIDDEN, of Boston, Mass., U.S.A., who have driven their Napier motor-car 33,768 miles in thirty-six countries, will leave London next month for a two thousand mile drive in England and Scotland, over routes not heretofore driven by them. Following this, drives will be made in Norway, Russia, Spain, Portugal, and countries around the Mediterranean Sea, and the world's tour of fifty thousand miles in fifty countries will be completed in the South American republics in the year 1911. The drive commenced in London in 1901.

MESSRS. ALEXANDER DUCKHAM AND CO., LTD., of West Ferry Road, London, E., have issued a set of card maps in a handy form for the pocket, which will be of great utility to the motorist on tour. They are produced on a scale of fifteen miles to the inch, and the series is lettered and numbered in convenient form, so that with the help of the key map the particular direction required can be readily found. On the reverse side of the cards Messrs. Duckham and Co. give some hints on lubrication, and also draw attention to the excellent motor oils which they supply.

THE Acme Rubber and Tyre Co., of 343, St. Vincent Street, Glasgow, have brought out a new non-skid which is likely to attract considerable attention, coming as it does from a firm that has long been known as capable and efficient tyre repairers. In the new non-skid red rubber is used, no leather being employed. The studs are washered at the back, and a layer of rubber prevents contact with the cover, so that the tyre cannot possibly be injured by friction. When the studs are worn there is no difficulty in repair, and from the section which has been submitted to us we have been well impressed with the method of construction as well as the quality of the rubber employed.

THE New Engine Company have been notified by the Scottish A.C. that the stop recorded against their car on the fourth day of the Scottish Reliability Trial has been passed as a traffic stop. Their car is, therefore, credited with four days' absolute non-stop runs. The stops for adding water on the second day were due only to the car having been finished in a very great hurry for the trials. As for the hill stop on Cairn o' Mount, this occurred on the comparatively easy gradient, and Mr. J. C. Mort, who drove, can only say that he has not the faintest idea as to what caused the stop. Four or five minutes were lost in examining the various parts of the car to see if anything was heated. No signs of trouble could be found anywhere, and when the engine was restarted it raced to a high speed immediately, and the car completed the run to the top in fine style without trouble of any sort. With the sole exception of this delay on Cairn o' Mount, the car took all the hills without any hesitation, and, considering this was the car's first public appearance, it made a very creditable show.

ON THE RIVIERA.

MOTORING has encouraged delight in the beauties of the landscape, and to find these the motorist roams far afield. He is commencing his journeys for the year, and although holidaying decisions may have been postponed awhile because of the weather, the British motorist is now pleasuring in earnest. An anticipation of the money-circulating value of the motorist on tour is seen in the work of the Royal Automobile Club's Touring Department, when a total of £4,561 passed through the monthly accounts of that branch of the Club's activity, of which £3,847 was paid by members in connection with Continental customs facilities. Those figures relate only to one month, and that an early one, of the roving year. Further, they concern only a section of the great motoring fraternity. The importance, therefore, of the British motorist to the foreign host is evident.

Probably the most delightful touring ground of the Continent within easy access is the French Riviera, properly speaking, that region bordering upon the Mediterranean west of the Italian frontier and east of Toulon. On the way the

boundaries—the olive, the vine, the apricot, the peach, and vegetables of the finest quality. The mutton and beef of the Crau, the Camargue, and the hillsides of the coast ranges are most excellent, and the fish supply of the Mediterranean is varied and abundant; *loup*, turbot, *thon*, mackerel, sardines, and even sole, which is supposed to be the exclusive speciality of England and Normandy, with langouste and coquillage at all times. No cook will quarrel with the supply of his market, if he lives anywhere south of Lyons; and Provence, of all the ancient *gouvernements* of France, is the land above all others where all are good cooks—a statement which is not original with the author of this book, but which has come down since the days of the old *regime*, when Provence was recognised as *la patrie des grands maitres de cuisine*.

We are taken across the Pays d'Arles, one of the subdivisions of the ill-defined limits that are scattered all over France. It comprises about sixty towns and villages, the descriptions of which have been familiarised to readers in the "Monte Cristo" of Dumas. There is Arles itself, older even than Marseilles—and looking more its age than the cities of greater progress and prosperity—and St. Remy with its wonderful gardens of fruits and flowers and its trading in "grandfather's clocks." Nearer the Mediterranean is Martigne—a paradise for artists and a new land for tourists—which is practically the gateway to all the attractions of the wonderful region lying around the Etang de Berre and of



Touring in France.—A Mors Car in front of the Statue of Napoleon at Cherbourg.

journey can be agreeably broken at Nimes, Arles or Avignon, cities of celebrated art, possessing interests of antiquity that stand alone without inviting comparison with the newer and more florid glories of the buildings along the coast. These towns are not resorts as understood by the modern pleasure seeker, but, like the mountain country lying but a few miles back behind the blue waves that flow by Cannes, Nice, Monte Carlo and Mentone, they will give new impressions and sensations of delight. Having ourselves tasted of the pleasures of all this district, we have perused with all the greater avidity the account of pleasure trips made by Mr. Francis Miltoun, published by Sisley's, Ltd., under the title of "Rambles in Provence and on the Riviera." This is something more than the historical or archaeological guide-book of the book-maker. It revels in the ancient spirit of the region and seems to have caught something of the atmosphere of the modern world that is steadily pressing back the ancient *regime*. Pictures made "on the spot" add much to the interest of the work, which revives memories in old tourists and suggests fresh fields of travel to new ones. Both author and artist know Provence well; they start with the material comforts of the country, and Mr. Miltoun has this to say of the *cuisine* :—

The very best proof one could wish that Provence is not a poor, impoverished land, is that the best of everything is grown right in her

the littoral between Marseilles and the mouths of the Rhone.

Thus the traveller is prompted from place to place, and all that he wants by way of supplement is a good motor-car to carry him along. As for roads, suffice it to say that they are French—with stretches of well-constructed straight highways, and with scarcely a turn, along which the joy of speed that the late W. E. Henley versed can be realised to the full. Here and there some quiet hamlet breaks the line, or a little town adds variety to the scene. But until he has motored that way, the Britisher—trapped, misbelieved, and doubly fined—scarcely knows the capacities of his gallant car.

With regard to the Riviera the author writes in the most interesting style, and, although partisans of other places may sing their praises, the charms of the Mediterranean coast-line are likely still to attract their devotees. This is obvious, he says, for three reasons—(1) accessibility, (2) the moderate cost of getting there, and (3) the familiarity of the visitors. Any language may be spoken; anything and everything can be enjoyed; and this book is one of the pleasantest companions *en voyage*.

At Barrhead Messrs. Patterson Bros. have a motor garage well arranged and equipped.

CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

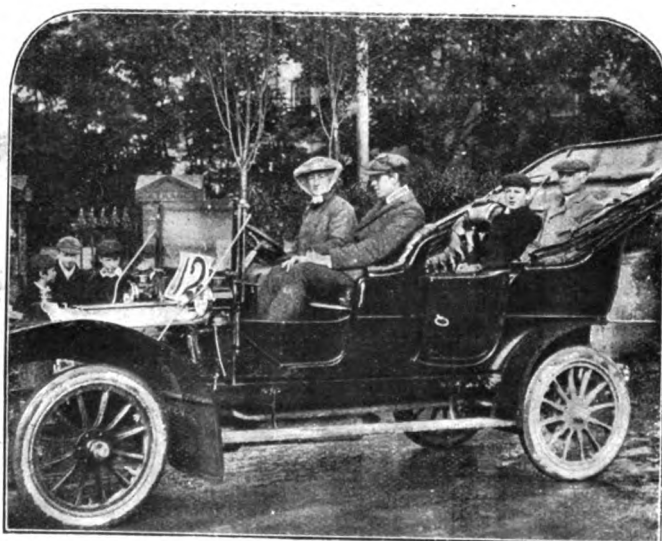
THE USE OF OXYGEN IN RACES.

TO THE EDITOR OF *The Motor-Car Journal*

SIR,—I am pleased to note that others are at last in accord with me. I made great attempts last year to have the use of oxygen and such aids to speed prohibited, but received very little support or sympathy from other competitors, and it was not until the Crystal Palace Automobile Club held hill climbs, flexibility competitions and speed tests where oxygen, &c., were prohibited, that cars had the opportunity of showing their true form.

I wrote to the secretary of the Royal Automobile Club so recently as June 12th, as the Club, instead of absolutely prohibiting the use of oxygen, actually allowed it in the Henry Edmunds hill climb.

Up to the present the Royal Automobile Club, with all the arguments I can advance against oxygen, will not prohibit it in some of their competitions, and the same remarks apply to the Brooklands first meeting. There is no advantage in using it, as naturally everybody can do so, and it simply puts everyone on an equality; it causes more trouble in



Mrs. Parry (the wife of Colonel Parry, D.S.O.), of Pengwern, Rhuddlan, at the wheel of her 12-16-h.p. Talbot Car, on which she won the North Wales Automobile Club's Hill Climb near Llanwrst on the 22nd ult., being awarded the Gold Medal.

It will be noted that the car is standard in every respect, being fitted with the full Roi des Belges side-entrance body, and the illustration shows the car exactly as Mrs. Parry steered it to victory, fitted with Cape cart hood, wind screen and heavy shielded wings.

racing and much more uncertainty; there can be no good argument for its use.

I have had most careful tests carried out and can speak from experience that its use, or the use of any similar thing for the same purpose, should be absolutely prohibited in all motor-car competitions. In the past we have seen motor-cars winning races which could not do anything like so well in the hands of ordinary users, and it was after making careful experiments that I realised what was being done. In all touring competitions in which Napier cars have taken part I have expressly run the cars without the use of oxygen.

I trust, now that my business opponents are agreeing with my campaign against oxygen, sufficient weight will be brought to bear on competitors to make the use of oxygen illegal.—Yours truly,

S. F. EDGE.

THE RECENT ROAD CONFERENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The resolution passed by the recent Conference of Roadmakers and Users in favour of compelling "all vehicles to keep to the near side of the road except when overtaking other vehicles" is a little vague, in that it does not say how near.

If quite near, one runs serious risk of damaging the absent-minded pedestrian, whom we all know placidly walks off the footpath immediately in front of our motor, hearing not our warning nor giving his, and it would be necessary to couple with the regulation a decree that

all side paths must be provided with a railing on the kerb just high enough to catch the absent-minded's shins and remind him that there is a road full of motors just beyond the railings. He would then step over cautiously, leaving time to avoid him.

If the resolution meant that fast vehicles are to keep on the near side of the middle of the road, the driver would then usually have time to gauge the intended manoeuvre of the absent-minded before he got under the car instead of afterwards.—Yours truly,

J. BROWN.

SPEED COMPETITIONS AND HILL-CLIMBING RULES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I beg to send you herewith a copy of a letter I have addressed to the secretary of the Royal Automobile Club. The matter is one which I think can do with some ventilation at the present time, and I shall be greatly interested to have the opinions of your readers, both those in the trade and also private owners, on the subject, and I will particularly welcome the opinions of secretaries of provincial automobile clubs.—Yours truly,

D. M. WEIGEL.

COPY.

The Secretary,
Royal Automobile Club,
119, Piccadilly, W.

July 9th, 1907.

Dear Sir,—So much has been said in the Press lately by disappointed competitors who have met with scant success at meetings of provincial and affiliated automobile club hill-climbs and other trials, that I beg to suggest that it is advisable, for the benefit of the sport and the industry, to endeavour to standardise as far as possible the rules governing all provincial events, whether open or closed. In other words, I think it would materially assist the success of all events if the matter of formula were relegated to one standard.

At the present time we have the Frome's Hill (Herefordshire A.C.) formula, we have the chassis price formula, the Scottish Reliability formula, and others, and the consequence is that whilst to enter and make a good show with these various formulæ cost manufacturers (without whose support, indeed, the events would hardly be successful) a good deal of experimental work, it affords no particular guide to the motoring public as to the merits of one car over any other, and in many cases the present formulæ, embracing as they do factors for wind resistance, road resistance, and hosts of other details, offer very little that is interesting to the general public. By the adoption of a standard formula as indicated above, the onlookers would, I feel sure, be much more interested in the results, if for no other reason, on account of the simplicity.

Whilst writing on the subject of competitions, there is another matter upon which I should like to offer a suggestion, and that is the establishment of different classes of cars driven by the trade and those driven by the owners, such cars to have been the absolute property of the driver for at least two months. It is manifestly unfair that the private owner should have to put his car against works experts with chassis tuned up to the last notch. And, furthermore, in a manufacturers' class I would strongly urge that manufacturers be allowed to race on chassis only. The appearance of this class would give the event a much more sporting appearance and would enable the sight-seers to much more easily differentiate between one class and another. In addition, the manufacturers would be grateful for any rule such as this, that would cost them less to run than under existing conditions.—Faithfully yours,

D. M. WEIGEL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letters now appearing in the press throw much illumination on the subject of hill-climbing competitions. We now have members of the trade frankly admitting that the cars entered by them in these contests are not standard type at all, but are deliberately faked up to show well on particular hills, irrespective of their speed capabilities on the road or whether they could be driven by the average amateur. We will leave the trade and the buying public to form their own opinion of these methods of commerce. If club competitions are to be sporting events, and not the hunting ground of advertisement mongers, it is the duty of those members of the trade who enter "specially adjusted" cars to either withdraw or organise competitions of their own. They can then pit their faked-up products against each other to their hearts' content. At any rate it seems to me that the much-advertised fastest times and club wins should be regarded with suspicion by the amateur, and should not be allowed to outweigh the many other desirable points on a car by the buying public.—Yours truly,

T. WILLIAMS.

PROVINCIAL CLUB COMPETITIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Might I call your attention to the rules governing the open hill-climbing competition held under the auspices of the North-East Lancashire Automobile Club? I feel sure that the committee of this club, like that of any other racing club, are desirous of making their competitions as interesting as possible, but in this particular case I fail

to see how great interest can be maintained or a good race obtained where so wide a range is given to cylinder dimensions in each class. As an instance, in Class E there is a range between a cylinder dimension of 100 to 150, or, roughly speaking, the same class would be open for four-cylinder engines of 6 in. down to 5 in. It is obvious that there can be no "race" between an engine with 5 in. cylinders against an engine with 6 in. cylinders.

I have recently written a letter upon similar lines to the effect that some standard unit should be adopted by all clubs holding races in this country; and I would suggest that a meeting of the hard working secretaries of the various provincial clubs might find means of regulating what, up to the present moment, has been a most unsatisfactory method of judging local events.—Yours truly,

D. M. WEIGEL.

THE PIONEERS OF MODERN MOTORING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have no desire to detract from the fine performance of Mr. Edge at Brooklands, but I feel that the old heroes of motoring who did greater deeds should not be forgotten. Especially I refer to the wonderful feat performed by the late Monsieur Levassor (founder of the firm of

One feature of most chain-driven cars which is often overlooked is that the only unsprung weight consists of the wheels and axles, which may be of a light construction, while in gear-driven cars the whole of the weight of the heavier live axle, including the differential, rests directly on the tyres. The mechanism in the latter case is subject to all the shocks of the road and the tyres wear more rapidly. Chain driving produces, therefore, a decrease in the cost of upkeep of a car and more comfort in riding.

Mr. Hirsch speaks of chain breakages. Actually breakages never occur in ordinary circumstances when the size of a chain is in proper relation to the work it has to do, and reasonable attention is given to it. Chains will, of course, wear out and so become weaker, but if they are correctly selected in the first instance they are unfit for use through being out of pitch long before they approach breaking point. A chain should on an average do good work for 7,000 or 8,000 miles, but of course the mileage is influenced by the character of the roads in the district. Where chains are well cared for, and especially if provided with gear cases, such as are fitted by the Sunbeam, Albion and Arrol Johnston companies, it is not uncommon for them to run double this distance. When unprotected they should be more frequently cleaned, lubricated and adjusted. If a partially worn chain is allowed to rust and the joints to become stiff, it is more liable, especially if loosely adjusted, to mount the teeth. This,



The Midland A.C. Hill Climb at Shelsley, Walsh.—The Cars assembled near the Starting Point.

Panhard and Levassor), in 1894, upon ordinary roads, and with a short wheel base car mounted on solid tyres, and no big head lights after dark. M. Levassor stuck to the wheel for fifty-six hours continuously and won the race, "Paris-Bordeaux et Retour," at an average rate of about twenty-seven miles an hour. It is doubtful if any modern motorist on the vehicle he drove could do this now after being used to the luxurious high-power cars of to-day, with long-wheel bases and pneumatic tyres. My only apology in thus addressing you is that your readers should not forget the great events of the past.—Yours truly,

DAVID SALOMONS.

[Sir David Salomons, Bart., does well to remind the motor world of some of the trials of those early pioneers.]

THE PRESENT SYSTEM OF TRANSMISSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It seems to be true that fashion has much to do with motor-car designs, as Mr. C. T. W. Hirsch suggests in his letter appearing in your issue of the 29th ult. Competition, however, will eventually compel motor-car manufacturers to find means for reducing the cost of running and upkeep, and then we feel sure the simple, flexible, and economical transmission by chains will receive more attention.

of course, subjects it to undue strains and probably is one of the most fruitful causes of accidents with chains.

Temporary repairs of the kind described by Mr. Hirsch may be unavoidable in an emergency, but chains so treated would be injured if run far, and the manufacturer should not be blamed for after results. Spare parts of the correct size make a more satisfactory repair possible, and if never required, as is most likely, will occupy little space.

The ease with which it is possible to examine chains and learn their condition is one advantage resulting from their use.—Yours truly,

CHARLES G. RENOLD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, Mr. C. T. W. Hirsch, in the *M.C.J.* of the 29th ult., appears to have overlooked the screw and worm wheel drive, in place of bevels. Provided the screw is long enough, wear on the thrust bearing does not affect the mesh unless, of course, the screw is very much worn and the change occurs suddenly. The efficiency of the screw may be less than that of a good bevel; but then, as Mr. Hirsch points out, the bevel ceases to mesh properly, and, therefore, ceases to be a good bevel drive.—Yours truly,

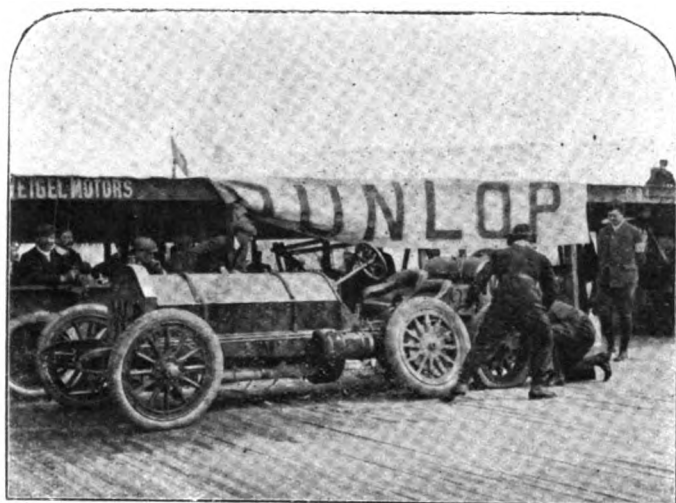
H. LANGDON-DAVIES.

CHARGING ACCUMULATORS FROM PRIMARY BATTERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an old admirer of the *M.C.J.*, kindly allow me to express myself briefly upon this subject. I have used the Bunsen cells, and find them more than is claimed for them for efficiency in charging any make or form of accumulators. It is not my intention, however, to recommend or advertise this cell so much as to call attention to some of the erratic statements made by "Elektrik," who advises the Bunsen cell for charging accumulators. He does well to advise the placing of the battery in an airy place: the fumes, even if one cell only is in use, are most intolerable, and will quickly destroy any metallic article with which they come in contact; as to the extremely deleterious nature of the consequences of the inhalation of the fumes a very slight experience should be sufficient even for the uninitiated. One drop of the acid on the skin of the hands, &c., will cause a very serious burn, to say nothing of the more than probable and utterly irreparable damage to clothing and similar stuffs.

The Bunsen battery certainly gives a powerful current when newly charged, but this very quickly falls as the nitric acid becomes exhausted; the acid, being in a liquid form, cannot be strengthened or recuperated by the addition of further quantities of depolariser as in the case of a chromic cell; the only method that can be adopted in order to maintain a constant current from a Bunsen battery is to entirely renew the acid as soon as any depreciation in the current is apparent. Will "Elektrik" be good enough to explain how he manages to prove that nitric acid is a more powerful oxidising agent than chromic acid? Has he forgotten the formulæ:—Nitric acid, HNO_3 ; chromic acid, C_2O_3 (combining with water to form $\text{H}_2\text{C}_2\text{O}_4$)? The greater part of the nitric acid in a Bunsen cell is converted into ammonium nitrate, which renders the cell inert and



The A.C.F. Grand Prix Race.—Mr. Pryce Harrison Changing the Wheels on his Weigel Car.

the upkeep of the battery most expensive. By the way, the depolariser is not the most important feature in a primary battery, not by far so important as the nature of the carbon surface.—Yours truly,

ANALYST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in Mr. Rawstorne's letter *re* accumulator charging from primary batteries, which appeared in a recent issue, that he states he charges his battery with "4 oz. bicarbonate of soda dissolved in a small quantity of water, to which is afterwards added 4 oz. commercial sulphuric acid." This is clearly a mistake, for, besides being absolutely useless as an oxidising material, the bicarbonate of soda—used in making tea—would at once chemically interact with the sulphuric acid, resulting in carbonic acid gas being liberated with much effervescence and sodium acid sulphate being left behind in solution. The writer evidently meant to say that he used bichromate of soda, not bicarbonate of soda, which is quite a distinct, and for this purpose useless, body.—Yours truly,

ELEKTRIK.

CHARGING ACCUMULATORS ON HIGH VOLTAGE CIRCUITS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Clients occasionally inform us that their accumulators have been burnt up whilst charging on 200 volt or 220 volt lighting circuits, and we think it would be of general interest to call attention to the probable reason for this, which is, not excessive current passing through the battery itself, but a leak to earth through a film of acid on the case. This will sometimes generate sufficient heat to ignite the celluloid, with

disastrous results. The remedy is to simply stand the accumulators whilst charging on a board which rests on glass jam jars, and keep the top of the accumulators as dry as possible.—Yours truly,

C. A. VANDERVELL AND CO.

A WARNING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the interest of the trade and as a warning to others, will you kindly give publicity to the following incident.

A customer at our Clapham garage asked that some of the firm's cards might be given to him, in order to recommend the garage to friends. As there was nothing unusual in this, he was handed three or four cards.

Two days after we received a telephone communication from a certain firm of tyre manufacturers, asking if the man in question was a member of the firm. Upon being asked the reason of the inquiry, we were informed that he had called upon the firm and, producing one of the cards, requested that certain tyres should be sent to his private address, giving them to understand that he was a member of the firm. Had these people not had the foresight to communicate with us, the man would have purchased goods at trade price. As we have since heard that he has lately bought several accessories for his car, we can only conclude that this ruse has succeeded with other firms not quite so particular as the one in question.

It is really appalling the number of people who, obtaining trade cards by fair means or foul, make use of them as above. This is not the only incident of its kind that has happened to us, but is a fair example.

In conclusion, I would earnestly appeal to the trade that in a case like the above they refuse to supply goods until assured of the customer's bona fides.—Yours truly,

UNION MOTOR CAR COMPANY.

CHANGE-SPEED GEAR TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Could you or any of your readers explain the reason the change-speed gear of my car grinds on the second speed? I have had a new shaft and one new wheel fitted, but still the grinding goes on.—Yours truly,

CONSTANT READER.

[It would assist matters if readers will give fuller details from which to diagnose troubles. The grinding noise on the second speed of the car of "Constant Reader" may be due to several causes that a careful examination should at once reveal. If, for instance, the wheel with which the new one meshes is worn on the pitch line the noise may result in consequence. The depth of the mesh is also important, for if either too deeply engaged, or, on the other hand, not sufficiently, a grinding noise will result. If the shaft is too long between its bearings, it will spring and cause trouble; for the teeth—especially on the second speed—will be forced out of mesh, and will moreover bear on one side only. It is possible, of course, also that the whole shaft is out of alignment, or that the new wheel supplied has been cut with a milling cutter suitable for a wheel of a different number of teeth, although of the same pitch. For each pitch has a set of cutters, each of which is only suitable for a short range in the number of teeth it can cut with any approach to mathematical accuracy. Milling cutters being very expensive, it is quite common for jobbers to employ a cutter for a far greater range of sizes than they should legitimately employ them.]

EXPLOSIONS IN THE SILENCER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or any readers of the *M.C.J.* would kindly explain why my four-cylinder engine occasionally, when starting, goes off with a bang in the exhaust, and a cloud of black smoke follows for a few seconds. Also would you explain how I can avoid this? I have had it occur about four times this last six months.—Yours truly,

A CONSTANT READER.

[Explosions in the silencers happen occasionally on the best regulated cars, and are sometimes rather alarming to nervous people. Of course, directly anyone turns the starting handle round the engine will commence, if the initial charges are not fired in the cylinders, to pump them along the exhaust pipe and so into the silencer. Once there, the chance of an explosion taking place or not depends on whether the first time the engine fires there be sufficient continuity of heat to reach the explosive vapour in the box. And the force of the explosion will depend on the quantity and proportion of oxygen to hydro-carbon of which the particular mixture in question happens to be composed. Unduly retarding the ignition in starting up is conducive to these explosions, as also is the habit of turning the starting handle round repeatedly before switching on. The black smoke shows that the mixture is too strong.]

"NOT in the Trade" writes in agreement with Mr. Percy Richardson's letter of last week.

THE SOUTH HARTING HILL CLIMB.

ON Wednesday of last week the annual hill-climb of the R.A.C. at South Harting was held in weather which was not altogether enjoyable. It was at a very early hour when many of the competitors left town for the hill-climb, going by way of the Portsmouth road to Liphook, where the cars were weighed at the railway station at 8 a.m.

From thence the journey was made to South Harting, where the competitions commenced an hour before noon. Mr. M. O'Gorman was judge, Mr. A. V. Ebbelwhite starter, Mr. J. Lyons Sampson clerk of the scales, Mr. F. P. Armstrong head marshal, with Mr. J. W. Orde as secretary, and Col. H. C. L. Holden, R.A., Major T. H. Cochrane, R.E., and Capt. R. K. Bagnall-Wild, R.E., as clerks of the course. The measured distance was about a mile.

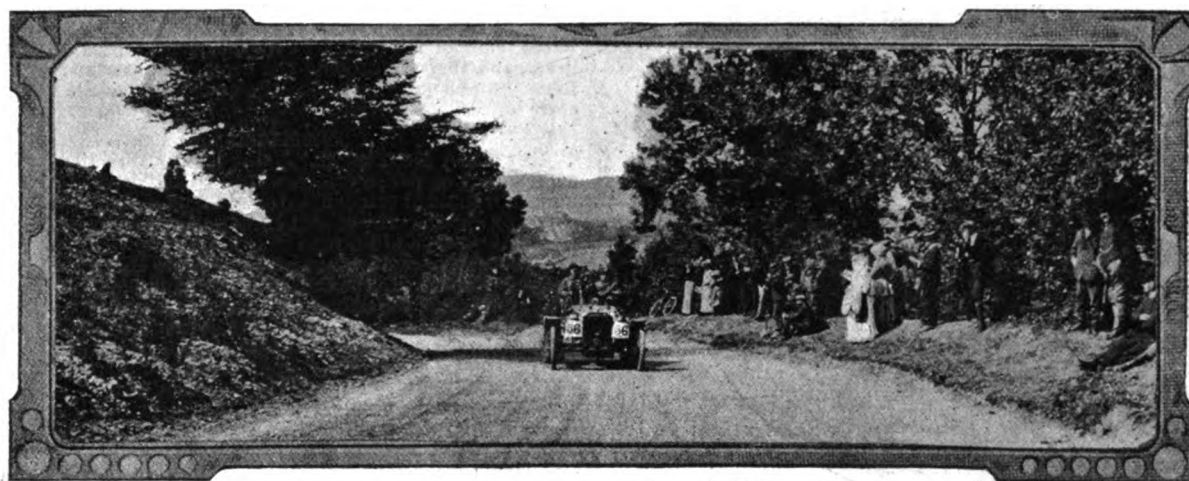
For the "Yellow" trophy there were fifty-five entries, and a large proportion faced the starter. This is open to vehicles fitted with internal combustion engines complying with the following conditions:—Cylinder diameter in inches squared multiplied by the number of cylinders must not be less than forty-five nor greater than 151; and to steam vehicles the maximum brake horse-power of whose engines for a given period has been ascertained by the Club, and found within the limits of corresponding maximum brake horse-power of the internal combustion engines.

The fastest time was made by Mr. C. Edge, on the 60-h.p. Napier, with Mr. Frederic Coleman's White steam car a close second. The result of the handicap was as follows:—White steam (Coleman), 1; Clement-Talbot (Stokes), 2; Clement-Talbot (Deacon), 3; Berliet (Watson), 4; Clement-Talbot (Hedge), 5; Deasy (Lewis), 6; Clement-Talbot (Viscount Ingestre), 7; Napier (Newton), 8; Clement-Talbot (Day), 9; Maudslay (Verney), 10; Deasy (Graham), 11; Daimler (Goddard), 12; Dietrich (Phillips), 13.

Climax	...	Thos. Watson	...	23.8	6	80	3 39 3.5
De Dion	...	J. W. Stock	...	26.4	4	4 1/2	4 4 1.5
De Dion Bouton	...	Walter Munn	...	20.05	4	90 mm.	4 13 1.5
Germain	...	H. Ramoisay	...	21.0	4	3.6221	3 22 3.5
Thornycroft	...	T. Thornycroft	...	48.6	6	4 1/2	2 22 3.5
Thornycroft	...	H. Niblett	...	32.4	4	4 1/2	3 11 1.5
Mass	...	A. F. King	...	30	4	110 mm.	3 7 2.5
Iris	...	H. C. Earp	...	40	4	5	2 40 1.5
Iris	...	A. E. Perman	...	40	4	5	3 23 3.5
Iris	...	G. J. F. Knowles	...	43.35	6	4.25	2 50 3.5
Iris	...	F. R. S. Bircham	...	43.35	6	4.25	2 29
Minerva	...	Miss D. Levitt	...	41	6	105 mm.	2 36 3.5
Buick	...	H. H. Sternberg	...	20.25	2	4 1/2	4 6 1.5
Osterfield	...	D. S. Cox	...	19.6	4	3 1/2	5 9 1.5
Cadillac	...	F. S. Bennett	...	25.6	4	4	3 53 2.5
Daimler	...	G. S. Barwick	...	55.8	4	5.906	2 2 1.5
Daimler	...	O. Bush	...	55.8	4	5.906	6 30 4.5
Clement-Talbot	...	F. Martin	...	24.8	4	3.937	4 35 4.5
Humber	...	E. Gould	...	24	4	3 1/2	4 23 4.5
Daimler	...	Herbert Musker	...	44.44	4	5.27	2 8 1.5

In the closed event No. 1, for vehicles fitted with internal combustion engines complying with the following formula:—Cylinder diameter in inches squared multiplied by the number of cylinders must not exceed sixty-five, the times of the cars were:—

Name of Car.	Driver.	R.A.C. Rating.	No. of cyls.	Bore of cyls.	Time up hill. M. s.
Ford	Percival L. D. Perry	22.5	4	3 1/2	3 23 4.5
Beeston-Humber	T. C. Pullinger	24.75	4	3 1/2	3 31 3.5



The South Harting Hill Climb.—The Ford Four-Cylinder Car on the steep part of the hill.

Below we give the times of the various cars that made the ascent:—

Name of Car.	Driver.	R.A.C. rating.	No. of cyls.	Bore of cyls.	Time up hill. M. s.
"White" Steam car	Frederic Coleman	—	2	3 in. & 6 in.	1 53 3.5
Thames	W. T. Clifford-Earp	60	6	5	2 21 1.5
Lorraine-Dietrich	W. H. Phillips	52.9	4	5 1/2	1 59 1.5
Brooke	S. W. Humphery	43.35	6	4 1/2	2 27 4.5
Talbot	W. Stokes	24.75	4	3 1/2	2 43 1.5
Deasy	E. W. Lewis	27.2	4	4 1/2	2 45
Scout	J. Percy Dean	19.6	4	3 1/2	4 48 4.5
Clement-Talbot	G. Day	18	4	3.355	3 10 2.5
Clement-Talbot	J. Hedge	20.09	4	3.543	3 19 2.5
Clement-Talbot	Viscount Ingestre	27.3	4	4.134	2 14 1.5
Daimler	John Goddard	44.6	4	5.281	2 3 4.5
Napier	Cecil Edge	60	6	5	1 51 3.5
Napier	F. Newton	38.4	6	4	2 17 1.5
Berliet	J. Brookes	35.6	4	120 mm.	2 13 1.5
Berliet	J. E. Hutton	48.6	4	140	1 57
Gracile	C. H. Saunders	45.2	4	135	2 25 2.5
Maudslay	R. H. Verney	40	4	5	2 30
Berliet	W. Watson	36.1	4	4 1/2	2 3 4.5
Clement-Talbot	R. E. Deacon	18	4	3.355	3 18 1.5
Deasy	P. Graham	27.2	4	4 1/2	3 3 4.5
Alldays	M. Taylor	22.5	4	3 1/2	6 8 4.5
Climax	H. Lamb	22.4	4	3.74	5 30

Clement-Talbot	W. Stokes	24.8	4	3.937	2 48 4.5
Alldays	E. Armstrong	11.25	2	3 1/2	5 0
Alldays	E. J. Blakemore	11.25	2	3 1/2	3 25 4.5
Alldays	Claude M. Taylor	22.5	4	3 1/2	5 17 3.5
De Dion Bouton	Walter Munn	20.05	4	90 mm.	3 50 1.5
Germain	H. Ramoisay	25.75	4	4.0158	2 15 2.5
Thornycroft	Tom Thornycroft	22.5	4	3 1/2	3 12 1.5
Minerva	J. T. C. Moore-Bazon	25.8	4	102 mm.	3 4 2.5
Cadillac	F. S. Bennett	25.6	4	4	3 23 2.5
Berliet	J. E. Hutton	24.75	4	100 mm.	2 42 1.5
Arrol-Johnston	E. A. Rosenheim	2.56	4	4	2 45 1.5

Mr. H. Ramoisay on the 20-h.p. Germain was the winner, with Mr. J. E. Hutton's 20-h.p. Berliet second and Mr. E. A. Rosenheim on the 20-h.p. Arrol-Johnston third. Event No. 2 was open only to members of the R.A.C. and the Sussex County A.C., and was for vehicles fitted with internal combustion engines complying with the following formula:—Cylinder diameter in inches squared multiplied by the number of cylinders must not exceed forty.

Name of Car.	Driver.	R.A.C. Rating.	No. of cyls.	Bore of cyls.	Time up hill. M. s.
Lindsay	J. Lindsay Scott	15.77	4	80 mm.	3 36 3.5
Adams	Reginald R. Smith	9.02	1	4 1/2	5 38 2.5
Alldays	E. Armstrong	11.25	2	3 1/2	5 34 2.5
Alldays	E. J. Blakemore	11.25	2	3 1/2	3 37 2.5
De Dion Bouton	H. J. Stanbon	12.37	2	3 1/2	5 0 3.5
De Dion Bouton	E. J. Underwood	6.18	1	3 1/2	4 53 3.5
Renault	E. B. Wagget	12.37	2	100 mm.	5 57 4.5

Name of Car.	Driver.	R.A.C. Rating.	... of cyls.	Bore of cyls.	Time up hill. M. s.
Peugeot ...	M. F. Mieville ...	13.6	2	4.1338	4 52 4.5
Singer ...	H. E. Hall...	15.93	4	3.4	4 18
Baby Peugeot ...	M. F. Mieville ...	6	1	3.937	7 52 3.5

Mr. J. L. Scott's Lindsay was thus the winner, followed by the All-days and Mr. H. G. Hall's Singer.

PUBLIC MOTOR SERVICES.

THE London and District Motor-bus Company, the London and Provincial Motor-bus and Traction Company, the Motor-bus Company, and the London Motor Omnibus Company are about to amalgamate to form the Vanguard Motor-bus Company (Ltd). The shareholders in all the four companies named met on the 10th inst. and confirmed resolutions passed at previous meeting: for the voluntary liquidation of their undertakings.

THE House of Commons Committee has given the Sheffield Corporation power to run motor-omnibuses within the city, but has declined to sanction routes beyond the boundaries of the town.



Mr. Cecil Edge making the ascent of South Harting Hill on the 60-h.p. Six-Cylinder Napier.

IN confirming the permission of the Commissioner of Police of the Metropolis to allow public motor char-a-bancs in London, Sir E. R. Henry makes a condition that the gangway shall be at least 15 in. wide and the means of ingress and egress safe and convenient.

A COLLISION between two motor-omnibuses near Putney Bridge, in the early hours of Sunday morning, resulted in injuries to half a dozen passengers and considerable damage to both vehicles.

THE Watch Committee of the Birmingham City Council has renewed the licences of two motor char-a-bancs to ply in the city.

THE Home Secretary is about to introduce legislation to remove the limitations with regard to the provision of taximeters on horse-drawn cabs.

ELECTROBUSES were running on Monday between Liverpool Street and Victoria, London, S.W.

THE first of a dozen motor-cabs that are to ply for hire in Edinburgh has been placed in Princes Street, by Mr. W. K. Muir, 69, Lothian Road, Edinburgh.

CAPTAIN HUGHES MORGAN, on his Daimler, made a non-stop run in the Welsh A.C.'s Reliability Trials on Thursday of last week.

WHILE on a visit to England recently, the Gaekwar of Baroda purchased a 24 h.p. Fiat limousine from the Motor House, Euston Road, N.W. This car was despatched to him in India when he left our shores, and is now in daily use, the Gaekwar being well pleased with his purchase.

ON the 6th inst. the annual picnic of Mr. William Lea's employees at Liverpool was held at Chester. The party, consisting of over fifty, journeyed to Chester via Warrington in motor-cars. In the unavoidable absence of Mr. Lea, Mr. C. R. Clark (sales manager) occupied the chair, being supported by Mr. E. J. Hartenfeld (works manager).

CASES UNDER THE MOTOR CAR ACT.

A LICENCE SUSPENDED.

The Earl of Caledon appeared before the Stevenage (Herts) magistrates on the 11th inst. charged with driving a motor-car to the common danger at Stevenage on June 3rd, also with failing to produce his licence when requested. His Lordship should have appeared a fortnight before, but did not do so, and a warrant was issued. He afterwards surrendered, and was admitted to bail. Mr. Ross Brown, for the defendant, now said he was not in a position to excuse the second charge, and pleaded guilty. In regard to the first charge, he asked the magistrates to adjourn the hearing owing to an important witness being in France. The chairman said it would be unfair to the prosecution to adjourn the case. Evidence was then given to show that the defendant's car left Welwyn at 5.56 p.m., and was stopped in Stevenage at 6.5 p.m. The distance was 6 miles 992 yards, and the speed worked out at 43½ miles per hour. Sergeant Brice, who stopped the car at Stevenage, said he did not know who drove the car from Welwyn to Stevenage. When the car stopped the defendant was driving. There were many people about the streets, and the pace the car travelled was extremely dangerous. The Bench convicted, and previous convictions were proved. At Horsham last December defendant was fined £25 and £9 costs for driving to the common danger, £5 for not producing his licence, and his licence was suspended for three months. The chairman said the defendant would be fined £30 and costs for driving to the common danger, and £5, including costs, for not producing his licence, and his licence would be suspended for six months.

ON THE WRONG SIDE.

At Neath Police-court, Edwin Pullman, a cycle agent, of Merthyr, was charged with driving a motor-car recklessly on the wrong side of the road. Riding a motor-cycle in the opposite direction was Mr. Catt, of Northampton, and there was a collision, the latter being thrown violently on to a hedge. For the defence it was insisted that Catt was on the wrong side of the road, that the defendant pulled across to avoid a collision, and that Catt, doing the same, ran into the car. Pullman was fined 50s. and costs for taking the wrong side of the road, and £10 and costs for reckless driving.

EXCEEDING THE LIMIT.

Sir Henry Norman, M.P., was fined £3 by the Guildford Justices on Saturday on police evidence that he had driven his motor-car at Milford at a speed of thirty miles an hour, on a clear road. Sir Henry gave notice of appeal. He offered to admit exceeding the speed limit, but denied the thirty miles rate.

THERE were two prosecutions under the Motor Car Act at Coventry on the 11th inst. In the case of Henry Hudson, chauffeur to a Leicestershire gentleman, the offence alleged was driving at a speed dangerous to the public. He was on the high road between Foleshill and Bedworth, and went over cross roads at, it was alleged, thirty-five miles an hour. A previous conviction in Northamptonshire was proved, and defendant, who pleaded guilty, was fined £5 and costs.

THE other case was against John Henry Slingsby, a Nuneaton solicitor, who was said to have driven past Longford Police Station at from thirty-five to forty miles an hour, and failed to stop when Superintendent Drakeley signalled him to do so. Defendant and his solicitor (Mr. W. Maddocks) contested the police evidence as to speed, Mr. Slingsby's case being that he travelled between Coventry and Bedworth at the rate of only twenty miles. The magistrates imposed a fine of £1.

Several motorists have been fined at Ayr, Wokingham, Odiham and at Huntingdon for exceeding the legal limit.

CHEQUES NOT TAKEN.

A motorist convicted at Kingston of exceeding the speed limit tendered a cheque in payment of the fine, but the magistrates would not accept it, and gave him a week in which to pay the money. Mr. W. Y. Cockburn remarked that recently a motorist who tendered a cheque in payment of a fine stopped the cheque immediately he got out of court.

EXCEEDING PARK REGULATIONS.

At Bow Street, London, the Earl of Caledon was summoned on Monday for driving a motor-car in the Mall, St. James's Park, at a pace exceeding the limit of ten miles an hour. He was represented by Mr. Granville Kenyon, solicitor, who, on his behalf, pleaded guilty. A park-keeper stated that his lordship's car was driven over the measured furlong at the rate of twenty-one miles an hour. Mr. Marsham (magistrate): I have seen something about him in the papers, but that is not before me. There will be a fine of 40s., with 2s. costs.

THE POLICE AT MIDNIGHT.

At Bridlington, on Saturday, a gentleman who had been summoned under the Motor Car Act complained of the conduct of the police in calling at his house at midnight, and with having referred to him as a chauffeur after having been informed he was the owner of the car. The chairman agreed that the police ought not to call upon respectable citizens at midnight.

THE Seine Inferieure Circuit, on which the A.C.F. Grand Prix race was held, was tarred and rendered dustless by the Lassally Patent Tar Road Binder Machine, the total area of 400,000 square metres having been tarred within a period of five weeks. Mr. Robert Johnston, of 45, Parliament Street, Westminster, possesses the Lassally patent rights for the British Islands.

CLUBS AND ASSOCIATIONS

LINCOLNSHIRE A.C.

THE speed trials organised by the Lincolnshire A.C. in Grimsthorpe Park on Saturday, by permission of the Earl of Ancaaster, were most successful, although at one time there was every prospect of their being spoiled by rain, but happily this cleared before the time announced for the racing to take place. The conditions, however, were not at all inviting, and several intending competitors who had entered cars failed to put in an appearance. The private road through the Red Deer Park was not at all in bad condition, and the competing cars were able to make some excellent times. The length of the course was about a mile, and it incorporated the stiff ascent—which, at its steepest part, has a gradient of one in nine, and which has been the scene of several hill-climbing competitions.

There were three events, all for cars of the touring type, and the handicap was on the formula adopted by the Royal A.C., under whose closed competition rules the trials were held. The final results will not be known until the times have been before the Competitions Committee of the Royal A.C., and the club's representative, Capt. R. K. Bagnall Wild, R.C., attended to take the times, &c. These competitions also decide the winner for the year of the Newsum Challenge Cup, for the best amateur performance in the handicap, and, in addition to the prizes for amateur members of the club only, another, open to all members, was for the best performance in the handicap. All the events were from a standing start, and each competing car carried one passenger, as well as the driver, "seated side by side in fair manner." The officials engaged in the trials were:—Starter, Capt. H. E. Newsum; time-keepers, Messrs. T. E. Foster and W. Mansell; clerks of the course, Sir Hickman Bacon, Major J. A. Cole, Capt. R. K. Bagnall Wild, R.E., Mr. C. W. Pennell, Mr. C. Hardy, Mr. A. A. Padley; marshal, Dr. Gilpin; assistant marshals, Dr. Husband, Major Fowler, Mr. C. Nelson, Dr. E. H. Cragg, and Mr. W. A. Tomlinson; hon. sec., Mr. Godfrey Lowe. The names of the competitors' cars and the official times were as follow:—

CLASS A, for cars not exceeding 12-h.p.:—

	M. s.	Time.	Relative Efficiency.
Rev. T. A. Stoodley (Dowsby), De Dion	3	0 2.5	—
Dr. E. H. Cragg (Billingboro'), Baby Peugeot	3	9 2.5	3
Mr. G. E. Sanders (Scampton), De Dion	3	21	2
Dr. F. Husband (Crowland), Wolseley	3	30	1
Dr. White (Surneshead), Wolseley	3	40 2.5	—

CLASS B, for cars not exceeding 24-h.p.:—

Mr. R. S. Hogarth, Talbot	1	48 3.5	1
Mr. R. M. Wright (Lincoln), Argyll	2	14 2.5	2
Hon. M. Giffard (Boothby), Sunbeam	2	16 1.5	—
Mr. R. M. Wright, Humber	2	17	—
Dr. Husband, Spyker	2	38 2.5	3
Dr. Sharp (Brant Broughton), Richardson	2	43	—
Mr. C. Gray (Stamford), New Pick	2	51 2.5	—
Mr. G. Linnell (Deeping), Argyll	3	13 4.5	—

CLASS C, for cars exceeding 24-h.p.

Major R. H. Fowler (Louth), Siddeley	1	9 1.5	—
Mr. C. Hardy (Nottingham), Daimler	1	13 2.5	3
Col. J. S. Ruston (Lincoln), Daimler	1	33 3.5	1
Capt. Newsum (Lincoln), Daimler	1	40 2.5	—
Major J. A. Cole (Roxholm), Humber	1	48 4.5	—
Mr. A. A. Padley (Market Rasen), Humber	1	53 2.5	2
Mr. C. W. Pennell (Lincoln), Siddeley	1	55	—
Mr. C. Nelson (Lincoln), Siddeley	2	29 4.5	—

For the Newsum Challenge Cup for the best amateur performance on the handicap the winner was Dr. R. G. Hogarth, of Nottingham, and Dr. Hogarth also won the special prize open to all members of the club, for the best performance on the handicap. In Class A Dr. Husband was first, and the second prize was not awarded. Dr. Husband also won the first prize in Class B, and Dr. P. Sharp was second. In this class neither Dr. Hogarth nor Mr. R. M. Wright were eligible for the prizes. Mr. A. A. Padley was first prize winner in Class C, and Mr. Chas. Hardy was second. Col. Ruston's Daimler was not competing for prizes.

NORTH YORKSHIRE A.C.

A HILL-CLIMBING competition, promoted by the North Yorkshire Automobile Club, took place on Saturday at Garrowby Hill, a portion of the main road from York to Driffield, five miles east of Stamford Bridge. The competition was open to standard touring cars, which were handicapped under R.A.C. formula, and mustered at Stamford Bridge railway station for weighing and measuring (for wind resistance). The cars were weighed with their full complement of passengers, not one of whom was to be of less weight than 14 stones. Only petrol cars, the

property of members of the club, were eligible to compete. There were fifteen entrants, and thirteen cars competed. The distance over which the competition took place was 153 yards short of a mile, the steepest gradient being one in seven, and the average gradient one in 10.61. The cars were dispatched singly at brief intervals, and the whole of them negotiated the course, though there was a considerable disparity in the times made, which were as follows:—

8-h.p. Rover, G. W. T. Wade, Hull, 5 min. 45 2.5 sec.; 8-h.p. Rover, C. Wade, Hull, 7 min. 46 sec.; 14-16-h.p. Fiat, W. Cliff, Melbourne, 4 min. 1 1.5 sec.; 10-12-h.p. Humber, W. F. Greenwood, York, 5 min. 28 sec.; 15-h.p. Humber, D. W. Jackson, York, 6 min. 1 1.5 sec.; 16-20-h.p. Argyll, P. Saltmarsh, Saltmarsh, 4 min. 8 sec.; 22-h.p. Berliet, H. A. Watson, York, 4 min. 11 sec.; 20-28-h.p. Darracq, A. J. Atkinson, Brough, 5 min. 14 sec.; 28-h.p. Daimler, C. Wade, Hull, 3 min. 34 2.5 sec.; 28-h.p. Daimler, G. Moor, Hull, 3 min. 26 sec.; 35-h.p. Daimler, H. J. Lloyd, York, 1 min. 53 4.5 sec.; 45-h.p. Daimler, G. S. Barwick, Northallerton, 1 min. 32 sec.; 60-h.p. Itala, O. B. Pease, Richmond, 2 min. 52 4.5 sec.

The result will be announced when the handicap allowances have been adjusted. There are two prizes, one presented by the chairman of the club committee, and another by the competition sub-committee.

YORKSHIRE AUTOMOBILE CLUB.

THE committee of the Yorkshire Automobile Club has decided to hold a closed hill-climbing competition during the latter part of August.



The Motorists' Welcome, 1897 and 1907.—From a sketch by "Galop," published by the De Dietrich Company.

An excellent hill has been found, and the arrangements are now being made and will be published as early as possible.

The following gentlemen have been elected to membership of the Club:—Mr. W. H. Wilkinson, Bradford, Mr. R. Hutchinson, Leeds, and Rev. G. A. Marshall, Pickering.

CHESHIRE A.C.

THE members of this club held their third meet of the season at Plas-Newydd, Llangollen, on Saturday last, at the invitation of Mr. G. H. Robertson, J.P., who is a vice-president of the club. Members and friends to the number of eighty-five attended, and amongst those present were Messrs. Trevor Boscawen, Dr. Stevenson (vice-presidents), Col. A. H. Knight, V.D., J. Arnitt Dear, J.P., Col. Mainwaring, J. W. Harvie, J. M. Frost, J.P., E. C. Thin, M. Clover, Jun., W. H. S. Oulton, F. E. T. Briscoe, J. Clarke, Maurice Stern, and W. A. Williams.

MIDLAND A.C.

AGAIN the Midland A.C. secured success with their hill-climbing contest at Shelsley Walsh on Saturday. The committee was fortunate in obtaining the permission of Mr. M. C. Taylor to hold the contest on the road leading to the Court House in his private grounds, away from the tantalising attentions of the police. Proceedings began with the weighing in at Martley, and then a general move was made to Shelsley Walsh, which is about seven miles from the ancient city of Worcester.

Time was taken over a measured distance of 1,000 yards, and praise must be given the officials for the promptitude with which their

work was done. About one third of the length was one in six, the average being one in eight, while the bands secured the attention of the drivers to their task. The surface was in good condition, so that good times were the order of the day.

Excitement was quickly aroused, Mr. J. E. Hutton being one of the first to make the ascent, speeding away in what proved to be the fastest time, and securing the silver cup. Some entrants were disqualified because they were not in a perfectly finished condition for touring, and others had ill-luck, notably Mr. C. Sangster's 40-h.p. Ariel, which suffered from a choked petrol pipe. Eventually, however, the outstanding feature of the competition was the success of the Clement-Talbot cars, which secured four out of five places in the open handicap and the first in the closed classes.

The times and handicap points of the leading cars in each class were as follows:—

OPEN HANDICAP.

Car.	Driver.	Points.	Time.
			M. s.
1. 10-12-h.p. Clement-Talbot	T. W. Bowen	1-675	2 56 4-5
2. 15-h.p. Clement-Talbot	J. Hedge	1-4857	2 23 4-5
3. 20-24-h.p. Clement-Talbot	W. Stokes	1-4856	1 59 3-5
4. 9-h.p. Sizaire-Naudin	R. O. Clark	1-4850	2 50 2-5
5. 15-20-h.p. Clement-Talbot	Viscount Ingestre	1-467	1 31 2-5
6. 40-h.p. Napier	Sydney Smith	1-404	1 32 3-5
7. 24-h.p. Deasy	E. W. Lewis	1-385	1 54 2-5
8. 35-45-h.p. Maudslay	R. H. Verney	1-348	1 39 3-5
9. 20-h.p. Lancheater	G. H. Lancheater	1-307	2 24 1-5
10. 24-h.p. Deasy	P. Graham	1-273	2 9 1-5
11. 16-20-h.p. Sunbeam	F. Eastmead	1-254	2 38 1-5
12. 10-h.p. De Dion	C. J. Newey	1-241	4 48

CLOSED HANDICAP.

Car.	Driver.	M.	s.
1. 20-24-h.p. Clement-Talbot	W. Stokes	1-4856	1 59 3-5
2. 9-h.p. Riley	V. Riley	1-428	2 23 1-5
3. 20-h.p. Lancheater	G. M. Lancheater	1-307	2 24 1-5
4. 17-21-h.p. Daimler	A. J. Astbury	1-281	2 35
5. 24-h.p. Deasy	P. Graham	1-273	2 9 1-5
6. 10-h.p. De Dion	C. J. Newey	1-241	4 48
7. 10-h.p. Allday	C. E. Simms	1-183	3 25 2-5
8. 28-h.p. Lancheater	T. Hamilton Barnsley	1-173	1 59 4-5
9. 35-h.p. Daimler	H. C. Holder	1-167	1 19 1-5
10. 24-h.p. Minerva	G. F. Heath	1-147	2 18 1-5
11. 16-20-h.p. Calthorpe	G. W. Hands	1-144	2 18 1-5
12. 10-h.p. De Dion	W. B. Kent	1-114	4 59 3-5

Other competitors and their times were:—

Car.	Driver.	M.	s.
80-h.p. Berliet	J. E. Hutton	1	7 1-5
28-h.p. Mercedes	C. A. Bird	2	11 1-5
16-20-h.p. Rover	H. F. S. Morgan	2	41 2-5
25-30-h.p. Austin	S. C. Harrison	2	25 4-5
18-24-h.p. Austin	S. Hands	2	3 2-5
18-h.p. Siddeley	P. D. Lee	1	32
60-h.p. Napier	Cecil Edge	1	9 2-5
28-h.p. Ariel	T. Cordery	1	56 1-5
30-h.p. Ariel	P. Lewis	1	25 3-5
35-h.p. Ariel	A. E. Harrison	1	11 1-5
40-h.p. Ariel	C. Sangster	2	17 4-5
12-14-h.p. Singer	W. Perks	3	41 3-5
10-h.p. Alldays	F. W. Huband	3	44 2-5
20-24-h.p. La Hispano	W. H. Weeks	2	46
30-h.p. Siddeley	A. McCormack	1	48
20-h.p. Alldays	C. M. Taylor	3	31 4-5
10-h.p. Alldays	S. Downing	4	12 3-5
10-h.p. Alldays	E. J. Blakemore	3	18 1-5
12-16-h.p. Clement-Talbot	H. G. Day	2	28 3-5
10-h.p. Alldays	L. Meek	4	26 2-5
30-35-h.p. Ariel	G. Bird	1	44 1-5
24-h.p. Minerva	G. Patterson	2	39 1-5
9-11-h.p. Clement-Talbot	W. A. Riley	4	15 4-5
8-10-h.p. Darracq	H. P. Barker	2	35 1-5
60-h.p. Mercedes	H. du Cros, jun.	1	25 3-5
16-h.p. Star	W. Guilding	2	48
18-24-h.p. Swift	R. Burns	3	4 1-5
35-h.p. Daimler	A. E. Ansell	2	2 1-5
45-h.p. Thornycroft	Disqualified.		
16-25-h.p. Arrol-Johnston	J. Fairman	1	59 2-5
20-h.p. Arrol-Johnston	E. A. Roenheim	1	53
15-h.p. Humber	A. E. Gould	3	4 1-5
25-h.p. Arrol-Johnston	J. S. Napier	4	2 1-5
45-h.p. Daimler	G. Ison	1	24 1-5

Last year's event was won by Mr. Frederic Coleman on a White steam car. This year a change in the programme prevented petrol and steam cars competing together.

SOUTHERN MOTOR CLUB.

OVER sixty members of this club had an outing on Sunday the 7th inst. to Bourne End by steam launch from Windsor. The most noticeable function of the day was the presentation of a diamond ring to Mr.

S. W. Phillpott, the club's sports secretary, in recognition of his services in the recent open hill climb. The chairman, Mr. A. Vickers, N.C.U., in a short speech voiced the appreciation of the members for Mr. Phillpott's services, to which that gentleman made suitable reply. The garden party and gymkhana was to have taken place last Saturday but was unavoidably postponed.

ESSEX MOTOR CLUB.

ON Saturday the Essex Motor Club held their annual race meeting on the Canning Town Track. Some new records were made as follows:—

C. R. Collier beat the previous record for five miles to the finish of 51 miles 540 yards in the hour; he also rode a mile in 63 sec., beating the previous best by 1 1-5 sec.

G. A. Barnes created a flying start record for five miles in 5 min. 54 2-3 sec. and for ten miles in 11 min. 12 4-5 sec.

C. R. Collier beat the flying start mile record by 1 1-5 sec., his time being 63 sec.

In the Five Miles Handicap for Racing Motor-bicycles, with engines not exceeding 76 by 76, or the equivalent volume swept out, D. R. Clarke (2½-h.p. New Century) 25 sec. start, was first; C. R. Collier (2½-h.p. Matchless), scratch, second; H. V. Colver (2½-h.p. Matchless) 10 sec., third. Won by half a lap; third man 200 yards away. Time, 5 min. 18½ sec.

In the Ten Miles Handicap for Tourist Motor-bicycles, with engines not exceeding 90 by 90, or equivalent volume swept out, and the gear not higher than 4 to 1, with 26 in. wheels, H. A. Collier (3½-h.p. Matchless), 5 sec., was first; A. E. Dendy (3-h.p. Centaur), 50 sec., second; G. Aldington, (3½-h.p. Kerry), 40 sec., third. Won by half a lap; 50 yards between second and third. Time, 11 min. 40 1-5 sec.

One Hour Scratch Race for Racing Motor-bicycles, 76 by 76. First prize, the Du Cros Challenge Trophy (holder, H. V. Colver).—C. R. Collier (2½-h.p. Matchless), 51 miles 540 yards, first; C. E. Bennett (2½-h.p. Mansfield), 44 miles 611 yards, second; H. V. Colver (2½-h.p. Matchless), 42 miles 1,319 yards, third.

NORTH LONDON A.C.

THE gymkhana organised by the above club was held in the grounds at the rear of the Green Dragon Hotel at Winchmore Hill, on Saturday last. Owing to the threatening appearance of the weather the company was not as numerous as was expected.

The following is a list of the various events with the winners:—

Toll-gate Race.—C. Cutler.

Circle Race.—Max Graddon.

Lady Passenger Race.—Four-seated cars: 1st, Max Graddon; 2nd, C. Cutler; two-seated cars: 1st, R. F. Barker; 2nd, A. E. Robertson.

Obstacle Race.—C. Smith.

Egg and Spoon Race.—Mrs. Kent, driver Mr. Kent.

Coach House Race.—C. Smith.

*Glass of Water Race.—J. Cogdale, driver C. Cutler.

Motor Musical Chairs.—Miss Healy, driver A. E. Robertson.

Captain Cecil Banbury was judge, Mr. C. Cannon the timekeeper, and Mr. J. T. Barber starter.

The prizes were subsequently distributed by Colonel H. F. Bowles, J.P., president of the club.

* Time limit, 20 sec. Competitors penalised 5 marks for every second exceeding the 20 sec., and 5 marks for every ¼ in. of water spilt.

BRISTOL AND GLOUCESTERSHIRE A.C.

THE results of the Birdlip Hill climb of the Bristol and Gloucestershire A.C. are as follows:—

Class A, for two-seated cars the cost of which does not exceed £250. Gold medal, 9-h.p. Riley, entered by Mr. H. E. Steel; silver medal, De Dion, entered by Mr. A. G. Elder.

Class B, for cars costing not more than £400. Gold medal, 10-h.p. De Dion, entered by Mr. R. M. Fisher; silver medal, 10-h.p. Clement-Talbot, entered by Mr. W. G. Bridges.

Class C, for cars not exceeding £600 in cost. Gold medal, special silver medal and special Motor Union medal, 15-20-h.p. Clement-Talbot, entered by Viscount Ingestre; silver medal, 12-16-h.p. Clement-Talbot, entered by Mr. E. A. Stretton.

Class D, for cars exceeding £600 in cost. 24-28-h.p. Metallurgique, entered by Mr. O. Copper; silver medal, 45-55-h.p. Morris, entered by Mr. L. Carle.

The winner of the silver cup for the fastest time of the day was Mr. George Young, on a 45-h.p. Daimler.

BLACKHEATH.

ON Saturday the Blackheath A.C. had a speed gauging competition and picnic tea in Holwood Park. The event was thoroughly enjoyed amid beautiful surroundings by some sixty members and friends. Two runs, at varying speeds, were arranged over a measured distance in the park. Fifteen cars competed. The winner of the first prize was Mr. Horace A. Cunis (18-h.p. Regent) and Mr. Alexander Duckham (14-h.p. Germain) the second prize. The winner of the prize in the visitor's class was Mr. C. W. Woodall (15-h.p. Darracq). Professor Lambert and Messrs. Frank W. Jackson, Quick and Stanley Marshall acted as observers and timekeepers.

MANCHESTER A.C.

At the hill-climbing competition of the Manchester A.C. on Werneth Low, on Saturday last, the prize for the fastest time was won by Mr. J. Higginson, jun., with his 80-h.p. La Buire. The results on the formula which had been arranged for handicapping were as follows:—Class 3, for cars of 24-h.p. and under:—(1) J. Arrowsmith, 18-24-h.p. Horbick; (2) R. Crossley, 20-h.p. Belsize. Class 4:—(1) H. Hollingdrake, 35-50-h.p. La Buire; (2) A. Birtwistle, 35-45-h.p. Daimler.

The H.P. formula used was $\frac{D^2 \sqrt[3]{SN}}{5}$, and for handicapping Weight

Time \times H.P.

The Motor Union medal for the best performance on handicap irrespective of class was won by J. Arrowsmith, 18-24-h.p. Horbick.

THE MOTOR UNION.

THE Motor Union will visit Southport to-day (Saturday), where they will be the guests of the Liverpool Automobile Club. In the morning the general committee will meet at the Town Hall, and the members of the committee will be officially welcomed by the Mayor. After the meeting they will be entertained at luncheon by the Mayor and Corporation. In the afternoon there will be a gathering at Knowsley, by invitation of the Earl of Derby, president of the Liverpool Club and

ment. Motoring pictures on the bioscope formed one of the principal features of an exceptionally strong programme, and very wonderful were these reproductions of some really exciting racing. The audience watched the race for the Grand Prix at Dieppe with tense nerves, and motorists present agreed that nothing more thrilling has ever been seen on the bioscope. After the performance a large number of members adjourned to the Motor Club for supper.

THE AUTO-CYCLE CLUB.

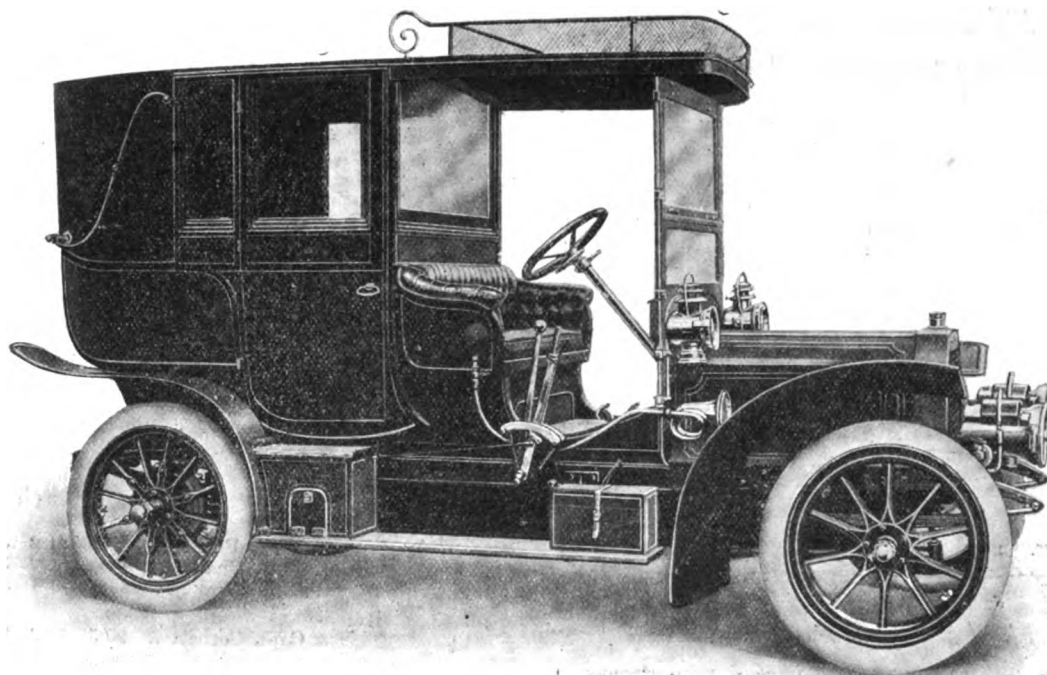
THE total distance to be covered by the competitors in the forthcoming six-days' trial will be 1,002 miles. The route chosen for this year's trial covers some new ground and should be valuable in popularising the motor-cycle in Wales. All descriptions of roads will be travelled by the competitors, from the flat roads of the Fen district to the charming but hilly roads of North Wales, whilst on the last day competitors have to climb the famous Birdlip Hill after leaving Gloucester.

It has been definitely settled that the annual race meeting will be held at the Canning Town track on Saturday, August 10th. The M.C.J. cup will be competed for.

HERTFORDSHIRE COUNTY A.C.

ON Saturday the members and friends of this club were entertained by Mr. Ernest Webster, the chairman and Mrs. Webster at their charming place at Berkhamsted.

On Saturday the 27th inst. the club will hold an open hill climbing



The Vauxhall 12-16-h.p. Landaulet. (See page 457.)

father of the late chairman of the Union—the Hon. Arthur Stanley, M.P. In the evening the eighth provincial dinner of the Union will be held at the Prince of Wales Hotel, Southport, when the chair will be taken by Mr. W. Becket Hill (chairman of the Liverpool Club), supported by Mr. C. D. Rose, M.P., the Mayor of Southport, and many well-known automobilists. The main thoroughfares of Southport will be illuminated in honour of the occasion.

The latest returns of the membership of the Motor Union show an influx of members during the past ten weeks which probably constitutes a record for any motoring organisation. At May 6th the membership was returned as 15,500, while it now totals 17,500, showing an increase of 2,000 in the ten weeks an average of 200 new members per week.

THE MOTOR CLUB.

THE Motor Club's re-union at the Palace Theatre (London) last week was a brilliant success, all available space was occupied, and the greatest enthusiasm prevailing throughout the evening. Col. W. J. Bosworth, the chairman of the Motor Club and president of the Automobile Association, occupied one of the private boxes, supported by Mr. Walter Gibbons and Mr. Holmes Kingston, the club secretary, while Mr. Charles Jarrott, Mr. L. Schlentheim, Mr. Whittaker and Mr. C. Edge were to be seen in other boxes.

The theatre wore a festive appearance, the boxes being draped with the club flag and banners, and every member displaying in his button-hole a flower made up in the club colours and presented by the manage-

handicap on Aston Hill. Entries close at 6 p.m. to-day (Saturday). There will be four classes for petrol cars and one for steam vehicles.

THE hill-climbing competition of the Essex County A.C., originally fixed for to-day (Saturday), has been postponed to the 27th inst.

THE fastest times at the Southend and District Motor Club's hill climb last week were made by Mr. Perry's 15-h.p. Ford car and Mr. Head's 16-20-h.p. Humber.

THE Southend and District Motor Club Journal is the latest addition to official literature, and reveals considerable enterprise on the part of the committee and no lack of judgment in the editorial sanctum.

THE Sheffield and District A.C. will hold its third annual gymkhana at Niagara Grounds, Wadale Bridge, on the 25th inst. The usual features of such events will be arranged, one of the most interesting being the contest in balancing a car on a rocking platform.

MR. JOSEPH R. BRAMAH, of Chapel Walk, Sheffield, is devoting much attention to the manufacture of radiators and engine bonnets for motor-cars; mud-guards are another speciality of the firm, these being made in planished steel or aluminium with moulded edges.

MR. TOM WILLIAMS will shortly commence a tour of all the principal towns in England with a 12-16-h.p. "Vauxhall" car, with the object of explaining the details of the machine to members of the trade. This car will be the 1908 model and fitted with large cylinders and an inclined engine. Agents who would like to try the vehicle should write to Vauxhall Motors, Ltd., Luton, for an appointment.

THE IRISH RELIABILITY TRIAL.

OFFICIAL AWARDS.

In our issue of June 1st we gave a full report of the Irish Reliability Trials organised by the Irish A.C., with Dublin as the radiating centre from which runs were made on the four days of the trial. We are now able to give the official awards in connection with the event, prefacing the list with the intimation that in Classes C, D and H of the limited section and Class A of the open section no awards were made. Attention should also be called to the fact that the awards of a silver medal in some classes, and in others gold, does not mean that the cars that received the former did less meritorious performances; the class of medal depended on the entries received for each class.

The 200-guinea Dunlop Challenge Cup for the best performance of all the cars in the open section was won by the 15-h.p. Clement-Talbot car, entered and driven by Mr. S. T. Robinson, of Dublin.

The 100-guinea Dunlop Challenge Cup for the best performance of cars in the limited section was won by the 20-h.p. Clement-Talbot, entered and driven by Mr. Walter Sexton, the hon. treasurer of the Irish Club.

The Goff Cup for the car showing the least cost per ton per mile for fuel consumption was won by the 15-h.p. Humber, entered and driven by Mr. J. B. Dunlop, jun.

The awards in the price classification classes are as follows:—In Section 1 (open) the winners of gold medals were: Class B, 15-h.p. Ford; Class D, 16-20-h.p. Calthorpe; Class E, 15-h.p. Clement-Talbot; Class F, 30-h.p. Beeston-Humber; Class G, 35-45-h.p. Daimler. Silver medals have been awarded as follows:—Class C, 10-h.p. Chambers; Class H, 40-h.p. Hotchkiss.

The order in Section 1 (open classes) was as follows:—

CLASS B.

Car.	Entrant.	Hill Mark.	Speed Test Mark.	Fuel Mark.	Reliability.	Total.	Place.
15-h.p. Ford	P. L. D. Perry	120.0	59.5	48.8	1,199	1,427.3	1
10-12-h.p. Swift	R. Burns	115.6	54.1	51.3	1,200	1,421.0	2
7-h.p. Star	W. D. Turner	82.9	41.1	53.1	1,200	1,377.1	3
10-h.p. Cadillac	F. S. Bennett	91.8	52.9	48.7	1,176	1,369.0	4
10-h.p. Chambers	J. W. Hurst	54.9	46.9	51.5	1,113	1,336.3	5
9-h.p. Adams-Hewitt	A. W. Inglis	106.7	60.0	52.8	1,106	1,325.5	6
15-h.p. Ford	R. W. Archer	32.5	40.9	18.5	1,160	1,251.9	7

CLASS C.—£150 to £250, four seats.

10-h.p. Chambers	J. H. Chambers	120.0	60.0	60.0	1,200	1,440.0	1
9-10-h.p. Cadillac	F. S. Bennett	113.4	53.9	48.3	1,200	1,415.6	2

CLASS D.—£250 to £350.

16-20-h.p. Calthorpe	G. W. Hands	120.0	60.0	46.1	1,194	1,420.1	1
10-h.p. Chambers	C. E. Chambers	69.7	44.2	52.7	1,200	1,366.6	2
12-14-h.p. Singer	Singer Motor Company	95.3	43.9	57.4	1,164	1,360.6	3
12-14-h.p. Argyll	A. Govan	74.5	38.2	37.1	1,200	1,349.8	4

CLASS E.—£350 to £500.

15-h.p. Clement-Talbot	S. T. Robinson	116.8	60.0	60.0	1,200	1,436.8	1
15-h.p. Clement-Talbot	Viscount Ingestre	113.8	59.0	51.7	1,200	1,424.5	2
15-20-h.p. Unic	R. J. Mecredy	91.3	52.7	55.6	1,200	1,399.6	3
18-22-h.p. C.C.C.	A. Armitage	91.4	52.1	52.2	1,200	1,395.7	4
20-h.p. Belsize	R. Crosley	120.0	51.9	42.4	1,179	1,393.3	5
15-20-h.p. Unic	E. M. Stirling	83.2	54.7	50.2	1,200	1,388.1	6
16-20-h.p. Chenard-Walcker	W. Guttman	81.8	46.9	53.8	1,200	1,382.5	7
14-16-h.p. Argyll	A. Govan	92.3	52.4	29.3	1,177	1,351.0	8
14-16-h.p. Argyll	J. R. Kenny	68.8	48.8	39.9	1,172	1,329.5	9
10-h.p. Turner-Miesse	J. B. Dumbell	89.0	39.3	39.2	1,089	1,256.5	10

CLASS F.—£500 to £650.

30-h.p. Beeston-Humber	T. C. Pullinger	117.3	60.0	57.1	1,200	1,434.4	1
20-h.p. Clement-Talbot	Earl of Shrewsbury	100.4	56.1	58.8	1,200	1,415.3	2
18-24-h.p. Austin	Harvey Du Cros, jun.	108.8	45.4	58.2	1,200	1,411.8	3
25-30-h.p. Straker Squire	Sidney Straker	120.0	57.6	32.4	1,200	1,410.0	4
18-h.p. Siddeley	Wolseley Motor Company	102.4	51.7	52.8	1,200	1,409.5	5
18-24-h.p. Swift	Robt. Burns	99.1	45.9	54.5	1,200	1,399.5	6
18-h.p. Siddeley	Wolseley Motor Company	96.6	52.9	47.2	1,200	1,396.7	7
22-30-h.p. Berliet	W. Watson	96.0	50.1	40.1	1,200	1,386.2	8
16-20-h.p. Sunbeam	Fred. Eastmead	84.3	44.3	56.9	1,200	1,385.5	9
20-24-h.p. Clement-Talbot	Thompson Motor Company	99.0	50.4	42.5	1,191	1,382.9	10

40-h.p. Ford	P. L. D. Perry	87.4	50.9	32.9	1,197	1,368.2	11
14-h.p. Climax	Climax Motor Company	78.2	40.8	29.4	1,200	1,348.4	12

CLASS G.—£650 to £850.

35-h.p. Daimler	Thos. Henshaw	120.0	50.7	51.8	1,200	1,422.5	1
30-40-h.p. Ariel Simplex	E. Herington	106.1	60.0	52.5	1,179	1,397.6	2
30-h.p. Siddeley	Wolseley Motor Co.	95.4	49.3	49.6	1,200	1,394.3	3
28-38-h.p. Ariel Simplex	E. Herington	87.2	42.8	56.6	1,200	1,386.6	4
35-45-h.p. Gladiator	W. F. Peare	80.8	49.8	55.9	1,200	1,386.5	5
30-h.p. Siddeley	Wolseley Motor Co.	92.3	50.4	46.6	1,197	1,386.3	6
28-42-h.p. Brasier	E. M. Stirling	81.0	47.5	51.0	1,195	1,374.5	7
25-30-h.p. Austin	Thos. Watson	75.2	45.7	48.3	1,200	1,369.2	8
25-30-h.p. Austin	Herbert Austin	73.1	48.4	40.8	1,199	1,361.3	9
25-h.p. Iris	A. E. Perman	65.8	43.2	33.5	1,200	1,342.5	10

CLASS H.—Exceeding £850.

40-h.p. Hotchkiss	Capt. Corbett	120.0	60.0	60.0	1,080	1,320.0	1
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In Section 2 (limited to private owners) gold medals were awarded as follows:—Class B, 10-12-h.p. Swift; Class E, 15-20-h.p. Unic; Class F, 20-24-h.p. Clement-Talbot; Class G, 35-h.p. Daimler.

CLASS B.

10-12-h.p. Swift	F. Carter	120.0	60.0	60.0	1,198	1,438.0	1
10-h.p. Chambers	Jas. Hurst	67.4	51.4	49.4	1,183	1,351.2	2

CLASS E.

15-20-h.p. Unic	B. J. Mecredy	120.0	60.0	51.2	1,200	1,431.2	1
15-h.p. Humber	J. B. Dunlop, Jun.	89.0	53.3	59.2	1,200	1,402.1	2
14-16-h.p. Argyll	J. H. Kenny	90.5	55.6	38.5	1,172	1,356.4	3

CLASS F.

20-24-h.p. Clement-Talbot	W. Sexton	120.0	60.0	59.6	1,200	1,439.6	1
18-24-h.p. Austin	H. P. Wilson	111.0	53.2	58.7	1,198	1,420.9	2
24-h.p. Minerva	T. M. Greer	109.1	51.1	51.0	1,200	1,411.2	3
15-h.p. De Dion	G. B. Geake	63.7	41.0	32.5	1,146	1,283.2	4
22-h.p. Orleans	Capt. Lindesay Knox	15.6	33.1	7.3	1,182	1,238.0	5

CLASS G.

55-h.p. Daimler	T. Henshaw	120.0	59.4	48.5	1,200	1,427.9	1
25-36-h.p. Brasier	T. M. Downie	86.2	60.0	57.4	1,200	1,403.6	2
32-h.p. Maxwell	H. A. Browning	69.7	52.5	29.3	1,172	1,323.5	3

In the Cup marks the order in Section 1 was:—

15-h.p. Clement-Talbot	S. T. Robinson	120.0	60.0	54.56	1,200	1,434.56	1
35-h.p. Daimler	T. Henshaw	103.6	48.9	50.4	1,200	1,402.7	2
60-20-h.p. Calthorpe	G. W. Hands	108.0	57.1	40.9	1,194	1,400.7	3
30-h.p. Beeston-Humber	T. C. Pullinger	92.02	51.2	56.4	1,200	1,398.8	4
10-h.p. Chambers	J. H. Chambers	90.9	51.9	36.3	1,200	1,379.2	5
15-h.p. Ford	P. L. D. Perry	85.6	46.9	32.2	1,199	1,363.7	6
40-45-h.p. Hotchkiss	Capt. Corbett	90.5	48.3	22.7	1,088	1,241.7	7

Section 2 resulted as follows for Cup marks:—

20-24-h.p. Clement-Talbot	W. Sexton	120.00	60.00	53.38	1,200	1,433.38	1
15-20-h.p. Unic	R. J. Mecredy	116.4	56.96	53.0	1,200	1,426.36	2
35-h.p. Daimler	T. Henshaw	114.92	49.46	52.90	1,200	1,416.65	3
10-12-h.p. Swift	F. Carter	100.20	52.56	43.62	1,198	1,394.38	4

THE Portlao car which competed in the A.C.F. Grand Prix Race was fitted with Peter Simplex rims and tyres.

THE first serious effort of the Palmer cord tyre in the Scottish trials was an unequalled success. Ten cars were fitted with Palmers; nine completed the course, while the tenth covered the greater portion of the course before it was withdrawn, but suffered no tyre troubles. The tyre mileage of these cars collectively amounted to 27,554½, and only two punctures are recorded in that distance. In the Leicestershire A.C. meet, Capt. Byron won the Hartopp Challenge Cup and two gold medals with his Minerva car shod with Palmer cord tyres. At the North Wales Hill Climb, Mrs. Parry won with her 12-16-h.p. Clement-Talbot fitted with Palmers. In the Leeds to Edinburgh twenty-four hours' reliability trial for motor-cycles, four gold medals were won by riders of Triumphs and other machines fitted with Palmer tyres.

MESSRS. CRAVENS, LTD., of Darnall, Sheffield, the makers of the automatic carburettor described in a recent issue, have sent us a specimen of a handy little waistcoat pocket gauge for measuring the correct gap at the points of a magneto sparking plug and the distance the points should separate at the contact maker, they have lately introduced. The two gauges are hinged and duly marked, one showing the proper gap for the sparking plug, viz., 4 of a millimetre; the other, the space recommended by the Simms-Bosch Company for the separation of the points at the contact maker, viz., 5 of a millimetre. The company will be glad to send one of the gauges to any applicant on receipt of a stamped addressed envelope.

ROAD REPORTS.

INVERNESS.—The ten mile speed limit is now enforced through the main road leading through the village of Newtonmore from a point opposite to where the Strone road branches from the main street or road to the junction of the roads leading to Dalwhinnie and Fort William respectively, nearly opposite the Newtonmore Hotel, thence (a) to a point on the road leading to Dalwhinnie, fifty yards south-west of where said road intersects or crosses the road leading to Newtonmore Railway Station, and (b) to a point on the road leading to Fort William, 100 yards west of where the road is joined by the said road leading to Newtonmore Railway Station.

WINDSOR.—The only main road under repair in the borough during the next month will be the St. Leonard's Road, the road leading from the centre of the town to Ascot.

GUILDFORD.—Nothing further will be done to the main and district roads of this town, as regards metalling, until the fall of the year, but several miles of roadway will be disturbed in putting in new water mains, including London Road, Aldershot Road, Worplesdon Road and Woking Road—a fact of which motorists should make note.

BRIGHTON.—At present there is no intention on the part of the Borough Surveyor of Brighton to repair any of the main roads leading in or out of Brighton, within the boundary.

BEXHILL.—The local authorities have just completed the repairs on the main roads leading out of the town, and they are all now in order. No further repairs in the immediate future are contemplated.

KENDAL.—The roads within this borough are in good condition and no extensive repairs will be undertaken within the next few weeks. Notice boards have been fixed at roads on the borough boundary requesting motorists to drive slowly through the town.

SOUTHPORT.—One of the roads in Southport known as Rufford Road (about three miles N.E. of the town), is now being converted from a stone paved road into a tar-macadam road for a length of about a mile. This is the main road between Southport and Preston, and the portion under repair is in Crossens village. Motorists using this road for the next two months should exercise great care. Mr. R. P. Hirst, the Borough Engineer, is sorry at having to do this work at this time of the year, but the bad weather prevented it being done earlier.

HERTFORDSHIRE.—The Hertfordshire County Council are spending £200 in tar-coating certain lengths of road as an experiment against dust, and at the meeting on Monday they contributed £12 to the Stevenage Urban Council towards the cost of treating part of the Great North Road at Stevenage to obviate "the serious nuisance caused by motor traffic."

ABERFELDY.—A ten mile limit is now being enforced at Aberfeldy, which will have the effect of barring to the future Scottish trials a portion of the hill that was selected for the climb on the last day in the recent event.

THE COMMERCIAL VEHICLE TRIALS.

In our issues of the 6th and 13th inst. we gave the first twenty-seven entries in the R.A.C. trial. We now add the later entries received as follows:—

Entrant.	Class.	Net Load.	Nature of Vehicle.
28. A. R. Atkey and Company, Ltd.	E.	60 cwt.	Atkey Gimson Waggon.
29. William Foster and Company	H.	120 cwt.	Wellington Steam Tractor.
30. Etablissement Turgan, Ltd.	A.	10 cwt.	Parcels Delivery Car.
31. Albion Motor Car Company	B.	20 cwt.	16-h.p. Albion Lorry.
32. Etablissement Turgan, Ltd.	E.	60 cwt.	Delivery Van.
33. Yorkshire Patent Steam Waggon Company			
34. Milnes-Daimler Ltd.	D.	40 cwt.	Delivery Van.
35. De Dion Bouton, Ltd.	A.	10 cwt.	Delivery Van.
36. De Dion Bouton, Ltd.	E.	60 cwt.	Lorry.

Entries at the ordinary fee of £25 per vehicle were received up to Saturday last. Until 12 noon on Saturday, 10th August, the fee is £30 per vehicle. No entries will be accepted after that date.

CRIPPLED CHILDREN'S OUTINGS.

ON Saturday about a hundred of Sheffield's crippled poor children enjoyed the delights of a motor-car trip to Bamford in cars kindly lent for the purpose by members of the Sheffield and District Automobile Club. This idea of a motor picnic for children originated with Mr. T. H. Firth, and he it was who arranged the event which was such a success about twelve months ago. On Saturday over forty private cars went in response to Mr. T. H. Firth's invitation, many of them driven by the owners themselves, so that it was possible to take a greater number of children than on the previous run.

On Wednesday the crippled children of Accrington and district were taken for an outing by local members of the automobile club. The arrangements were in the hands of the Mayor (Mr. T. E. Higham). Last year the North-East Lancashire Automobile Club organised an outing for the crippled children of Blackburn and Preston. They were requested by the Ragged School authorities to repeat the event for the Blackburn children this year, but the committee pointed out that the district covered by the club embraced the whole of North-East

Lancashire, and that under these circumstances they felt obliged to give first consideration to the districts not included in last year's events. Accordingly, the crippled children of Padiham, Burnley, and Colne on the one hand, and of Darwen, Chorley and district on the other, have been the first to be considered this summer.

On Thursday of last week an outing for the crippled children of Nottingham was arranged by the members of the Nottingham Automobile Club, who placed forty motor-cars at the disposal of 137 unfortunate children. Mr. Booth Grainger, the hon. sec. of the Nottingham Club, had made excellent arrangements for the marshalling of the youngsters, and Mr. C. Hardy led the procession in the first car to Bulwell Hall, where they were entertained by Mr. J. H. Hardy, whose kindness was greatly appreciated.

COMPANY NEWS.

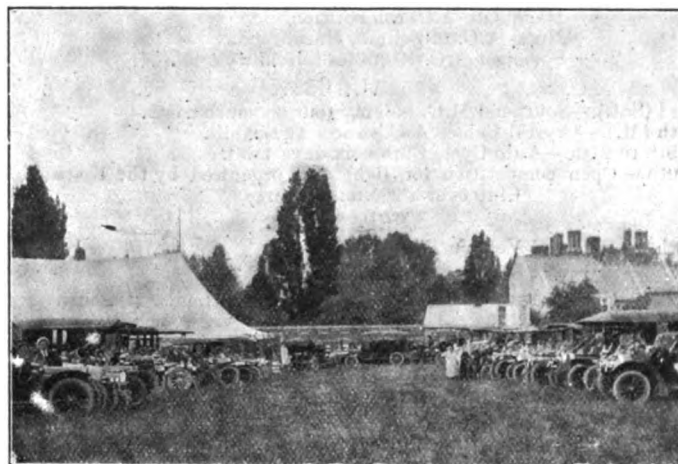
NEW COMPANIES REGISTERED.

COVENTRY MOTOR OMNIBUS COMPANY.—£5,000. First directors: Messrs. W. R. Taylor, C. H. Wootton, H. H. Hailstone, P. E. Overton, E. Woodhead, and J. Holt. 130, Cox Street, Coventry.

TAXI-CAB COMPANY.—£100. No initial public issue. Registered without articles.

BRITISH MOTOR AND ENGINEERING COMPANY (1907).—£50,000. To acquire the goodwill and assets of the British Motor and Engineering Company, Ltd., now or lately carrying on business at Caversham Road, Reading. First directors: Messrs. E. C. Buik and G. S. Ullathorne. 12-13, Henrietta Street, W.C.

LEON BOLLEE (1907).—£330,000 (150,000 preference and 175,000 ordinary of £1 and 100,000 deferred of 1s.). To adopt certain agreements with the Westminster Syndicate, Ltd., and to carry on the business of manufacturers of and dealers in motor-cars.



The Field Garage and Tent established by Mr. W. F. Parker, of the Oxford Cycle and Motor Car Company, in connection with the pageant, lately held in Oxford.

DELAHAYE AND CO.—The first annual general meeting of this company was held on Tuesday under the presidency of Mr. A. A. Campbell Swinton, who said that the profits for the year 1906 had exceeded those of the preceding year given in the prospectus. The directors were able to pay the full 7 per cent. dividend on the preferred ordinary shares, and one on the ordinary shares at the rate of 7 per cent. per annum, carrying forward £1,318. Satisfactory progress was made last year with the new works, but no profit could be derived from them in 1906. It would accrue in the current year. The turnover for the first half of 1907 showed a substantial increase over that of the previous year. They had sold nine cars to the Court of Spain following upon the sale of a car to the King of Spain. He moved the adoption of the report, which was seconded by the Hon. Reginald Parker, and carried without discussion.

POLICE TRAPS.

KILMARNOCK is now the scene of a good many motor traps. **SHOOTERS HILL ROAD**, Blackheath, is again being used by the police for trapping purposes.

MOTORISTS should be careful in going through Wharfedale, traps having lately been discovered there, and also on the Leeds and Otley road.

We learn from the United Motor Industries, Ltd., that the Hotchkies car which has just completed its 10,000 miles run in Great Britain and Ireland was fitted with the Eisemann high tension magneto, which gave no trouble throughout. The 10,000 miles is additional to the previous run of 6,250 miles in France, where also the same magneto was used without the slightest difficulty.

FORTHCOMING EVENTS.

JULY.

19th (F.).—North-East Lancashire A.C. open hill climb on Rivington Pike.

20th (Sat.).—Motor Union meet at Southport. Reception at Knowsley (fourteen miles distant) by the Earl of Derby, K.G., at 3 p.m.; dinner at the Prince of Wales' Hotel, Southport, at 7.30 p.m.

Ladies' A.C. meet at Bookham, Chert.

Newcastle M.C.C. speed-judging contest.

Wolverhampton A.C.'s reliability trial.

Derby A.C.'s speed judging competition.

East Surrey A.C.'s run to Farnham.

Harrogate A.C. run to Hackfall.

Lincolnshire M.C.C.'s hill climb at Ludborough.

Newcastle M.C.C. speed judging competition.

N.W. London M.C.C. petrol consumption competition.

Sussex A.C. run to Bodiam Castle.

Southern M.C. run to Worthing.

21st (Sun.).—Essex M.C. run to Yarmouth.

25th (Th.).—Circuit des Ardennes race under German A.C. rules.

26th (F.).—Coupe de Liedekerke race for touring cars, on the Ardennes course.

Circuit des Ardennes Race under Belgian A.C. rules.

26th & 27th.—Auto C.C. twenty-four hours' ride to Plymouth and back.

27th (Sat.).—Aston hill climb of the Hertfordshire County A.C.

Irish A.C. hill climb.

Motor-Yacht Club eliminating trial for the British International Cup Race.

Cardiff M.C. run to Southerndown.

East Surrey A.C. run to Cuckfield.

Harrogate A.C. competition.

Notts A.C. hill climb, Hazelwood.

Somerset A.C. 100 miles reliability trial.

AUGUST.

3rd (Sat.).—Southend M.C. holiday tour on south coast.

5th (M.).—Crystal Palace A.C.'s races at Bexhill.

19th to 24th.—Auto Cycle Club's six days' trial.

20th.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

9th.—Industrial Vehicle Trials commence.

OCTOBER.

19th.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

Cerdingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

July 20th—9.5	...	22nd—9.3	...	24th—9.0	...	26th—8.58
„ 21st—9.4	...	23rd—9.1	...	25th—8.59	...	27th—8.57

In Glasgow the lighting up time to-day (Sat.) is 9.50 p.m., and to ascertain the approximate times on succeeding days 45 min. should be added to the above figures; in Birmingham an addition of about 13 min. is necessary.

AUTOMOBILE ACCIDENTS.

A WEST HARTLEPOOL motorist, touring through Lunsdale, collided with a governess-car containing three ladies at Burrow, between Kirkby Lonsdale and Lancaster. The vehicle was smashed and overturned, the pony broke away from the damaged harness, and the ladies were all thrown into the road.

WHILE Mr. and Mrs. Ernest Reed were driving near Hethersett, Norfolk, on Monday, a motor-landulet, driven by the Earl of Albemarle, approached from behind. The motor horn caused the horse to swerve, and a collision followed, Mr. and Mrs. Reed being thrown from their vehicle, the former sustaining cuts and bruises. The occupants of the motor-car were uninjured.

A SERIOUS collision between a motor-car and a wagonette occurred at Sawbridgeworth on Sunday evening. The motor-car, belonging to Captain Wilkinson, R.N., of Blackheath, was damaged, but its occupants were uninjured.

THE Kingston companies of the 3rd Volunteer Battalion East Surrey Regiment were returning on Monday night to headquarters at Kingston, along the Richmond road, when a motor-car driven at a moderate pace by Mr. Frank Bourn, of Tooley Street, Southwark, dashed into the band. Nine of the bandmen were knocked down, and two of them were so badly injured that they are detained in hospital. The accident occurred at a dark part of the main road, just after the Volunteers had left Ham Common.

TOWARDS the end of the month a 30-h.p. Daimler car will be on exhibition at Messrs. Pale and Co.'s Garage, Barnstaple, in order to convince those interested of the hill climbing powers of the Daimler. Runs over the Devonshire hills can now be arranged.

CONVICTION FOR MANSLAUGHTER.

At Chester Assizes the Lord Chief Justice addressed a grave warning to motorists in passing sentence on William Bracewell, aged 28, a mechanic, found guilty of the manslaughter of John Nairey by negligently driving a motor-car at Ashton-on-Mersey on May 17th. The Lord Chief Justice said he had no doubt whatever that the prisoner was driving the motor-car recklessly. He thought it right to say that he recognised in these cases there was no criminal intent, but, on the other hand, drivers of motor-cars must understand that if they caused death by negligent driving they would receive severe sentences. It was not sufficiently understood that when a machine was being driven along the public roads the lives and property of other people must be respected. Although he should not inflict upon the prisoner so severe a sentence as would be passed in ordinary circumstances of manslaughter by negligence, it must not be thought that if death occurred by this kind of negligence such light sentences would be inflicted in future. He sentenced the prisoner to nine months' imprisonment in the second division.

BUSINESS NEWS.

THE Daimler Company have received an order from Sir George Newnes, Bart, M.P., for a 35-h.p. car of the Evesham detachable type with a 10½ ft. wheelbase.

WHEN at Northampton this week we had considerable difficulty in getting a small car to start, and after going through everything ourselves, occupying a couple of hours, we asked Messrs. Grose, Ltd., to send along an experienced man, who eventually discovered the cause of the trouble to be in the ignition coil. It was a most difficult fault to find, and speaks highly of the class of men this firm employ. Mr. Grose informs us that he is doing a large business in detachable tyres and rubber treading, and has several new things coming along for next season.

AMONG the latest patrons of the Knightsbridge depot of Humbers, Ltd., are Sir Frederick L. Robinson, Sir S. E. Dallas and Captain Guy V. Baring, M.P.

FROM Messrs. Edward Joy and Sons, of Leeds, comes a copy of their new pocket price list of "Filtrate" lubricating oils, which are already well known in the motoring world for their many favourable qualities. From the list we learn that "Filtrate" oils were used by eleven competitors in the recent Tourist Trophy and Heavy Touring Car races in the Isle of Man.

ON Friday night, the 12th inst., a 15-h.p. Coventry-Humber started from Exeter on a twenty-four hours' non-stop run through the South of England. The early part of the route lay through the excessively hilly country of Cornwall and Devon, and then the road to London was taken, the car returning to Exeter at 7 p.m. on Saturday, the 13th inst., having been exactly twenty-four hours on the road without a stop. The non-stop capabilities of the Humber cars have been demonstrated this year in a most remarkable manner, they having been made in every reliability trial for which the vehicles have been entered; these include the Tourist Trophy and Heavy Car Races, the Scottish, Irish, Welsh, Dutch, Manchester and the North-Eastern Reliability Trials.

SINCE the recent demonstration of "Miraculum" considerable interest has been aroused in the new puncture stop for pneumatic tyres, which will shortly be placed upon the market. We are given to understand that the capital of the syndicate about to be formed to exploit the invention will be very moderate, £25,000. We wish the investors in "Miraculum" success, which, if the preparation does all that is claimed for it, motorists and cyclists of the United Kingdom will not begrudge them.

OWNERS of motor garages and repairing establishments will be interested in the motor spirit safe—a specially constructed receptacle for the storage of two-gallon tins of petrol—recently introduced by Messrs. William Tupholme and Sons, Ltd., of 48-56, Bridge Street, Sheffield.

H.H. THE MAHARAJA OF ALWAR, of India, has become the owner of a 60-h.p. six-cylinder Napier, and Messrs. Marcks and Company have sent orders to England for two 40-h.p. six-cylinder Napiers with specially designed bodies, for Indian potentates.

PALMER CORD TYRES have had a long list of wins in one week, including successes at the Kettlebury hill climb, the North Wales hill climb, the Saltburn speed trials, and four gold medals won at the motor-cycle meet of the Leeds Club with machines fitted with these tyres, whose excellent showing in the Scottish Trial is the subject of a new circular issued by the Palmer Tyres, Ltd.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

THE Motor-Car Journal.

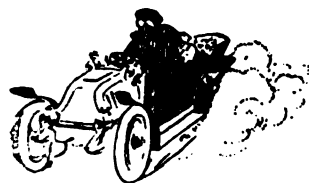
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COMMENTS.



QUESTIONS of interest to those who motor through Surrey were raised in the House of Commons on Tuesday. Mr. Marnham asked the President of the Local Government Board whether his attention had been drawn to the danger and inconvenience run by the inhabitants of Weybridge from the influx of motor vehicles, including racing cars, into that town on days when races were held on the Brooklands Motor Track; and whether he would consider the advisability of issuing restrictions of such traffic on the race days through the town of Weybridge in accordance with Section 8 of the Motor Car Act, 1903? Mr. Burns replied that his attention had been drawn to the matter. The urban district councils of Walton-on-Thames and Weybridge had written to the Surrey County Council with a view to an application being made to frame regulations relating to motor-car traffic in their districts. No application from the county council has yet been received at Whitehall, but the L.G.B. is in communication with the county council on the subject. Mr. Trevelyan wanted to know if any steps had been taken to regulate the traffic in the same neighbourhood on the tow-path between Kingston-on-Thames and Hampton Court Bridge? Mr. Burns said that an inquiry had been held, and as the result of the report which he had received on the subject he had decided to retain the riverside resort between Kingston Bridge and Hampton Court Palace for the use of the general public free from the inconvenience and discomfort that would arise therefrom motor-car traffic. So that motor-cars are to be prohibited from that part of the tow-path.

The Recognition of Drivers.

anxious to secure the *kudos* that may be associated with perfect running in such an arduous event. There is, however, something to be said in recognition of the driver. It would not be difficult to give diplomas to those who handle their vehicles without experiencing delays on the road; and there are many who would, in view of the severity of the test, value highly such awards. For the strain upon the driver during the five days of such a trial is not a light one, and an official record that such was successfully gone through would be appreciated.

The Automobile Handbook.

WE have received a copy of the Automobile Handbook, issued under the auspices of the R.A.C. and the Motor Union, the publication of which has already been announced in the *Journal*. An interesting feature of the 1907-8 edition is the series of maps showing the areas where speed limits prevail, as well as a selection of plans of the principal towns, indicating official hotels, garages, &c., on the plan adopted by the North-Eastern Automobile Association, of which we recently gave an illustration. An idea of the importance

of the organisations responsible for the issue of this authoritative book of reference may be gleaned from the fact that at the time of its compilation they had ninety-four affiliated bodies in various parts of the world, exclusive of the allied organisations. Lists of the motor-cars of the year, particulars of the performances of cars in trials under the auspices of the R.A.C., and a compendium of the legal position of automobilists are included in the book, which will also be of service to all who contemplate touring, whether at home or abroad. We have only one suggestion to make, and that is that some particular date of publication should be agreed upon, so as to avoid the apparent lateness of such information as is seen on certain pages; as, for instance, that of giving the itinerary of the Scottish Trial of June, 1906—in a handbook issued a year later, and after the 1907 Trial has taken place. Here the inclusion of this year's route would have brought the work up to date. Otherwise its utility, completeness, and accuracy are unimpaired.

London Traffic Problems.

THE London motor-bus seems to be in the backwaters of prosperity just now, and the whole problem of Metropolitan locomotion is in the melting pot. Three companies have withdrawn their motor vehicles from the streets; 200 of these 'buses have been ordered from the streets owing to the development of mechanical imperfections; the ratepayers of many boroughs are petitioning against extensions of such services; borough councils have been sending deputations to Sir E. R. Henry, the Commissioner of Metropolitan Police, and the various companies which carry passengers in the Metropolis have formed the "London Passenger Traffic Committee" in order to protect their interests. Replying to the deputation already mentioned, the Police Commissioner satisfied the speakers that the police had been active in the exercise of their present powers with regard to motor vehicles, and said that a great many motor-omnibuses had been taken off the streets, or had had the two days' notice in respect to miscellaneous defects. Things, he acknowledged, were getting better, but the improvement was slow. Still we have the satisfaction of knowing that we have heard the noisiest of the motor-buses.

Motoring and Health.

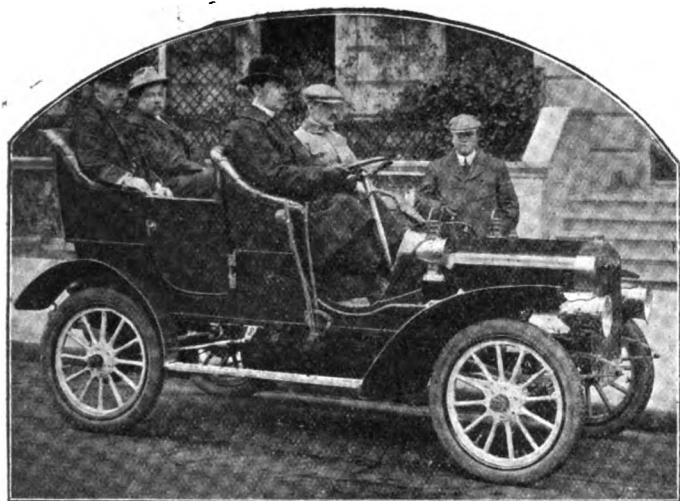
DESPITE the exciting events that have lately taken place in the motoring world, a correspondent of a contemporary writes to say that not only is there no sport in motoring, but that devotion to the car is responsible for the decline of sport. He maintains that driving a car is merely a form of misdirected energy and must have a bad effect on the nerves. But against such a view is the testimony of the doctor who examined Mr. S. F. Edge both before and after his great ride. His evidence was conclusive on this and some other points of importance in any review of the health of the country. Dr. L. P. Gibson, of Cowes, was the medical man in question, and he says that before the ride a specimen of blood was taken and examined for the tuberculo-opsonic index, which was found to be 0.85. Another specimen, taken directly after the race, gave 1.17. That the power of resistance to the tubercle bacillus should be raised after the long journey is very noteworthy, and helps to strengthen the

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opinion held by many doctors that motoring is an effective treatment in some cases of tuberculosis, and that the gloomy prophecies of some anent the bad effects of great speed on the system were incorrect. "Mr. Edge may therefore," continues Dr. Gibson, "be congratulated on the success of his ride, and also on the fact that this effort of his remains as one of the finest possible object lessons of, and pleas for, the simple life, and as such is recommended to the young man of the present day to be read and marked."

A Traffic Test of a Buick Car.

A RELIABILITY test of a novel character was undertaken on Thursday, last week, by Messrs. Sternberg and Eason, under the observation of the R.A.C., when an 18-h.p. two-cylinder Buick motor-car was driven for eight hours continuously through the streets of London. The trial began at 9 a.m., and included the crowded thoroughfares of the West End as well as around the Mansion House, which were traversed over and over again, with a view to showing how easily handled the car could be in the thickest traffic. For hour after hour it reappeared with unvarying regularity at specified spots, where passengers were exchanged. It had been intended to run the



The 18-h.p. Buick Car leaving the R.A.C. for its Non-stop Engine Trial.

car in this way for twelve hours, but at 5 p.m., when the vehicle was proceeding along Stamford Street, S.E., a large van suddenly drove right across the road in front of the car, and in pulling up quickly the driver unfortunately stopped the engine. The fact, however, that the Buick—which was the identical car which behaved so well in the Scottish Reliability Trials—travelled for eight hours in such traffic without incident speaks very highly for the reliability and excellent qualities of the machine, and demonstrates that the horizontal double opposed cylinder engine with which it is fitted is not only capable of standing the strain of touring work in hilly districts, but also is particularly well adapted for town use.

Motoring in the Royal Parks.

ON behalf of the Motor Union, Mr. Staplee Firth, on Monday, made an application to Mr. Denman, at Marlborough Street Police Court, with reference to the endorsement of motorists' licences for exceeding the speed limit in the Royal parks. Mr. Firth explained that recently it was held by the Lord Chief Justice and Justices Darling and A. T. Lawrence that the endorsement of licences for that offence was illegal, and he was directed to ask the magistrate to have all those endorsements on licences that had come under his personal ruling removed by cancellation. The decision of the judges was in an appeal from a decision of Mr. Marsham at Bow Street, and

he had expressed his willingness to have the endorsements removed. Mr. Denman said that before making a definite statement as to all endorsements of this nature, he should prefer to consult his colleague, Mr. Mead, but as far as he personally was concerned there would be no difficulty, and he did not think there would be with other magistrates, as all the endorsements of this nature were nullities. Mr. Staplee Firth thanked the magistrate and withdrew. Mr. Marsham has now agreed that any licences endorsed by him will be cancelled if the licences are forwarded to Bow Street for that purpose; and Mr. Denman has also arranged that any licences endorsed at Marlborough Street for convictions of this character shall be cancelled upon application to the Court. Motorists affected by this arrangement are accordingly advised to send in their licences without delay. Application is being made by the Motor Union to the magistrates sitting at other courts in which Park cases have been heard, and no doubt similar arrangements will be made.

Speed in Sussex.

IN our Correspondence columns this week will be found a warning against the activities of the police to those motorists who are contemplating a visit to Goodwood. In the Arundel district not only are the police exceedingly vigilant, but the question of securing a reduction of the maximum speed at which motor-cars can pass through the borough of Arundel is to be brought before the Town Council at its quarterly meeting this week. Councillor Whittaker has given notice that he will move:—"That the County Council be petitioned to sanction a by-law prohibiting drivers of motor-cars and motor-cycles from going faster than eight miles an hour, commencing at the east end of the borough and ending by the Chichester road lodges on the west." It is urged that the situation of the town renders it imperative for the speed to be restricted; on the east it is approached by a sharp hill leading over the railway bridge, and on the west are two steep hills—one on the Chichester road and the other on the Petworth road.

The Taxation of Motorists.

ALREADY the various public departments of the State are clamorous for the revenue that is likely to accrue from the promised increase in motor-car taxation. Speaking at Newport (Mon.) the other day, Mr. Sydney Buxton (the Postmaster-General) referred to the cost of an universal penny postage, and said that it was not easy to obtain the money such a scheme would cost. "Perhaps next year," he went on to observe, "they would be able to get it by taxing motor-cars." Doubtless his will not be the only Department to claim from the Chancellor of the Exchequer some share of the increased taxation, which—should it be ultimately levied—ought as a matter of justice to go to the upkeep of the roads. If motorists are to be mulcted in any extra charges, it certainly should be understood that the results must be expended in improving highways that are at present in an intolerable condition, and in making new roads to meet the convenience of those who have adopted motor traction as a means of speedy communication.

Colonial Motorists.

Two important colonial motoring organisations have just been affiliated to the Motor Union of Great Britain and Ireland. The first is the Automobile Club of Ceylon, which has a membership of over 150. This club have elected Mr. Edward Posling, a member of the Legislative Council of Ceylon, who is at present in England, to represent them on the General Committee of the Union. The second organisation is the Automobile Association of Bengal, which has its headquarters at Calcutta, and has for its object the encouragement of automobilism and the industry connected therewith in the province from which it takes its name. There are now three Indian motoring associations included in the membership

of the Motor Union. Their flourishing condition proves that motoring is prosperous in our Indian Empire, while their association with the parent body at home illustrates the imperial character of the Motor Union organisation.

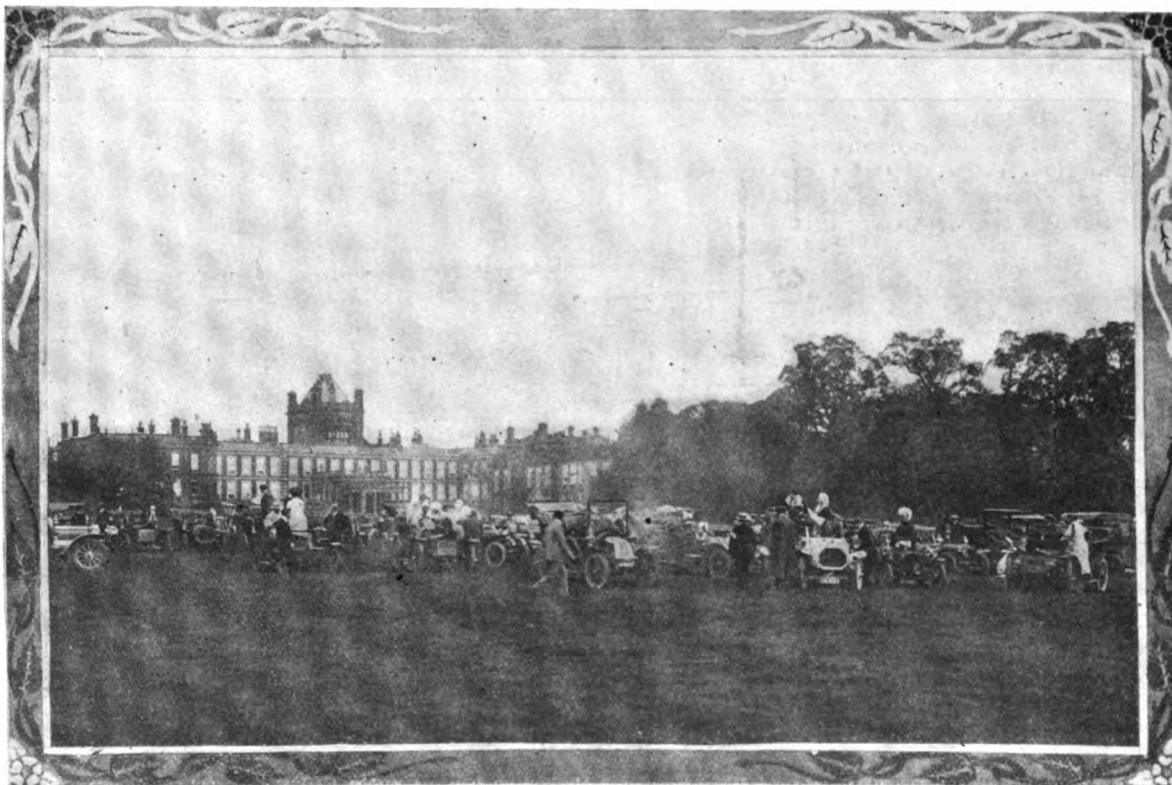
The Fuel Question.

THE most important matter before the Motor Union at their very successful gathering at Southport was undoubtedly a presentation of the report of the Fuels Committee, which has lately been inquiring into the rise in the price of petrol with a view to suggesting steps for the protection of private consumers. Many meetings were held and several important witnesses were examined, forcing upon the committee the conclusion "that a famine in petrol appears to be inevitable in the near future." Having sifted the evidence, they point out that they have arrived unanimously at the conclusion that the efforts of the Motor Union should be in the direction of encouraging in every way the use and development of a sub-

From time to time we have given a synopsis of the evidence which has been brought before the committee by various authorities, which information has been of great value in enabling the committee to produce the excellent report they have just issued. On another page we give extracts from the report which will be of general interest to all concerned with motoring.

Smoke from Motor Vehicles.

AN important appeal concerning the emission of smoke from motor-vehicles on the highway has been won by the Motor Union at the Worcester Quarter Sessions. A driver in the employ of the Little Malvern Granite Company was convicted by the local magistrates for that he did "unlawfully use on a highway there a certain locomotive not consuming as far as practicable its own smoke." The appellant was represented by Mr. Milward, instructed by Mr. M. Clive Blewitt for the Motor Union, and the respondents were represented by Mr.



The Motor Union Meet at Southport.—The Cars at Knowsley Park, the seat of Earl Derby.

stitute, such as alcohol produced from vegetation. According to the report, alcohol offers a complete and satisfactory substitute for petrol as far as its properties are concerned, and the most important recommendation of the committee is that alcohol should be produced on a large scale for the purpose of a fuel. Consequently they recommend that a movement should be inaugurated with a view of bringing about a reduction in the restrictions now imposed on the production of commercial alcohol, and that the R.A.C. should be asked to conduct experiments on the comparative merits of alcohol and petrol as a motor fuel. Further, they are of opinion that modifications in some of the present regulations for the storage and distribution of petrol might be made with a view to the reduction of the cost to the individual consumer. And then the Committee go on to recommend that competitions should be organised for paraffin carburettors and vapourisers, awards being given to the successful competitors. The attention of members is also drawn to the use of benzole, and it is suggested that a Standing Committee of the Motor Union should be formed for the purpose of giving early effect to these recommendations.

J. B. Matthews and Mr. Woodward. The tractor, it was alleged at the hearing before the Justices, emitted black smoke for a distance of about 400 yards, but the defendant denied this, though he admitted that a yellow vapour was emitted while coming up a hill. Expert evidence was given showing that the tractor was constructed upon the most approved modern principles. The Justices held that the tractor did not satisfy the conditions of a light locomotive, as defined in the Act of 1896. The arguments at Quarter Sessions lasted a considerable time, and finally, after the Court had retired to consider their decision, the Chairman announced that, without going into the question of whether the appellant's vehicle was amenable to the Highways and Locomotives Amendment Act, 1878, or not, they found, according to expert evidence adduced by the appellant, that the vehicle was constructed on the principle of consuming its own smoke. That being the fact, they next found that the Justices below were wrong in holding that the tractor did not consume its own smoke as far as practicable, therefore the conviction under the Highways and Locomotive Amendment Act, 1878, Section 30, must be quashed.

THE LIGHTER SIDE OF TECHNICAL MATTERS.

IT is quite safe to say that nothing has done so much to educate the man in the street on mechanical matters to anything like the extent as has the motor-car. Further, it has done more to arouse an enthusiastic interest and a desire for information on technical matters on the part of the average layman than have the combined inventive results of a quarter century of the most marvellous progress the world has ever seen. Naturally enough a thorough knowledge of any piece of mechanism, or of its underlying principles, is not to be gained by scraping a bowing acquaintance with it; such lore as may be accumulated in this manner must necessarily be purely superficial, even though it does permit its possessor to talk learnedly. In the acquisition of this store of knowledge on the part of thousands who truly did not know enough to distinguish their right hand from the left when it came to things mechanical, it was inevitable that many highly amusing situations should be brought about, and it is the object in the present instance, remarks Mr. C. B. Hayward in the "Automobile," to review a

"Well, are you quite sure you did not leave them behind in the garage, John?" ^{my dear J}

This naturally precipitated a host of "missing" stories based on the same fundamental idea, though probably the cleverest modification was the work of a Chicago scribe, who twined his recital about a "Cholly" boy who had a plethoric bank account and "nothing on his mind but his hair." All attempts to sell him a car had hitherto proved futile, his chief amusement consisting of chair-warming in one of the windows of his club. A mutual friend finally introduced a Chicago dealer, who managed to land an order for a high-priced car with all the "trimmings" he could possibly think of to bring up the amount of the bill. The new owner engaged a high-priced chauffeur and invited his friends for a trial run. Not many miles out of the city there were signs of trouble, and the chauffeur began to tinker about the motor, to the host's great surprise.

"Now, what on earth is the matter?" he inquired peevishly.

"The motor's missing, sir," replied the hired man in the uniform.

"Just as I expected," retorted his employer, for the benefit of his guests. "Even your friends do you. I trusted that man to get me the best machine on the market and to see that I got



The Fleet of "Pioneer" Motor-Buses of the London Power Omnibus Company, Ltd., outside the depot at Cricklewood.

few of them. To the wise ones they are one and all mildewed chestnuts, but unfortunately the category referred to is not an extensive one, so that both the country at large and the automobile industry is safe for some time to come.

Probably the man who invented the missing cylinder story was responsible for the advent of an epidemic of similar crimes; but, however that may be, the idea was a clever adaptation of a quasi-technical term—a bit of the current automobile vernacular in brief, to an existing situation, the recital of which has been responsible for many a smile. It was originally told—if the actual origin of the natal form of such circulatory whisks can ever be really traced—regarding an old lady who was out driving in the park alone with her chauffeur. The latter brought the car to a stop several times by the roadside and tinkered with something under the bonnet, while the old lady maintained a posture of dignified serenity in the tonneau, utterly oblivious of the interested group that watched John try to fuss about and keep his livery immaculate at the same time. After two or three such halts womanly curiosity got the better of mi-lady, and she inquired, "John, what can the matter be? Why are you stopping so often to look at things?"

"A couple of the cylinders is missin', ma'am, and she don't pull well," replied the puzzled ex-jehu.

everything that ought to go with it, and now there's something missing. I'm going back to the city to get that motor if it costs me ten dollars for a cab."

Would-be wise owners are also responsible for many of these "breaks," not a few of which are highly diverting, to say the least. For instance, a quite newly fledged owner, who was riding beside his driver while treating some friends to a spin, took occasion to ask his man some questions in order to display his knowledge.

"Why doesn't she pick up better on hills?" he inquired, as the motor slowed down and began to labour, due to the fact that the driver was trying to take a rise on the top speed that was too much for the car.

"She's losing compression," was the reply.

"That's so," remarked his employer in a relieved tone of voice, "I thought I heard something drop back there," and he looked anxiously back along the road to spot the lost compression lying on the dusty highway.

(To be concluded.)

A MEETING of protest against a proposed motor garage in Alexander Square, Brompton, S. W., has been held in the Brompton Church choir school.

THE DORWALD 35-45-h.p. MOTOR.

THERE are several interesting features in the new 35-45-h.p. petrol motor which Messrs. G. L. M. Dorwald and Company, of High Street, Wandsworth, S W., have lately put on the market, and of which we are here- with able to give some illustrations. It has been specially designed for all-round work and is suitable for use either on touring cars or motor-buses, and also for electric lighting or

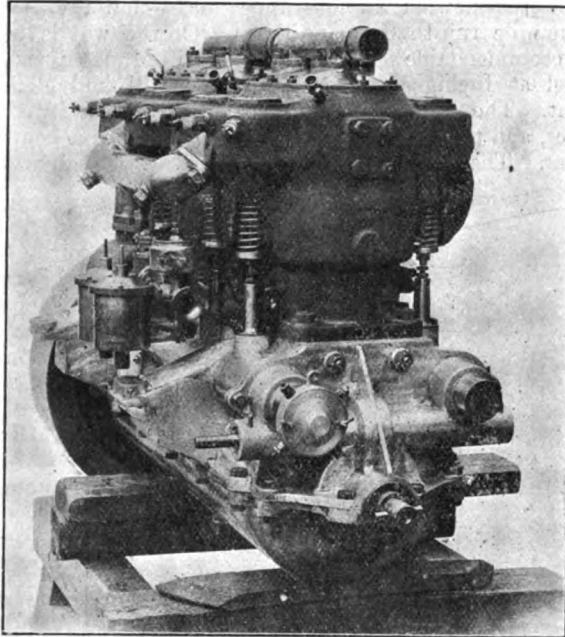


Fig. 1.—End View of Dorwald Engine.

motor-boat work, as well as for any industrial purpose. In the first place, it will be observed that the four cylinders are all in one casting, Mr. Dorwald claiming that not only does this reduce the cost of manufacture, but results in a steadier running engine, owing to the greater mass present to withstand the force of the explosions. Large water spaces are provided round the valve

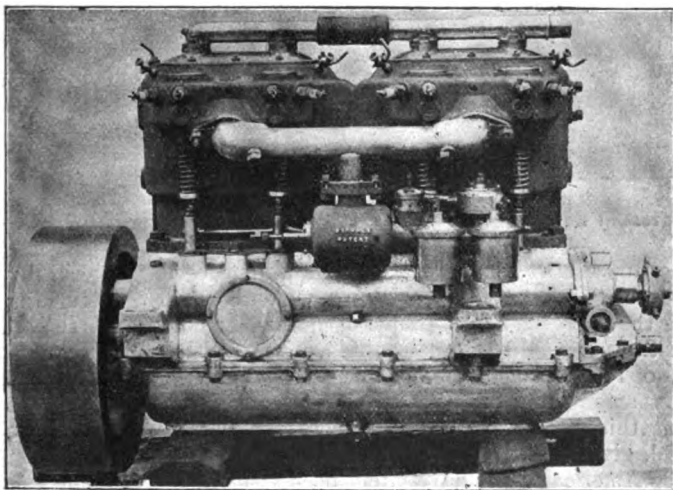


Fig. 2.—General View of Inlet Side of Dorwald Engine.

chambers and cylinders by the jackets, which at the top are closed by a large detachable gun-metal cap. By means of these large openings it is possible for the founder to see entirely round every part, and so ensure a sound casting and free waterways as well as to completely clean out the sand used in the cores. The cylinders are $5\frac{1}{2}$ in. bore by $5\frac{1}{2}$ in. stroke; the normal speed is 800 revolutions per minute, at which 35-h.p. is developed; this can, however, be easily increased to 1,000 revolutions.

All the valves are mechanically operated and interchangeable, the inlets being on the right and the exhausts on the left. The valve tappets are provided at their lower ends with rollers, which bear on the cams, and at their upper extremity are provided with adjusting nuts, so that the lift of the valves can always be set at the required position. The valve tappet guides are held in place in pairs by a bridge-piece and a single nut, so that it is an easy matter to remove them. The cams are made unusually large, the idea being to provide against jumping of the valve plungers at high speed. The cam shafts, which are supported on three bearings, are driven in a somewhat novel way; on the forward end of the crank shaft is a worm wheel which drives a worm shaft set across the motor, which shaft, still through worm gearing, operates in its turn the inlet and exhaust cam shafts, the outer ends of which are arranged to be connected up to the water-circulating pump and ignition device—contact maker for coil and accumulator, or magneto. The valve-operating mechanism is entirely enclosed in an extension of the crank case, but is so arranged that it can be readily dismantled, or the big ends of the forward pair of cylinders easily inspected. Large detachable covers are provided for a similar purpose as regards the rear cylinders in the base chamber, which is of aluminium.

The pistons, which are turned both inside and out, are

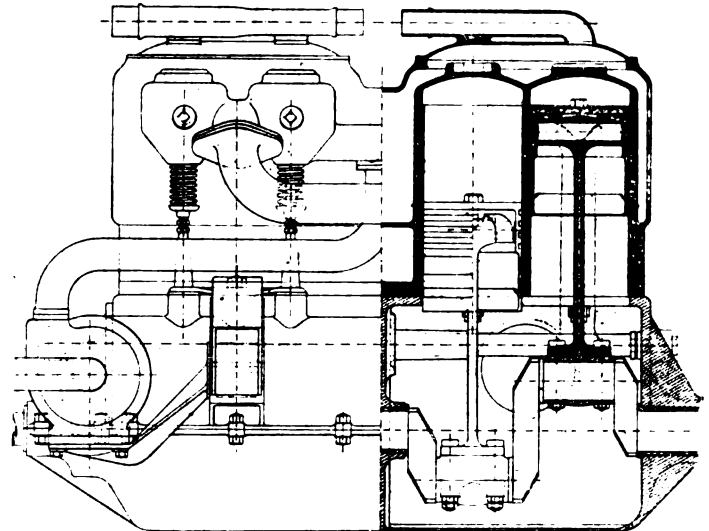


Fig. 3.—Part Sectional Elevation of Dorwald Engine.

fitted with four rings, which are provided with locking joint, and a device which keeps each one in its proper position. The gudgeon pin is carried in a special form of plate which fits flush against the inside surface of the piston head, to which it is secured by two bolts. The centre of the gudgeon pin is near the top of the piston, so preventing side thrusts on the cylinder walls, and enabling a short piston with easily-lubricated connecting rod end to be used. The connecting rods themselves are of a special section of steel, which are claimed to be lighter and quite as strong as the usual form. In the absence of a drawing it may be roughly stated that they are of + section, the vertical portion having thickened heads, the side extensions tapering away from the centre, so forming strengthening ribs. Special attention has been devoted to the design of the nickel steel crank shaft, the diameter of which varies from $1\frac{1}{2}$ in. at the front to $2\frac{1}{4}$ in. at the flywheel end. It is supported on three bearings, which are also proportionate in size to the work they have to perform, while the big end bearings are each 4 in. long. Another characteristic of the Dorwald motor is that the crankshaft is *desaxé*—that is to say, it is slightly out of line with the centre of the cylinders. The advantage claimed for this off-setting is that during the maximum effort of the power or working stroke the connecting rod is practically vertical and parallel with the sides of the cylinder, thus giving a direct thrust from the piston to the crank-shaft without side thrust on the cylinder walls, and so aiding in producing a smooth

and silent-running engine. The flywheel is 18 in. diameter by 6 in. face, its weight having been carefully calculated to ensure steady running.

The supply of gas to the engine is by means of a two-way branch pipe from the Dorwald automatic carburettor adapted to use either petrol or paraffin as fuel, and of which an illustrated description has already been given in the *M.C.J.* The exhaust is on the left, and is led away by means of two leads so arranged that good accessibility is given to the valve springs and tappets. The lubrication of the motor is effected by the pressure of the exhaust; an ingenious automatic arrangement is provided for the oiling of the big end and gudgeon-pin bearings. The former is provided with an eccentric groove, which causes the oil to pass round and rise to the highest point. As is shown in Fig. 3, the connecting rods are provided with a central hole closed at the bottom by a steel ball; under the action of centrifugal force the oil passes up through the connecting rod



The Paris-Pekin Race.—Slow Progress at Nankoo.

to the gudgeon pin, where suitable channels are provided. Any surplus passes down the inside of the piston to a circular lip, where it collects and finally passes through holes on to the cylinder walls. The engine is arranged for dual ignition, two separate sparking plugs being fitted to each cylinder, which are also provided with compression and water draw-off cocks.

Altogether, the Dorwald motor bears indications of having been carefully designed, and its clean and substantial appearance, as well as its smooth operation, render it well adapted to meet the various purposes for which it has been produced.

MR. J. W. BLOOMFIELD has issued an interesting illustrated booklet of his Red Lion Hotel, Banbury, from which we gather that he is now specially catering for the patronage of motorists passing through that interesting town. The hotel, although of old-time appearance, is internally on modern lines, and the garage in connection therewith has accommodation for about a dozen cars, including five lock-up motor houses.

MOTORING IN SOUTHERN IRELAND.

ON the dusty roads of the south of Ireland the motorist may enjoy himself just now, and the promise of August is filling all the hotels from Waterford to Glengariff. It is a good run from Waterford to Cork, passing Cappoquin and Lismore. From thence the motorist will assuredly go to the Lakes of Killarney and Glengariff. The best known road is by way of Bandon and Bantry, and thence by the Prince of Wales route through Kenmare. A pleasant variant is to go to Macroom—a place of somewhat dubious appearance—and then take a twenty-one mile run to Gougane Barra. On the way is one of the few recommendable hotels to be found in Munster, viz., the Lake Hotel at Inchigeela, where motorists will find plenty of amusement. The road is by the lakes of Inchigeela for six or seven miles, and there is just, but no more, room for a couple of cars to pass. The scene is reminiscent of some of the Scottish

lakes, and the way leads to Cronin's well-ordered hostelry, by the desolate lake of Gougane Barra, which is reached by turning from the main road for a couple of miles. Then the track should be retraced and the original route continued through the wild Pass of Keim-an-eigh—one of the loneliest and grandest of the roads among the mountains of these islands. Glengariff is about thirty miles distant, and there Mr. Duke, of the Eccles Hotel, gives motorists hearty welcome. Quite a large number of the Americans who have lately been visiting the Emerald Isle have brought their cars, to accommodate which a garage 25 ft. by 60 ft. is being added to the handsome hotel at the head of the harbour of Glengariff. Chatting with Mr. Duke recently, we found him fully alive to the transformation that the automobile promises to effect in connection with travel in co. Kerry; and the day of the motor-car is not far distant in that part of the world.

LADY MAUDE BARRATT has just bought a 15-h.p. Coventry-Humber car.

THE L.C.C. has decided to arrange for a deputation to the Prime Minister to urge the establishment of a London traffic board.

MR. STRAKER and Mr. Burford have been appointed to represent the Society of Motor Traders on the Engineering Standards Committee in connection with the question of screw threads.

In the garage of Messrs. George and Jobling, at Newcastle-on-Tyne, is an electrically-driven tyre pump by which the labour of inflation is materially lessened, with consequent saving of time.

In his Stable Handbook Mr. T. F. Dale is caustic on the subject of the motor-car invasion, and ends by accepting it philosophically as a not entirely useless scourge if in the end it teaches people how to drive horses more carefully on the high roads.

THE next examination for the Club's driving and mechanical proficiency certificates will be held at 119, Piccadilly, W., on August 14th, the examination arranged for August 7th having been postponed owing to the proximity of Bank holiday.

THE Glentworth garage and works have been established in Lower Glentworth Street, Limerick, under the management of Mr. J. T. Dilworth. The garage is open night and day, and all classes of repairs can be dealt with, as well as tyre work, vulcanising, accumulator charging, &c.

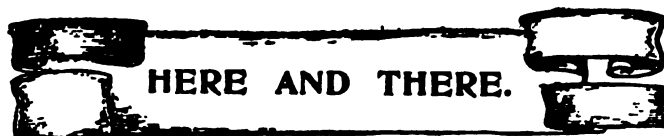
THE programme of the City and Guilds of London Institute for the session 1907-8 has just been published by Mr. John Murray. It contains a syllabus of the examination in motor-car engineering to be held in April next, and advises that the course of instruction should occupy at least two years.

MR. M. DAVIES, of the Shrewsbury Motor Garage, has just finished a tour of nearly 1,000 miles on a 16-20-h.p. Argyll car. The way was by the coast roads from Bristol, down and round as far as Bournemouth, when he struck inland again through the New Forest to Winchester and Oxford. The car made the ascent from Porlock in fine fettle, and was dexterously handled in making the precipitous drop into the town of Lynmouth.

Two men who have been guilty of fraud on motor firms have just been sentenced to penal servitude at the New Bailey, London. The plan adopted by them was for one of the two to ring up a firm saying that they were the representatives of one of the Embassies in London and that their car had broken down. Calling later, he would endeavour, with the help of his confederates, to borrow money from the firm with whom he was in communication, sometimes with success. The case may be a useful warning to others in the trade.

MR. CHAS. SANGSTER, of the Ariel Motor Company, Ltd., has written to Mr. E. De Rodakowski, of the Brooklands Automobile Racing Club, that he cannot see his way to enter for any future races unless the use of oxygen is barred. He considers that the use of oxygen should be forbidden, because its use is distinctly a species of "faking," and it is extremely unlikely to be so developed as to become a commercial article; not only so, but it is highly dangerous, and when used without accident and with the greatest care and experience it burns up the valves, overheats the engine, and causes other minor troubles.

THE first instalment has been knocked off the additional 5,000 miles trial the London and Parisian Motor Company decided to submit the six-cylinder Hotchkiss to, and, as usual, the 899 miles have been traversed without involuntary stoppage. This brings the total mileage in Great Britain and Ireland to 11,002, and the grand total, including France, to 17,252. The following is a summary of last week's runs:—July 15th, London to Newark, 181 miles; July 16th, Newark to Nottingham, 135 miles; July 17th, Nottingham to Leicester, 169 miles; July 18th, Leicester, Coventry, Uttoxeter, Derby, Leicester, 154 miles; July 19th, Leicester, Grantham, Wisbech, Peterborough, Leicester, 157; July 20th, Leicester to Cromer, 169.



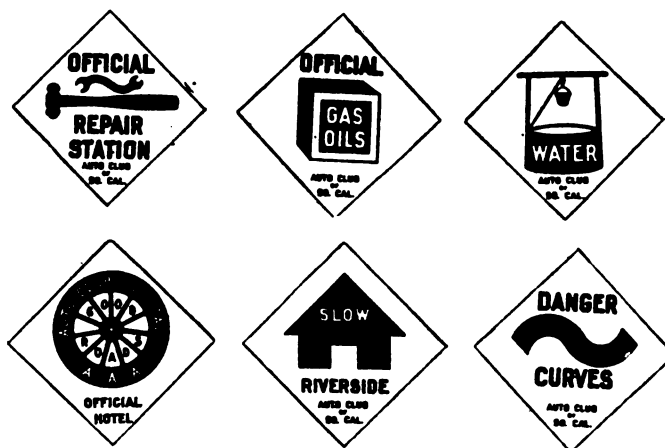
MOTORISTS will regret to learn that Captain H. H. P. Deasy has been ordered by his doctor to take a sea voyage and a long rest.

THE St. George's Motor and Engineering Company, Queen Street, Leicester, have made extensive alterations and additions to their works, and have added a garage with accommodation for twenty cars.

MISS RATOLIFFE, who drove a 10-12-h.p. Humber doctor's car in the Birdlip hill-climb, has been awarded one of the special silver medals for the amateur doing the best performance in its class. Previous to the competition Miss Ratcliffe had only been driving a car for about six weeks.

A MOTOR-CAR belonging to Mr. Stonard, of Leytonstone, was standing outside a garage at Lewes one day last week, when some boys tampered with the machine, and it started running down the steep hill in Station Street. The car knocked down a man named Sinnock, and eventually dashed into a wall.

THE Automobile Club of Southern California is busy erecting official signs throughout Southern California, to guide motorists not only to the proper roads and directions, but to repair shops, hotels, and supply stations where they may expect good treatment. Similar work in the northern and central parts of the State is also being done by the Automobile Club of Cali-



fornia, which has adopted the same set of emblematic road signs, and will also appoint official repair shops, hotels, and petrol stores, the only difference in the signs being the change of the club name in the lower corner. The signs themselves, as the accompanying illustrations show, are rather out of the common, the symbols chosen being very easy of ready interpretation.

AT Saturday's meeting of the Street Noise Abatement Committee it was stated that the motor-bus and traction-engine traffic had in the course of two years depreciated the value of house property in London to the extent of fully £6,000,000. It would be interesting to know on what basis this calculation is made.

THE Secretary for Scotland has now issued his decision with regard to the speed limit inquiry at Hawick, and the ten mile limit has been imposed on the busy portions of the main routes through the town, the portions of those between the centre of the town and the burgh boundary, which were also included in the application, having been exempted from the order. Mr. William Oliver, S.S.C., Hawick, conducted the inquiry on behalf of the Scottish Automobile Club.

ON Thursday, the 25th inst., the members of the Imperial Industries Club honoured Argyll Motors, Ltd., by paying a visit to their works at Alexandria, N.B. Special arrangements were made for a methodical view of the various departments, and lunch was provided by the company. The object of the club is the promotion of social and business relationships between representative commercial and professional industries, no two industries in the club being of the same or of a conflicting class.

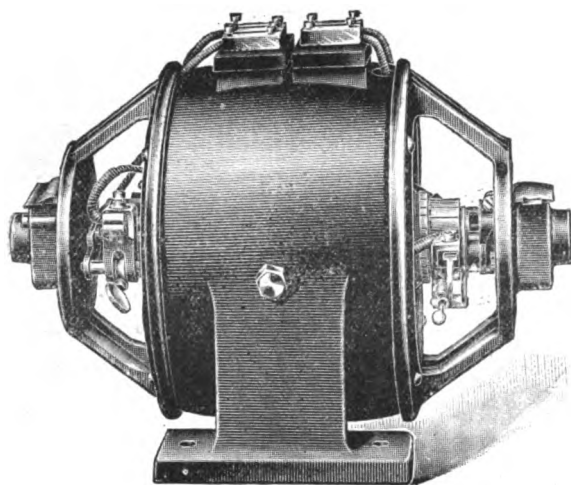
MR. ROCCO GATTI has lately acquired a 40-h.p. Itala car from Itala Automobiles, Ltd.

In the Upper Gray Street, Edinburgh, Mr. H. L. Swears has opened a garage with accommodation for a score of motor-cars and plenty of accessories.

THE Wicklow County Council is being asked by the Bray Urban Council to put in force in their area the same regulations concerning the speed of motor-cars that prevail in the city of Dublin.

ACCORDING to Col. Roy Lewis one effect of the displacement of horse traction by mechanical vehicles, especially in London, has been the transfer of a large number of horses into rural districts, where an increase of glanders has been noticed.

WE illustrate herewith a new continuous to continuous current transformer which has just been introduced by the Crypto Electrical Company, of 155 and 157, Bermondsey Street, London, S.E., for use in connection with the charging of ignition and car-lighting accumulators. The machine, which should be of interest to all garage owners, can be wound on the primary side for any voltage up to 250 volts, and has an output on the secondary side of 15 volts 7 amps. The firm have for years been manufacturing a transformer similar to the above, but the primary has been wound for alternating current; and having supplied hundreds of these machines they have been encouraged to put on the market a machine to reduce the voltage of continuous current mains in the most efficient way possible for the purpose of charging motor-car ignition and lighting cells. We



frequently meet with garage owners who regard accumulator-charging in the same light as selling petrol—viz., a necessary evil, owing to the price being so cut. The cost of charging six accumulators, at a charging rate of 3.5 amps., by means of the transformer comes out at 4d. for an eight-hour charge, whereas the same accumulators would cost more than 1s. 3d. when charged through lamps. The above calculation does not, however, represent the full saving owing to the current used by the transformer being charged up at the power rate, which is usually 2d. per unit, whereas the lamp rate is never less than 4d. per unit, and often as high as 8d. This would, of course, completely alter the above figures, leaving the cost of running the transformer as before, but increasing the cost of charging through lamps, the rate of 4d. per unit being equal to 2s. 6d. per eight hours' run.

POLYSOL is the distinctive name of a good type of liquid metal polish brought out by Messrs. Henkel and Co., of Moorgate Station Chambers, London, E.C. It will give a durable gloss to the metal parts of motor-cars, and is well recommended by its many motoring users.

IN connection with the recent South Harting hill climb, where the Yellow trophy was won by the White steam car, and the fastest time made by a 60-h.p. six-cylinder car, it is worthy of note that the 35-h.p. four-cylinder Ariel, driven by Mr. A. Harrison, was credited with the second fastest time, being beaten by only two-fifths of a second. This performance confirms the splendid impression of the Ariel's hill-climbing powers demonstrated in the Scottish Trial.

A BEESTON-HUMBER car has been supplied to the Belfast Water Works Commissioners.

A COMPANY has lately been formed in Tokio, Japan, to introduce a service of motor-buses in that city and district.

ON Tuesday Lieutenant Shackleton's Antarctic expedition will start from the East India Dock, London. A motor-car is comprised in the equipment.

THE Index to Vol. VIII. of the *M.C.J.* will be supplied to readers who file their copies on receipt of two penny stamps—or it can be ordered through newsagents.

IN order to meet the requirements of their clients, many of whom are this year touring in Europe on their cars, one large American motor-car firm has established a depot in Paris where a stock of spare parts for their particular vehicles will be kept on hand.

THE road from London to the Brooklands track on Saturday last fairly bristled with police traps. We journeyed down on a 25-h.p. Straker-Squire car kindly placed at our disposal by Mr. W. T. Lord, and were fortunate in escaping the attentions of the police.

THE Daimler Motor Company have intimated their willingness to erect danger boards, at their own expense, in places where they are required. This is in view of the fact that bad accidents so frequently occur owing to insufficient warning being given to travellers.

THE Falcon Motor Works at Guildford have lately been extended, so that the proprietor, Mr. E. A. Humphries, has now accommodation for fifty cars and ample room for the large stock of spare parts and accessories which he keeps for the convenience of motorists passing that way.

THE Caravan Club of Great Britain has been formed to bring together those interested in van life as a pastime, to arrange camping grounds and generally to further and protect the interest of amateur caravanists. Mr. J. H. Stone, 72, Stamford Brook Road, London, W., is the hon. sec. of the new organisation.

THE Executive Council of the Social Democratic Federation is instructing its members throughout the country to organise meetings in places where motorists are convicted, urging that imprisonment without the option of a fine should be made compulsory in the event of the third conviction for furious driving.

PRINCE BORGHESI, who is driving an Itala car in the record run from Pekin to Paris, reached Omsk, Siberia, on Sunday, the 14th inst., having completed about a third of the long journey. Some repairs to the vehicle necessitated a stop of three or four days in Omsk, but the Prince expects to reach St. Petersburg by the end of this week. The last news of him was from Perm.

THE Mechanical Branch of the American Licensed Association of Automobile Manufacturers has adopted the horse-power rating formula by the Royal Automobile Club, viz., $\frac{D^2 \times N}{2.5}$

in which formula D represents the diameter or bore of the cylinder expressed in inches, N is the number of cylinders, and the 2.5 is a constant determined by computing the average obtained from the known horse-power of many four-cylinder motors.

MR. FRANK GOULD, motor engineer, of 35, Broadway, Kettering, has sent us a sample of a patent Tyre Repairer he has lately introduced. It consists of a strip of chrome leather mounted on tyre canvas, the latter being provided with snap-on buttons, similar to those used on gloves. The Repairer is intended for use in connection with outer covers in which a weak place has developed or in which a burst has taken place. By buttoning it round the inner tube at the place where the cover has been damaged, and, after insertion, re-inflating the tyre, the strip of leather affords a protection to the tube, and also a means of getting to one's destination when otherwise, in the absence of a spare cover, considerable delay would ensue. The Repairers take up but a very small space, and we can strongly recommend motorists to carry one or more of them, as the condition of an outer cover need then cause no anxiety; in fact, Mr. Gould informs us that a tyre with a burst 4 in. long has been run over 100 miles without trouble owing to the presence of one of his protecting strips.

CONTINENTAL NOTES.

Motor Racing in Roumania.

The Automobile Club of Roumania is organising a speed contest for the end of September, the exact date not yet being fixed. The contest will be over a 120-kilometre course, which takes in Targoviste, Galsti and Tartasesti, this having to be covered twice to give a total distance of 150 miles. The competitors will be divided into three classes—(1) cars up to 18-h.p.; (2) cars from 18-h.p. to 45-h.p.; and (3) cars over 45-h.p.

A Royal Motor-Car Track in Germany.

The German Emperor is having two cement tracks, exclusively for motor-cars, constructed on his estate of Schorfheide. The total length of the tracks is twenty-three miles, and the breadth thirty-six feet.

The Circuit des Ardennes.

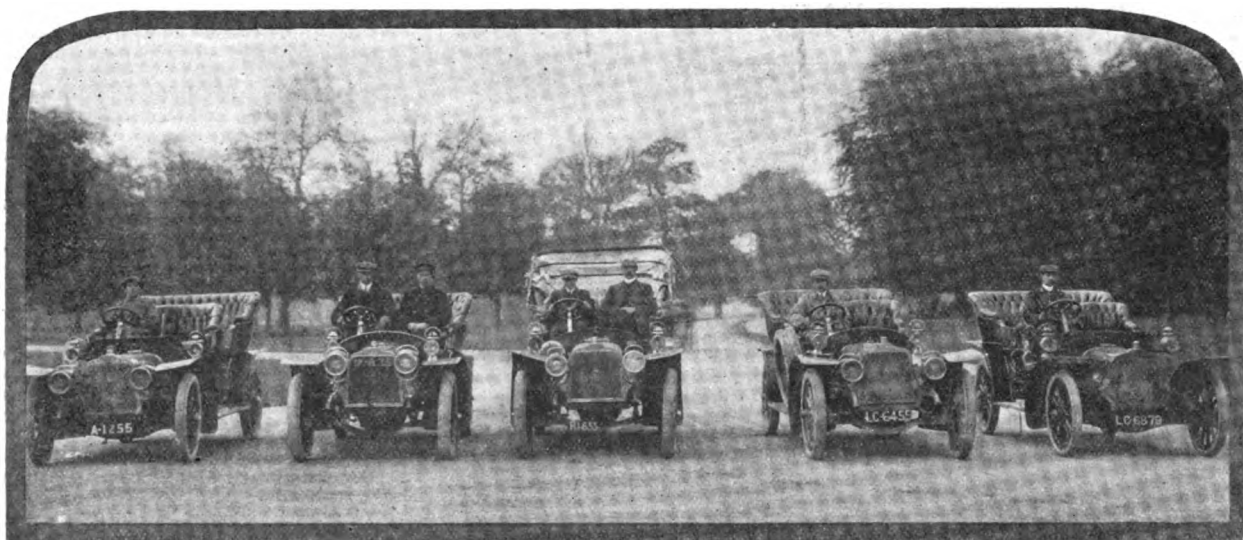
The first of the Circuit des Ardennes contests—that under the German Club rules—was held on Thursday, the 25th inst., but the results are not available at the time of going to press. Twenty-six entries were received for the event, viz., four Pipe

The Ostend Speed Trials.

A series of five-kilometre speed trials from a standing start were held at Ostend on Monday of last week; the cars had to make two runs, one in each direction, the classification being in accordance with the best times set up for the 10 kilometres. In the racing car class five vehicles competed, two Darracqs, two Mercedes and an Itala, the winner being Rigal (Darracq) in 5 min. 6½ sec. Tuesday, the 16th inst., was devoted to flying kilometre and standing mile contests, the cars being timed in each direction, and the total of the two runs only announced. Rigal repeated his victory, doing the two flying kilometres in 50½ sec. In the two standing miles, however, he was beaten by Baron de Caters, who drove his Mercedes, in 1 min. 43½ sec.

A Combination Speed and Hill Climbing Competition.

On Thursday last week the Automobile Club du Nord de la France held a combination event in the neighbourhood of Boulogne for the cars competing in the Belgian Criterium. The programme comprised a 3 kilometre run on the level, a mile hill climb (average 1 in 10), and a 300 metres hill climb (1 in 14), all from a standing start. The times were added together to give the winners, who were as follows:—Single-cylinder cars up to 130 mm. bore, Cissac (Alcyon), 7 min. 6 sec. Four-cylinder



The Winning Team of Talbot Cars in the Irish Trials.

Reading from left to right they represent:—Lord Ingestre's 15-h.p. Talbot, which was second in Class E, open section, and made a non-stop run throughout. Mr. W. Sexton's 20-h.p. Talbot, which made a non-stop run throughout and won Class 2 in the amateur section, and was awarded the 100-guinea Dunlop Cup and a gold medal. The centre car is Mr. Thompson's 20-h.p. Talbot, which, unfortunately, just missed a non-stop run throughout owing to magneto troubles losing him nine minutes. The next is Lord Shrewsbury's 20-h.p. Talbot, which made a non-stop run throughout, and was second in its class (F) open section. The remaining car is Mr. S. T. Robinson's 15-h.p. Talbot, which also made a non-stop run throughout, and was finally declared the winner of the Trials, being awarded the 200-guinea Dunlop Cup and a gold medal for being the winner in its Class (E), open section. It will be noticed that all the cars are standard touring models in every respect.

cars, a Gobron, three Benz, three Adler, three Gaggenau, four Minerva, two Aries, three Imperia, a Darracq, a Mercedes, and a Metallurgique. For the Coupe de Liedekerke, to be held on the 26th inst., there are nine competitors—three each Metallurgique, Vivinus, and Minerva. The third race, under Belgian Club rules, which impose no restriction of any kind, is to be held to-day (Saturday). There are thirteen contestants—three Lorraine-Dietrichs, two Mercedes, a Belgian Rochet-Schneider, four Bayard-Clements, a Darracq (which is to be driven by Mr. Huntley Walker), and the two Weigel racers, which will again be entrusted to Messrs. Laxen and Pryce-Harrison, who drove the vehicles in the Grand Prix.

The Prince Henry of Prussia Touring Trophy.

Prince Henry of Prussia has notified the German Imperial Automobile Club of his intention to offer a trophy for an international touring competition, which is to be competed for in three consecutive years. It is proposed that the trial shall consist of seven daily runs, a speed trial on the level, and a hill-climb. It is to start from Berlin and end at Frankfort-am-Main, the route including Dantzig, Stettin, Kiel, Hamburg, and Trier.

cars up to 85 mm. bore, Ville (Saventhem), 6 min. 54 sec.; ditto up to 100 mm., De l'Épine (Darracq), 5 min. 49 sec.; ditto, up to 100 mm., Servais (Germain), 4 min. 47 sec.; ditto up to 120 mm., Wery (Nagant), 4 min. 8 sec.; ditto up to 130 mm., Grisard (Belgian Rochet-Schneider), 4 min. 5 sec.; ditto up to 145 mm., Gasté (Radia), 4 min. 27 sec.; ditto over 145 mm., Franchomme (Peugeot), 4 min. 35 sec., and six-cylinder cars, Stekke (Minerva), 4 min. 48 sec.

Miscellaneous Items.

A return just issued shows that eighty-three motor-cars were last year imported into Roumania, the majority being of French construction.—The annual hill-climbing competitions on Mont Ventoux are to be held on the 14th and 15th September next.—A new self-starting arrangement for petrol motors has lately been devised by M. Brasier, of the Brasier Company.—Two Westinghouse cars have been entered for the Criterium de France and the Coupe de la Presse contest, bringing the total number of entries up to forty-four.—It is announced that the A.C.F. made a profit of £2,800 out of the Grand Prix race. The money is to be devoted towards the cost of organising the event next year.

CORRESPONDENCE

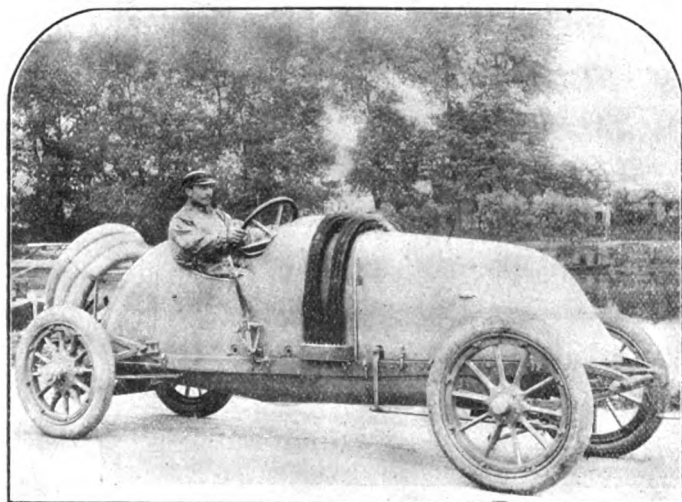
[Letters to the Editor should be addressed to the offices,
27-33, Charing Cross Road, W.C.]

SPEED COMPETITIONS. HILL CLIMBING, TRIALS AND THE PUBLIC.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter from "Brightonian" in the *M.C.J.* of the 29th ult. in regard to motor-car competitions is most opportune. There is no question that last year a great many hill-climbing successes were scored by cars with chain drive that made a practice of practically living on the hill before a hill-climbing competition, and changing their sprockets until they got the exact one to suit. The class of competition that puts this kind of competitor out of court was the flexibility competition inaugurated by the Crystal Palace Automobile Club, where the cars not only had to climb steep hills but also run fast on the level at Bexhill. If every hill-climbing competition included a run on the flat and the whole of the work done on the top speed of the car one would soon see the best cars always winning, and not simply vehicles with big engines which are only useful to win hill-climbing competitions.

I have always made a great point of entering the same type of car



The Aries car which will take part in the Circuit des Ardennes Race. The vehicle is fitted with a high speed engine (2,300 revolutions per minute), the bore and stroke of the four cylinders being 160 and 98 mm.

in hill climbs, appearance competitions, flexibility competitions, and track races, so that people may see that the same car can score equally well in every type of competition.—Yours truly,

S. F. EDGE.

CONTESTS FOR 1908.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice a 2,000 mile reliability trial is likely to be arranged for next year. I venture to ask, through the medium of your columns, Is it not possible for the R.A.C. to hold an open speed contest for which Continental firms would consider it worth their while to enter cars direct from their works and driven by their own expert drivers? I am sure the Scottish Trials give us all we require in the way of reliability trials where speed is not taken into consideration except in the hill climbs. I think most people will agree with me that more proof is required of the reliability of British cars under more severe conditions. Most people are quite ready to acknowledge that cars made by our leading manufacturers are capable of being reliable at about twenty-five miles per hour over ordinary roads, for this has been proved time after time, but what proof have we that these same manufacturers are capable of building cars which can maintain a speed of about sixty miles per hour over ordinary give-and-take roads for three hundred miles or more? We have proof that the Fiat, De Dietrich, Renault, Brasier, and other Continental cars are capable of withstanding such a strain, and, as is only natural, the credit of the racing car reflects on its touring brother. If British manufacturers would prove themselves able to build cars which are reliable under these severe conditions, even foreigners would give the makers credit for being able to produce a car which would be

reliable at a less rate of speed, because the greater the speed the greater the test of reliability.

We have been unlucky in most of the big races in which our cars have been entered, I admit, but surely we are not going to declare ourselves beaten and stand aloof. The English representatives in the last great race were in no way disgraced, and they are to be congratulated on their entry. Their inability to finish was in no way due to the failure of the cars or the fault of the drivers, but the failure of British-made detachable rims, which would perhaps have held in an ordinary reliability trial, but were found perfectly useless when subject to a much greater strain. Could not a place be found in the British Isles where a speed contest for high-powered cars could be held without much inconvenience?

In any case I believe that if only British manufacturers would show, by entering for the Grand Prix, Circuit des Ardennes, &c., that they are not afraid to compete against the best Continental houses, under the most severe conditions, the export of British cars to foreign countries would increase, and at the same time we would capture more home and Colonial trade than we are doing at the present time.—Yours truly,

A. H. M. C.

SOME TECHNICAL OBSERVATIONS OF BROOKLANDS RACING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The racing track at Brooklands is already affording observant competitors many points for reflection. Mr. Edge is credited, as a result of his record run, with the statement that pre-ignition is likely to take place in any engine run for twenty-four hours at practically its maximum rate, owing to over-heating troubles due to insufficient cooling surface, while Duray is said to have suffered from the same trouble on Saturday last.

In other quarters, too, I hear that lubrication difficulties have been experienced by some of the drivers, and that the duties of many of the mechanics on Saturday last were confined to pumping a steady stream of oil into the base chamber. In connection with this question of motor lubrication it would be interesting to know whether the position assumed by the car on the steep portions of the banking affects the efficiency of the lubrication in any way.—Yours truly,

COBHAMITE.

THE USE OF OXYGEN IN RACES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read Mr. S. F. Edge's condemnation of the use of oxygen in events open to petrol engines. In an article by another writer it is suggested that Napier cars which raced at Brooklands were fitted with oxygen cylinders. Mr. Edge does not say in his letter that Napier cars were not so fitted at Brooklands. Will he be good enough either to deny the challenge that has been made, or, if oxygen was used on Napier cars, admit it; and if the article be true, might I suggest that he puts the trophies and stakes up again and have them re-competed for without the utilisation of such a "fake."—Yours truly,

D. M. WEIGEL.

A NEW RACING TROPHY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As you are aware, a unanimous decision, which is momentous from the point of view of automobilists, has been arrived at by the conference of the automobile clubs of the world at Ostend on the 14th inst. This decision, by unifying the basis of rating for international road races for a definite period, and by fixing the size of the largest engine for which such road races will be held, secures for manufacturers a very great economy in the number of racing types they can be called on to build. In fact, for the largest races only one size of car will be required, viz., one having a 155 mm. bore per cylinder for four cylinders or the equivalent piston area, if any other number of cylinders be decided on. The minimum chassis weight to correspond to this is 1,100 kilogs. This result, coming after the year in which the Kaiser Preis, the Grand Prix, the Herkomer Race, and the Targa Florio are run under entirely divergent rating rules, will be appreciated by those who have faced the immense expense involved by these races, and the conference is certainly to be congratulated.

As the decision of the clubs was unanimous, it is scarcely likely that any road race inviting cars of a widely different specification to compete will receive support. It is to be noted, however, that this ruling does not affect track races or runs for the short records of one mile, one kilometre, one hour, &c. Now it seems to be a matter of great importance, and a matter which the existence of the Brooklands track brings into the field of practical politics, that the efforts which have been made year after year to build machines of the maximum possible speed and power should not be entirely relaxed. The past shows how much is to be learnt from attempts to reach the utmost extremes of engineering possibilities. In ten years we have seen to our own surprise that 12-h.p., 24-h.p., 30-h.p., and 40-h.p. machines, which were year by year called freaks or "machines fantastiques" when they appeared on the race-ground, have taught us how to make touring-cars of the greatest possible utility; indeed, we may say that incidentally the appearance of the

motor-bus engine, which has about 40-h.p., would have been delayed many years but for the races, which resulted in these freak engines being built and stringently tested.

Without pretending to say whether it will be the motor-boat, the big motor road tractor, the aerial motor, the railway explosion engine or military transport wagon that will benefit most from a race in which no limit is artificially placed on the power, I think it has been abundantly proved in the past that automobilism will benefit largely from deliberately offering an inducement to makers and inventors to show what can be done when physical science is confronted by physical difficulties only, and unhampered by arbitrary regulations. With this end in view I have offered to the Brooklands Club a trophy, to be called O'Gorman's (no limit) Trophy, to be competed for annually over not less than 100 miles. Whether or not this offer be accepted, I think the subject is worth ventilating.—Yours truly,

MERVYN O'GORMAN.

WEEKLY WINS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I wish to strongly protest against the advertisement of Messrs. S. F. Edge, Ltd., in which they state that for efficiency the 40-h.p. six-cylinder Napier beat a large number of cars at South Harting and Shelsley Walsh, including the Clement-Talbots. This is entirely misleading, and I append a copy of the results as published by

The Napier cars finished as follows:—6th, "marks on formula," 1'404; 29th, "marks on formula," 1'058—average, 1'231. Average in favour of Clement-Talbots, 2348. The 15-20-h.p. Clement-Talbot again beat the 40-h.p. six-cylinder Napier on actual time, on this occasion by 1 sec.

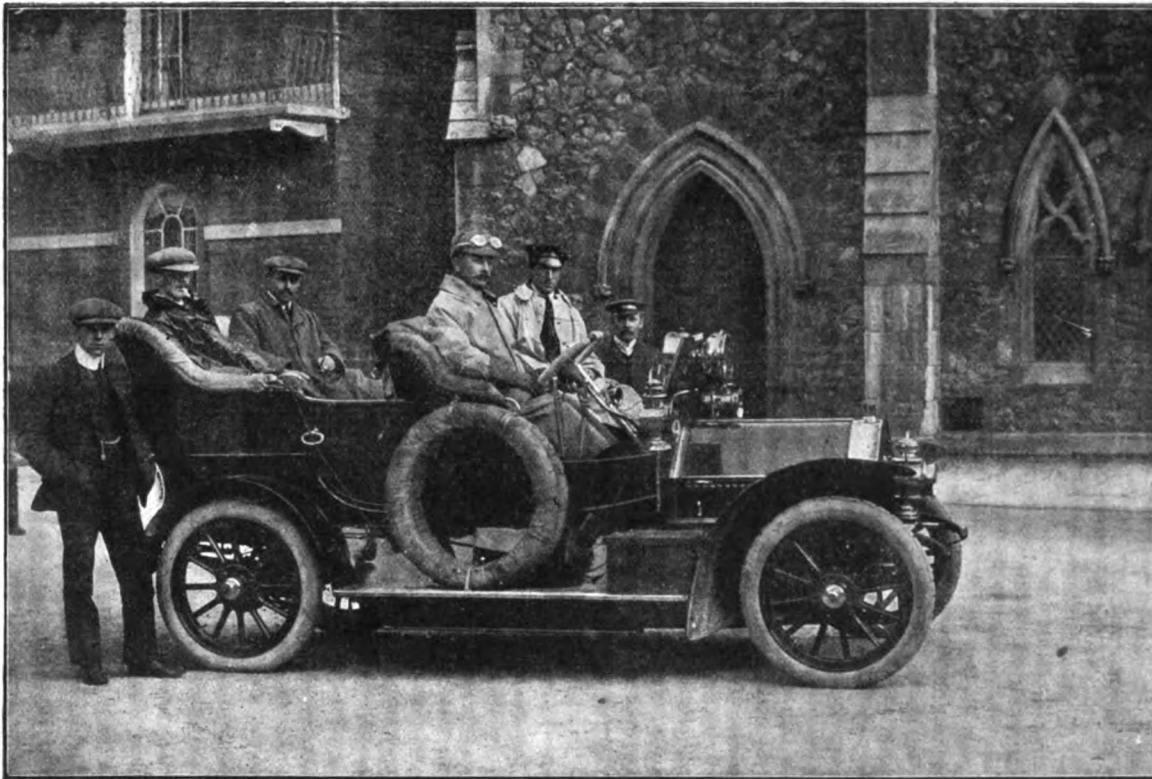
In the Members' Race, at the same meeting, Clement-Talbots were placed as follows:—1st, "marks on formula," 1'485; 26th, "marks on formula," 0'910—average, 1'1975. The latter is an obsolete type of car which has passed through several hands. The only Napier finished as follows:—16th, "marks on formula," 1'058. Advantage in favour of Clement-Talbots, 1395.

I do not think it necessary to comment on the above figures, they speak for themselves.—Yours truly,

T. H. WOOLLEN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was a spectator at the Shelsley Walsh hill climb, and noticed that in the open event the fastest time was made by an 80-h.p. Berliet, and in the closed event by a 35-h.p. Daimler. Under these circumstances I am quite at a loss to reconcile Mr. Edge's statement in his advertisement that he made fastest time at Shelsley Walsh in the club event. In view of the fact that modern fashion in advertising is to secure at least a moral victory in every event in which each maker's



Mr. Ernest Gould, of Exeter, on the 15-h.p. Coventry-Humber Car on which he recently completed a 24-hours' non-stop run.

the Royal Automobile Club and the Midland Automobile Club, so that your readers may judge for themselves as to the accuracy of Mr. Edge's statement.

At South Harting, Clement-Talbot cars finished as follows:—

2nd relative efficiency	...	72.25	Average 65.39.
3rd	"	71.60	
4th	"	69.50	
6th (bracketed)	"	68.75	
7th	"	56.8	
32nd	"	43.25	

The six-cylinder Napiers occupied the following positions:—

6th (bracketed) relative efficiency	...	68.75	Average 59.5
23rd	"	49.35	

The average relative efficiency in favour of the Clement-Talbot over the six-cylinder Napiers is 5.89 per car. The 15-20-h.p. Clement-Talbot beat the 40-h.p. six-cylinder Napier in actual speed, their respective times being 2'237 and 2'280 minutes.

At the Midland Hill Climb, Shelsley Walsh, the Clement-Talbot cars finished as follows:—

1st	...	" marks on formula "	...	1'675	Average 1'4658
2nd	...	(bracketed	"	1'485	
2nd	...	with another)	"	1'485	
5th	...	"	"	1'467	
15th	...	"	"	1'217	

car competes, it would be interesting to have Mr. Edge's explanation as to how he came to add this to the list of successes.—Yours truly,

F. M. GREEN.

ENGINE LUBRICATION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—A noticeable change in the fittings of motor-cars is the banishment of the lubricating oil supply from the dashboard. At one period of automobile history it actually seemed to be held desirable to crowd as much apparatus on the dashboard as possible, but good taste appears to have moderated this tendency, and now some manufacturers are calling attention to the simplicity of their dashboard equipments. The carrying of the engine lubricator on the dashboard has always resulted in more or less "messiness." Oil is likely to be spilled during the filling process and is prone to escape around the pipe connections and the gauge glass, increasing the possibility of soiling the clothing when entering or leaving the car. The more general use of modern cars during cold weather has called attention to the necessity of keeping the oil supply artificially warmed under such conditions. As the necessity for positive driving means for lubricators has become more generally recognised it has been found desirable that the lubricator mechanism should be close to the motor. These considerations have had a tendency to bring about the removal of the lubricator itself from the dash and mounting it on some part of or near the engine, and whatever spilling of oil may result from

the filling or leakage of the lubricator reservoir under these conditions does no particular harm, and the lubricant remains fluid under the influence of the heat from the motor even in the coldest weather. The popularity of the system in which a pump draws a large volume of oil from a well or sump in the engine base, and returns it thereto after passing it through the engine bearings, has contributed to the passing of the dashboard mounted oil supply, as the lubricant in this system is naturally carried elsewhere. The removal of the lubricator from the reach of the motorist, of course, renders it impossible for him to make adjustments of the oil feed to the different supply points from the seat, but this will probably be found of really very slight disadvantage in practice.—Yours truly,

R. J. ASPINALL.

GOODWOOD RACES—A SPECIAL WARNING TO MOTORISTS.

To THE EDITOR OF *The Motor-Car Journal*.

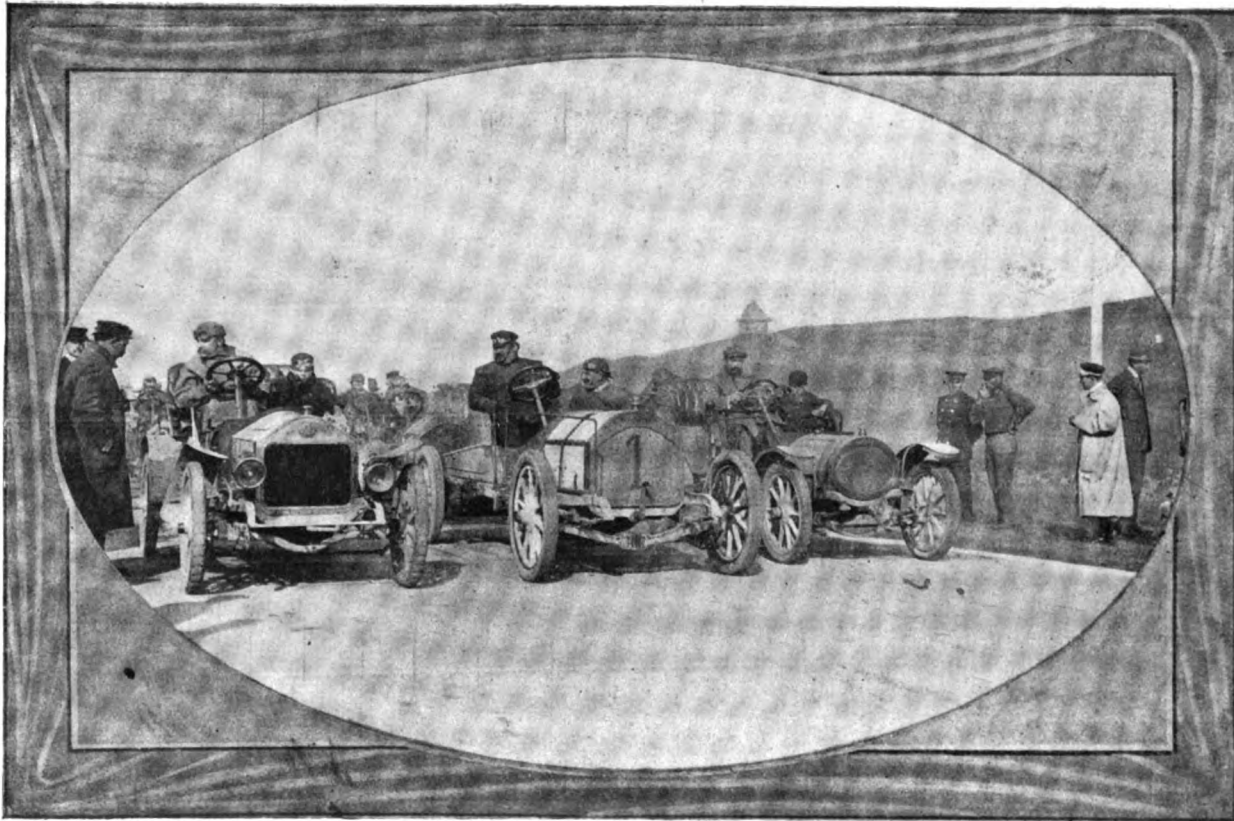
SIR,—I should esteem it a great favour if you would, through the medium of your columns, issue a special warning to all motorists who intend to visit Goodwood for the races, that not only all the roads leading to or in the neighbourhood of Goodwood, but also the main roads for

preferable, when re-charging is a difficulty, for instance, but their practical extinction for motor-car work shows that the accumulator has merits that far outweigh any advantages possessed by the dry cells. The voltage of a dry cell battery can, of course, be increased by adding more cells, so that it is not correct to state that a dry battery has six volts, it may have any voltage according to the number of cells. Another reason for failure in the case of dry batteries is the fact that the voltage falls when the discharge rate of the current is increased, so that a battery which will work well on a coil which takes one ampere will fail entirely on a coil taking three amperes, as the voltage will probably fall below four on account of the current being too much for the internal resistance of the battery. An accumulator will discharge at any rate up to five amperes without drop in voltage, as the coil is only taking current at intervals.]

FOUND, between Luton and Bedford, a tail lamp. Owner, on sending description to Dr. Smithson, Luton, can have same.

LOST.—Inner tube, Sunday morning, between Kingston and Ripley. —Apply, Warn King, Poole.

WANTED, a dog! Would the two gentlemen who left Skindle's garage, Maidenhead, between half-past one and two o'clock on Sunday, the 21st inst., on a 15-h.p. Darracq chassis painted red, with a test body on it, and who were followed by a wire-haired fox terrier, which



The Ostend Automobile Week.—A View at the Speed Trials.

several miles in every direction, will be specially trapped by the police. It behoves all motorists to be particularly careful or to give the place a wide berth, otherwise they may have to pay heavily for the pleasure of visiting the neighbourhood.—Yours truly,

M. F. MIEVILLE.

DRY BATTERY OR ACCUMULATOR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I drive an Oldsmobile car with ordinary 4-volt accumulator. Would there be any reason against using a dry battery in place of the accumulator? I understand the dry battery usually gives off a 6-volt current. Would this damage the coil, or otherwise be unsuitable for my use? Thanking you in anticipation.—Yours truly,

CONSTANT.

[The proposed change of battery is the reverse of what is usually required, as users of dry batteries generally want to change them for accumulators. Though a dry battery gives six volts on open circuit, that is to say when no current is flowing, it does not give more than five volts in use, and this gradually falls to four volts. The dry battery has a very high internal resistance, the accumulator has none, and as a rule the latter is preferable. The voltage of the accumulator can be increased to six volts by adding another cell, and a good modern coil will not be damaged by the extra volts. In some cases dry batteries may be

they picked up on the further side of the bridge and drove off with, be good enough to return the dog to Mr. Duncan Campbell, 81, Shaftesbury Avenue, London, W.?

A DANGEROUS VILLAGE FOR MOTORISTS.—A correspondent writes:—"Motorists who travel into Leicestershire should take a special note of the several extremely abrupt and sharp turns which are to be found in the picturesque village of Evington, two miles from Leicester. After entering this village no less than three positively dangerous curves occur within a distance of 150 yards, and in spite of the high hedge which exists at each curve, and which makes it impossible for motorists to see or hear anything ahead, there are no danger or warning boards of any kind. Unless a driver is experienced he will find it very difficult to negotiate these curves, where many accidents have occurred from time to time."

A SPORTING EVENT AT BROOKLANDS.—Mr. S. F. Edge writes that he will be very pleased for his six-cylinder car to meet Mr. Jarrott on his car at Brooklands under the Byfleet Plate conditions, which are the conditions under which he and Mr. Newton ran a dead heat, oxygen barred preferably. Mr. Edge is prepared to run this match off at the earliest date the Brooklands people can arrange it, and he thinks a suitable stake would be for each to put down what they divided over the Byfleet Stake. Mr. Edge adds that it would be agreeable to him if it could be arranged for three races, the best two out of the three to define the winner.

RACING AT BROOKLANDS.

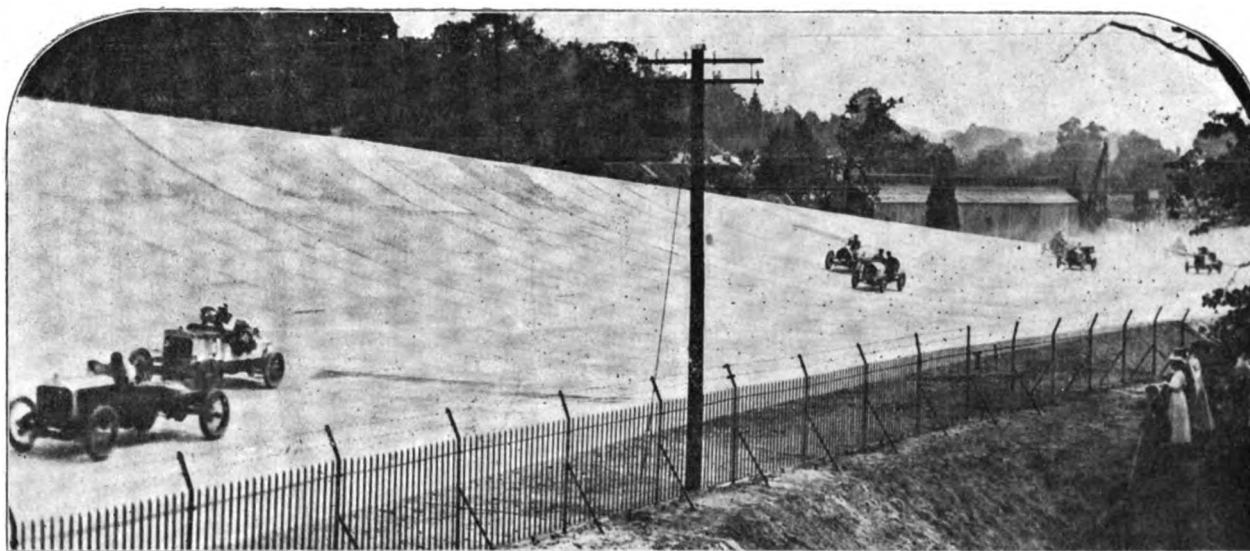
THE second race meeting on the Brooklands track at Weybridge took place on Saturday last in beautiful weather. The arrangements, although not yet perfect, were a considerable improvement on those which prevailed on the opening day, but whether it was due to the bad impression caused by the latter, or to counter-attractions, the public were conspicuous by their absence, the total number of spectators in the paddock and the various enclosures not exceeding a couple of thousand. More freedom was allowed to the members and those who patronised the £1 enclosure, and better preparations had been made by the caterers in the way of refreshments. The band of the Coldstream Guards had also been engaged. Much has still to be done, however, to render a visit to Brooklands attractive to the ordinary public, to whom the short contests are of vastly more interest than the long-drawn-out events. The long time which elapses between the various events is, moreover, very tiresome to those who are unable to stroll about the paddock in the interval. The starts of the different contests all took place a considerable distance from the enclosures, whence it was impossible, except with strong glasses, to see what was going on. If it could possibly be arranged, it would be decidedly more interesting, and help to fill up the long waits, if the starting could be effected within a short range of the spectators. No times were again issued—this being another point in which an improvement could be effected. Even if the actual time could not be made known, it would add to the general interest if the result-board gave some information as to the speed in miles per hour that had been attained by the different competitors. Professional betting men were again present, but, notwithstanding their noisy solicitations to "back your fancy," business was anything but brisk with them. Exploiters of the

Eight entries had been received for the Century Stakes of 100 sov., added to a sweepstakes of 10 sov. each for starters only; the entrant of the second car received 50 sov. of the stakes. The race was for cars propelled by means of internal combustion engines only, of a cylinder dimension under 145; and the distance 19.586 miles.

There were two non-starters, Mr. E. M. C. Instone's and Mr. G. S. Barwick's 55.8-h.p. Daimlers, leaving six cars—Napier, Darracq, Gobron-Brillie, Charron, Ariel-Simplex, and Lorraine-Dietrich—to take the field. Mr. A. Huntley Walker, on the 55.8-h.p. Darracq, got away first, with Mr. C. Sangster, 57.6-h.p. Ariel-Simplex, second, and Mr. F. Newton (49.9-h.p. Napier) third. In the second lap, however, the latter ran into first place, the race then resulting in a contest between Newton and Walker. Mr. C. Jarrott (52.9-h.p. Lorraine-Dietrich) had clutch troubles on the starting line and did not get away. Mr. H. Vincent, of Reading, who was driving the 51.8-h.p. Gobron, fell out in the fourth lap owing to a broken sparking plug, as also did Mr. Sangster on account of a broken valve spring. Result:—

Entrant.	Driver.	Car.
1. S. F. Edge ...	F. Newton ...	49.9-h.p. Napier.
2. A. H. Walker ...	A. H. Walker ...	55.8-h.p. Darracq,
3. J. B. Hissey ...	J. B. Hissey ...	48.6-h.p. Charron.

What might have proved a serious disaster occurred just after the two first cars had crossed the finishing line. In pulling up one went to the right and the other to the left to turn round. In trying to avoid the Napier Mr. Walker put the brakes of his Darracq on exceedingly hard, with the result that one of them snapped; the gear is also stated to have sprung into the reverse, with the result that the driver was unable to prevent the car running backwards down the sandy banking, in imminent peril of turning over and impaling Mr. Walker and his



Racing at Brooklands.—Mr. Tryon on the Six-Cylinder Napier leading in the Surrey Stakes.

three-card trick were, however, actively engaged in the half-crown enclosure in fleeing some of the more innocent visitors.

The first event of the day was the Manx Stakes of 200 sov., for cars which were entered for the 1907 Tourist Trophy Race. The contest was over a distance of 29.3 miles, for which only a gallon of spirit was served out by the Brooklands Club at the start. There were only three entries—Mr. C. Harman Wigan's 27.3-h.p. Vinot (R.A.C. rating), driven by Mr. N. Littlejohn; Mr. F. C. Baisley's 22.4-h.p. Gladiator, Mr. M. Ross Browne driver, and Mr. T. Thornycroft's 22.5-h.p. Thornycroft, owner up. The last-named was the only one to finish, the Vinot running out of petrol 1½ laps from finish, and the Gladiator retiring in the eighth round with a punctured float in the carburettor.

The second event—the Surrey Stakes of 50 sov., added to a sweepstakes of 5 sov. each—for cars propelled by means of internal combustion engines only, of a cylinder dimension 95 to under 105, distance 3.279 miles, brought out eleven competitors, including a Napier, a Junior, three Daimlers, an Isotta-Fraschini, a Lorraine-Dietrich, a Weigel, an Iris, a Darracq, and a Minerva. The event proved one of the most interesting of the day, the shortness of the race—only once round—not only putting the drivers on their mettle, but attracting the attention of the spectators much more than any of the longer contests. In fact, the general feeling of the public was that short races were by far the best. The Daimler team got away first, but the Napier soon got the lead and maintained it easily to the end. Result:—

No.	Entrant.	Driver.	Car.
1. ...	S. F. Edge ...	H. C. Tryon ...	38.4-h.p. Napier.
2. ...	E. Manville ...	G. Ison ...	41.9-h.p. Daimler.
3. ...	Capt. Howell ...	Capt. Howell ...	40-h.p. Iris.
4. ...	Percy Martin ...	J. Hodierne ...	41.9-h.p. Daimler.
5. ...	Charles Jarrott ...	C. Jarrott ...	41.9-h.p. Dietrich.

mechanician on the spiked iron railings at the bottom. Fortunately, however, the wheels sunk securely in the sand, which stayed the progress of the machine when it had fallen about four-fifths of the way down. Happily Mr. Walker and his man got off with nothing more than a scratch. The incident was, however, an exciting one, and indicates that some regulations ought to be made as to the direction the cars should take in pulling up.

Another short distance race—once round the track, 3.279 miles—which promised to be of an interesting nature, but which proved a disappointment, was the match of 60 sov. between Mr. F. Coleman's 30-h.p. White steam car and Mr. C. Sangster's 30-h.p. Ariel Simplex petrol car. Mr. Sangster got first away, and was first round the home banking. Mr. Coleman was, however, close up, and a tight finish was expected. As the event proved, however, there was no change of place, for the safety valve on the steam pipe from the generator to the engine—which had been screwed down on the White car to enable a higher pressure than normal to be employed—blew out when a lap had been completed, putting Mr. Coleman out of the running and leaving Mr. Sangster to finish alone.

The noise and smoke next indicated that the time for the race for the big cars had at last arrived. This was for the Weybridge Stakes of 50 sov. each, for cars propelled by means of internal combustion engines only, of a cylinder dimension under 220; distance 14.15 miles. Five vehicles faced the starter—Mr. D. Resta on Mr. F. R. Fry's 75.9-h.p. Mercedes, Mr. H. R. Pope on his 84.9-h.p. Itala, Mr. A. Huntley Walker (whose appearance after the incident in the Century Stakes resulted in his having an enthusiastic send off) on his 80-h.p. Darracq, Duray, the well-known French racing man, on Baron Turekheim's 80-h.p. Lorraine-Dietrich, and Mr. J. E. Hutton on his 75.9-h.p. Mercedes. Mr. Hutton was first away, with Duray and Resta in hot pursuit in the order named. Pope retired in the fourth round, when the order was

Hutton, Resta, Walker, and Duray, a position which was maintained till the end. Result:—

Entrant.	Driver.	Car.
1. J. E. Hutton ...	J. E. Hutton ...	75.9-h.p. Mercedes.
2. F. R. Fry ...	D. Resta ...	75.9-h.p. Mercedes.
3. A. H. Walker ...	A. H. Walker ...	80.4-h.p. Darracq.
4. Baron Turckheim ...	M. Duray ...	80.4-h.p. Dietrich.

The last event of the day was the Hollick Selling Plate of 200 sov., for cars propelled by means of internal combustion engines only, the winner to be sold by auction for 500 sov.; weight 2,600 lb. for cars of a cylinder dimension 75 or under, and 3,465 lb. in addition for every additional 0.1 of dimension; distance 8.715 miles. Out of ten entries nine competed, Mr. T. Sopwith being unable to get his Minerva going in the paddock. Mr. A. Huntley Walker (Darracq), led from the start and proved an easy winner. Result:—

Entrant.	Driver.	Car.
1. A. H. Walker ...	A. H. Walker ...	34-h.p. Darracq.
2. C. G. White ...	C. G. White ...	27.9-h.p. Minerva.
3. H. J. S. Moyses ...	B. Redwood ...	32.4-h.p. Thornycroft.

The other cars which ran, all of which finished, were Capt. W. E. D. Owen's 27.3-h.p. Aries (Mr. H. E. Hives driver); Messrs. Straker and Squire's 30-h.p. Straker-Squire (Mr. W. T. Lord); Mr. H. V. Hermon's 27.9-h.p. Minerva, Mr. A. Huntley Walker's 41.9-h.p. Darracq (the Marquis de Mouzilly St. Mars); Mr. S. Sanderson's 31.1-h.p. Brasier and Mr. D. Jameson's 41.9-h.p. Isotta-Fraschini (Mr. N. Macklin). The end of this race furnished the second piece of excitement of the day, Mr. Hives' Aries bursting into flames after it had crossed the finishing line. As the other competitors came up they assisted in running to the side of the track for handfuls of sand, and eventually the fire was extinguished without serious damage to the car.

200 sov. for cars propelled by means of internal combustion engines only, the winner to be sold by auction. Weight 1,800 lbs., for cars of a cylinder dimension 40, and 3,465 lbs. allowed or added for every 0.1 difference of dimension, distance 0.5 miles; the Heath Stakes of 350 sov. for cars propelled by means of internal combustion engines only, of a cylinder dimension under 200, distance 2.155 miles.

THE MOTOR UNION MEET AT SOUTHPORT.

THE eighth provincial meet of the Motor Union was held at Southport on Saturday last. It was arranged by the Liverpool Automobile Club, and the prospect of brilliant weather attracted an exceptionally large number of cars—nearly 200, a considerable increase on the recent meet at Lincoln. The proceedings opened with a general committee meeting at the Town Hall in the morning, when, in reply to the Mayor's speech of welcome, Mr. C. D. Rose, M.P., the chairman of the Union, said he was sure that the prejudices of the people in the South against motorists were not shared by people in the North of England. The committee appointed to consider the question of fuel then presented its report—a *resume* of which is given elsewhere in the present issue—the recommendations being adopted. The Highway Traction Committee were authorised to place a limited number of trustworthy agents on the roads to act with the police in warning drivers of dangerous places; and advising motorists where special caution is necessary in driving through villages. It was resolved to support the efforts of the North-East Lancashire Club to secure the removal of the toll-bar on Freckleton Marsh, near Preston. It was reported that the Automobile Clubs of Ceylon and Bengal had affiliated. The Western District Motor Club and Durham District Motor Cycle Club were admitted to



The Brooklands Race Meeting.—The Scene in the Paddock.

The proceedings were brought to a close by a sale by auction—the first of the kind—of the winning car in the Hollick Selling Plate, in accordance with the rules. Mr. John Waterer, of Chertsey, was the auctioneer, but, despite his blandishments and the low reserve price fixed—£500—no offer was forthcoming for Mr. A. Huntley Walker's successful 34-h.p. Darracq.

The programme for the meeting on Saturday, August 3rd, comprises the White Steam Car Plate of 150 sov. for White Steam cars of the 1907 30-h.p. type, distance 5.9 miles; the Levassor Memorial Plate of 500 sov. for cars propelled by means of internal combustion engines only, of a cylinder dimension 135 to under 160, distance 10.3 miles; the International Plate of 500 sov. for cars propelled by means of internal combustion engines only, of a cylinder dimension under 135; to be driven by subjects of the country of origin of the vehicle, with that country's flag as distinguishing mark, distance 8.7 miles; and the Walton Stakes of 200 sov. for motor-cars of a price not exceeding £850, distance 3.2 miles; the Tappet Stakes of 100 sov. each, for cars propelled by means of internal combustion engines only, of a cylinder dimension under 6.41, distance 5.9 miles, and the Brooklands Plate of 600 sov., for motor-cars propelled by means of internal combustion engines only, of a cylinder dimension under 215, distance 3.2 miles.

A meeting is also to be held on Monday, August 5th, when the programme will comprise the Daimler Plate of 150 sov. for motor-cars manufactured by the Daimler Company, with four-cylinder engines of a bore of 134 mm. and a stroke of 150 mm., distance 8.7 miles; the Belgian Plate of 350 sov., for motor-cars which comply with the regulations of the 1907 Ardennes Circuit Race (Kaiser Prize regulations), distance 11.4 miles; the Prix de la France of 800 sov. for motor-cars which comply with the regulations of the 1907 A.C.F. Grand Prix race distance 15.7 miles; the Outlands Selling Plate of

membership. The membership of the Union is now 17,900, representing 99 clubs.

In the afternoon the members of the Union were entertained at a garden party by the Earl of Derby. Nearly 200 cars put in an appearance, and the motorists spent an instructive time in examining each other's vehicles. In the absence of the Earl, the motorists were received by the Hon. Arthur Stanley, M.P., and the grounds and hall were visited, the afternoon being thoroughly enjoyed.

The Hon. Arthur Stanley, M.P., presided at the banquet at the Prince of Wales Hotel, Southport, in the evening. Dr. Hele-Shaw, in proposing "The health of the chairman," said that the tact of Mr. Stanley was largely responsible for smoothing over any differences that may have existed between the Motor Union and Automobile Club, and Mr. Stanley, in reply, remarked, amid laughter, that whoever put his finger into the Motor Union's mouth would be bitten by the Automobile Club.

Mr. H. A. Watson proposed the toast of "The Mayor of Southport and the Corporation." The Mayor, in reply, assured the visitors that the considerate motorist would always be welcomed, and he hoped that the Union would again visit Southport. Mr. G. T. Langridge proposed "The Liverpool Club," to which, in the absence of Mr. Beckett Hill, Mr. A. Rathbone responded.

ONE of the earliest 1908 announcements from the large American motor factories is that of the Ford Motor Company, of Detroit, in which it is stated that there will be no change in the 1907 six-cylinder model for the season of 1908.

ARIEL MOTORS, LTD., have been honoured with an order from the Right Honourable Lord Digby for a 30-40-h.p. car with Carlton limousine landaulet body.

CLUBS AND ASSOCIATIONS

AUTOMOBILE ASSOCIATION.

THE last executive committee meeting of the Automobile Association was marked by the pleasant duty of electing nearly 400 new members, among whom were the Duke of Westminster, the Duke of Richmond and Gordon, the Earl of Loudoun, Baron Adolphus Ott, Lord Boston, Lord Wolverton, Sir George E. Armstrong, Lady Paget, the Lady O'Hagan, the Hon. D. Scott, the Hon. A. Harbord, the Hon. F. Meynell, Lady Clark, and Lady de Bathe.

Quite recently several A.A. patrols have been put on point duty at the entrance to long narrow villages for the purpose of regulating and restraining the speed of motor-cars. This work has aroused keen approval from all sides, especially from local authorities.

THE INSTITUTION OF AUTOMOBILE ENGINEERS. COUNCIL MEETING.

A MEETING of the council of the institution was held on the 11th inst., Colonel R. E. Crompton being in the chair. The question of the vacancy on the council caused by the decease of Mr. Alex Govan was considered, and it was resolved that Mr. L. A. Legros should be invited to accept a seat on the council.

It was reported that the following papers had been promised and accepted for next session:—

1907.			
October	Colonel Crompton	...	Presidential Address.
November	Dr. H. S. Hele-Shaw	...	The Fuel Question.
December	Mr. Dugald Clerk	...	The Principles of Carburetting as determined by Exhaust Gas Analysis.

1908.			
January	Mr. J. S. Critchley	...	Subject not announced.
February	Mr. F. W. Lanchester	...	Some Problems peculiar to the Design of the Automobile.

A letter was read from the Engineering Standards Committee inviting the council of the institution to nominate two of its members to meet the committee in conference to take evidence as to whether the findings of the committee are likely to prove acceptable to the automobile industry, and it was resolved that Messrs. F. W. Lanchester and C. R. Garrard should be nominated as the representatives of the Institution of Automobile Engineers. A letter was read from the secretary of the Institute of British Carriage Manufacturers inviting one of the members of the Institution of Automobile Engineers to read a paper on "The Motor from the Engineers' Point of View" at a conference to be held at Chester in September next.

THE COMMERCIAL MOTOR USERS' ASSOCIATION.

A MEETING of the Executive Committee of the Association was held on the 10th inst., Colonel R. E. Crompton being in the chair. The recommendation of the sub-committee, that no further meet be organised this year, in order to avoid clashing with the R.A.C. trials, was approved. It was reported that the appeal of the Little Malvern Granite Company against the decision of justices that one of their light tractors did not satisfy the conditions of a light locomotive, as defined in the Act of 1896, had been won, the Court of Appeal finding that the justices were wrong in holding that the tractor did not consume its own smoke as far as practicable, and that therefore the conviction must be quashed.

A letter was read from the Engineering Standards Committee inviting the association to nominate two of its members to meet the Committee in Conference to take evidence as to whether the findings of the committee are likely to prove acceptable to the automobile industry, and it was resolved that Messrs. F. C. A. Coventry and E. Godfrey Brewer be nominated to represent the Commercial Motor Users' Association. Mr. Howard Humphries reported as to the present position of the matter of the bridges in Cambridgeshire, and stated that notice had been served on the Great Eastern Railway for them to repair the bridges. The railway had approached the County Surveyor of Cambridge with a view to discussing the extent of the repairs to be made.

LINCOLNSHIRE MOTOR-CYCLE.

UNDER the management of the officials of the Grimsby Centre, a hill-climb for members of the Lincolnshire Motor-Cycle Club was held at Lamcroft Hill, Ludborough, on Saturday. The meeting was excellently managed and very enjoyable in every way. Results.—Single-cylinder machines: Plastow, 2½-h.p. Ariel, 68 3-5 sec., 15.5; White, 3-h.p. Wellington, 56 3-5 sec., 14.51; Shaw, 3-h.p. Minerva, 53 4-5 sec., 14.48; Wright, 3½-h.p. N.S.U., 63 1-5 sec., 14.25; Pearson, 3-h.p. Wellington, 64 4-5 sec., 13.35. Twin-cylinder machines: Proudman, 4-h.p. Minerva, 57 2-5 sec., 12.4; Smith, 5-h.p. Vindoc, 52 sec., 11.22; Ensworth, 5-h.p.

Pengeot, 50 2-5 sec.; Haagsen, 5-h.p. Vindoc, 65 sec., 9.7; Willson, 5-h.p. Brown, 64 4-5 sec., 8.7. Plastow won the open class, Shaw, who made the fastest time single-cylinder class, being second.

NORTH-EAST LANCASHIRE.

GLORIOUS weather favoured the North-East Lancashire Automobile Club for their hill-climb competition up Rivington Pike, near Horwich, on Friday, last week. The competition was an open one, held under the rules of the R.A.C., and attracted a big entry from many parts of the country. Forty-two cars competed, they being divided into six classes—for cars whose cylinder diameter in inches, squared and multiplied by the number of cylinders, was under 35, 50, 75, 100, and 150 and over 150 respectively. The course was one kilometre in length, and for more than two-thirds of this distance the gradients were 1 in 10.1 or 1 in 9.9, the last 27 yds. being 1 in 9.8. Two gold medals were given in each class, one to the entrant of the car showing the best performance under the formula of the R.A.C. and the other to the entrant of the car making the fastest time. In the classes where there were six starters two silver medals were also given, one to the second under the R.A.C. formula and one to the car making the second fastest time. Each car had two runs, the fastest counting.

The winners were as follows:—

Class A (fastest time and formula): Mr. C. Jarrott, 9-h.p. Sizaire (driver R. O. Clark); time, 2 min. 24 3-5 sec.



The North-East Lancashire Club's Hill Climb at Rivington Pike.—The Cars lined up near the starting point.

Class B (fastest time and first formula): Earl of Shrewsbury and Talbot, 12-16-h.p. Clement-Talbot (driver, G. Day); 1 min. 41 1-5 sec. Second formula, W. J. Griffiths, 12-14-h.p. Singer (driver, W. Perks): 2 min. 40 4-5 sec. Second fastest time, St. George's Motor Car Company, 10-12-h.p. New Eagle (driver, W. Ashford); 2 min. 23 3-5 sec.

Class C (fastest time and second formula): Viscount Ingestre, 15-23-h.p. Clement-Talbot (driver, F. Blake); 1 min. 14 3-5 sec. First formula, Mr. T. H. Woollen 15-h.p. Clement-Talbot (driver, J. Hedge): 1 min. 50 4-5 sec. Second fastest time, Mr. A. E. Crowdy, 18-h.p. Siddeley; 1 min. 38 sec.

Class D (fastest and first formula): Mr. W. D. Coddington, 30-40-h.p. Daimler, 1 min. 16 4-5 sec. Second fastest time, Colonel Whyllie, 24-40-h.p. Berliet (driver, W. Watson); 1 min. 22 2-5 sec. Second formula, Mr. E. N. Thornewill, 30-h.p. Daimler (driver, Gordon Chapman); 1 min. 29 4-5 sec.

Class E (fastest time): Mr. Fred Birtwistle, 60-h.p. Mercedes, 1 min. 6 3-5 sec. Second fastest time and first formula, Mr. Fred Birtwistle, 35-45-h.p. Daimler (driver, O. E. Bush); 1 min. 9 4-5 sec. Second formula, Mr. E. L. F. Curties, 35-h.p. La Buire (driver, E. L. F. Curties); 1 min. 19 3-5 sec.

Class F (fastest time and formula): Mr. S. F. Elge, 60-h.p. Napier (driver, Cecil Edge); 52 2-5 sec.

Special prizes were as follows:—Silver cup to the entrant showing the best results on the formula: The Earl of Shrewsbury and Talbot, 12-16-h.p. Clement-Talbot. Silver cup to the entrant of the car showing the best result under the formula, confined to members: Mrs. A. E. Riley, 20-h.p. Belsize, 1 min. 39 sec. Silver cup for the entrant of the car making the fastest time: Mr. S. F. Edge. Mr. W. Birtwistle (the president of the Club), acted as judge, Mr. F. Straight as timekeeper and starter. Mr. A. Birtwistle, of Blackburn, was the hon. sec. of the meeting, which went off without a single hitch.

THE CRYSTAL PALACE A.C.

THE Crystal Palace Automobile Club have just had presented to them for competition at their Bexhill meeting, on August Bank Holiday, a silver cup, from the Mayor of Bexhill, Alderman Glover, to be called the Mayor's cup, and also a 30 gs. cup from Messrs. Spyker, of Amsterdam. Both cups are to be won outright.

Star Hill, leading from Dunton Green to Knockholt Pound, has been chosen for the club's hill climb to-day (Saturday).

COVENTRY.

THE annual hill-climbing competitions of the Coventry Motor Club were held on Saturday afternoon, on Newnham Hill, near Daventry. The cars, instead of starting at the cross-roads as last year, started from the bottom of the hill, and finished fifty yards short of the top, the distance being 1,300 yards.

The gradient is 1 in 30 at the commencement, then 1 in 13, and towards the end 1 in 7 and 1 in 6. The competition was divided into



The Coventry Motor Club's Hill-Climbing Competition.—Mr. G. Street starting on the 45-h.p. Daimler.

three sections: 1, motor-bicycles of any type; 2, petrol motor-cars of 20-h.p. and under on Coventry Motor Club rating; 3, petrol cars of any type over 20-h.p. and steam cars of any type. In Class 1. there were twenty-six entries, the results being as follow:—On handicap: 1, R. M. Brice, 3½-h.p. Brown; 2, G. L. Evans, 3½-h.p. Rex; 3, R. W. Ayton, 3½-h.p. Ayton-Riley. On time: 1, O. C. Godfrey, 5-h.p. Rex; 2, F. Appleby, 5-h.p. Rex; 3, W. H. Wells, 5-h.p. Vindec.

Twenty-two cars had entered in the second class—that for cars of 20-h.p. and under.

The result on handicap was:—1, W. Guilding, 10-h.p. De Dion; 2, J. F. Buckingham, 9-h.p. Riley; 3, E. G. Newey, 8-h.p. De Dion. On time: 1, Mrs. E. W. Lewis, 16-h.p. Rover; 2, J. F. Buckingham, 9-h.p. Riley; 3, T. Astbury, 17-21-h.p. Daimler.

Fifteen entries were received for Class 3. On the handicap, the first place was secured by C. C. Maudslay, on a 35-45-h.p. Maudslay; P. Graham, 24-h.p. Deasy, being second; and Miss Muriel Hind, 24 h.p. Deasy, third. On time: Cecil Edge, 60-h.p. Napier, was first; F. H. Bolton, 45-h.p. Daimler, second; and G. Street, on Mr. E. M. C. Instone's 45-h.p. Daimler, third.

LADIES' A.C.

LAST Saturday just 100 of the members of the Ladies' Automobile Club motored with their friends to the beautiful Hindhead district and attended a garden party at Bookhams, Churt, the home of Colonel and Mrs. Mark Mayhew. Mrs. Mayhew, herself one of the pioneer members

of the L.A.C., give the party in honour of the club, and, to meet her fellow members, invited some 300 guests. The day was in every way a success. Colonel and Mrs. Mark Mayhew welcomed their friends under an awning on the terrace outside the library, from whence there is to be had a splendid view of the far-famed Hindhead. During the afternoon everyone found his or her way to the wide open space where nearly fifty cars were lined up opposite a group of their friendly rivals—the horse-drawn carriages. Near the cars was stationed the band of the 5th Lancers, which played off and on until late in the evening. After the visit to the cars almost everyone sought refreshment at little tables, daintily and alluringly set forth under quaint many-coloured Japanese umbrellas. Among those present were Lord and Lady Russell, General and Mrs. Wilson, Miss Trench, Major and Mrs. Madocks, Mr. and Miss Pilcher, Mrs. Hartung and Mrs. Satchell, Mrs. Geoffrey Marks, Mrs. Merryweather, Miss Antrobus, Miss Burns and Miss Muriel Thompson.

SOUTHEND AND DISTRICT.

THE first hill-climbing competition promoted by the Southend and District Motor Club was held last week on Langdon Hill, which has an average gradient of 1 in 10, with a steep portion of about 1 in 6½. The surface at the top of the hill was very loose, thus somewhat interfering with the speed of the vehicles.

The official results are as follows:—

CAR CLASS.

	On time.	On handicap marks obtained.
Mr. Perry's 15-h.p. Ford	1	Unknown as yet.
Mr. Spencer's 8-h.p. Maxwell	3	188
Mr. Head's 16-20-h.p. Humber	2	123
Dr. Laing's 10-12-h.p. Humber	4	120
Mr. Greenfield's 10-12-h.p. Humber	0	Was unfortunately not timed.

The winner on handicap of the gold medal offered to the winner of the car class cannot be decided until the number of marks obtained by Mr. Perry's Ford car are known.

TRI-CARS.

	On time.	On handicap marks obtained.
Mr. Goodman's 6-7-h.p. Phoenix Quad	1	1
Mr. Seager's 9-h.p. Riley	...	Made a flying start instead of a standing start, and was accordingly not timed.

Mr. Goodman in the tri-car class is the winner of a silver medal, as the number of starters in his class did not reach the minimum fixed for a gold medal.

WEST ESSEX.

THE West Essex Automobile Club's competition for the President's Trophy finished on the 14th inst., with the following result:—

1st. W. E. Gunnett	3-h.p. Triumph	196 miles non-stop.
2nd. C. D. Makepeace	7-h.p. Phoenix Quad car	194 miles non-stop.
3rd. G. Boddy	15-h.p. Darracq car	182 miles non-stop.
S. Wickens	12-h.p. Whitlock-Aster car	159 miles non-stop.
A. Newman	3½-h.p. Vindec	118 miles non-stop.
J. C. Brown	3½-h.p. Brown	65 miles non-stop.
V. Baldwin	3½-h.p. Brown	23 miles non-stop.
S. Hood	3-h.p. Fafnir	12 miles non-stop.
G. Cowper	3-h.p. four-cylinder F.N.	12 miles non-stop.
A. E. Dendy	3-h.p. Centaur	12 miles non-stop.

The above results must be considered very good, having regard to the severity of the course, which took in the celebrated Langdon Hill every round; all the very small mileages were due to failures to ascend this hill.

The next competition is for the 1907 cup on August 10th, full particulars of which will be duly sent to members by the hon. competitions secretary.

OXFORD AND DISTRICT.

IN connection with the Oxford and District Automobile Club a hill-climbing competition took place last week on Irondale Hill, a very steep ascent on the Deddington and Chipping Norton road. Out of the eighteen entries fifteen faced the starter, Mr. H. Coxeter, of Oxford, winning with a 9-10-h.p. Swift. Mrs. A. Tisdall Johns, of Banbury, who drove an Adams Hewitt, was second.

NORTH YORKSHIRE.

THE results, after calculation of the handicap conditions regarding weight, wind resistance, &c., in the climbing competition for touring motor-cars, held by the North Yorkshire Automobile Club at Garrowby Hill, near York, on the 13th inst., are as follows:—

1st, Mr. H. J. Lloyd's 45-h.p. Daimler (actual time, 1 min. 53.4-5 sec.); 2nd, Mr. G. S. Barwick's 45-h.p. Daimler (actual time, 1 min. 32 sec.); 3rd, Mr. G. Saltmarsh's 16-20-h.p. Argyll (4 min. 8 sec.); 4th, Mr. W. Cliff's 14-16-h.p. Fiat (4 min. 11.5 sec.); 5th, Mr. G. W. T. Wade's 8-h.p. Rover (5 min. 35.2-5 sec.); 6th, Mr. G. Moor's 28-h.p. Daimler (3 min.

26 sec.); 7th, Mr. C. Wade's 8-h.p. Rover (7 min. 46 sec.); 8th, Mr. C. Wade's 28-h.p. Daimler (3 min. 34 2-5 sec.); 9th, Mr. H. A. Watson's 28-h.p. Berliet (4 min. 11 sec.); 10th, Mr. O. B. Pease's 60-h.p. Itala (2 min. 52 4-5 sec.); 11th, Mr. D. W. Jackson's 15-h.p. Humber (6 min. 11 5 sec.); 12th, Mr. A. J. Atkinson's 20-28-h.p. Darracq (5 min. 14 sec.); 13th, Mr. W. F. Greenwood's 10-12-h.p. Humber (5 min. 26 sec.).

HERTFORDSHIRE.

FOR the annual open hill climb of the Hertfordshire County Automobile Club at Aston Hill, near Tring, to-day (Saturday), a very satisfactory and representative entry has been received, the number of competitors being about sixty.

The cars will be weighed in at Boxmoor Station, L. and N.W.R., and the weighbridge will be closed at 1.30 p.m. sharp. The hill contest will be started at 2.15 p.m. instead of 3 o'clock as previously announced. It should be noted that the committee have decided not to allow the use of oxygen or other extraneous aids to combustion.

Members and competitors should be on the look-out for police traps at Hendon, Edgware, between Edgware and Stanmore, on Bushey Heath, and the usual four-mile trap between Berkhamsted and Tring.

DERBY.

ON Saturday last, the members of the Derby and District Automobile Club held a speed-judging competition. The meeting place appointed was at the cross roads on the summit of Cumber Hill, near Duffield, and the route chosen was along Windley Lane, through Weston Underwood, and back along Kedleston Road to the starting point. Members were allowed to name the miles per hour at which they intended to do the circuit, and the two making the least percentage of error took silver and bronze medals for their respective performances. Each car carried an observer to ensure that the driver relied on his judgment alone. The following were the figures made by the first three competitors:—Mr. H. G. W. Dawson (8-9-h.p. Swift), who completed the course taking only eight seconds longer than he should have done. He was closely followed by Mr. Charles J. Allin (hon. sec.) on an 8-10-h.p. Humber, who with an allowance of 19 miles an hour made an error of 1.43 per cent. Mr. George B. Fletcher (10-12-h.p. Humber) was third with an error of 16.16.

THE AUTO-CYCLE CLUB.

THE next event to be promoted by the club will be the London to Plymouth and back ride. Competitors in this event will be started from the Angel Hotel, Thames Ditton, on Friday night, the 26th inst., at 9 o'clock and are due back at Thames Ditton the following evening at 8.30 p.m.

The Annual Reliability Trial will commence on Monday, August 19th, and finish on Saturday, August 24th.

Owing to insufficient entries the penalty runs which were to have been held at Derby and Gloucester on July 13th had to be postponed. The date now fixed is August 10th.

SCOTTISH A.C.

THE committee of the Scottish A.C. have passed a special vote of thanks to the following firms, who placed their premises gratuitously at the disposal of the Club for the storage of the competing vehicles and for the other purposes necessary to the trial:—The Kennedy Motor Company, Ltd., Glasgow; Messrs. Macrae and Dick, Inverness; Messrs. Claud Hamilton (Aberdeen), Ltd., Aberdeen. Each of these storage depots has been erected for the purpose of storing motor vehicles, and their first use in every case has been by the Scottish Club for the reliability trial purposes, in the case of the first two for this year's trial and in the case of Messrs. Claud Hamilton, Ltd., for the 1906 trial, on which occasion also the equally large and suitable building of the Western Motor Company, Glasgow, was used for the first time.

THE EDINBURGH MOTORING CLUB.

THIS club held their second hill-climbing competition on Saturday last in the grounds of Messrs. Lamb, of Firth House, Roslin, the course being 605 yards, full of twists and turns, and other motor pitfalls, and in places very steep, running to 1 in 6. The weather was ideal, and upwards of thirty cars ran out from Edinburgh and district, a distance of about ten miles, to take part in it. The fastest time was accomplished by Mr. W. L. Sleigh, in 1 min. 8 sec., on a Berliet, which works out at over twenty miles an hour. A gold medal was awarded Mr. Sleigh for his performance. The fun of the meeting was accentuated by a special competition for the ladies who were the passengers in the various cars ascending the hill. At the start they were provided with tumblers filled with water, which they held in their hands till the close of the race, the prizes going to the ladies who retained most water in their tumblers. There were five prizes given in this competition.

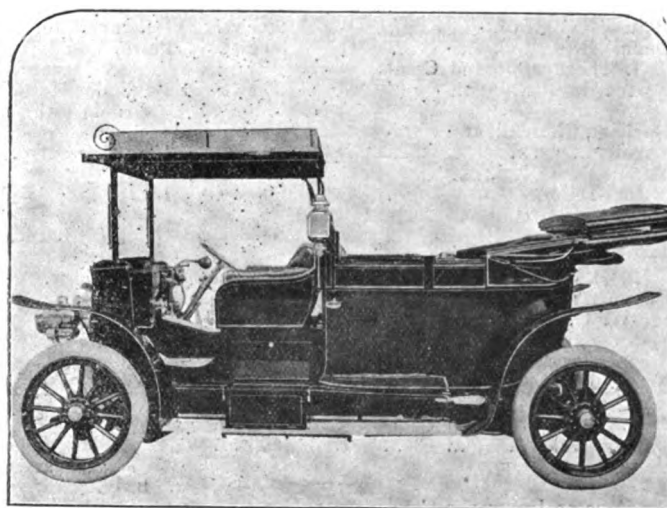
MOTOR CYCLE UNION OF IRELAND.

A HILL-CLIMBING competition for motor-cycles took place on Saturday last in Co. Wicklow, under the auspices of the Dublin centre of the Motor-Cycle Union of Ireland. The hill on which the competition took place has a steadily rising gradient for about a mile and five eighths. There were two classes, in the first pedalling was permitted,

and in the other pedalling was barred, and in addition there was a slow test, in which the prize went to the rider climbing the hill in the slowest time without stopping or assisting the machine by pedalling. In the latter most of the riders went so slowly at the start that they stopped before coming to the steep part of the hill. The test was won by Mr. S. Findlater's 5-h.p. Morehampton (time 10 min. 3 sec.) who in the earlier trials made a record for the hill by going up in 3 min. 13-5 sec. The prizes will be awarded for the best performance as determined by a formula in which the weight of the machine and rider and also the horse power are taken into account.

SOUTH AFRICA.

MR. R. L. JEFFERSON, F.R.G.S., who recently established a record by travelling from Durban to Cape Town on an 8-h.p. Rover, was entertained at luncheon in Cape Town on June 30th by the Automobile Club of South Africa at the Grand Hotel. Mr. A. T. Hennessy (the chairman of the club) presided, and was supported on his right by Mr. Jefferson, and on his left by Mr. F. G. Connock, who accompanied Mr. Jefferson. The chairman, in proposing the health of the two guests, said the automobile club was very pleased to have the opportunity of welcoming them. It was not quite two years since the club had the pleasure of holding a similar gathering to congratulate Count Revertera, who made the first trip from the Rand to Cape Town by motor-car. It was interesting to note that the cars used by Count Revertera and Mr. Jefferson were both single-cylinder machines. An attempt had, he believed, been made to motor from Cape Town to Johannesburg by a large four-cylinder monstrosity, but he thought the attempt ended in the major portion of the journey being completed by rail. It was about time the owners of



The N.E.C. Limousine Car recently delivered by the New Engine Company to Lady Muir.

The car has a wheel base of 10 ft. 6 in., which enables a large body to be fitted to the chassis entirely within the wheels. The vehicle has given great satisfaction, Lady Muir considering it an ideal carriage owing to its smoothness, freedom from vibration and silence.

multi-cylinder vehicles did something for their reputation. The toast was drunk with musical honours. Mr. Jefferson, in reply, thanked the Automobile Club for their hospitality, and remarked that he had had a series of receptions since he landed at Durban from Ceylon. When he reached Durban he knew nothing of South Africa or its roads, and absolutely nothing of its people. The journey from the Rand to Cape Town was not nearly so difficult—although it was more than double the length—as that from Durban to Johannesburg. The latter was really terrible for a motor-car, and it necessitated a pace so slow that their general average from Durban to the Rand was not more than eight miles an hour. Owing to the enormous spruets it would be almost impossible for a very heavy car to get from Durban to Johannesburg. He did not think that during the whole of their drive from Durban to Cape Town they had one surly word said to them; on the contrary, both Dutch and English had been most hospitable, and farmers and others had gone out of their way to show them the road, and render others little kindnesses. Mr. Connock also briefly replied. The proceedings then concluded, and the members of the club and their guests motored to Hout Bay, returning to Cape Town via Constantia. A halt was made at Groot Schuur, where the party was entertained to tea by the Prime Minister.

A MOTOR club has been formed for Scarborough and the district. The first run took place at Thornton Dale, Pickering, and Malton on Saturday last.

ON Friday, the 26th inst., a meeting is being held at the Town Hall, Trowbridge, for the formation of a motor club for Wiltshire. There are 1,100 automobiles registered in the county.

THE car driven by Dr. F. Husband in Class A. in the Lincolnshire A.C.'s speed trials was a 6-h.p. De Dion.

CAPT. CECIL BANBURY, who some time ago consented to become a vice-president of the North London Automobile Club, and who is taking an active interest in their events, has presented a handsome silver cup for competition at the club's reliability trial to be held next year.

It was on the motion of Mr. H. A. Watt, the member for the College division of Glasgow, that the amendment to the Lighting on Vehicles Bill applying the proposed measure to Scotland was inserted. The committee of the Scottish A.C. have tendered the thanks of motorists to Mr. Watt for his services in the matter.

THE COMMERCIAL VEHICLE TRIAL.

SUPPLEMENTING the list of entries already published in connection with the Commercial Vehicle Trial of the R.A.C., we now give the following entries which have been received:—

Entrant.	Class.	Net load.	Nature of vehicle.
A. Darracq and Company, Ltd.	A	10 cwt.	10-12-h.p. Delivery Van.
A. Darracq and Company, Ltd.	A	10 cwt.	14-16-h.p. Delivery Van.
W. T. Clifford-Earp, Ltd.	A	10 cwt.	Delivery Van.
Sidney Straker and Squire, Ltd.	B	20 cwt.	Covered Van.
Lacre Motor Car Company, Ltd.	B	20 cwt.	Lacre Van.
Palmer Tyre, Ltd.	B	20 cwt.	Delivery Van.
Dennis Bros., Ltd.	C	30 cwt.	Petrol Van.
J. I. Thornycroft and Company, Ltd.	C	30 cwt.	4-cylinder Motor Van chassis with body.
Durham, Churchill and Company	D	40 cwt.	Churchill Lorry.
Dennis Bros., Ltd.	D	40 cwt.	Van.
Milnes-Daimler, Ltd.	D	40 cwt.	Lorry.
Durham, Churchill and Company	E	60 cwt.	Churchill Lorry.
Maudslay Motor Company (1907), Ltd.	E	60 cwt.	Motor Lorry.
Commercial Cars, Ltd.	E	60 cwt.	Petrol Lorry.
Sir W. G. Armstrong-Whitworth and Co., Ltd.	E	60 cwt.	Delivery Van.
Dennis Bros., Ltd.	E	60 cwt.	Petrol Van.
W. T. Clifford-Earp, Ltd.	E	60 cwt.	Thames Delivery Van.
J. I. Thornycroft and Company, Ltd.	E	60 cwt.	4-cylinder Motor Wagon chassis with body.
St. Pancras Ironworks Company	F	100 cwt.	Steam Wagon.
Yorkshire Patent Steam Wagon Company	F	100 cwt.	Yorkshire Patent Steam Wagon.
Dennis Bros., Ltd.	F	100 cwt.	Petrol Lorry.
W. Tasker and Sons, Ltd.	H	120 cwt.	Little Giant Steam Tractor.

The last day for receiving entries for these trials is Saturday, August 10th, at 12 noon.

THE Anglo-American Oil Company, Ltd., announce that they have reduced the wholesale price of Pratt's motor spirit one penny per gallon as from the 22nd inst.

THE ASHBY DE LA ZOUCH GARAGE COMPANY have informed the Coventry Chain Company, Ltd., that a pair of their chains have been in use on a 16-h.p. car for four years, during which time they have travelled close upon 50,000 miles without a single breakage.

W. AND F. THORN write that during the re-building of their premises in Great Portland Street, W., their carriages and motor-cars will be on view at Ranelagh House, Lower Grosvenor Place, S.W., 10, Little Portland Street, W., and 25 and 30, Islington Green, N. All communications should be addressed to the Factory, 16 and 17, Little Portland Street, London, W.

OWING to the great pressure at which the whole of the staff of Clement-Talbot, Ltd., have been working since the commencement of the year, in their endeavours to cope with the huge demand they have experienced for the 15-h.p. Talbot and other models, and as, by working early and late, they have now practically caught up with their delivery contracts, they have decided to entirely close the works at North Kensington for one week, commencing from Friday night, the 2nd August, till Monday morning, 12th August. The company are making great efforts to execute before that date standing urgent orders for new cars and repairs, and ask us to request that any orders for parts, &c., which may be required during the week in question be forwarded at least three or four days prior to that date, as otherwise they cannot guarantee the execution of same.

THE REPORT OF THE MOTOR UNION'S FUEL COMMITTEE.

IN September, 1906, the Motor Union decided to appoint a special committee to enquire into the recent rise in the price of petrol. This consisted of Dr. H. S. Hele-Shaw (chairman), Messrs. J. L. Lock, R. W. A. Brewer, Chas. McWhirter, and Rees Jeffreys (sec.).

In their report just issued they place the alternatives to petrol in two main divisions as follows:—

- (a) Derived from petroleum and shale.
 - 1. Heavier spirit.
 - 2. Paraffin.
- (b) Derived from coal
 - 1. Dust.
 - 2. Gas from producer.
 - 3. Benzol.
- (c) Derived from vegetation
 - Alcohol.

Then they advise the encouragement of the use of alcohol in motors, and the use of heavier spirit for cars. The increased demand for petrol was shown in the imports, which rose 123 per cent. from 1904 to 1906, when the total was twenty-seven million gallons per annum. To this the Eastern oil fields have materially contributed in a progressive ratio, while the increased home consumption in the U.S.A. has restricted supplies from that country.

The committee accept the views of experts as to the prospective shortage of supplies, and point out that the control of the available petrol is in the hands of two companies with which motorists should co-operate in securing the removal of the restrictions now prevailing as to the handling, storing, and licensing of the spirit. The danger of shortage is declared to arise from natural causes; hence the recommendation to discover alternatives.

Reference has been made to the use of heavier spirit. With regard to the use of paraffin the committee feel that organised tests should be made, and hope that a fund will be raised under the auspices of the R.A.C. in order that a series of scientific trials may be held. No mere offer of a reward will by itself result in the solution of the problem. Such a body as the Technical Committee of the R.A.C. might, by so setting forth the conditions of a trial and examining how far those conditions are complied with, not merely encourage inventors to work on right lines but educate the users as to the conditions which must be fulfilled if they want to obtain successful results, as well as in the manipulation of the carburettors themselves.

But the committee place most emphasis on the question of alcohol as the fuel holding out the greatest promise. The use of alcohol for heat, light or power has never had any encouragement in this country, as has been the case in Germany and France, where the Governments favour and encourage the production of this spirit. The reason why motor-car engines specially designed for the use of alcohol have not been made in Germany is owing to the fact that the best customers of the German motor-car manufacturers are in England and other countries where petrol has up to now been the only fuel used for this purpose.

The advantages of alcohol are compared with those of petrol as follows:—(1) Safety.—Alcohol can be extinguished by water, whereas petrol is only scattered under similar circumstances and the area of conflagration increased. The flash point is considerably higher, being 60 deg. Cent. compared with petrol, which may be taken as anything down to 10 deg. Cent. below freezing point. This enables the alcohol to be carried and stored with safety under conditions where petrol would not be permitted, and reduces the cost of freight and insurance. (2) Thermal Efficiency.—Owing to less air being required and a consequent reduction in the amount of inert gas, the thermal efficiency of alcohol is as high as 35 per cent., as against something below 20 per cent. in the case of petrol. (3) Calorific Value.—The calorific value of absolute alcohol is 12,600 B.T.U., that of methyl alcohol with a specific gravity of 0.820 is 11,300, and alcohol with the addition of 20 per cent. of water shows a calorific value of 9,810; whereas that of petrol with a specific gravity of 0.722 ranges from 20,300 to 19,300 B.T.U. (4) Practical Limit of Compression.—The practical limit of compression of alcohol is about 200 lb. per square inch; and its explosion pressure is therefore considerably higher than that of petrol, the practical limit of compression of which—in view of possible pre-ignition—is limited to 80 lb. per square inch. (5) Complete Combustion.—With alcohol complete combustion is more easily attained, owing to the fact that it distils completely in its commercial form over a small range of temperature (80-100 deg. Cent.), a very accurate degree of carburation thus being maintained. In the case of petrol the range of boiling points extends between 50 deg. Cent. and 150 deg. Cent.; such a large range of boiling points renders accurate carburation at all times more difficult, and makes the spirit what is commonly known as stale owing to the evaporation of the lighter fractions. (6) Propagation of Flame.—There is less rapid propagation of the flame when alcohol is used, which gives a much more uniform pressure throughout the stroke than petrol. (7) Smell.—With alcohol there is approximately no offensive smell in the exhaust, as compared with petrol. (8) Flexibility.—Alcohol will explode when mixed with air over a wider range than petrol—4.13 per cent. alcohol vapour in the air being combustible, the range in the case of petrol vapour being 2.5 per cent.; thus the engine will be much more flexible.

There are three points, however, on which it is popularly supposed that alcohol compares unfavourably with petrol. These are:—(9) Corrosive Effect.—With regard to alcohol, any corrosive effect that may occur is probably due to impurities in the denaturing agent present in acetone and

methyl alcohol, but these difficulties would be overcome if the carburation is such as to give complete combustion. (10) Starting from Cold.—As for difficulty in starting from cold, it will be probable that alcohol as a fuel will almost always have a greater or less quantity of benzol mixed with it, in which case this difficulty entirely disappears. Even without the addition of benzol there is little doubt that the question of starting from cold will be almost entirely overcome by use of a suitable carburettor. (11) Vaporisation.—Alcohol requires 5½ per cent. of its total heat of combustion to vaporise it, whereas, on the other hand, petrol vaporises without any external assistance. With regard to the heat required to vaporise it, it is to be noted that inasmuch as a large amount of the heat produced passes off in the exhaust, this is really available for the purpose of vaporisation and does not represent any thermal loss.

The committee further recommend:—(a) That the Motor Union support any steps that may be taken, and if necessary inaugurate a movement, with the object of bringing about a reduction in the restrictions now imposed on the production of commercial alcohol. (b) That a prize be offered for the best essay on the subject of the manufacture and introduction of cheap alcohol as a motor fuel. (c) That the Royal Automobile Club be asked to organise and to conduct impartial and trustworthy experiments on the comparative merits of alcohol and petrol as a motor fuel, with a view to encouraging both users and manufacturers to turn their attention to this subject. That the notice of members of the Motor Union be directed to the use of benzol, either alone or in combination with petrol, as a motor fuel, since it can be used with complete success with the present type of engines and carburettors; moreover, it is a home production, and more economical in use than petrol at the present time. That a Standing Committee of the Motor Union be formed for the purpose of giving effect to these recommendations, and generally of recommending from time to time any line of practical policy in connection with fuel supply that may be desirable in the interests of users of motor-vehicles.

AUTOMOBILE ACCIDENTS.

At an inquest at Edmonton last week on William Lucia, aged five, who was killed by a motor-car, a verdict of "Accidental death" was returned. When the accident occurred the car was passing a tramcar, going in the same direction, on its off-side, and the jury raised the point as to whether it was proper for a driver to leave his near side. The coroner said there was a difference of opinion on the subject, and the jury ultimately exonerated the driver from blame.

A VERDICT of manslaughter was returned against a chauffeur named William Adams, at an inquest at Walton-on-Thames on Miss Mayhew, an inmate of a convalescent home, who was killed on Wednesday week by a motor-car, which mounted the footpath on which she was walking. It was stated in evidence that the motor-car was being driven at the rate of thirty-five miles an hour before the accident, and that after striking the deceased the car ran a distance of 78 ft. along the footpath before it was pulled up. The driver of a brewer's van, which was in the road at the time, said his vehicle was practically stationary, and there was plenty of room for the car to pass. Mr. McCandlish, the owner of the car, said it was not being driven at the rate of ten miles an hour, but Dr. Burrell expressed the opinion that the injuries sustained by the deceased woman could not have been caused by a car going at that pace.

A serious motor-car accident occurred near Denmark Hill station early one morning last week. Mr. Levy, of Hampstead, was driving a Mercedes car down the steep hill known as Grove Lane, and when he was about to turn into Champion Park the tyre came off one of the front wheels. This upset the steering and the car dashed into the iron railings along the railway, and fell some 20 ft. down the bank. Mr. Levy and two gentlemen who were with him were thrown over the fence, but not seriously injured. They had, however, an extraordinary escape, as the railway at this point is about 50 ft. below the level of the road.

At the Liverpool Assizes last week the dependents of a fitter and cycle repairer named John Morgan Powell, of Prescott, sought to recover damages from Dr. T. U. Mercer, of Hough Green. On October 16th last the deceased was cycling along the Warrington Road in the direction of his home, and looking at a steam-wagon, which was travelling along the road in the same direction, when he was run into by the defendant's motor-car and sustained fatal injuries. It was admitted that the defendant sounded his horn, but it was not heard, according to plaintiffs, by the deceased on account of the noise made by the steam wagon, and also that the defendant applied his brakes. The jury were, however, satisfied that defendant had done all he possibly could to avoid the accident, and a verdict was given for him.

G. F. O'Connor, twenty-one, a motor-car driver, of Walworth, was charged on Monday, at West Ham, with the manslaughter of Lawrence Sargeant, aged seven years, by knocking him down and running over him. On Saturday last, at about six o'clock, O'Connor was driving a motor-car along the Barking road, Canning Town, in the direction of Southend. The parents of the boy had just crossed the roadway, but their child was caught by the motor-car, two wheels of which passed over him. O'Connor pulled up at once and took the child to Poplar Hospital, but death had taken place. A remand was ordered, bail being allowed.

SHELL MOTOR SPIRIT has just been reduced one penny per gallon, a fact of interest to all motorists.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING THE LIMIT.

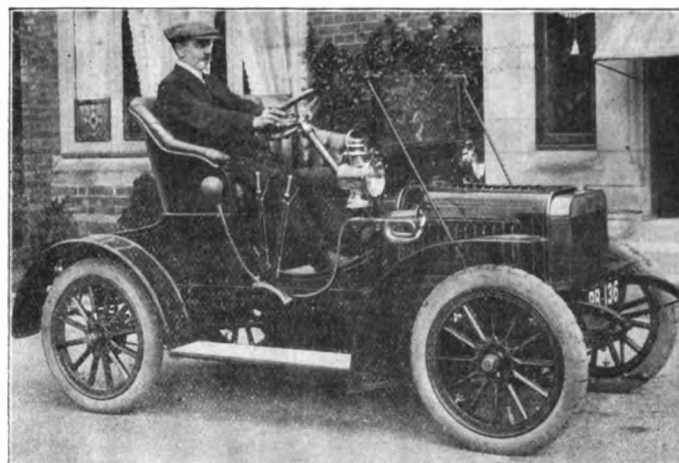
On Saturday, at the Doncaster West Riding Police Court, James C. Baxter, Dundee, and George E. Hudson, Leeds, were ordered to pay penalties of 40s. and costs for having exceeded the legal speed limit at Skellow, on the 5th inst. The first car was stated to have travelled over a measured half-mile at a rate of 33 miles 135 yds. per hour, and the second at the rate of 33 miles per hour.

Two motorists were fined £2 and costs at the Horsham Petty Sessions, on Saturday, for exceeding the speed limit at Ifield.

At Lancaster, Mr. Leonard Williamson, of Southport, was fined £10 and costs, or two months' imprisonment, for driving his motor-car on the Garstang road at a speed exceeding the limit.

A large number of motorists were summoned at Kingston, last week, for exceeding the twenty-mile speed limit and driving to the common danger, a large proportion of the defendants being stopped as they were returning from the opening meeting at Brooklands on July 6th. The evidence of the police showed that the defendants were travelling at high speeds, ranging from thirty to fifty miles an hour, and Sergeant Lucas, of the Surrey Constabulary, informed the Bench that thousands of motor-cars going to and returning from the race meeting passed through Hersham and Walton during the day, and in almost every case they were exceeding the limit. Fines ranging from £3 to £10 were imposed.

The Duke of Westminster was summoned before Mr. Curtis Bennett, at the South Western Police Court, on Monday, for driving his motor car in Portsmouth Road, Putney, at a greater speed than twenty miles an hour. Mr. Curtis Bennett imposed a penalty of 40s. with 2s. costs. Mr. Victor Seymour Egan, 7, Park Lane, Piccadilly, was also summoned for a similar offence. He stated that the speedometer, which cost him twelve guineas to obtain, registered the speed at between fourteen and



Mr. F. Carter, of Sunderland, on the 10-12-h.p. Swift Car which won a gold medal in Class B, Section 2, for privately-owned Cars.

fifteen miles an hour. Alluding to the police trap, the defendant said with a smile, it was like a shot from a gun, it was never felt. Mr. Curtis Bennett ordered him to pay 30s. and the costs.

A number of chauffeurs were fined by Mr. Marsham, at Bow Street Police Court, London, for exceeding the speed limit in St. James's Park. The defendants included the chauffeur to the Earl de la Warr. He was fined £3 and 2s. costs.

FURIOUS DRIVING.

A fine of £2, including costs, was imposed upon each of four defendants who were summoned at the Uckfield Petty Sessions last week for driving motor-cars at excessive speed on the Eastbourne Road at Framfield. The cases were proved by Sergeant Waghorn.

At the Sparkhill Police Court, Birmingham, H. S. Bevins was summoned for recklessly and negligently driving a motor-car. A fine of £10 and costs was imposed.

Three motorists were last week fined at Kilmarnock Sheriff Court for driving at an excessive speed.

Two Southport chauffeurs, named Walter McCommand and Norman Strickland, were convicted, at Bingham, Nottinghamshire, last week, of driving motor-cars on the highway at a dangerous speed. McCommand was fined £5, and Strickland, who did not appear, was ordered to pay £6.

At Croydon, last week, William Hylton Lamotte, of Shirley, was summoned for driving a motor-car at a dangerous speed in Addiscombe Road, Croydon, on July 2nd, and also for failing to produce his licence.

The Mayor said defendant would be fined £10 and 9s. 6d. costs for the excessive speed, and he would have to pay 5s. 6d. costs on the summons for not producing his licence.

At Hampstead last week Charles Gibson, a chauffeur, of Fulham, was fined £10 and costs for driving a motor-car at the rate of over thirty-six miles an hour on the Spaniards Road, Hampstead Heath.

CASES DISMISSED.

At the Newcastle Police Court, last week, Cecil Armstrong, a chauffeur in the employ of Mr. W. Blumer, shipbuilder, of Sunderland, was charged, first with having disobeyed the signal of a policeman to stop; and secondly with having driven a motor-car in a manner dangerous to the public. After hearing the evidence tendered on both sides the magistrate dismissed the case.

At the Nottingham Summons Court, last week, Arthur Cox, chauffeur to Mr. Alfred Swingle, J.P., of Smalley Hall, Derby, was summoned on four charges of driving a motor-car recklessly, negligently, at a speed and in a manner dangerous to the public in Carrington Street, on June 26th. Police-constable Aubrey stated that on the date in question he was on point duty in Carrington Street, when he saw defendant driving a motor-car in the direction of Trent Bridge at a furious rate. Witness held up both his hands for defendant to stop and also shouted to him, but he drove straight on. Mr. C. E. W. Lucas, who defended, said there would be a direct contradiction to the evidence on behalf of the police. The defendant held a "white licence," and this meant a good deal in these days of motor prosecutions. Mr. Horace Crossley, J.P., said the car was crawling along. He had driven hundreds of miles with the defendant, and had always found him to be an extremely careful driver. Similar evidence was given by Mr. A. Swingle, Mrs. Swingle, and Miss Hilda Crossley. The magistrates were of opinion that, whilst the police evidence was correct as to a car having been driven in a dangerous manner, a mistake had been made as to what car it was, and the case would be dismissed.

At Gateshead Police Court, on Monday, Louis Edward Witz, of York, was charged with driving a motor-car in Durham Road to the danger of the public on July 5th. The police had secured the number of the car, but could not identify the driver. Mr. Crombie, for the defence, submitted the case could go no further unless they could identify the driver. Other witnesses were called, but they could not speak to the identity of the defendant. The Bench ultimately said they had decided under the circumstances to dismiss the case.

DRIVING TO THE DANGER OF THE PUBLIC.

At the Southampton Police Court James Edward Winhurst, of Portawood, was summoned for having driven a motor-car in Above Bar Street at a speed dangerous to the public on the 7th inst. The Bench imposed a fine of £5 and costs.

The Earl of Caledon, who has acquired some notoriety lately by repeated convictions for furious driving, was fined £5 and costs at Slough last week for driving a motor-car at an excessive speed at Datchet, a rate of 26 miles per hour being alleged.

Mr. Algernon H. Pease, of Witton Castle, county Durham, was charged at Harrogate last week with driving a motor-car to the danger of the public on the Ripon road at Harrogate on June 9th. There were two further charges of refusing to stop the car when called upon by the police to do so. The police and independent witnesses judged the speed of the car at thirty miles an hour, and also said that a lady in the car looked terribly frightened, and held on to the gentleman as though she wanted the car stopping. The defence was a total denial of the facts alleged, and it was contended that the police did not properly indicate on either occasion that the defendant was to stop. The Bench fined the defendant £10 and costs for driving to the danger of the public, and £5 and costs in each of the other cases, making a total of £20 and costs, with endorsement of the licence.

REAR IDENTIFICATION PLATE NOT ILLUMINATED.

At the Dorchester Borough Petty Sessions, Ernest Parsons, chauffeur, of Clifton, Bristol, has been fined 2s. 6d. and costs for driving a motor-car on May 14th at 9.15 p.m. without having the rear identification plate illuminated.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

RADNORSHIRE AUTOMOBILE AND GARAGE COMPANY.—£1,000. First directors: W. Miles, F. Miles, A. L. Thomas, W. Jones-Powell, and C. Jones-Powell. Church-street Chambers, Pontypriid.

ERA MOTOR HIRING COMPANY.—£1,000. First directors: A. S. McPherson and F. A. Wilkins (managing directors) and F. Wilkins. 54, Whitechapel, Liverpool.

MOTOR WAGONS.—£20,000.—To adopt agreements with the Mercedes-Daimler and De Dion companies of Great Britain, Limited, to acquire certain licences and rights, and to carry on the business of motor-car, omnibus, van, and cab proprietors, &c.

MOTORLAND.—£10,000. To take over the sole selling and agency rights for the United Kingdom and colonies in respect of Gui cars, manufactured by H. Guillemin et Cie, of Courbevoie, Paris, together with all patent or other rights in connection with the Pasco governor throttle, the property of W. W. Stanton and P. H. Tiddy, to acquire the sole selling rights in Great Britain in respect of the Demeester cars, manufactured at Courbevoie, aforesaid, and to adopt an agreement with W. W. Stanton. First directors: F. R. Quilter, A. Salter, Colonel C. H. Shepherd, D.S.O., and W. W. Stanton. 304, Vauxhall Bridge Road, S.W.

ARISTODOS DUSTLESS ROADS SYNDICATE.—£2,000. To adopt an agreement with J. W. Metcalf to acquire the patents granted to him for an invention for a new method of tarring roads and apparatus and machinery therefor, together with any subsequent inventions therein.

First directors: J. W. Metcalf, A. Stedall, W. C. Manning, and A. S. Manning. Rutland Chambers, Newmarket.

RIGNOLD'S ADJUSTABLE CARBURETTOR COMPANY.—£1,000. To acquire certain patents for an invention for improvements in carburettors for internal combustion engines, the property of H. R. Rignold, and to take over the business of motor specialists, mechanics, repairers, and engineers carried on at 27, Ro-coe Street, Liverpool, as Rignold and Benyon. First directors: H. R. Rignold and J. Taylor (both permanent).

H. P. ROSE.—£2,000. Manufacturers of and dealers in motors, motor-cars, and accessories, &c. Agreement with Mr. H. P. Jones. First directors: Messrs. H. J. Densham, C. A. Davidson, E. R. Moon, and H. P. Rose. 28, Frith Street, Shaftesbury Avenue, W.C.

BRITISH MOTOR CABS.—£2,000. 7, Addison Place, Brixton, S.W. HERBERT FROOD COMPANY.—£8,812. To acquire the business carried on by Messrs. H. Frood and D. G. Holmes at Sovereign Mills, Chapel-en-le-Frith, Derby, as the Herbert Frood Company, and to carry on the business of manufacturers of brake-blocks and other accessories for motor-cars.

INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.—"Limited" omitted from title by licence of Board of Trade. 1, Albemarle Street, W.

ARGYLL MOTORS, LTD.—A special meeting of the shareholders of this company was held in Glasgow last week. Mr. Smith, chairman, moved a resolution authorising an increase of the capital from £500,000 to £650,000. He admitted that the proposal had met with opposition from some quarters, but the proxies returned showed an overwhelming majority of capital in favour of the increase. Mr. Henry Reynolds moved the rejection of the resolution, which, he said, must have come as a great surprise to many shareholders, after the increase of the capital by £100,000 not many months ago. The amendment did not find a seconder. Mr. Maybery advised that the directors should be given an opportunity of going forward. The resolution was adopted.

ROAD REPORTS.

IPSWICH.—There will be no large repairs going on on the main roads leading out of Ipswich during the next few weeks. Local opinion is coming to the conclusion that a uniform system of repairing the main highways of the country, and also for dealing with the dust question, is necessary.

YORK.—The main North Road in the Clifton and Bootham districts has been under repair.

REIGATE.—None of the main roads in this borough are likely to be under repair during the next few weeks. Extensive works have been carried out in connection with the main roads in providing dusting surface, and further works to reduce dust are to be carried out by Mr. Fred T. Clayton, Borough Engineer and Surveyor, within the next few weeks by treating the surface of the roads with tar. The work is being carried out by the Johnston Lassally tar binding process. Motorists generally should drive with care through the two towns, Reigate and Redhill. If attention were paid to this by all motorists, it would remove a great amount of the prejudice at present existing on the part of some of the general public.

HARROGATE.—The main roads passing through this borough are treated with "Akonia," and not likely to be in course of repair during the next few weeks.

GRANTHAM.—The roads are under repair for the Grantham Town Council, and motorists should have a good run through the district.

WORCESTER.—One of the approaches to Worcester at its northern boundary, called Ombersley Road, is under repair. When it is finished the other main approaches from the north, called Droitwich Road, will be under repair for about a fortnight.

WANDSWORTH.—The Tarspra Company have been engaged on the task of tarring the carriageway of the Kingston road from the top of West Hill, Wandsworth, to the county boundary. The road has just been resealed, and advantage has been taken of this fact to try the experiment of using tar for laying the dust.

EASTBOURNE.—Experiments in tar-paving having proved very successful, the Borough Surveyor's Department is now busily employed in treating many of the principal roads in the town.

GLAMORGAN.—As a remedy for the dust nuisance, the Glamorgan County Council recently tried tarring the Mumbles Road, near Swansea. At a meeting of the Roads Committee several claims for damages have just been received. One doctor, whose bicycle skidded and caused him to be covered with tar, claimed 15s., while another medical man put in a claim for a new straw hat and shirt and the cost of having his suit cleaned. Two other claims for 10 gs. and 8 gs. respectively were received. The clerk said that under the tar-spraying contract the county council were not liable.

NATIONAL ROADS.—At the annual conference of urban district councils of England and Wales at Ventnor on Saturday a resolution in favour of roads for national use being made a national charge was unanimously adopted.

EAST GRINSTEAD.—The East Grinstead Surveyor has made a start with the long-deferred tar-washing of the roads through the town. During last week the High Street was tar-washed, and a start was made with the London Road.

LA BOURMINE, Baron de Magnin, and the Marquis de Heredia are among the recent purchasers of Mors cars.

A MOTOR-CAB INCIDENT.

LORD MONTAGU of Beaulieu figured in a case heard before Mr. Paul Taylor at the Marylebone Police Court on the 18th inst., in which a motor-cab driver, named Henry Pottier, was summoned at the instance of the Office of Works for driving a motor-cab in the Outer Circle, Regent's Park, at a greater speed than ten miles an hour. Evidence was given that shortly before midnight on July 8th Park-constables Petherick and Smith timed the defendant's cab over a measured furlong with the aid of lamps and stop watches, and according to their timing the cab covered the distance at a speed of eighteen miles an hour. A third park constable then stopped the cab, and was speaking to the driver about the speed at which he had been travelling, when Lord Montagu, who was riding in the cab, jumped out, and in an excited manner caught hold of the constable by the lapels of his coat and demanded his number. An altercation took place, and the result was the appearance in the witness-box of Lord Montagu, who denied that he seized the constables by the collar, though he might have pulled one of their mackintoshes aside to verify the number. He interfered as a public duty because he felt the driver was being harshly treated. The cab was not travelling at the alleged rate. In the end the man was fined 40s. and costs. Lord Montagu reluctantly interfered in the case only as a matter of public duty, and because he thought the park keeper did not treat the motor-cab driver fairly. His lordship voluntarily attended the court as a witness at great personal inconvenience for the purpose of giving independent evidence in the interests of justice.

AN APPEAL DISMISSED.

In the Edinburgh Justiciary Appeal Court, last week, William Grant Christie, Saltcoats, appealed against a conviction secured against him in the Sheriff Court at Kilmarnock, for having driven a motor-car at a speed of eighteen miles an hour in the village of Seamill, and adjudged to pay a fine of £7. The distance libelled as that over which the complainant had driven at an excessive rate of speed was three-quarters of a mile, and proof was led, he said, only with regard to a quarter of a mile where the police had laid a trap. The complainant, therefore, it was maintained, had no sufficient notice given him as to what was to be proved against him. The Lord Justice-Clerk thought it was fairly satisfactorily shown that the gentleman who was charged had not suffered any injustice, but it was another question whether he was now entitled to have the suspension sustained on the ground of want of specification. He did not think that he was, but his Lordship did not like the form of the complaint. It would be just as simple and much clearer if the complaint always bore that the offence was committed within points which are to be founded upon being a place within the ten mile limit fixed by the Secretary for Scotland. But he did not think the complaint was irrelevant. The appeal was dismissed, with modified expenses of £7 7s. to the respondent.

THEFT OF MOTOR FITTINGS.

At Bow Street Police Court, last week, George E. Pearce, Tooting, and Charles Payne, Peckham, were charged on remand with stealing and receiving motor fittings. Pearce was employed as a night watchman at the Daimler Motor Works, Brownlow Mews, Guildford Street, W.C. A week ago he stole from there some motor fittings worth £12 and handed them to Payne. Detectives Barr and Joslin stopped Payne in the street as he was carrying the fittings away, and took him into custody.

Mr. Armstrong appeared for Payne, and said that his client was the son of one of the oldest and most respected tradesmen in Peckham. He kept a motor-car for business purposes, and as he wanted to repair it he got these fittings from Pearce. Up to now Payne had borne an unblemished character, and he (Mr. Armstrong) suggested that it was one of those cases which the First Offenders Act was intended to meet. Sir Albert De Rutzen said there were one or two bad features in the case. Instead of protecting his master's property, as he was paid to do, Pearce had robbed them, and he would be sentenced to four months' hard labour. Payne must have known that the goods were stolen, and he would go to prison for two months.

BALLOON v. MOTOR.

A BALLOON ascent was made at Lister Park, Bradford, on Saturday by Mr. Reuben Bramhill, a well-known aeronaut in the North of England, the object being a race against motor-cars. Twenty-eight cars belonging to the Bradford Automobile Club entered. The conditions were that the aeronaut was not to travel more than fifty miles, and was to have his balloon deflated and packed before it was touched by any occupant of a car. Mr. Bramhill ascended about half-past three, and disappeared into the clouds, the pursuing cars taking various routes in an E.N.E. direction. Eventually it was found that the aeronaut had descended near Mirfield, nearly south-east of Bradford, in a direction entirely opposite to that taken by his motoring competitors, and was thus an easy winner.

ALL the winning cars at Brooklands last Saturday, in connection with the second meeting of the Brooklands Automobile Racing Club, used Dunlop tyres.

THE DUST TRIALS.

UNDER the auspices of the R.A.C. some important trials with regard to the dust raised by motor-cars were held on the Brooklands Track at Weybridge on Tuesday, resulting in several photographs which should give the manufacturers food for thought, if not the basis for innovations in the construction of cars. Lieut.-Col. R. E. Crompton is the chairman of the committee of judges, of which Mr. C. W. S. Crawley is the hon. sec., and these gentlemen with their colleagues were in attendance taking notes of the performances of the cars.

The tests were made over a 100 ft. course on the straight finish on the track, this being covered for a width of 10 ft. with limestone dust. The cars were required to run over this at varying speeds, an endless cord with ribbons being run alongside the track to secure uniformity in the running of the different vehicles. The day was well suited to the purpose, there being no wind sufficiently strong to raise the dust from the ground, and just enough to disperse the clouds of dust made by the vehicles.

Class I. was for makers' standard cars, the cars which were driven over the course being the 10-h.p. Adams, 24-30-h.p. Dennis, 10-h.p. Turner-Miesse steam, 30-h.p. Thornycroft, 30-h.p. White steam, 24-h.p. De Dion, 15-h.p. Coventry Humber, entered by the Elastes Company Ltd., 16-h.p. Vauxhall, two 15-h.p. Fords, 30-h.p. Pilgrim, 20-h.p. Dennis, 30-40-h.p. Spyker, 30-h.p. Lindsay 12-16-h.p. Wilson Pilcher, 24-32-h.p. Porthos, 28-36-h.p. Armstrong, 36-h.p. Thornycroft, 15-h.p. Mors, 50-h.p. Thames, and 18-24-h.p. Austin.



The R.A.C. Dust Trials at Brooklands.—The 30-35-h.p. Dennis, with cased-in wheels, travelling over the prepared stretch.

In Class II. the inter-club competition for amateurs, nine competitors ran over the course, the Southern Club being represented by Messrs. Malcolm Brooke and J. Clingoe on the 18-h.p. Malcolm and 14-h.p. Lindsay respectively; the Blackheath A.C. by Messrs. W. Whiteway and A. Duckham, who entered their 16-h.p. Calthorpe and 14-22-h.p. Germain; the Irish A.C. by Mr. D. Mooney, 20-h.p. Stanley steam car; the West Surrey A.C. by Mr. G. M. Ledebor, 10-12-h.p. Coventry; the East Surrey A.C. by Mr. F. Hughes, 20-h.p. Dennis; the Coventry M.C. by Miss Muriel Hind, who drove the 24-h.p. Deasy, and Mr. A. F. Slee, a member of the Motor Union, entered his 1903 10-h.p. Renault.

Class III. was in many respects the most interesting event of the day, this being for experimental cars altered or specially fitted with a view to the mitigation of the dust. A 1901 10-h.p. Mors was run by Mr. Cook, this being fitted with solid rubber tyres working on hollow rubber rings. Mr. J. C. Dennis had a 30-35-h.p. Dennis car with wheels cased in, the front mudguards not flared, and an undershield from the flywheel tapering upwards towards the end of the frame. The 15-h.p. Coventry-Humber entered by the Elastes Company in Class I. was also a competitor in this category, for which it was fitted with Elastes filled round tread tyres. A 20-h.p. Brotherhood was entered by Mr. Conrad Ingleby, this being fitted with a light canvas screen under the body and projecting some distance beyond the rear of the vehicle. Mr. E. Martin was a competitor with a 20-h.p. Velox shod with pneumatic disc wheels. Considerable interest was aroused in the performance of the last car to run in this class, viz., the 22-28-h.p. Vivinus, for the entry of which Messrs. Wayman and Matthews were

responsible. A special device was fitted consisting of a flat steel bottom underbody, the full length of the vehicle, with its sides overlapping the sides of the cars and with shoes replacing wing-guards on the wheels.

Impressions as to the behaviour of each vehicle are necessarily of little value until we get the photographs before us for purposes of comparison. These are now being prepared for the judges, and the results will shortly be announced.

FORTHCOMING EVENTS.

JULY.

26th (F.).—Coupe de Liedekerke race for touring cars, on the Ardennes course.

Circuit des Ardennes Race under Belgian A.C. rules.

26th & 27th.—Auto C.C. twenty-four hours' ride to Plymouth and back.

27th (Sat.).—Aston hill climb of the Hertfordshire County A.C.

Irish A.C. hill climb.

Motor-Yacht Club eliminating trial for the British International Cup Race.

Cardiff M.C. run to Southerndown.

East Surrey A.C. run to Cuckfield.

Harrogate A.C. competition.

Notts A.C. hill climb, Hazelwood.

Somerset A.C. 100 miles reliability trial.

Essex M.C. run to Epping.

Manchester M.C. run to Tideswell.

West Essex A.C. run to Billericay.

AUGUST.

2nd to 5th.—Automobile Club of France Criterium and Coupe de la Presse.

3rd (Sat.).—Brooklands Automobile Racing Club meeting.

Sussex County A.C. Gymkhana at Eastbourne.

Southend M.C. holiday tour on south coast.

5th (M.).—Crystal Palace A.C.'s races at Bexhill.

19th to 24th.—Auto Cycle Club's six days' trial.

20th.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.

SEPTEMBER.

9th.—Industrial Vehicle Trials commence.

OCTOBER.

19th.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

Cordingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

July 27th—8.57 ... 29th—8.52 ... 31st—8.50 ... Aug. 2nd—8.46
 „ 28th—8.54 ... 30th—8.51 ... Aug. 1st—8.48 ... „ 3rd—8.45

In Glasgow the lighting up time to-day (Sat.) is 9.40 p.m., and to ascertain the approximate times on succeeding days 45 min. should be added to the above figures; in Birmingham an addition of about 13 min. is necessary.

PUBLIC MOTOR SERVICES.

THE Denholm Co-operative Dairy Society, Ltd., have secured a char-a-banc motor-car, which they intend running regularly between Hawick and Jedburgh, N.B., for passenger traffic.

A MOTOR service between Redruth and Falmouth will probably be established by the Great Western Railway Company within the next few days.

THE Brighton, Hove, and Preston United Omnibus Company, Ltd., have commenced a half-hourly summer service between Brighton and Worthing.

WITH the holiday season now commencing, there are few pleasanter methods of seeing Yorkshire than by the motor char-a-banc trips run by the North-Eastern Railway. Daily tours start from Bridlington to Flamborough for the caves and lighthouse, *via* Sowerby, a distance of eleven miles; to Filey, *via* Hummanby and Reighton, a circular trip of twenty-two miles; as well as to Hackness and Thornton Dale, *via* Scarborough. There is also a motor char-a-banc service between Ripon and Studley Park and also at Harrogate. From this latter town the North-Eastern Railway run seven different motor tours from Harrogate station yard to all the places of interest in the neighbourhood, the distances of the runs being from eight to forty miles.

AN ACCIDENT IN A MOTOR FACTORY.

MR. CECIL F. KARUTH, a solicitor, of Crediton Road, Hampstead, was at Marylebone County Court on Monday awarded £13 and costs for injuries sustained by falling down a motor pit at Messrs. Panhard's Works, Acton Vale, W.

Mr. Karuth was inspecting a car when he suddenly disappeared from view.

The defence was that Mr. Karuth had been guilty of contributory negligence.

A CASE AGAINST THE POLICE DISMISSED.

SERGEANT HAYES and Constable Powin, of the Altrincham police force, were summoned last week for an alleged assault on a chauffeur named George Jones, of Bowdon. The case arose out of the arrest of Jones for drunkenness and disorderly conduct on July 16th. The case for Jones was a complete denial of the charge of drunkenness, and allegations were made to the effect that Powin irritated him. The constable, it was said, used unnecessary violence, and when Sergeant Hayes arrived, it was alleged, he kicked Jones behind the knee. Colonel Hammarsley, the chief constable, gave the officers excellent characters. The Bench dismissed the summonses against the police, and fined Jones 10s. and costs on the charge of drunkenness and allowed an advocate's fee of two guineas.

NO INLAND REVENUE LICENCE.

AT the Westminster police court last week Lieut. Henry Sheehy Keating, of Wellington Barracks, was summoned, before Mr. Curtis-Bennett, by the Inland Revenue authorities, for employing a male servant without a licence. There was a second summons for keeping a motor carriage without a licence.

An Inland Revenue officer deposed to seeing a car in York Street, Westminster, on June 10th, which it was afterwards found belonged to the defendant. There was a chauffeur in the car, and no licence was held by the defendant for either.

Mr. Curtis-Bennett imposed a fine of £2 2s., including the licence for the servant, on the first summons, and £4 4s. and £1 1s. costs on the second.

POLICE TRAPS.

THERE is a measured quarter of a mile on the Chichester Road, Arundel.

A CORRESPONDENT writes that two police traps are in operation at Keswick, one being from a bridge near the pencil works at the entrance to the town and past the High School. The second is on a slight incline near Braithwaite Station, three miles from Keswick.

THE police have lately been at work on a measured furlong at Pinner.

THE police in the Tintern district have lately been devoting attention to speedy motorists.

THE Skipton Urban Council having asked the local police to pay special attention to motor-cars passing through the Gargrave Road district, an outbreak of police trapping may shortly be expected.

BUSINESS NEWS.

THE French Minister of War has just bought from Société Mors the van which took part in the recent Commercial Vehicle Trials in France.

THE Motor House inform us that an error occurred in their advertisement in the *M.C.J.* last week. The Winton cars they are disposing of at reduced prices are of the 1905 and 1906 models.

OWING to the shabby appearance of the ordinary brown canvas tyre carrier after some little wear, Messrs. Gamages, in response to enquiries, have introduced a cover made of black japanned Roanoid, which is waterproof, always looks nice, and is in every respect superior to the old pattern.

THE method of repairing broken or cracked castings of any metal by welding adopted by the Fitton Engineering Company, of 664, Old Kent Road, London, S.E., has proved so satisfactory that the most complicated break or fracture can, it is claimed, be united, and the casting, which otherwise would be thrown on the scrap heap, rendered stronger than new and in every way serviceable for a further term of useful work. The Fitton Company have already found it necessary to increase their plant to cope with the number of motor-car cylinders sent to them for repair.

ACCORDING to the official results of the Irish Reliability Trial, two gold medals were awarded in Section I., and one gold medal and the 100 guinea Dunlop Challenge Cup in Section II., to cars fitted with Continental Red-Black non-skid tyres.

THOSE having business with the E. M. Bowden's Patents Syndicate, Ltd., should note that the works in Baldwin's Gardens, Gray's Inn Road, E.C., will be closed from the 2nd until the 12th August. The warehouse will be open, however, on August 7th for the convenience of customers whose requirements can be filled from stock.

QUITE an amusing situation has occurred in connection with the old "Mors" premises in Shaftesbury Avenue, W.C. These premises are among the most extensive in London, and few firms are in a position to warrant their taking such premises, consequently they have lain vacant for some time. It came rather as a shock, then, when, twenty minutes after the landlord had let them to The Motor House, whose requirements necessitated them taking further premises, the agents came along with a tenant to whom they had let the building. However, The Motor House got in first.

FROM the British and Colonial Daimler-Mercedes Syndicate, Ltd., comes a copy of the catalogue they have just issued of the new British-built Daimler-Mercedes car, of which a description was given in a recent issue of the *M.C.J.*

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COMMENTS.



NOT content with a previous rebuff from the Local Government Board Inspector, the Carnarvonshire County Council have made a second attempt to secure the imposition of a speed limit on motor-cars in Llandudno. At an inquiry just held it has been made fairly clear that the opposition to motor-cars on the Promenade and in Mostyn Road arises from the local tram and cab interests. This is certainly true so far as the latter thoroughfare is concerned. At the first inquiry nothing was proved against the

streets or town. Everyone, including the L.G.B. Inspector, was agreed that they were "fine and broad" (to quote the testimonial of the inspector himself), and the only point to consider was any fresh evidence as to danger. There the witnesses for the Council seemed to draw a blank; and they must have been considerably chagrined when their representative called Mr. Rees, the Superintendent of Police at Llandudno, whose evidence should be exceedingly useful to Parliamentary motorists in forthcoming discussions. There had only been eight convictions against motorists in the town under Section 1 of the Motor Car Act of 1903, and the police had lost two cases, "but," added the inspector apologetically, "they were very weak ones." He then went on to say that he was against any speed limit, and believed that the rate should be arranged according to the traffic in the streets at the time. Sometimes five miles an hour would be too fast, and at other times motorists would be justified in going twenty miles an hour. The streets in Llandudno in the afternoon were very clear, but in the evenings they were very crowded. With regard to the county of Carnarvonshire there were no police traps, and, in his view, if a motorist was travelling in the open country with a clear road it did not matter what speed he was going at. Superintendent Marks, Inspector Jarrett, Sergeant Waghorn, and all the lesser policemen of the south should take their holidays in Wales and learn wisdom while off duty.

Highways Protection.

THE Highways Protection League is adding to the gaiety of London and providing opportunities for Mr. J. Cathcart Wason, M.P., to give examples of his humour. At the annual meeting the other day that gentleman made a speech in which he pointed out that the French Revolution was caused by the Court and aristocracy "driving at a furious rate, trampling on the people, and showing utter contempt for the amenities of other people." Having thus relieved himself of an important historical fact, he went on to say that nowadays people were realising that motoring was an expensive amusement that had "engendered obesity and set up the disintegration and decay of the nervous tissues." All this will be very amusing to those motorists who have won renown on the Brooklands track, and to the many hundreds of drivers throughout the country who recognise the motor-car as an avenue to good health and a means of keeping in fit condition. Evidently the Highways Protection League has a few friends, subscriptions and donations for the past twelve months

having amounted to £281. The expenditure totalled £294, but from all we can learn the League has left to the motoring organisations the duty of protecting the public on the highway, by the issue of warning signs, &c., and has so far mainly confined itself to sending letters of an alarming character to the public Press. If it really intends to act up to its name it should work in conjunction with the M.U. and the A.A. in signposting the roads, and generally safeguarding the public.

The Price of Petrol.

Now that the Motor Union report is out the discussion with regard to the future fuel for motor-cars is likely to be renewed with vigour. Sir Marcus Samuel made an interesting contribution to the subject the other day at the meeting of the "Shell" Company. He expressed amusement at the suggestion of a petrol famine, and declared that he had no misgiving as to the ability of those responsible for the trade to supply the demand. The reduction in price, instead of being regarded as a comment upon the report of the Fuels Committee of the Motor Union, was but an endeavour to encourage consumption—a mere coincidence, in fact. There is one element in the situation that must not be overlooked, viz., the interdependence of industries. The price of petrol is not regulated solely by the demand; much depends upon the outlet for the by-products which are left when the petrol is refined from the crude oil. Sir Marcus assures us that at present the market for such products is remunerative, from which we gather that in his view petrol has not reached its settled price, and any restriction of the demand for by-products would raise the rate. It is this uncertainty that has produced the feeling of unrest among motorists, and that is causing them to encourage experiments with a view to finding a fuel of a lower price.

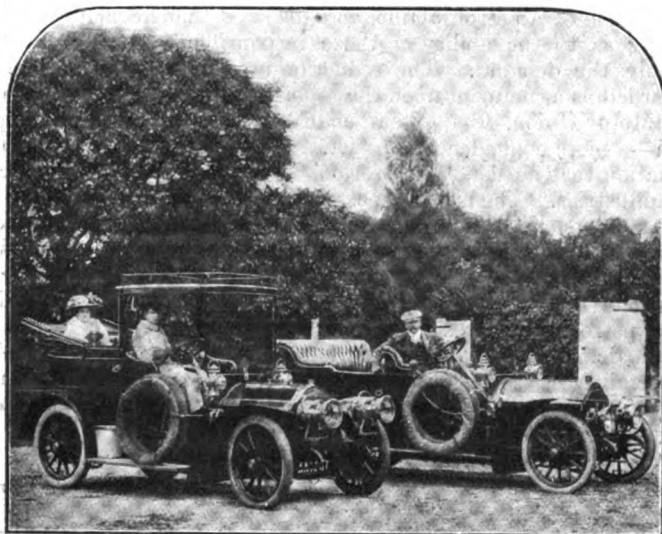
Lights on Vehicles.

MANY are the vicissitudes that have befallen the Lights on Vehicles Bill, which appeared in the House of Lords on Tuesday, and was almost held up to public ridicule by Lord St. Aldwyn as an example of legislation in a hurry. The proposal for universal lights, which is the basis of the measure, has been before the country for years, and hence the surprise with which many of their lordships heard such a declaration. A new clause was proposed by Earl Beauchamp giving power to county councils to make orders of exemption from the operation of the Act of vehicles carrying, in the course of harvesting operations, any farm produce to stack or barn. After some discussion the clause was agreed to and added to the Bill. And then, upon the motion of Lord Hamilton of Dalzell, it was resolved that the Act shall not apply to Scotland. This latter decision is one greatly to be regretted, and shows again the difficulty of securing uniformity in British legislation.

National Roads.

IN a very unostentatious way some of the rural councils are endeavouring to educate the public mind towards a recognition of the advisability of making the main roads of the country a national charge, as in many of the awakened countries on the Continent. With such an object in view the Settle

(Yorks) Rural Council is now circularising similar bodies with their views in favour of such a course, and asking their opinion on the subject. The result is that a great deal of discussion is now going on throughout the country, much of it on very sensible lines. Thus, at the Westhampnett Rural District Council meeting a few days ago Mr. R. A. Gregory put the subject very clearly before the people of his place when he said that the State control of our main roads would have to come eventually. In former days, when the traffic in a certain district was confined to that locality, on account of the difficulty of conveyance, those who used the roads paid for them, but now the radius of movement was so greatly increased on account of motor-car traffic that the roads were quite a national matter, far more so than fifty years ago, when people rarely left their district by road. It cannot be too strongly enforced that this traffic is not all of the pleasure kind, but much of the new use of the roads will be of an essentially commercial character; hence, the wide view that should be taken of the matter. For instance, fruit growers around Worthing have contracted for motor-cars to take the bulk of their fruit by road from Worthing to London, and obviously it may be very hard indeed on the intervening rural districts, both in Surrey and Sussex, who by the very circumstances of the case get no benefit whatever from the traffic. Such examples show the importance of getting at least some contribution from the national funds for the upkeep of the roads.



Mr. and Mrs. Charles Braun, of Lymington, Hants, on their De Dietrich Cars.

Both the vehicles are of the 24-h.p. type; one is a landaulet, which Mrs. Braun uses personally, and the other an open touring car, with Mr. Braun at the wheel. After touring some thousands of miles on his old machine Mr. Braun just recently ordered and obtained delivery from Messrs. Jarrett and Letts of one of the latest 1907 cars. It is fitted with a very comfortable low side-entrance touring body, specially designed to meet the owner's requirements.

In East Anglia.

MR. J. E. VINCENT, who combines a knowledge of automobilism with a ready pen, writes pleasantly on some of the eastern counties as a motoring country in his latest volume, "Through East Anglia in a Motor-Car." The chapters are prefaced with some practical observations showing where garage and repair facilities exist, which might usefully have been supplemented by the names of the proprietors of such establishments. Such information would not have been out of accord with the character of the work, for Mr. Vincent supplies his readers with the names and features of the various cars upon which he made his way through Cambridge, Suffolk, Norfolk, Essex, and other localities within the area of East Anglia. The references to the character of the roads, the occurrence of hills, and the distances on the selected routes will be serviceable to

owners of cars of comparatively small power, enabling them to avoid the roads likely to present difficulties. Mr. Vincent is evidently a lover of nature, and writes knowingly of the tree life of the roads he describes. He knows car-lovers as the result of long acquaintance, and describes Bottisham as possessing "a motorist's church," "that is to say," continues the author, "one of which a passing view gives pleasure"—a characteristic utterance of the *Times* motoring correspondent, who is none other than Mr. Vincent. Here and there evidences of a local patriotism occur in the references to Abingdon; otherwise, Mr. Vincent has a discriminating mind and sifts the researches of county historians with a view to popularising hard facts. The book is the first volume of a series to be published by Messrs. Methuen and Co., which should be helpful to tourists *en automobile* in its characterisation of the highways of the country from the view of the motorist as distinct from the ordinary maker of guide books.

Hotel Charges.

THOSE responsible for the management of hotels should take Mr. Vincent's animadversions upon British ideas of reasonable charges into account when presenting bills to motorists in the future. Unfortunately the law of libel prevents men from writing the truth with regard to many of their experiences in connection with hotels, but as a general principle it is correct to say that "hotel keepers frequently behave as if they thought the owner of a motor-car must needs possess an endless supply of ready money, whereas the legitimate inference from his ownership of an expensive vehicle is that he has none to spare." Motorists go abroad not because they wish to ignore the beauties of their own country, but often from a desire to escape the rapacious hotel-keeper, who regards them as sheep to be fleeced whenever they present themselves at his doors. In time a more reasonable attitude will doubtless prevail, and such comments as are made by Mr. Vincent may hasten the day.

Motor Lifeboats.

EXPERIMENTS conducted by the National Lifeboat Institution in connection with lifeboats installed with petrol motors continue to be made with varying results. Only partial success attended the fortunes of the boat stationed at Newhaven; that at Walton-on-the-Naze was fitted with a Blake motor, and has done good work; another, for reserve purposes, has been ordered to the Tees for September. Until the boats have had some years' work at their stations it will be difficult to gauge the exact degree of success which has been attained. So hopeful, however, does the outlook seem that the Committee of Management of the Institution have felt justified in ordering four more motors for lifeboats which have been specially built for them, instead of, as in the case of the three experimental boats, simply adapting existing boats.

A Question of Averages.

A CORRESPONDENT in one of our French contemporaries writes as follows:—"I am tester in a large motor-car factory, and we are instructed, when trying the speed of a car, to make the test on the same route in opposite directions, in order to take account of the wind that may be blowing and of the gradient, and then to take the mean. The other day I had a 24-h.p. car to test, and during the ascent I made a kilometre in exactly 60 seconds. In the descent I occupied 36 seconds, which makes 60 kilometres per hour up hill and 100 kilometres down hill. I therefore determined the mean to be 80 kilometres per hour. A friend, who, like myself, is also a tester, told me that since I made one kilometre in 60 seconds and another in 36 seconds, I made two kilometres in 96 seconds, which is equal to 75 kilometres per hour, instead of 80. I believe that he is wrong, but I cannot explain just where the

error lies." Perhaps some of our mathematical readers will give their ideas on the subject.

Inconsiderate Drivers.

IN view of the motor-car legislation which cannot be much longer delayed, the Motor Union is issuing a strongly-worded protest with regard to "the crisis into which a few selfish and inconsiderate drivers have this summer plunged the pastime of touring." Apparently as a result of the action of a small minority of motorists a large crop of applications for the restriction of the speed limit of motor-cars has lately been received by the Local Government Board. So general is the demand that Mr. Rees Jeffreys would appear justified in the superlatives which he has used in writing of the position. The Somerset County Council has accepted applications for a ten mile limit in no fewer than twenty-two villages. This is only one instance from the West of England. Similar applications are being made in Hertfordshire, Surrey, Sussex, and other southern districts, while the Kent County Council, which hitherto has consistently refused to apply for speed limits, is now thought likely to accede to such requests from four important districts within its area. More than that, the Bridges and Roads Committee of the county is communicating with the police authorities with a view of severe action being taken to deal with speedy motorists. Under

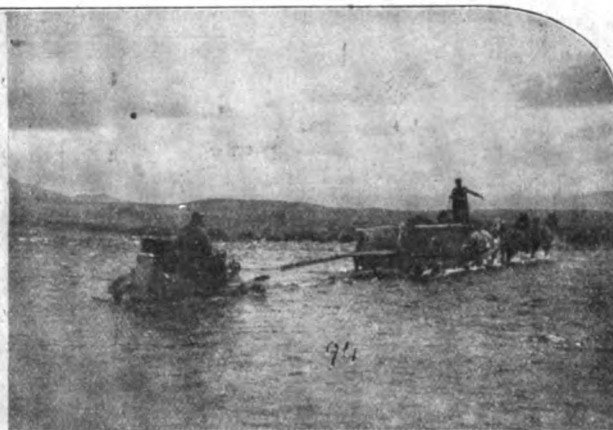
supported by the trade; and its members should not be discouraged by the uncertainty at present associated with these climbs.

The Scottish Trial.

ELSEWHERE we give the awards in connection with the Scottish Reliability Trial, issued with the celerity that is regarded as a characteristic feature of the organisation of that northern event. The Scottish Club deserve well of the industry, and we trust that in the negotiations now proceeding between that society and the Royal Club in London full allowance will be paid to the position it has obtained in the organisation of such trials. A preliminary communication on the subject from London with regard to next year's event is now under the deliberation of the Trial Committee for report to the Scottish A.C., and altogether there is some uncertainty with regard to the locale of next year's great Trial. But that is anticipating. We have now before us the results of this year's event, and would congratulate the medallists on the proud positions they have attained, while commendation may also be bestowed on many of the other competitors whose loss of marks was due to bad luck rather than inefficiency in their cars. As a matter of fact the vehicles that struggled over the tortuous roads of the Highlands in weather that was as complete a selection of samples as any student of climatic conditions



Negotiating some of the terrible roads of Southland in the depth of winter.



Crossing the Murrumbidgee River on the way to Lake Ta Anan and Milford Sound.

MOTORING IN NEW ZEALAND.

these circumstances the Union is pushing with some vigour the decision of the general committee to place a number of trustworthy agents upon the roads to act with the police in warning drivers of dangerous places and advising motorists when driving through villages and towns where special caution is necessary. The manner in which considerate drivers face the present crisis may in no small measure influence the Government a year hence in their promised legislation, for courage of a high order will be needed on the part of the Legislature to adopt the chief recommendation of the Royal Commission to abolish the speed limit on the open road.

Uniformity wanted in Regulations.

DIFFICULTIES are as frequent as weekly wins in connection with hill climbs, and competitors are urging for some standard definition as to what constitutes a car that will be uniformly welcome at all such competitions. One well-known vehicle that competed at the South Harting climb of the R.A.C. was disqualified at the Shelsley Walsh event of an affiliated club a few days later. In some of these trials grave discontent has arisen owing to the presence of cars in a partially finished condition, while these have been allowed to run in other competitions. Events of this kind are mainly

could desire, demonstrated their reliability in a way to satisfy the ordinary tourist. On the point of the recognition of drivers raised in our columns last week something may well be urged for consideration in future Trials of the kind. Many of the drivers drove as amateurs, undertaking the arduous task from a sporting instinct, and they would greatly appreciate some official souvenir of their success in so important an event. As it remains the majority have to be content with a formal letter of thanks from the firm whose car they steer to honour and profit. And in the case of the professional drivers the recognition would be equally useful, although from a different point of view.

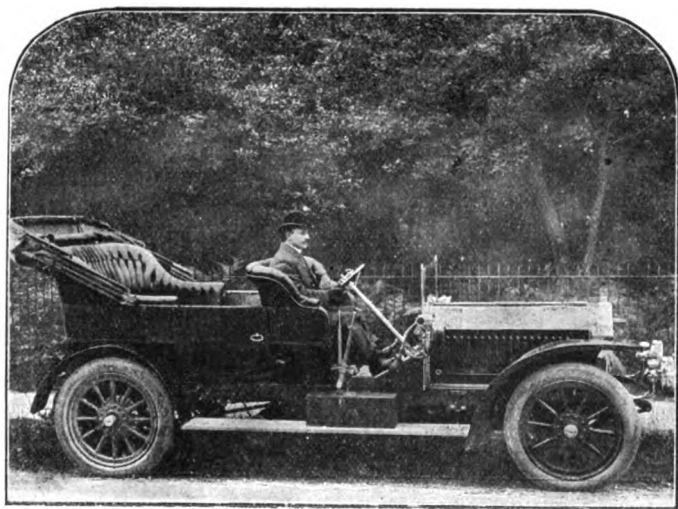
MR. NORMAN GUTTERIDGE, of Ballindune, Haslemere, Surrey, has recently returned from an interesting Continental tour on his 10-12-h.p. Coventry Humber car. He drove it from Naples to Dieppe in seven days, a distance of 1,215 miles. The stages were:—Naples to Rome, 145 miles; Rome to Sierra, 140 miles; Sierra to Parma, 160 miles; Parma to Susa, 181 miles; Susa to Lyons, 179 miles; Lyons to Bourges, 175 miles; and Bourges to Dieppe, 235 miles. The car ran the whole distance without a single involuntary engine stop, three passengers and heavy luggage and spares being carried.

THE LIGHTER SIDE OF TECHNICAL MATTERS.

(Concluded from page 470.)

THE man who is never satisfied with any piece of machinery that comes into his possession until he has taken it to pieces to investigate its interior, usually finding himself in a predicament when it comes to reassembling it, is also responsible for not a few of the gems that go to make up the shining array. One, for instance, bought a motor-cycle, and after he had had his first ride on it—it may have been before, for that matter—started to dismantle it and distribute its various component parts round about the adjacent scenery, so that by no possibility could he find them handily when it came to putting the machine together again. He got the cylinder off and took the piston out, and then and there he made a most wonderful discovery. Every one of the piston rings was broken! He immediately took to pen and ink and wrote the manufacturer of the machine a sermon on the evils of trying to deceive innocent purchasers such as himself by sending out a machine in such a condition. He would please forward a new set of unbroken rings immediately or the motor-cycle would be returned at his expense, and he would be sued for the money!

Another equally good one that concerns the owner of a motor-cycle relates to the oft-used theme of compression. He had



Mr. W. T. Clifford-Earp on his 60-h.p. Thames Car.

had his machine for some time and it had given good service until recently, when it failed to develop its customary power, would not climb hills formerly made light of, and more to the same effect. The owner was the only motor-cyclist for a good many miles round, and his only haven in case of need was a bicycle repairer, whose knowledge of such things probably did not greatly exceed the legitimate allowance, though he correctly diagnosed the case by informing his inquirer that what was needed was "more compression." Whereupon the motor-cyclist, quite satisfied at having learned the trouble, was at pains to sit down and write to the maker requesting that he kindly forward him a "package of compression by express," as the machine was quite useless without it.

This was equalled, if not exceeded, by the plaint of the buyer of a new car who found it impossible to make the motor go, close following of the maker's instruction on every point to the contrary notwithstanding. He then set out to make an investigation on his own account and was quite satisfied that he had found the root of the trouble when, on dismantling the silencer, he discovered a peculiarity of its internal construction with which he was evidently not very familiar. The usual irate letter to the manufacturer telling him how little he knew about motor-cars in general and how very little he knew about the particular one that he had sold or rather palmed off fraudulently to the writer of the letter. "How on earth can you expect me to make your

old machine go," he concluded, "when the pot on the end of the pipe that comes from the motor is as full of holes as a sieve?"

But, after all, the tyro and the beginner are not the only ones who fall by the wayside when it comes to realising the limitations of their own knowledge where the technical side of automobiling is concerned and who fail to go slow until sure of their ground. The foregoing are naturally but a few of the very many stories of this kind that could be told—new ones are coming to light every day, though the old ones seldom fail to bring a laugh. In fact, it would require a small volume to do justice to the number of these tales now current, and many of which are destined to live for years to come, if not as long as the automobile lasts, through the unending repetition that is given them wherever motorists congregate. Many of the stories told of the landlubber and the greenhorn on a yacht are the same to-day as they were a century ago, so it is reasonable to believe that the automobile classics will suffer the same fate.

I presume an apology should really be in order before dragging the following to the light again, as within the inner circle an attempt to tell it is usually heralded with groans, and it is universally regarded as one of the many that will simply not go down. But then the inner circle is a very small thing indeed, and there are doubtless far more motorists who have never heard it than the reverse. It seems that an elderly woman had met with a most peculiar accident in which a motor-car was the chief aggressor. In short, she had simply been run into and knocked down at one of New York's bad traffic spots. She was not killed, nor in fact very badly injured, despite the fact that both her age and the speed of the car in striking her were certainly not in her favour. Had there been no other circumstances connected with the accident it might have passed almost unnoticed as but one of the many that appear to be inevitable, whatever the nature of the vehicle, under such crowded traffic conditions and careless humanity in getting in the way of moving objects. But the car caused the woman to measure her length directly in front of it and then passed over her without the wheels touching her; after it passed her clothing was found to be in a brisk blaze. There must have been an automobile "stringer" on the spot, and he took two of the scribes representing leading New York dailies in tow, and told them all about how it happened. As a result there was a front-page story in two of the next day's morning papers to the effect that a woman had been run down by an automobile and her clothing had caught fire from "a hot coal which dropped from the carburettor." A handy policeman extinguished the flames promptly, but it never developed that he found any hot coals or any ashes to explain the cause of the fire.

It would seem as if the fraternity must have missed an excellent opportunity to perpetuate a good show-time story by not patterning after Mark Twain's amused query at the end of a lengthy and much involved explanation of the working of the automobile from beginning to end. The well-known humorist had requested to be inculcated into the mystery of transforming petrol into speed, and the demonstrator had been at pains to describe every step in the operation down to the last detail, including the characteristics of each part of the mechanism in its function of transmitting the power.

"But what makes the car go?" asked the writer in a most puzzled tone of voice at the end of the long explanation.

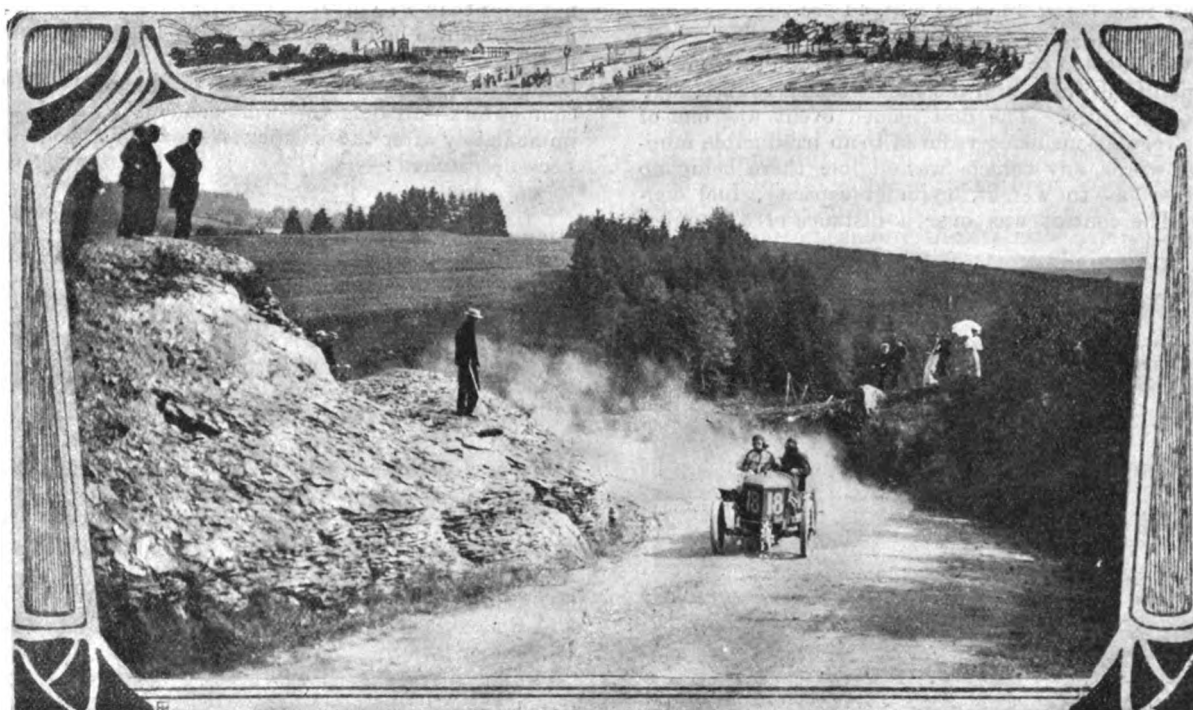
Getting into the realm of the demonstrator's and salesmen's stories opens up too broad a trail to pursue much further, as the number of these that can be told is only limited by the memory of the teller. Their name is legion, and a booklet filled with them would make interesting reading. To cite but a single instance, there may be recalled the "spiel" of the new salesman who reduced the explanation of the motor's working to the vernacular. "You see," he said to the seeker after information, "a lump of gas is sucked inside right here, the piston comes up and hits it a whack, the spark jumps in, and there you are."

THE CIRCUIT DES ARDENNES RACES.

THE first of the three races on the Ardennes circuit organised by the Belgian Automobile Club was held on the 25th ult. The rules, which were the same as those for the recent Kaiser's Prize contest, provided that the engines should have a cylinder capacity not larger than 8 litres, the weight of the car not to exceed 1,175 kilogs. The race took place over a circuit which, starting and finishing at Bastogne, took in Longlier, Leglise, Habay-la-Neuve, and Martelange, a distance of 85.7 kilometres. The course had to be covered seven times, giving a total of, roundly, 600 kilometres or 375 miles. Twenty-five entries had been received, and of these the following twenty-three actually started, being despatched at minute intervals from 5 a.m.:-

47 min. 59 sec.—in fact, it proved the fastest of the day—had now run into the first place, being nearly five minutes in advance of Wilhelm (Metallurgique), who was followed by Hautvast, Moore-Brabazon, Jenatzy, and Warwick Wright in the order named.

The success of the Minervas was foreshadowed at the end of the fourth lap, when Lee Guinness still led, with Moore-Brabazon and Koolhoven in the second and third places respectively. Hautvast, who led for two rounds, turned over at a dangerous corner at Habay-la-Neuve and was forced to retire, as did also Jenatzy at Martelange, two of the Pipes being thus put out of the running. The pace perceptibly slackened, the best



The Circuit des Ardennes (German Club rules).—Moore-Brabazon, the winner, on his Minerva Car at Longlier.

No.	Driver.	Car.	No.	Driver.	Car.
1.	Warwick Wright	Minerva.	13.	De Guise	Imperia.
2.	Hieronymus	Gaggenau.	14.	Hanriot	Benz.
3.	Glaisinger	Adler.	15.	Deplus	Pipe.
4.	Vallee	Aries.	16.	Moore-Brabazon	Minerva.
5.	Schulz	Imperia.	17.	Picoli	Gaggenau.
6.	Hemery	Benz.	18.	Bartel	Adler.
7.	Hautvast	Pipe.	19.	Henze	Imperia.
8.	Wilhelm	Metallurgique.	20.	Spamann	Benz.
9.	Koolhoven	Minerva.	21.	Jenatzy	Pipe.
10.	Robl	Gaggenau.	22.	Lee Guinness	Minerva.
11.	Adelberger	Adler.	23.	Pilette	Mercedés.
12.	Villemain	Aries.			

As will be seen from the above, France was represented by only two cars, Germany by ten and Belgium by eleven, interest in the latter from a British point of view being increased from the fact that three of the Minervas were driven by well-known English motorists. Hautvast (Pipe) made the best time in the first round, 48 min. 38 sec., Jenatzy, also on a Pipe, being second and Lee Guinness (Minerva) third. Twenty-one competitors finished the lap, those that retired being Villemain (Aries) and Picoli (Gaggenau). At the end of the second circuit Hautvast was still leading, but Lee Guinness, who made the fastest time, had run into second place, being 34 sec. behind, Jenatzy being third, and Deplus (Pipe) fourth. Seventeen cars were round within the hour. De Guise (Imperia) was held up for sometime, and Glaisinger (Adler), Vallee on the second Aries, and Hemery (Benz), retired. Only one competitor fell out in the third circuit—Spamann on the third Benz. Lee Guinness, who made another fast lap—

time to the credit of Koolhoven being only 51 min. 57 sec. The fifth lap saw no change in the two first places. Hanriot, the well-known French driver, seen at the wheel of a German car for the first time, was travelling well on his Benz, and had driven it into the third position, beating Koolhoven by a minute. Robl (Gaggenau) who had been considerably delayed in the fourth circuit, finally gave up, Deplus on the third Pipe following his example. Lee Guinness still led at the end of the sixth round, but there were several changes in the other places. Moore-Brabazon fell back to fourth, but Koolhoven took his place, the only serious competitor being Hanriot (Benz), who was only four minutes behind the leader. The field was reduced to eleven competitors by the retirement of Adelberger and Bartel, both on Adlers. Although the outlook at this time was decidedly in favour of a Minerva success, the last lap brought several unlooked-for changes. The pace quickened, and although Lee Guinness fell back, Moore-Brabazon got round in 49 min. 42 sec., securing for him the honour of winning the race, the result of which is shown below:-

No.	Driver.	Car.	Time.
			H. m. s.
1.	Moore-Brabazon	Minerva	6 14 5
2.	Koolhoven	Minerva	6 14 32
3.	Lee Guinness	Minerva	6 15 24
4.	Hanriot	Benz	6 16 5
5.	Hieronymus	Gaggenau	6 23 27
6.	Warwick Wright	Minerva	6 27 54

Moore-Brabazon's average speed works out at sixty miles per hour. The result of the race is an excellent testimony to

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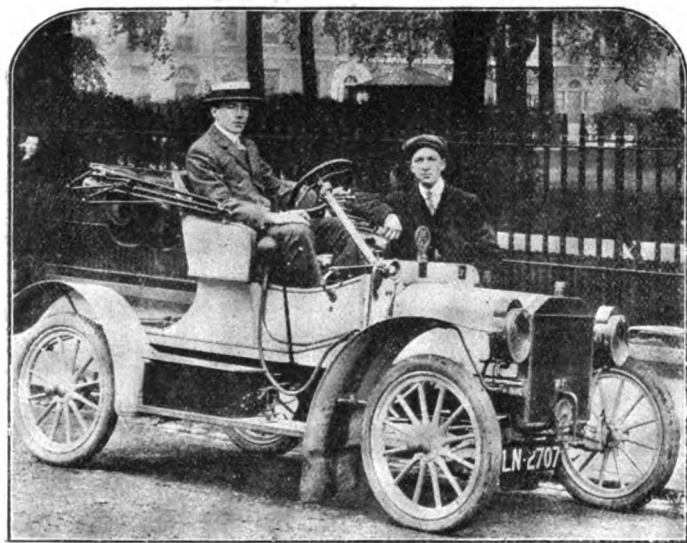
the reliability and excellent design and construction of the Minerva cars, which formed a new record by scoring a triple victory. As will be seen, there was only a difference of 1 min. 21 sec. between the three. The course had to be opened for public traffic at mid-day, at which time five competitors, in addition to the six above-named, were still running, viz., Wilhelm (Metallurgique), De Guise, Henze, and Schultz (all three on Imperias), and Pilette (Mercedes).

The Motor Bicycle Race.

The meeting was continued on Friday with the race for motor-cycles. There were twenty-three starters for the event, in which the competitors had to make two circuits of the course by way of Habay-la-Neuve, Corne du Bois des Perdus, and Martelange, back to Bastogne, making a total distance of 171.428 kiloms. The best time of the day was made by Coutant on a Werner, his time being 2 hrs. 24 min. 14 sec.

The Circuit des Ardennes (A.C.B. Rules).

On Saturday was devoted to the Circuit des Ardennes contest, under the Belgian Club rules, and the Liedekerke Cup race, they being run off concurrently. The first named event was one of speed only, the regulations being reduced to an irreducible minimum. In other words, any vehicle was eligible, there being no restrictions either as to weight, cylinder capacity, fuel consumption, &c. The contest was over a distance of 375 miles,



Mr. P. L. D. Perry on the Ford Junior 15-h.p. Four-Cylinder Car which won the Gold Medal in Class B Open Section in the recent Reliability Trials of the Irish Automobile Club.

representing seven laps. Thirteen entries had been received, but at the last moment forfeit was declared in respect of three Lorraine-Dietrichs and four Clement-Bayards owing, it is stated, to the lack of interest shown in the race by French builders. This left only six to face the starter, who were despatched at minute intervals from 5 a.m. in the following order:—

No.	Driver.	Car.
1.	Pryce Harrison	... .. Weigel.
2.	Lee Guinness	... .. Darracq.
3.	Mercedes	... .. De Caters.
4.	Laminne	... .. De Laminne-Duchene.
5.	Laxen	... .. Weigel.
6.	Jenatzy	... .. Mercedes.

Jenatzy led at the end of the first round, making the fastest circuit of the day (47 min 48 sec.), but at the termination of the second lap De Caters was seventeen minutes in front of him, with Lee Guinness in the second place. The order was unchanged at the completion of the third circuit, but in the fourth Lee Guinness ran into first place, having nearly three minutes in hand. No alteration took place in the fifth and sixth laps. Pryce Harrison gave up in the penultimate round; both he and Laxen on the second Weigel are stated to have suffered from tyre troubles, the former puncturing as many as three times in one lap. The struggle

between the Darracq and the Mercedes was exceedingly keen throughout the race, and in the final circuit De Caters got round in four minutes less than Lee Guinness, winning the event by the narrow margin of one minute. The result is appended:—

No.	Driver.	Car.	Time. H. m. s.
1.	De Caters	Mercedes	6 29 10
2.	Lee Guinness	Darracq	6 30 34
3.	Jenatzy	Mercedes	6 49 40
4.	De Laminne	De Laminne-Duchene	7 22 20

De Caters' average speed works out at 57.8 miles per hour.

The Liedekerke Cup.

The annual contest for the Liedekerke cup, which was to have been held on the 26th ult., had to be postponed, owing to a fog, until Saturday. This race is for touring cars fitted with fully-equipped four-seated bodies and engines of a capacity of not more than 3.75 litres. Two persons—the driver and mechanic—had to be carried as well as ballast to represent a total passenger load of 280 kilogs. Six rounds of the Ardennes Circuit had to be made, giving a total of 321 miles. The nine competitors—all Belgian—were sent off in the following order, immediately after the competitors for the Ardennes Circuit had been despatched:—

No.	Driver.	Car.
1.	Fischer	Vivinus.
2.	Wilhelm	Metallurgique.
3.	Moore-Brabazon	Minerva.
4.	Wilford	Vivinus.
5.	Ricken	Metallurgique.
6.	Elskamp	Minerva.
7.	Pilette	Vivinus.
8.	Jaeger	Metallurgique.
9.	Porlier	Minerva.

Two Metallurgique cars, driven by Ricken and Wilhelm, led at the end of the first lap. They were passed, however, by the Minervas in the second, when Porlier took the first place and Moore-Brabazon the second. From this time onwards the race resulted in a struggle between the two Minerva drivers, Moore-Brabazon being slightly in front at the end of the fourth circuit, but falling into second place in the final. Jaeger retired in the second lap, owing to upsetting at Bastogne, Wilhelm in the third, and Ricken, all driving Metallurgiques, in the fifth. The result of the race was:—

No.	Driver.	Car.	Time. H. m. s.
1.	Porlier	Minerva	6 40 11
2.	Moore-Brabazon	Minerva	6 40 46
3.	Wilford	Vivinus	7 15 25
4.	Fischer	Vivinus	7 25 47

Elskamp (Minerva) and Pilette (Vivinus), although still running, had not finished the sixth lap when the race was called off. The average speed of the winner works out at 48.2 miles per hour. The outstanding feature of the meeting was, of course, the success of the Minerva vehicles—the achievement of securing the first three places in one event and two in another being one that is hardly likely to be repeated for a long time to come. Not only so, but the equal running of the vehicles is worthy of more than passing note—in the big car race on the 25th ult. there was only 27 sec. difference between the first two cars in a distance of 375 miles, and in the Liedekerke Cup 35 sec. was all that separated the first two drivers at the end of 321 miles.

A USEFUL Glossary of Technical and Commercial Terms, Words and Phrases in English, French, and German has been compiled by Mr. H. R. Carter, and published by Mr. Robert Sutton, 43, The Exchange, Southwark Street, London, S.E. The words are arranged in equal columns, those in English being given in alphabetical order, and, so far as we have tested them, the equivalents in French and German have been reliably compiled. Several pages at the end are devoted to some useful tables showing the metrical equivalents of British weights and measures. The book is published at a relatively low price, and should form a serviceable addition to the reference library of engineers and others concerned with the international engineering trade.

ACCORDING to a Central News telegram from New York it has been decided not to hold a race for the Vanderbilt Cup this autumn.

WHILE practising on the Brooklands track, Mr. F. Draper, who was a driver of one of the Napiers during Mr. Edge's twenty-four hours' record ride, sustained injuries owing to his car overturning. We are glad to hear he is progressing favourably.

SEVERAL motor-wagons were surrounded by strikers at Belfast during the last few days in their efforts to prevent the carrying of goods belonging to the local railway companies; but few stood in their way.

THE following is a summary of last week's runs of the Hotchkiss six-cylinder car under the observation of the R.A.C.:—July 22nd, Cromer to Leicester, 168 miles; July 23rd, Leicester to Hull, 160 miles; July 24th, Hull, Beverley, Thirsk, York, Hull, 150 miles; July 25th, Hull, York, Caterick Bridge, Thirsk, Hull, 150 miles; July 26th, Hull, Beverley, Doncaster, Nottingham, 154 miles; and July 27th, Nottingham to London, 130 miles—the week's total of 912 miles being made without involuntary stoppage. The total mileage in Great Britain and Ireland has now amounted to 11,969, and of this 7,442 miles have been covered without involuntary stoppage of any description, thus breaking the previous World's Record of 7,089 miles.

MR. HUNTLEY WALKER, when driving his Darracq racer from Boulogne to Brussels last week, to take part in the Ardennes races, met with an exciting incident. It was just getting dark, and a sharp turn in the road revealed the closed gates of a level crossing. Mr. Walker's car was travelling at a fast pace, and was followed closely by another Darracq. Instant decision was necessary, and observing no obstruction but the closed gates, Mr. Huntley Walker resolved to drive through, smashing the gates to matchwood. The car was overturned by the shock, and Mr. Walker was flung into a field, but escaped serious injury. The driver of the second car applied his brakes suddenly, causing the car to swerve, and finally it dashed into the gatekeeper's house. The driver and his mechanic were both injured, and were sent on by train to Brussels, while Mr. Walker, after having a spare wheel fitted to his car, continued his journey by road.

ARA, LIMITED, have now opened a branch office at 100, Long Acre, London, W.C., where demonstrations are being given of their simple yet ingenious method of repairing the inner tubes and outer covers by cold vulcanization. We called in the other day and witnessed the operation of repairing a punctured inner tube, which occupies relatively so little time that it can easily be performed on the road-side. Indeed, the Aralising outfit, as it is called, occupies so small a space that it can readily be carried on the car ready for any emergency. The principal feature of the process is the use of what the firm call "concrete" rubber—small slips of rubber—a sufficient number of which to repair the cut in the cover or puncture in the tube is placed in a little receptacle known as an extruder. The whole is now dipped for ten seconds into a special vulcanizing solution, and then for a similar period in a second solution to remove any trace of acid. The concrete rubber is thus transformed into a very soft form of bulk rubber and is ready to be placed in position. The extruder containing the material is fixed over the cut or puncture and, by means of a metal bridge piece and screw, the prepared rubber is forced on to the desired part. After being left for a few minutes the extruder is removed, when it will be found that the insertion has become part and parcel of the tube or cover, evidence of which was afforded us by cutting through a section of the repaired tube. The Aralising outfit has already met with a large adoption, and as it becomes better known is like to prove exceedingly popular among motorists—especially those in the country who may be some distance from a tyre-repairing establishment. The complete outfit has been put on the market at a moderate figure, and an extra supply of the repairing materials can readily be obtained, when necessary, at equally low rates.

HERE AND THERE.

To relieve the pressure at their depot in Brook Street, W., Messrs. J. Keele and Co. have opened an additional garage at 17, Hanover Square, W.

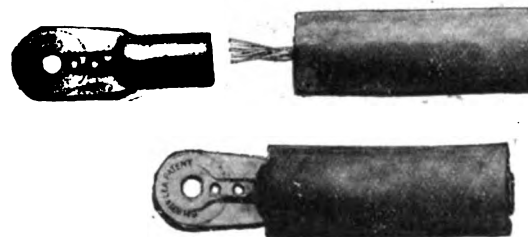
SIR CLIFTON ROBINSON is the chairman of the Surface

Transport Committee which has been formed in connection with the Franco-British Exhibition at Shepherd's Bush, London, next year.

THE General Committee of the Scottish Automobile Club has remitted to its Trial Committee a communication from the R.A.C. with regard to the proposed 2,000 miles Reliability Trial next year. It will be considered by the Committee when those responsible for the Trial have reported on the matter.

THE eliminating race to choose three British representatives to defend the British International Motor Boat Cup was held on Saturday in Southampton Water. The course had to be covered five times, making a total distance of thirty-two nautical miles. Daimler II. finished first, her time for the five rounds being 1 h. 30 min. 50.4-5 sec.; Daimler I. was second, time 1 h. 34 min. 36.2-5 sec.; Daimler III. completed the race in 1 h. 43 min. 16.2-5 sec. These three boats are owned by Lord Howard de Walden.

THE accompanying illustrations depict a new method of fitting the patent terminals recently introduced by Messrs. Chater Lea, Ltd. The terminals are usually fitted by slipping the tubular portion over the insulation of the cable. The improved way is to file the edge of the tubular portion so that it is moderately sharp; the wire is bared in the ordinary way, and by wetting the terminal and screwing it into the rubber an



excellent joint is made which will hold fast without flattening the end, although the makers strongly advise that this should be done in addition. The advantage of this method of fixing is that there is very little metal exposed, so that there is no chance of the terminal eyes touching on accumulators or any other part where close together, and also it permits small-size terminals to be used with large diameter cables.

MR. J. G. GROSE, of Northampton, whose motoring experience dates from the early days of the movement, has lately acquired a 28-40-h.p. Zusta car, with side-entrance double-phæton body, from the Farman Automobile Company, Ltd. Mr. Grose drove the car from London to Northampton by road, and has already expressed his satisfaction with his new Italian-built vehicle.

WE have received a copy of the handsome Godiva Souvenir presented by the Daimler Company to the Organising Committee of the Godiva Procession, which is to take place in Coventry on the 7th inst. The Daimler is the only advertisement in the book, this being due to the fact that the Daimler Company have been entirely unsupported by other firms in their endeavour to support the Coventry and Warwickshire Hospital. The consequence is that the whole expense of the reproduction has been thrown on their shoulders. The presentation amounts to a sum of £735 to the hospital, and this, taken in conjunction with the fact that they have recently presented a Daimler car valued at £740 to the same hospital, indicates the interest the Daimler Company is taking in the general welfare of the city of spires. The firm is also taking part in the procession itself with a Renard Train and other vehicles. Considerable interest is being shown in the event.

THE accompanying illustration depicts the new Ford four-seated four-cylinder car which Messrs. Perry, Thornton and Schreiber, Ltd., of Long Acre, London, W.C., have just put on the market to meet the demand for such a vehicle at a moderate price. The chassis is identical with that of the Ford Junior, which, introduced into this country a year or so ago, is now a well-known type. The motive power is supplied by a four-cylinder engine $3\frac{1}{2}$ in. bore by $3\frac{3}{4}$ in. stroke, and rated at 15-h.p. Two speeds and a reverse are provided, the transmission being through an improved form of planetary or epicyclic change-speed



gear, cardan shaft, and bevel gear to a rear live axle. The latter runs on roller bearings. The body is of the double phaeton type, the entrance to the rear portion being through a swinging front seat. Before placing the new model on the market the firm have submitted it to several exhaustive tests, amongst others being that of the Scottish Reliability Trials, when one of the machines, carrying four passengers and luggage, ran through the whole trials without any stop for mechanical troubles, and made the fastest time in its class in the hill climb at Trinafour Hill.

THE Straker-Squire Company have recently supplied a number of motor char-a-bancs to the Cairo Public Motor Car Company, Limited.

THE Daimler Company's list of royal clients now includes H.R.H. the Duke of Connaught, who has placed an order for a 30-h.p. Daimler chassis of $10\frac{1}{2}$ ft. wheel base.

THE United States Department of Agriculture has published a bulletin on "The Construction of Macadam Roads," by Mr. Austin B. Fletcher, special agent of the Office of Public Roads and Secretary of the Massachusetts Highway Commission.

MOTORISTS who are touring in Sussex and are including Pulborough in their itinerary will do well to proceed carefully through the village, as not only is there a sharp descent but there are some very dangerous and narrow turns to be negotiated.

ALL three White steam cars entered in the Glidden tour of sixteen hundred miles over all kinds of roads have made perfect scores. The model "G." touring car and model "H." touring car had perfect records for the Glidden Trophy, and model "G." runabout was equally successful for the Hower Trophy.

ON a meadow near the beginning of the Trinafour hill climb in the Scottish Trial a motor-car was observed having broken its chain—apparently owing to neglect of the same—and providing an object lesson in the necessity of frequent and regular overhauling of every part of the car. As usually happens, its cargo on that occasion consisted of Pressmen anxious to save time.

IN a case heard at Bristol conflicting evidence has been given as to the effect of creosote fumes on flowers. The gardener in charge of the grounds at Hyde Park stated that wind from the direction of a newly-tarred road will kill flowers and shrubs. On the other hand, an experiment by Mr. Stoddart, the Bristol analyst, showed that a plant could be kept for several weeks under a glass case with two ounces of raw creosote without being killed.

APPARENTLY the "Daily Chronicle" has opened its columns again for a correspondence in which slow moving members of the public may write recklessly with regard to motor-cars.

MESSRS. GRIFFIN AND SLEAT have opened a motor garage and repair works in the Pevensey Road, Terminus Road, Eastbourne.

PREVIOUSLY to taking part in the Scottish Trial, the 14-h.p. Vulcan, driven by Mr. T. Rimmer, successfully competed on Saltburn sands.

REV. J. PAGE HOPPS, of Shepperton, suggests that motor-cars capable of exceeding a speed of fifteen miles per hour should not be allowed upon British roads.

THE Itala Automobiles, Ltd., have issued an interesting pamphlet describing Mr. H. R. Pope's recent record run from Monte Carlo to London on the 40-h.p. Itala car.

THE Buick Motor Co., Flint, Michigan, U.S.A., have just appointed an agency for Australia, Tasmania and New Zealand, and another for the Argentine Republic, Uruguay and Brazil.

THE Sirdar Sahab Appa Sitole of Gwalior has recently acquired a 15-h.p. Siddeley car. The Wolseley Company have also received through the K. and S. Cycle and Motor Company of Bombay an order for a Siddeley car for the Maharajah of Bikanor.

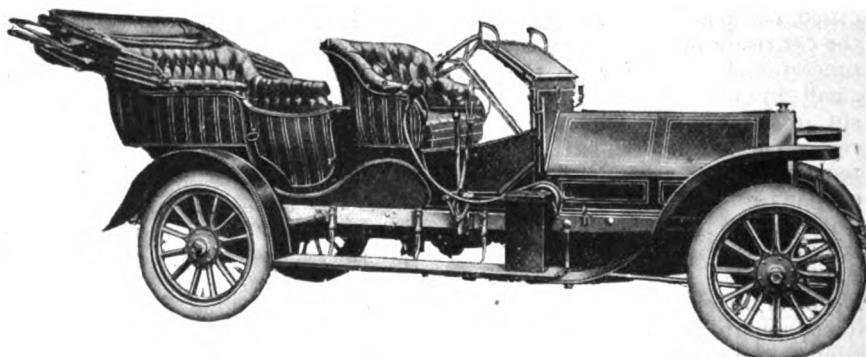
THE secretary of the Widnes and Runcorn Bridge Transport Co. sends us an interesting postcard with a map showing the convenience to motorists afforded by that particular bridge, the motor-car tolls for which are 8d. for the single journey, and 1s. for the return.

LORD SALTOUN'S chauffeur took his employer's car out without permission and assaulted a policeman. Result, six weeks' imprisonment, with hard labour. Owners of vehicles should exercise stringent control over their vehicles, so that drivers should not be allowed to indulge in these escapades.

MESSRS. A. P. LUNDBERG AND SONS, of the Pioneer Electrical Works, Liverpool Road, London, N., send us particulars of the new "Torpin" combination switch and charging plug they have lately introduced for use in connection with the charging of ignition accumulators from direct-current house circuits.

MESSRS. HUMBER, LTD., have now a quintette of depots in London: on Holborn Viaduct, in Eagle Street, Brooke Street, Holborn, Cambridge Place, Paddington, and in the Brompton Road. The latter is at 60-64, and comprises a splendidly arranged showroom for the productions of the Beeston and the Coventry works.

MOST of those participating in the Scottish trials went northward from London by the L. and N.W. Railway on the Sunday night preceding the event, while the night train on the last day brought back a full contingent of journalists and others recognising that the excellent service to Euston enabled them to breakfast in town, while the motorists were steadily pursuing their way over Shap and other desolate places.



The 35-h.p. Iris Car which won the Gold Medal in Class VI. in the Scottish Trials.

It will be remembered that Mr. Joseph Taylor waged a long war against the Corporation of Maidenhead with reference to the tolls for crossing the bridge. His agitation resulted in an inquiry being held by the Charity Commissioners in November, 1902, at which it was admitted that the tolls were irregular. Litigation occurred later and costs were given against him in February, 1905. Mr. Taylor appealed and has just obtained a reversal of that judgment.

CONTINENTAL NOTES.

A German Industrial Vehicle Reliability Trial.

The German Imperial Automobile Club, in conjunction with the German Society of Motor Manufacturers, is organising a six days' reliability trial of public service and industrial motor vehicles, to be held at the end of September or the beginning of October next. The competitors will be divided into the following six classes:—Class 1, covered public service vehicles capable of seating at least twelve persons. Class 2, delivery vehicles of a carrying capacity between 750 and 1,500 kilog. Class B, ditto, between 1,500 and 2,500 kilog. Class 4, ditto, between 2,500 and 4,000 kilog. Class 5, ditto, over 4,000 kilog., and Class 6 motor road trains. The vehicles in Classes 1 and 2 will have to cover an average daily distance of between 150 and 180 kilometres; in Classes 3 and 4, between 100 and 120 kilometres; and Classes 5 and 6, 100 kilometres in the case of rubber tyred cars, and 80 kilog. for those with iron tyres. The contest is open

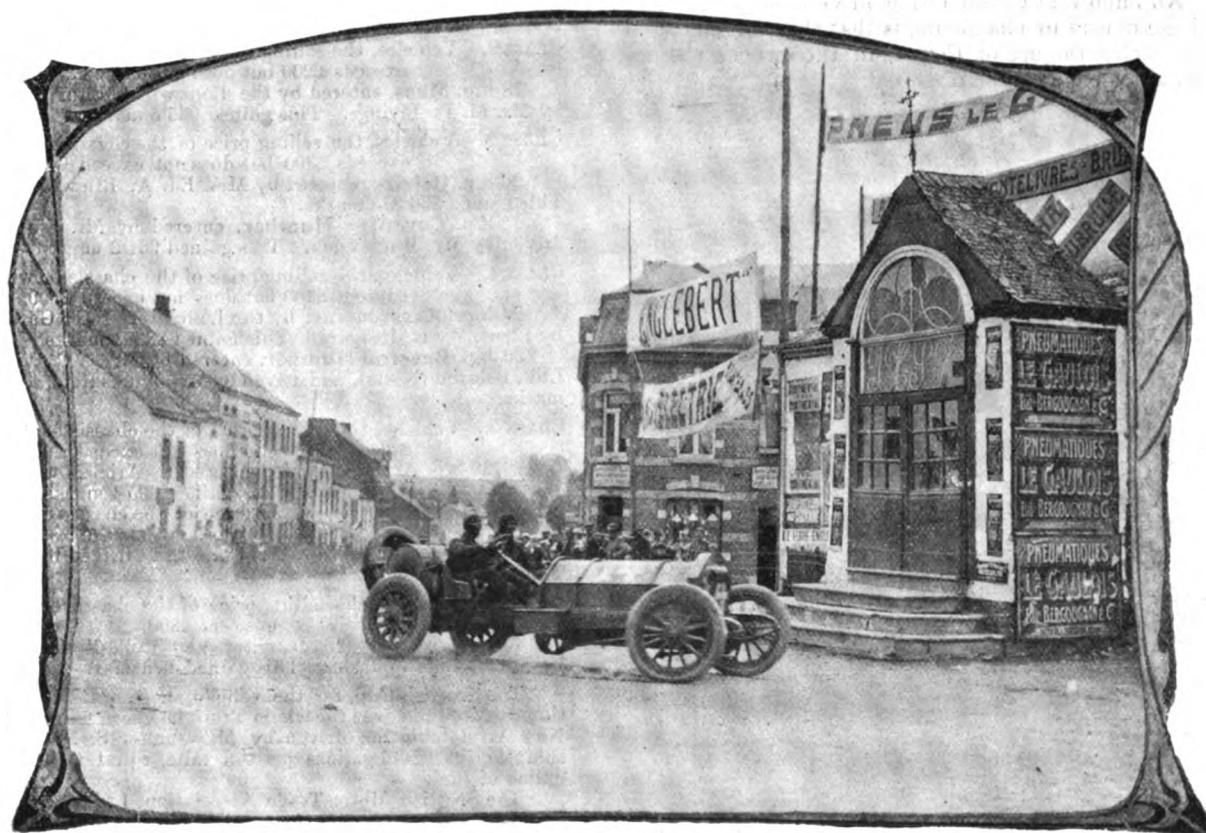
item is an allowance of 86 centimes per horse power per day, the War Department supplying the fuel, lubricating oil and grease. Two men are to be supplied with each wagon; they will be paid 2½ francs per day, and the time they are on duty will be reckoned as part of their military service.

Belgian Motor-car Imports and Exports.

To the end of June last the imports of foreign motor-cars and parts into Belgium this year had attained a value of £99,276, as contrasted with only £90,956 in the first half of 1906. During the same period the exports of motor-cars and parts from Belgium increased from £203,444 to £220,784.

The Motor Movement in Russia.

With the object of developing the motor movement in



The Circuit des Ardennes (A.C.B. rules).—Laxon on the Weigel Car at the turn at Bastogne.

to machines using any form of fuel, and entries from firms only can be made up to September 1st at £15 per vehicle for any of the classes, except No. 2, for which the fee is only £10.

Motor Vehicles in the French Army.

The French Ministry of War has informed the A.C.F. that it has decided to purchase the five lorries—two Darracq-Serpollets, a De Dion, a Mors and a Turgan—which gained distinction in the recent heavy vehicle competition. It has also been decided to make some important trials during the forthcoming military manoeuvres by employing motor-wagons in the commissariat department of the 12th and 18th army corps. The operations will extend over twelve days, and be held in the Bordeaux, Angoulême and Limoges districts. It is estimated that forty lorries capable of carrying a load of 3 tons per axle will be required, and the terms which the authorities are prepared to allow those manufacturers who are desirous of furnishing vehicles have just been made known. The principal

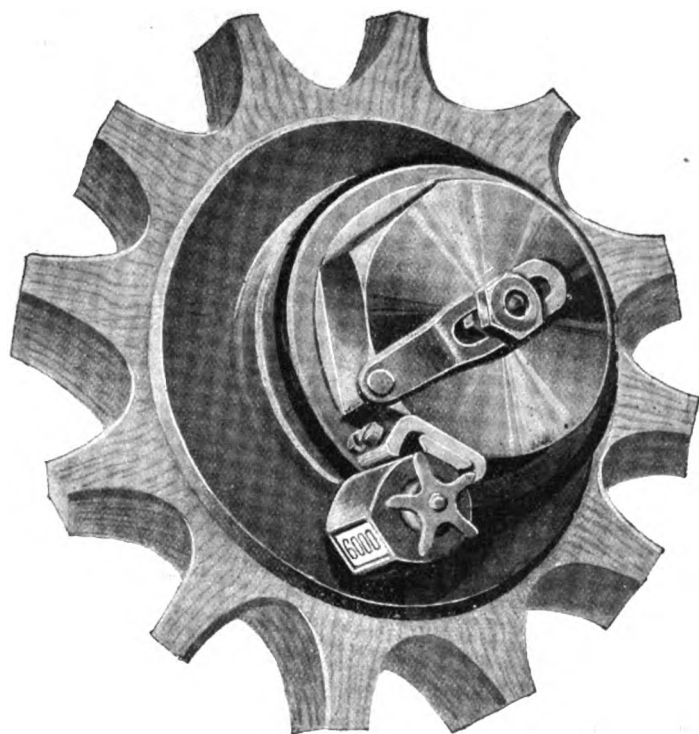
Russia a company has just been formed in St. Petersburg under the auspices of a large German bank. It is proposed to organise services in different parts of the country for the transport of both passengers and goods, and also to introduce a number of motor-cabs in St. Petersburg.

Miscellaneous Items.

A report is again current that a large racing track is to be established near Paris.—The Swiss Army authorities announce that they desire to hire several motor-wagons capable of carrying two and a half tons for the approaching manoeuvres of the First Army Corps.—A company has just been formed in Vienna to establish works for the manufacture of Fiat cars in Austria.—The touring car contest for the Rochet-Schneider Cup, organised by the Automobile Club d'Auvergne, is to be held on the 19th inst. So far sixteen entries have been received.—Three Mors cars left Paris on Monday on a 10,000 kilometre tour of France, Spain, and Belgium.

SPEED RECORDERS.

WE recently spent an interesting hour in the London showroom of Messrs. Markt and Co., at 6, City Road, Finsbury Square, E.C., extending our knowledge of the various devices for recording the speed and mileage of automobiles. The "Jones" speedometer is well known, and has often been employed with success by motorists giving evidence in police courts—so that it has legal value as well as mechanical merits. This is made in several useful combinations, notably with a maximum hand. It has, in addition to the regular black variable speed band, a maximum speed hand of a distinctive red colour which moves forward, always indicating the maximum rate reached by the car. A touch on the resetting stem releases the hand, which drops automatically and instantaneously to the speed at which the car is then travelling, remaining there even when the vehicle is stopped. A single turn of the resetting stem dispenses with this feature of the device, and causes both hands to act as one, showing variable speed only. An important consideration, in view of the frequent unauthorised use of cars by chauffeurs, is that the resetting stem may be sealed so that the use of the car in the owner's absence or without his knowledge can be disclosed.



Another interesting combination is that known as the "Jones" triplet, which consists of a fifty-mile speedometer-odometer, clock, and annunciator with electric light attachment, securing complete control on the part of the owner of the car over his driver when making a trip. We were also shown the new "Veeder" odometer illustrated in the accompanying sketch. This provides the motorist with a really accurate and satisfactory mileage recorder at a very moderate cost. It is suitable for any type of car, and can be easily attached to the outside of the hub cap or oil cap, the odometer being adjustable on its plate. The striking-pin standard is fitted through a hole drilled in the centre of the hub cap and screwed into the end of the axle, or fixed by a nut. The striking pin is adjustable on its standard to suit the size of the hub cap. Its ease of attachment, as well as its unobtrusive appearance, are points of advantage, to which accuracy and reliability may be added with assurance.

DURING the recent visit of the French officers to Windsor Castle, General Michet, owing to the breakdown of his own car, made use of the Daimler owned by Lord Esher.

THE SCOTTISH RELIABILITY TRIAL.

WE give on page 499 the results of the Scottish Reliability Trial which took place north of the Tweed in June, and which was fully described in our issue of July 6th. The highest number of marks possible was 1,000 on the following basis:—For reliability, 750; starting, 50; results in the hill-climbing tests, 100; fuel consumption, 100. The trial was over a course of 747 5-8 miles and occupied five days. The committee of the Scottish A.C., which organised the event, are of opinion that the satisfactory results of the Trial should be a source of gratification to the automobile industry in general, and point out that the performance of the vehicles in Class 1, and the fact that every car entered in that class completed the entire trials is especially worthy of note.

The Gold Medals have been gained by, and are awarded to:—

CLASS 1.—Vehicles, the selling price of the chassis of which, with tyres, does not exceed £200.

10-12-h.p. **Swift**, entered by Mr. Robert Burns, Swift Motor Company, Ltd., and driven by Mr. James Low. This gained 978·4 marks.

CLASS 2.—Vehicles, the selling price of the chassis of which, with tyres, exceeds £200 but does not exceed £300.

18-h.p. **Mass**, entered by the Lancaster Motor Garage, and driven by Mr. M. L. Livings. This gained 966·5 marks.

CLASS 3.—Vehicles, the selling price of the chassis of which, with tyres, exceeds £300 but does not exceed £400.

20-h.p. **Belsize**, entered by Mrs. Ed. A. Riley, and driven by her. This gained 966·375 marks.

15-h.p. **Coventry Humber**, entered by Mr. Walter Phillips, and driven by Mr. Wm. Tuck. This gained 964·2 marks.

CLASS 4.—Vehicles, the selling price of the chassis of which, with tyres, exceeds £400 but does not exceed £500.

24-h.p. **Mass**, entered by the Lancaster Motor Garage, and driven by Lieut. W. R. Ledgard. This gained 983·2 marks.

30-h.p. **Beeston Humber**, entered by Mr. T. C. Pullinger, Humber, Ltd., Beeston (Notts), and driven by Mr. James Reid. This gained 982·8 marks.

CLASS 5.—Vehicles, the selling price of the chassis of which, with tyres, exceeds £500 but does not exceed £600.

28-38-h.p. **Ariel Simplex**, entered by Ariel Motors (1906) Ltd., and driven by Mr. T. Cordery. This gained 995·4 marks.

CLASS 6.—Vehicles, the selling price of the chassis of which, with tyres, exceeds £600 but does not exceed £800.

35-h.p. **Iris**, entered by Iris Cars, Ltd., driven by Mr. Arthur Earp. This gained 964·5 marks.

CLASS 7.—Vehicles, the selling price of the chassis of which, with tyres, exceeds £800.

40-50-h.p. **Rolls-Royce**, entered by Rolls-Royce, Ltd., and driven by Mr. Claude Johnson. This gained 976 marks.

The Scottish Cup, for the vehicle showing the lowest fuel consumption per ton mile over the whole Trial, has been gained by the 24-30-h.p. New Arrol-Johnston, driven by Mr. Walter S. Macharg, with a consumption of 0·2413 gallons per ton mile, equal to 41·44 ton miles per gallon of fuel.

The Scottish Motor Trade Association, Ltd., Prize, for the vehicle entered by a member of that association showing the lowest fuel consumption per ton mile, has been gained by the 14-h.p. Thornycroft, driven by Mr. Tom Thornycroft, with a consumption of 0·2827 gallons per ton mile, equal to 35·37 ton miles per gallon of fuel.

No vehicle fell to be penalised for stops due to tyre troubles.

MR. HUTTON, the magistrate at Greenwich, told a motorist in court the other day that, whilst he (the stipendiary) knew nothing about cars, he was on the Bench for the purpose of teaching speed.

WE learn from Paris that the Argyll car—a 40-h.p.—which has been entered for the Criterium de France and La Coupe de la Presse will be driven by M. Jules Dubois, whose manipulation of a little Decauville in the 1,000 miles trial of 1900 in this country will be remembered by those who took part in that epoch-marking event.

OFFICIALDOM was kind throughout the Scottish Trial, and in many places the police not only assisted to point the cars the way but waved the flag of danger or of direction. Mr. Claude Johnson had the Chief Constable of Elginshire on his car from Granton to Inverness, and the road surveyor of the county rode from Aberdeen to Inverness on one of the two Austin cars which made non-stop runs throughout the Trial.

THE SCOTTISH RELIABILITY TRIALS.

SUMMARY OF RESULTS—IN ORDER OF TOTAL MARKS GAINED.

Official No.	Description of Car.	Car Miles per Gallon.	Marks for Reliability.	Marks gained for Fuel Consumption.	Marks gained for Hill Climbs.	Total Marks gained.	Official No.	Description of Car.	Car Miles per Gallon.	Marks for Reliability.	Marks gained for Fuel Consumption.	Marks gained for Hill Climbs.	Total Marks gained.
CLASS 1 (not exceeding £200).							CLASS 5 (exceeding £500, but not exceeding £600).						
60	10-12-h.p. Swift, G.M.	34.57	779	100.0	99.4	978.4	40	28-38-h.p. Ariel-Simplex, G.M.	19.29	798	97.4	100.0	995.4
96	10-h.p. Chambers	36.69	799	96.3	73.0	968.3	16	24-30-h.p. St. Vincent	21.79	800	100.0	70.5	970.5
39	9-10-h.p. Cadillac	24.77	795	72.3	50.2	917.5	50	25-30-h.p. Austin	17.57	800	82.4	84.5	966.9
71	8-10-h.p. Darracq	33.66	782	85.5	49.3	916.8	13	30-h.p. Siddeley	17.54	799	84.2	81.3	964.5
47	8-h.p. Jackson	24.21	763	66.5	70.0	899.5	56	28-h.p. Armstrong-Whitworth	18.46	793	84.8	76.5	954.3
99	8-h.p. Rover	29.03	756	83.5	31.7	871.2	80	18-28-h.p. Gladiator	22.7	790	90.0	69.6	949.6
28	10-h.p. Adams	29.21	669	86.6	83.7	839.3	79	18-28-h.p. Clement	23.53	792	96.5	60.3	948.8
52	6-h.p. Rover	29.03	748	64.6	19.3	831.9	63	25-h.p. Iris	19.17	799	82.3	64.4	945.7
92	15-h.p. Ford	23.05	625	65.2	49.6	739.8	55	25-h.p. Straker-Squire	15.86	800	70.6	73.1	943.7
105	8-9-h.p. Laurin-Klement	29.9	303	78.0	53.2	434.2	73	20-28-h.p. Darracq	17.85	799	83.7	59.1	941.8
CLASS 2 (exceeding £200, but not exceeding £300).							65	24-32-h.p. Vinot	14.71	800	63.2	70.6	933.8
97	18-h.p. Mass, G.M.	15.69	800	68.4	98.1	966.5	77	14-h.p. Thornycroft, S.T.P.	26.52	787	95.7	47.6	930.3
24	12-14-h.p. Argyll	21.83	800	91.1	71.2	962.3	2	30-40-h.p. Chenard-Walcker	12.64	769	56.7	52.2	877.9
72	10-12-h.p. Darracq	29.9	795	86.0	49.1	930.1	93	40-h.p. Ford	12.77	703	53.2	58.3	814.5
82	14-h.p. Vulcan	23.85	735	86.8	73.0	894.8	37	24-h.p. De Dion	18.18	484	91.9	60.5	836.4
46	18-h.p. Buick	18.63	746	77.1	67.8	890.9	107	28-32-h.p. West-Aster	12.38	461	60.7	44.9	566.6
76	15-20-h.p. Ailsa	16.55	735	66.8	40.4	842.2	70	25-30-h.p. Pilgrim	12.49	285	57.8	44.2	387.0
36	8-h.p. De Dion	34.77	724	82.2	26.7	832.9	CLASS 6 (exceeding £600, but not exceeding £800).						
3	18-h.p. Reo	16.16	723	61.0	38.3	822.3	64	35-h.p. Iris, G.M.	22.07	799	88.0	77.5	964.5
100	10-12-h.p. Leader	26.61	687	100.0	32.7	819.7	8	24-30-h.p. New Arrol-Johnston, S.C.	24.07	800	100.0	59.1	959.1
15	14-h.p. St. Vincent	21.79	633	95.8	81.7	810.5	26	30-h.p. Daimler	13.5	800	59.4	91.0	950.4
CLASS 3 (exceeding £300, but not exceeding £400).							14	40-h.p. Berliet	21.67	800	73.9	66.5	940.4
22	20-h.p. Belsize, G.M.	15.66	800	66.4	99.975	966.3	87	30-40-h.p. Brasier	15.84	795	69.5	72.9	937.4
26	15-h.p. Coventry Humber, G.M.	22.03	800	85.9	78.3	964.2	41	30-40-h.p. Ariel Simplex	17.64	764	78.1	94.6	936.7
18	14-16-h.p. Argyll	18.64	800	65.8	83.2	949.0	45	30-h.p. Spyker	18.78	775	82.7	75.7	933.4
48	18-22-h.p. C.C.C.	18.81	795	70.0	81.6	946.6	88	30-35-h.p. Simms-Welbeck	11.77	800	52.4	79.0	931.4
95	20-h.p. Bell	18.59	799	72.1	57.0	928.1	4	24-h.p. Albion	19.03	800	80.5	46.3	928.8
61	15-18-h.p. Swift	22.89	779	89.5	58.6	927.1	67	20-30-h.p. Maudslay	13.72	800	59.6	59.0	918.6
5	16-h.p. Albion	23.57	770	100.0	50.8	920.8	94	24-32-h.p. Porthos	18.81	798	75.0	40.0	913.0
38	12-16-h.p. Vauxhall	18.15	798	60.6	59.6	918.2	51	30-h.p. N.E.C.	16.87	777	80.1	51.1	908.2
53	20-h.p. Rover	17.36	774	65.2	61.7	900.9	81	35-45-h.p. Gladiator	17.22	735	78.2	80.6	893.8
106	16-20-h.p. West-Aster	22.23	725	91.0	59.4	875.4	78	30-h.p. Thornycroft	16.78	736	74.0	58.6	868.6
101	20-24-h.p. Werbell	18.16	725	68.6	75.4	869.0	31	30-h.p. White Steam car	9.8	307	45.7	65.9	418.6
6	12-15-h.p. New Arrol-Johnston	25.78	685	96.6	51.6	833.2	CLASS 7 (exceeding £800).						
86	12-14-h.p. Unic	22.83	706	76.8	36.2	819.0	12	40-50-h.p. Rolls Royce, G.M.	17.02	799	100.0	77.0	976.0
CLASS 4 (exceeding £400, but not exceeding £500).							29	35-45-h.p. Ariel Simplex	14.11	770	89.0	100.0	969.0
42	24-h.p. Mass, G.M.	16.75	798	85.2	100.0	983.2	83	40-45-h.p. Hotchkiss	11.87	800	73.6	69.7	943.3
11	30-h.p. Beeston-Humber, G.M.	18.49	800	95.3	87.5	962.8	103	60-h.p. Tnames	8.02	796	55.0	76.2	927.2
17	16-20-h.p. Sunbeam	20.21	800	100.0	79.0	979.0	35	60-h.p. Berliet	11.5	790	61.6	73.6	925.2
49	18-24-h.p. Austin	19.95	800	94.6	81.0	975.6	74	50-h.p. Darracq	10.25	483	61.4	37.4	581.8
19	28-30-h.p. Argyll	16.44	785	86.2	84.6	955.8	27	45-h.p. Mercedes	12.54	363	75.9	72.2	511.1
25	16-20-h.p. Argyll	14.88	797	75.3	76.9	949.2	G.M.—Gold Medal. S.C.—Scottish Cup.						
58	24-h.p. Junior	13.24	762	64.9	66.2	893.1	S.T.P.—Scottish Motor Trade Association Prize.						
102	20-24-h.p. Werbell	15.49	767	65.5	53.2	885.7	All vehicles receiving full marks for Reliability and printed in block type have qualified for Non-Stop Certificates.						
23	18-h.p. Siddeley	21.21	699	96.7	65.5	861.2							
1	16-20-h.p. Chenard-Walcker	18.19	550	87.9	57.6	695.5							

FROM the Russa Engineering Works, of Calcutta, we have received a copy of the motor-car catalogue they have lately issued. It gives a description of their garage and repair plant, as well as illustrations of the same, from which we gather the firm have a well-equipped establishment. The remaining pages are devoted to particulars and illustrations of the Ford, Clement-Talbot, Albion, and Darracq cars, for which they are agents.

MESSRS. BRENCLEY BROS. AND HOLMAN, the Humber agents in Folkestone and Ashford, have just supplied a Beeston-Humber landaulet to Colonel T. J. Congdon, who figured so prominently at the battle of Khartoum, and a 15-h.p. Coventry-Humber to Canon Tindall, of Ashford, Kent, and they are also now executing an order for a 15-h.p. landaulet for Mr. Laurence Hardy, M.P., of Sandringham Park, Hythe.

F

CORRESPONDENCE.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE MOTOR FUEL PROBLEM.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As one of the witnesses who gave evidence recently before the Fuels Committee of the Motor Union with reference to the question of the supply of petrol, I would ask your indulgence while I make one or two explanations which are necessary in view of the publication of the recommendations of the Fuels Committee. The subject has naturally received careful consideration from myself as being closely associated with the petroleum industry, and it may be recollected that at two sittings of the committee I put forward evidence which has led the committee to frame two of their recommendations. In the committee's report, just published, I note with considerable surprise that they state the optimistic views which I hold as to there being no possibility of a shortage of crude oil for many years to come are not supported by the information they have obtained.

It is very regrettable that the committee have not seen their way to divulge this information, which apparently is contradictory to mine on this point; but, as having devoted considerable time to this subject of oil production, I am confident that my contentions cannot be refuted by facts. I have again and again made it clear that if the motorist will only go in for adopting generally a spirit of heavier gravity, then a dearth of supply is removed from the bounds of possibility, while at the same time a reduction in the price of the article is tolerably certain. Upon this matter, as upon others, to which I will refer later, it appears to me that the committee has been "totally at sea."

By way of corroborating the statements I made before the com-



This car seen in the above illustration has not broken down. It depicts Mr. M. F. Miville's Peugeot. Owing to this gentleman's activity in endeavouring to warn motorists of the traps, the police have openly vowed to catch him if they can. Therefore, on coming to a measured distance, he deliberately gets down and pushes his car through the trap.

mittee, I need only say that once this heavier grade of motor spirit is recognised as being suitable for all cars, our markets are at once opened to a class of benzine which has hitherto been shut out. Roumanian spirit, for instance, could be supplied in almost limitless quantities, and the present production of oil in that country would allow of a quantity being exported sufficient to meet all European demands. To-day Roumania alone is capable of supplying no less than 90,000,000 gallons of this motor spirit. I simply mention this to show that when the committee say that my optimistic views cannot be supported, they totally ignore all facts which corroborate my statements. I am very pleased to note that this heavier spirit is now being accepted by many motorists, and consequently there is every reason to hope that this, in itself, will permanently solve the motor fuel problem. As to price, there is no doubt that when this heavier spirit comes more into general use prices will decline, and as evidence of this we see that during the past few days petrol has dropped 1d. per gallon throughout the land.

I now come to chiefly deal with that portion of the committee's report which deals with the alternative fuels to petrol. It is not for me to say whether the committee has been biased in favour of finding, at any cost, some substitute for petrol, but many of their recommendations not only show a remarkably optimistic view in favour of alternative fuels, but are nothing more nor less than absurd and impracticable propositions. "Alcohol," says the committee, "is the one of all the liquid fuels considered that holds out the greatest promise." But the Committee abstain from giving any reason which led them to come to this conclusion. Personally, I totally fail to see how alcohol can ever stand the slightest chance of competing with petrol in this country; for, after all, the question must of necessity narrow itself down to that of

£ s. d., and, as the committee puts it, "the best way of ensuring that the price of petrol shall not become excessive is to have available a fuel that can compete with it, and that can be produced at a moderate price in unlimited quantities." Now, according to the committee's own argument, the calorific value of methyl alcohol is 11,300 b.t.u., and that of petrol 20,300 b.t.u. This being so, the value of alcohol to the motorist is about one-half that of petrol, and not, as the committee say, two-thirds. Upon the question of the cost of alcohol the committee is judiciously very silent, and although it comes to the conclusion that it can be produced at a moderate price, we are all left to guess what that price would be, or how it is arrived at. Seeing that the calorific value of alcohol is about half that of petrol, it stands to reason that the cost to consumers must be 50 per cent. less volume for volume. Going upon volume also, we know that in the oil trade, with the most perfect organisation for distribution, the necessary expenditure, after petrol has reached this country, is about 2d. per gallon before it reaches the consumer, and inasmuch as seeing that about double the quantity of alcohol would be required as compared with petrol, volume for volume, it is very easy to see that, so far as competing in price with petrol, alcohol can never hope to make any headway in this country. As I say, in the face of these facts, one cannot reconcile the conclusions of the Fuels Committee, or see why, in its first recommendation, it is so optimistic regarding alcohol.

The committee also looks upon benzol as solving the fuel problem, and urges that the notice of the members of the Motor Union should be directed to its use, as, apart from benzol being a home production, it can be used with complete success in the present type of engine. Then it goes on to make the following remarkable statement:—"There are firms in this country who are willing, should there be a largely increased demand for benzol, to erect benzol recovery plants in connection with coke ovens and similar appliances for the treatment of coal; the erection of such plants would mean within twelve months an increase of benzol produced in this country of approximately five million gallons per annum, which is equal to doubling the present supply."

I will take the figures of the Fuels Committee for defeating its own arguments. Approximately the present production of benzol in this country is 2,500,000 gallons per annum, and for years past this has been the quantity that has been sold in this country for the making of aniline dyes. Now, is it reasonable to assume that there is not being more benzol recovered because it cannot find a ready market? It is true that the quantity could be increased by the erection of special and expensive washing plant, but to what extent? As I have previously pointed out, the maximum quantity of benzol that can be recovered is about 2 lb. per ton of coal, and surely no sane company would ever dream of laying down special plant for the purpose of recovering about two-pennyworth of benzol for every ton of coal treated? This is the reason why it is foolish to look to benzol as a substitute for petrol, and the fact that the Fuels Committee is very optimistic about the subject does not bring it one iota nearer realisation.

There may yet be time for a supplementary report to be issued by the committee giving reasons which have led it to put forward such strange recommendations as the substitution of petrol by alcohol or benzol. It certainly would be perused very carefully by those who have studied this interesting question for years, but by no one would it receive more consideration than by—Yours truly,

P. DVORKOVITZ.

THE WEIGEL CARS AND THEIR DETACHABLE RIM TROUBLES IN THE GRAND PRIX RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Regarding the misfortune which occurred to the Weigel cars in the Grand Prix race in having removable rims which failed to remain in position on test, I wish to make the following explanation.

As you are no doubt aware, my rim is not yet on the market, as the Stevenson Wheel Company, who are manufacturing it for me, are only now completing the necessary jigs for absolutely standardising its production. When, shortly before the date of the Grand Prix race, Messrs. Weigel ordered, through the Dunlop Company, two sets of wire spoked wheels fitted with my rims, the gutters for the same, which were produced under standard jigs, were turned over to the Rudge-Whitworth Company, to be built up into wire wheels, which were afterwards returned and the outer rims cut and fitted by hand to same. In speaking up these gutters it became necessary to recess the spoke heads from a part of the circumference to permit room for my operating mechanism, and this I found afterwards was done by neatening the gutter and depressing the steel at various points where the spoke heads came, with the result that the gutter was considerably enlarged in circumference, and unfortunately the Stevenson Company did not perceive this change, and fitted the rims to this larger circumference than the standard. At the last moment Messrs. Weigel expressed a lack of confidence in the wire wheels and requested that wooden wheels should be sent them, so that they could take their choice in the race. These wooden wheels were made by the Stevenson Wheel Company and fitted with the standardised gutters, but with the excep-

tion of two or three they were only finished after the wire wheels with all the spare rims had been despatched to Dieppe.

I accompanied the wire wheels and those two or three wooden ones myself, and as the racing cars were both of our commission, on their arrival I had one of the wooden wheels put on their service car, and this, with six up, was sent on the course at its maximum speed, and was taken with all the speed that safety would permit of, the speedometer on the car recording sixty miles an hour on several stretches, and on one long down grade it touched the maximum of seventy miles an hour. After the round, the rim was removed and examined and was found to be absolutely secure, and not moved or chafed in any way, and those wheels that had them properly fitted did not give any trouble in the race. On the conclusion of the third round these same wheels were removed from Harrison's car and critically examined, and the examination showed that no movement whatever had occurred.

The result of changing the rims from the wire wheels to the wooden ones, therefore, was that, when the rim was in its contracted position, it still allowed play between it and the gutter, and at the high speed of the race and by the high vibration thereby induced, the security keys cut their way through the side of the rim, until the latter was permitted to fly from the wheel, which it did not fit. The disaster was unaccountable to me during the race, as it was to Mr. Wright, the manager of Messrs. Stevenson, but on returning to Coventry Mr. Wright showed me

held under competition rules of the R.A.C., but that, on the contrary the official race card contained a statement to the effect that the races were governed by the racing rules of the B.A.R.C., as adopted by the R.A.C. I also enquired whether the R.A.C. had handed over the control of automobile racing to the B.A.R.C., as the aforesaid statement would appear to infer, or whether the rule of the R.A.C. providing for the notification that a meeting is held under the R.A.C. rules had been waived or ignored, or whether it was a case of the tail wagging the dog. As two issues of the R.A.C. Journal have appeared without the insertion of my letter, I can only assume that it is not intended to publish it, and, as the matter appears to me to be one of considerable importance both to promoters and competitors, I seek the publicity of your journal.

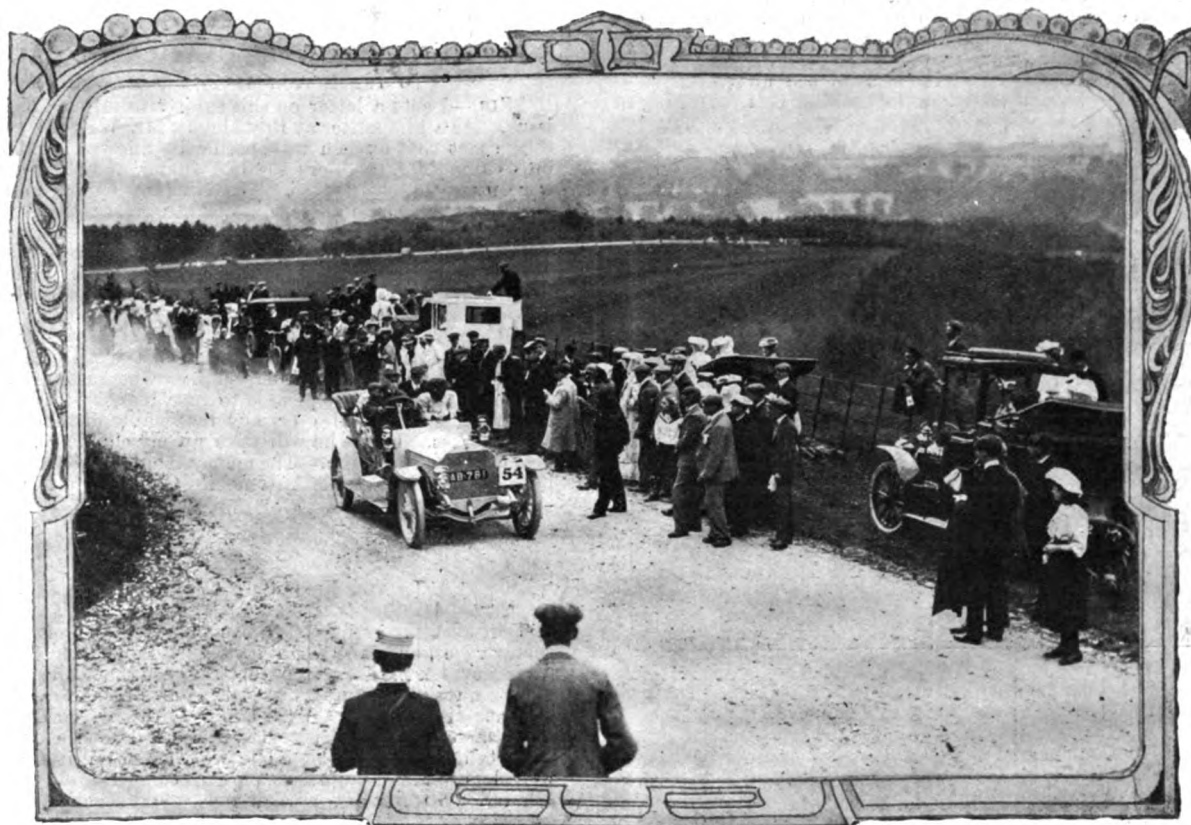
If the notification rule (Rule 3) has been waived in favour of the B.A.R.C., it would be interesting to know the reason why.—Yours truly,

ROBERT E. PHILLIPS.

SHOULD LADIES DRIVE MOTOR-CARS?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a result of one or two accidents recently in which lady motor-car drivers were involved, the question has been raised whether



The Aston Hill Climb.—Mr C. Saugster nearing the top of the hill on his 40-h.p. Ariel Simplex.

a gutter for a wire wheel which the Rudge-Whitworth Co. had returned, having damaged it during their manipulation, and on measurement we at once found that they had elongated it and hence caused all the trouble. No one regrets more than I do myself the misfortune from a sporting point of view, but I write this for you to know that there is absolutely nothing inherently wrong with the rim, as I have driven my present car 8,000 miles, and, for a test, 2,000 miles of that was driven with the rear wheel unlocked and simply prevented coming off by the compressing action of an inflated tyre, and as this test included the rough trip through the Scottish hills and back to the south of England at speeds which reached the car's maximum of 45 miles per hour frequently, no better demonstration, I take it, could be made as to the stability of the principle, and this, in actual construction, is backed up by strong cross-keys, which will absolutely prevent the rim coming off, even if unlocked and the tyre deflated.—Yours truly,

P. E. DOOLITTLE.

RACING RULES AT BROOKLANDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—After the first race meeting of the Brooklands Automobile Racing Club I addressed a letter to the editor of the Royal Automobile Club Journal commenting on the fact that none of the announcements of the meeting contained any intimation that the said meeting was to be

the law should prohibit the fair sex from driving automobiles or not. Although probably I shall find myself in the minority, I, for one, see no objection to ladies taking charge of the wheel, provided, of course; they have had the necessary tuition and have a good knowledge of the rule of the road. There is far more danger in a lady driving a restive horse—danger not only to herself but to other users of the highway, than there is in the operation of a motor-car at reasonable speed, and if any restrictions against driving by ladies are ever contemplated, the driving of restive animals which are apt to become frightened at the sight of motor-cars should first be prevented.—Yours truly,

XENOPHON.

SPEED COMPETITIONS AND HILL CLIMBING RULES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Weigel's letter in a recent issue of the *M.C.J.* seems to lose sight of the fact that hill climbing competitions should be efficiency tests and not races, though indeed, by the way in which the results are advertised, he might well be excused for so thinking. Strictly speaking, fastest times mean nothing, since it is obviously only a matter of possessing a big engine and entering a competition against smaller cars. The R.A.C. hill climbing formula has been evolved to provide for the first time a means of comparing efficiencies on a rational basis. Whether

such is the case is a matter of opinion upon which we have recently expressed our views. As such, the division of competing cars into classes is only to provide more interest for competitors and possibly more scope for advertisement, since only one car out of the whole number competing can have the highest efficiency and be termed the winner. If there were no classification there would be only one winner. Hence, the more classes the more winners. The result of the South Harting Hill Climb shows plainly that the mechanical efficiency of a car is by no means a function of its cylinder bore or the number thereof.

If hill climbs are to be turned into races, as suggested by Mr. Weigel, then it seems to us there must be as many classes as there are types of cars, and the hard-worked secretaries would be worked still harder. At present all that is needed is a system of handicapping which shall take into consideration at least the most important variables. Given this, and a moderate number of classes to provide sport, then we believe all contestants would feel that they were receiving as much consideration as possible in the light of present knowledge.—Yours truly,

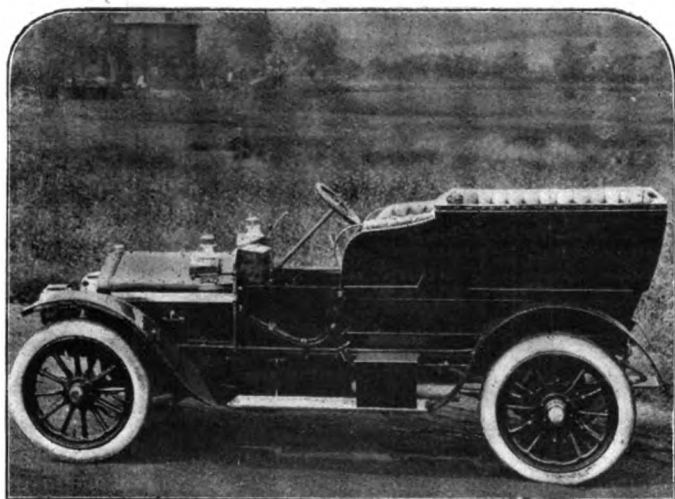
VAUXHALL MOTORS, LTD.

THE ETIQUETTE OF MOTORING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Our social duties and obligations are as troublesome as technical matters, and a little point that has worried me much of late may be deemed worthy of ventilation in your columns. I have a car with a tonneau, and friends have been buzzing about on fine Saturdays to know whether I am bound. Somehow or other I have come to the conclusion that they have wanted invitations for the afternoon.

Then comes the question of additions to running cost. Talking to



The 16-h.p. Siddeley Car recently delivered to H.R.H. Prince Louis of Battenberg by the Wolseley Company.

a fellow motorist on the matter I find that advanced etiquette is to put the "stopper" on the motoring guest who by a few tactful words of admiration at the car's wonderful running qualities obtains for himself all the pleasures of regular automobile riding with none of the expense of maintaining the car or of paying for the entertainment at hotel or roadside inn. That which is offered now as the correct thing is described as "a new rule of reciprocity courtesy and hospitality," by which the guests must do all the spending that is done for refreshment or entertainment while on the trip, though not extending to the cost of supplies for the car. That there is a large basis of reason for some such rule of action is apparent enough, so that the motoring host will not have to consider the matter of entertaining expenses in connection with extending invitations to enjoy the pleasures of his car. There is a tradition of a thrifty owner who took as many people as possible on his Sunday trips, because, as he explained, it made more people to divide the cost of the fines, but most owners have in the past seemed to feel a host's responsibility in every feature of the trip, a burden which thoughtful guests will find means of lessening.

To the man of moderate means the problem is sufficiently serious to make me often wish that my car was a two-seater.—Yours truly,

A. B. WOODCOCK.

SOME SUGGESTIONS TO INTENDING MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As one who has been through the mill, as the saying goes, the following suggestions to intending motorists may not be out of place. Among the points which he should keep well in mind in selecting his car are, first, the extent to which the various parts of the vehicle are made on the interchangeable system and the custom of the manufacturer with regard to replacements. The advantages of parts made on the

interchangeable system are obvious. In case any one gives way from any cause a new part may be obtained from the factory and put in place of the old one with a minimum of trouble and delay. Unfortunately, not all motor-car manufacturers have perfected their organisation to such an extent that their parts are perfectly interchangeable; quite often some fitting is required, and the extent of this and the cost and delay incurred should be considered by the prospective purchaser.

The other element to be considered relates to the prices asked for spare parts and the promptitude with which they are forwarded. While there are some who are reasonable in the charges there is, unfortunately, a tendency among some manufacturers, as I know from experience, to charge as high prices as can be obtained for all repair parts. Regarding prompt deliveries there are also wide variations. Some firms will do almost anything to please a client. Others will keep a customer waiting several weeks in the middle of the season for a repair to a model that may be a little out of date. The only method of obtaining reliable information on these subjects is by consulting owners—as many as possible—of the make of cars in question, and form one's own opinion from the answers received.

It may be added that in purchasing a second hand machine it is good policy to inquire if the firm or company which made it is still doing business, and whether spare parts may be readily obtained.—Yours truly,

EXPERIENTIA.

THE USE OF OXYGEN IN RACES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I note a letter on this subject from Mr. Weigel in your last issue. As a competitor at Brooklands, Mr. Weigel is evidently ignorant of the fact that oxygen was specifically allowed for at Brooklands races up to July 20th, therefore the Iris, Junior, and other cars which used it were perfectly entitled to. The Napier, I happen to be in a very excellent position to know, did not use it because it was unnecessary, but if it had been an advantage they would have used it. They were properly equipped with everything to help them to win under the rules. My idea of a sportsman is one who tries to win under the rules, and takes every trouble and care to win under the rules. For the races at Brooklands on Bank Holiday, August 5th, oxygen is barred.

I hope Mr. Weigel will enter a car and show us what he is capable of doing. I have noticed the claims in the past for his car, and if he would like to run one of his 41.9-h.p. cars against a 38.4-h.p. six-cylinder Napier, I shall be very pleased to race him, beat two out of three, say one, five, and ten miles or any reasonable distance for any sum Mr. Weigel likes. I hope he will take up my challenge, when I will drive personally against him. The money should be placed in the independent hands of the Brooklands Automobile Club before the race takes place.—Yours truly,

SYDNEY SMITH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Edge's letter amazes me! He accuses me of being unsportsmanlike in drawing attention to the evil of the oxygen dope in motor races, and then would have us believe that he himself strongly disapproves of the use of oxygen, but I note that he very carefully avoided saying anything about its use on his own cars in racing at Brooklands. I do not wish to disparage the efforts of the Napier drivers, who handled their cars splendidly, but will Mr. Edge be good enough to inform an expectant and interested public whether or not it is a fact that oxygen cylinders were fitted to Napier cars competing at Brooklands on the 6th and 20th instant, as everyone would then be able to form a much better opinion of Mr. Edge's real views on the matter.

It is interesting to notice that in the rules issued by the Brooklands Automobile Racing Club dealing with future events the following appears:—"20. No fuel other than petroleum spirit shall be used in internal combustion engines, except where specially provided in the race proposition, and the use of any other ingredient shall be deemed a corrupt practice, and dealt with accordingly." Apparently, therefore, the discussion has been of benefit.

I am quite agreeable to race Mr. Edge on my Lorraine-Dietrich car under Byfleet Plate conditions—oxygen barred—provided he will drive his own car himself. I have no wish to race him for money, and perhaps a trophy would meet his wishes. On this point, provided Mr. Edge will race, the B.A.R.C. have very kindly offered a handsome gold cup for the winner. Apart from the personal element, I may say that my De Dietrich will be running in the International Plate on Monday next, driven by Gabriel or Duray, and as Mr. Edge's car and driver is competing in the same event, there is no need to arrange a special match for the cars alone.—Yours truly,

CHAS. JARROTT.

ACCUMULATOR FOUND.—Mr. F. Sanders, of the Barbourne Motor Garage, Worcester, has found an accumulator on the main road near his place. The owner is invited to send a description of the same.

GLOVE FOUND.—Mr. A. Waldon, of Dunchurch, near Rugby, has found on the main Leicester road, between Blaby and Lutterworth, a gentleman's motor driving glove, which he will be pleased to return to the owner on application.

NOTES ON THE ARDENNES RACES.

By D. M. WEIGEL.

THE great Ardennes races were, I say it with regret, an absolute failure for the year 1907. The Automobile Club of Belgium appear to have desired to do too much, with the result that they did nothing. Instead of a classical race, they made a three days' meeting. The first day's race, held under the Kaiser Preis rules, was practically a match between Minervas and Pipe cars. There were no Darracqs, Clements, Panhards, Dietrich, Brasiers, or, in fact, anybody of note. The result was practically a walk-over for the Minervas owing to all the Pipe representatives breaking their steering gears. Notwithstanding the fact of the poor entry, great credit is due to the Minerva Company, as it is not their fault if others did not care to compete, apart from which the remarkable times done by the Minerva cars will stand everlastingly to their credit.

I went round the course, and saw the remains of the Pipe cars. One was down an embankment about 50 ft. deep. Unfortunately, I understand, the mechanic was killed. Hantvast, the driver, was not scratched. Jenatzy did the reverse of Hantvast. He ran up a bank when his steering smashed. Both he and his mechanic came off all right. Deplus went down an embankment of about 15 ft. slope. He received fairly severe injuries, and I am told a woman was killed, for which, notwithstanding his injuries, he was immediately arrested, until he found security in the sum of 20,000 fr. The Belgians evidently believe in protection. The other Pipe car I did not see.

The second day's racing was confined to motor-bicycles, and I had so little interest in it that I made no inquiries and can give no description. The third day's race was devoted to the great Ardennes race, but I trust that no greater fiasco than this will ever take place on the Ardennes circuit again. The start was given to six cars, including two Mercedes, one Darracq, and two Weigels, the drivers of all of which appeared to be very much out of place, not appreciating whether it was a race, a tour, or a joke, but it was mostly taken as a joke. Harrison, on a Weigel, started first, Guinness second, and Jenatzy last. On the first circuit Guinness turned up first. Hard on his heels, much to everybody's astonishment, came "old man" Jenatzy, the only one of the crowd who really had done the circuit at racing speed. He had passed everybody, was three minutes in front of Guinness on time, and miles in front of everybody and everything, bearing out the remarks that I made in my description of the Grand Prix, that the Mercedes cars were the fastest of the year, and old Jenatzy the finest driver we had. The old man's luck, however, as usual, was out. On the second lap he turned up miles behind everybody, his car going like a lame duck. Investigations showed a seized inlet valve, which occupied him about twenty-five to thirty minutes to put right. Meantime the duel continued between De Caters and Guinness; the latter at the third lap was behind, but eventually he took the lead, which he maintained until the last round but one. In the third lap, De Caters was in difficulties, his non-return pressure valve going wrong, and thus giving him trouble throughout the race plus other mechanical troubles. Guinness was going very well for six laps, that is to say he kept on going, but I can hardly suggest that any of them, bar Jenatzy, was ever racing. Averaging between fifty-three and fifty-five minutes per lap of fifty-three miles is hardly modern racing, and inasmuch as the Ardennes circuit is a far finer course than the Dieppe one, the speed compares poorly with Nazarro's wonderful average of seventy miles an hour.

After six laps, Jenatzy in one lap actually gained six minutes on Guinness, who was going round at his usual speed of fifty-three to fifty-five minutes, proving that the former was still the game racer of years gone by. Even at the sixth lap, had he had the slightest bit of luck, I believe his racing ability would have brought him through a winner, but his luck was all out from start to finish.

For the last round home Guinness was leading by four minutes. De Caters stopped for some trouble; I was standing by him and told him: "You are four minutes behind. Why bother to do anything? It is win or lose, and you surely lose if you do not hurry." De Caters seemed to take the tip and went on. Guinness was due to appear as usual between fifty-three and fifty-five minutes, but he did not turn up, and we all became anxious, as I should certainly have liked to have seen an Englishman come in first. His four minutes' advance went by and still no Guinness, but then, in a few seconds, a huge shout went up from Belgian throats, welcoming their countryman, De Caters, as the winner. He had started one minute behind Guinness, and having appeared first on the last lap, it was obvious to all he must be the winner. Guinness followed hard on his heels, and was unfortunate in losing the race by a minute and a few seconds. It appears that Guinness had had inlet valve troubles on the last lap, which put him out of the race, but apart from this, even if De Caters was unlucky with his car, Guinness was equally so with his tyres. Every lap he changed his back wheels, and in my opinion changed perhaps a little too often, out of desire, probably, to be sure of no trouble. Had he risked one lap without a change he must have won.

So far I have said nothing about the Weigel cars. If ever these two cars, built with touring engines, had a chance of winning a classical race, they had it last Saturday, but, if in the Grand Prix they were unlucky with their rims, they were on that day unlucky with their tyres. They had between them twenty-four back tyres, and before the sixth round was completed the whole of these had been used up, with

the result that Harrison at the sixth round had no spare tyres to change, and was forced to stop. We managed to fix up Laxen with three old tyres which had been used in practice, so as to let him finish, as he desired to do, and which he did, the result being that for fourteen laps, eight for Laxen and six for Harrison, twenty-seven tyres were used up. Harrison's first lap of fifty-four minutes shows that he was quite fast enough to have got near the performance of, and perhaps to have done as well as Guinness. The average of the winner turned out at fifty-seven miles per hour, and I should be sorry to think that even three cars, given tyres that would stand, were not capable of averaging such a speed as this. Harrison had no trouble on the first lap, Laxen one puncture. In the second round, Harrison changed three tyres on the road, and two in front of the Grand Stand, making five for one lap, but his fifth circuit was his record. He changed at both controls, making four tyres, and also three tyres on the road, a total of seven tyres for one lap, which occupied him 1 hr. 29 min. Still, I do not wish to harp upon the tyre troubles. I had been warned by Mr. Egan, of the Dunlop Company, that I was bound to have this trouble with the tyres I was having, as they had no stock, and had to make the tyres fourteen days before the race started, and he, in fact, begged of me to use some other make of tyres, but I obstinately refused to use anything but English-made tyres. The result was deplorable, but, on the face of the facts, no blame can be attached to the Dunlop Company. The tyres neither burst nor wore out. All that happened was, the outside covering of rubber came completely off, because they had been too recently vulcanised. The treads came off in pieces about a foot long



An Experience in Spain.

From a Sketch]

[Published by the Berliet Company.

luckily injuring nobody but the unfortunate drivers, whose hands and necks were covered in weals, as if they had been struck by a whip. In one respect I am almost pleased that they did not win the Ardennes Race, as, had they done so, no glory would have been attached to it, inasmuch as the race was not a representative one. One thing I am proud of, however, and that is that they were the only cars that went through the race without mechanical troubles to any part of the chassis.

On the same day, and during the same time, was run off the Liedekerke Cup, for small cars, having engine of a capacity of 3½ litres. Only three firms entered—the Vivinus, Minerva, and Metallurgique. After the first lap two of the latter cars collided, so, like on the first day, it was a duel between two firms, resulting in an easy victory for the Minerva. At one time it actually looked as if these tiny little cars and engines were going to beat the racing cars. The betting was actually only five to one against their doing so. They certainly went wonderfully well.

In the conversation I had with Baron De Crawhez, he told me he was under the impression that French firms had boycotted the Ardennes Races in their desire to have racing in France and nowhere else, but he ventured to believe that the Ardennes Races next year would be as great a success as the Grand Prix, as it was their intention to re-introduce the rules of the Gordon Bennett Cup, but that instead of the entries being confined to countries they would be open to individual firms. The formula is to be the one adopted and passed at the Ostend meeting, maximum bore 155 mm., minimum weight 1,100 kilos. For the first time since the old Gordon Bennett Races, Englishmen have been informed well beforehand of the rules which will apply to a great classic meeting, and I have Baron De Crawhez's absolute authority to make the above statement, and I hope, with all this before them, English firms will make an effort to be properly represented in next year's Continental races. I for one will answer that Weigel Motors (1907) Ltd. will be represented by three cars, built specially to fill the programme.

CLUBS AND ASSOCIATIONS.

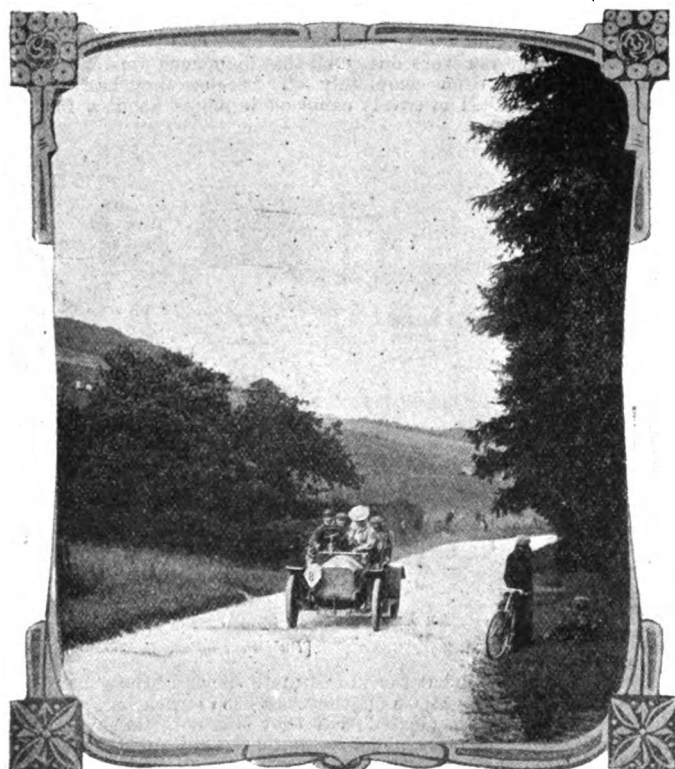
CRYSTAL PALACE.

ON Saturday the open hill climb of the Crystal Palace A.C. was held on Star Hill, Dunton Green, under the open competition rules of the R.A.C. Mr. Philip Runciman was the judge, Mr. F. T. Bidlake starter, Mr. R. S. Harding clerk of the scales, and Mr. G. H. Smith marshal, with Mr. Henry Hollands as secretary of the meeting. The road used was the old trunk road from London to Hastings, now displaced by the new road out round Polhill. The surface was in excellent condition, and the patrolling and control of the hill were well done by the officials. The measured distance was a mile in length, the steepest portion being 1 in 9.

There were twenty-three entrants, twenty-one in the first event, which was divided into five classes, and two in the second event. Mr. John Goddard's 35-h.p. Daimler proved the fastest car of the day, while the 10-h.p. De Dion entered by Mr. J. W. Stocks was awarded an additional medal for the best performance on the handicap.

The handicap order gave the first position in each class as follows:—Class 1, 10-h.p. De Dion; Class 2, 15-h.p. De Dion; Class 3, 20-h.p. Belsize; Class 4, 35-h.p. Horsch; Class 5, 35-h.p. Daimler.

The following table shows the order of handicap times and also actual difference in times reckoning the fastest car as zero:—



The Crystal Palace A.C. Hill Climb.—The 20-30-h.p. Florentia going well.

EVENT I., CLASS I.

No.	Car.	Entrant.	Order of Handicap	times.	Actual difference in times.
				M. S.	M. S.
1	9-h.p. Riley ...	J. F. Buckingham	3	1 38 3.5	1 6 1.5
2	10-h.p. De Dion	J. W. Stocks	1	1 9	2 35 2.5

CLASS II.

3	17-20-h.p. Scout	Roy Meldrum	17	2 46 3.5	2 55 1.5
4	15-h.p. De Dion	W. Munn...	11	2 10 2.5	1 55 2.5
6	16-20-h.p. West	P. Lamb...	12	2 13	1 55 2.5

CLASS III.

7	20-h.p. Belsize	J. Keele...	7	1 39 3.5	0 44
8	20-h.p. Florentia ...	M. De Brou	13	2 21 2.5	1 34
9	16-h.p. Calthorpe	W. Whiteway	16	2 39 2.5	1 52 3.5
10	18-h.p. Darracq	J. Keele...	10	2 5 4.5	1 0 2.5

CLASS IV.

11	35-h.p. Horsch	G. S. Monck	8	1 40 1.5	0 37 4.5
12	24-h.p. De Dion	J. W. Stocks	9	1 47 1.5	1 17 2.5

CLASS IV.—Continued.

No.	Car.	Entrant.	Order of Handicap	times.	Actual difference in times.
				M. S.	M. S.
13	26-30-h.p. Nordenfelt	W. T. Clifford	15	2 34	1 26 4.5
14	30-h.p. Belsize	J. Keele...	14	2 28 3.5	0 58 1.5
15	18-h.p. Daimler	J. Goddard	19	3 47 4.5	3 25
16	30-h.p. Lindsay	H. Pennington...	20	4 34	3 6 2.5

CLASS V.

17	30-h.p. Daimler	F. A. Potts	18	3 25 2.5	1 46 3.5
19	35-h.p. Daimler	H. Musker	6	1 39	0 7
20	35-h.p. Daimler	John Goddard	2	1 33 3.5	0 0

EVENT II.

22	35-h.p. Daimler	H. Musker	4	1 38 3.5	0 6 3.5
23	35-h.p. Daimler	John Goddard	5	1 38 4.5	0 5 1.5

No. 5 in Class 2 and Nos. 18 and 21 in Class 5 were absentees.

In view of the Bexhill meeting clashing with the races at Brooklands and it being very difficult to get sufficient entries to make a success of the meeting, the Crystal Palace A.C. has been compelled to cancel the meeting they had proposed to hold at the southern coast resort on Monday next.

AUTOMOBILE ASSOCIATION.

THE Automobile Association has organised special services of patrols on the roads for practically every important function to which motorists are attracted during the season.

The Great North Road will, during the opening of the shooting season, be patrolled in several important districts. This, however, can hardly be called a special service, because the operations of the A.A. organisation have already been permanently extended in Yorkshire, Huntingdonshire and the North.

YORKSHIRE.

THE committee of the Yorkshire Automobile Club has arranged for a closed hill-climbing competition to take place on Greenhow Hill, near Pateley Bridge, on the 24th inst. There will be three events. (1) For single-cylinder cars whose rating $\frac{D^3 N}{2.5}$ does not exceed ten. When D = bore in inches, N = the number of cylinders, and 2.5 being a constant. (2) For 1, 2, 3, or 4 cylinder cars whose rating $\frac{D^3 N}{2.5}$ does not exceed twenty-four. (3) For cars with any number of cylinders whose rating $\frac{D^3 N}{2.5}$ exceeds twenty-four.

The results will be worked out upon the following basis:—
Total weight in lbs.

Time in seconds \times H.P.

Further particulars and entry forms may be had from Mr. Charles P. Wilson, hon. secretary, Town Hall Chambers, Victoria Square, Leeds.

SHEFFIELD.

THE third annual gymkhana of the Sheffield and District A.C. was held on the 25th ult. at the Niagara Grounds, Wadsley Bridge. Dr. Thorne and Mr. P. S. Benson were the judges and Mr. F. B. Cawood the hon. secretary of the event. The results were as follows:—

Obstacle Race.—1, J. H. Hall, 20-h.p. Darracq, 51 sec.; 2, E. W. Hatfield, 6-h.p. Regal, 52 sec.; 3, F. W. Huband, 10-h.p. Alldays.
"Tying the Knot" Race.—1, F. W. Huband, 30 sec.; 2, C. Dixon, 16-20-h.p. Clement, 31 sec.; 3, E. W. Hatfield, 32 sec.
Tilting at the Rings.—1, F. W. Huband, 19 sec.; 2, B. Turner, 10-h.p. Alldays (after a dead heat).

Musical Chairs.—1, B. Turner; 2, C. Dixon.

Academy Stakes.—1, F. W. Huband; 2, C. Dixon; 3, J. Barber, 10-h.p. Belsize. Winner's time, 1 min. 13 sec.

Potato Race (for the ladies).—1, Mr. W. Robinson's car, 10-h.p. La Plata (driven by Mr. J. Hind); 2, Mr. J. H. Hall.

Balancing Car on Rocking Platform.—Mr. J. Hall was the only motorist to perform this feat.

HERTFORDSHIRE.

THE annual hill climb of the Hertfordshire A.C., held at Aston Hill, near Tring, on Saturday, was a great success. There was a good attendance of spectators, and Mr. Alfred Rothschild entertained the officials in the grounds of his house at the top of the hill. Among those who assisted were:—Judge, Mr. E. Webster; clerks of course, Messrs. James and McWhirter; marshals, Messrs. Corse Glen and Frank Shorland; clerk of the scales, Mr. T. Williams; press steward, Mr. Arthur J. Salmon; secretary of meeting, Mr. W. Whittall; and time-keepers Messrs. Griffin and Straight. The winner of the Aston Cup for private members of the club was Mr. E. Edwards, 24-h.p. Minerva;

Mr. W. Frank Young, who was last year's winner, was second, and had bad luck, breaking his pump spindle on the way to the hill; Mr. Colliver was a good third. The winner of the prize for best handicap performance irrespective of class, was Mr. C. J. Newey. The results were:—

CLASS I.

For petrol cars up to 10-h.p. by formula.

Plac-ing.	Car.	Driver.	Marks.	Time.	Placing by Time.
1	10-h.p. De Dion	C. J. Newey ...	70.6	x+ 51 4.5	2
2	8-h.p. Jackson ...	R. R. Jackson ...	74.0	" 1 17 2.5	6
3	9-h.p. Riley ...	J. Browning ...	82.9	x	1
4	8-h.p. Phoenix ...	J. van Hooydonk	86.2	" + 56	4
5	8-h.p. Phoenix ...	A. F. Hiley ...	100.4	" 1 6 4.5	5
6	8-h.p. Rover ...	J. Platt Betts ...	107.9	" 54 4.5	3
7	8-h.p. De Dion ...	Dr. F. C. Fisher	130.0	" 3 49	8
8	9-h.p. Bantall ...	E. E. Bantall ...	141.0	" 3 18 2.5	7

CLASS II.

For petrol cars of over 10-h.p. and up to 25-h.p. by formula.

Plac-ing.	Car.	Driver.	Marks.	Time.	Placing by Time.
1	14-h.p. Thornycroft ...	T. Thornycroft	78.6	x	1
2	12-h.p. Riley ...	V. Riley ...	80.0	x+ 5 4.5	2
3	14-h.p. Germain ...	C. E. Johnson	95.0	" 11 3.5	3
4	10-h.p. Alldays	W. Frank Young ...	100.9	" 1 16	7
5	14 - 16 - h. p. F.I.A.T.	H. W. Colliver	112.7	" 1 5 4.3	6
6	14-h.p. Martini...	E. G. Williams	116.0	" 29 4.5	5
7	14-h.p. Germain	H. S. Adey ...	118.8	" 16 1.5	4
8	15-h.p. Lindsay	J. Lindsay Scott	126.2	" 1 28	9
9	16-h.p. Bantall	E. E. Bantall	126.4	" 1 19 3.5	8

CLASS III.

For petrol cars of over 25-h.p. and up to 50-h.p. by formula.

Plac-ing.	Car.	Driver.	Marks.	Time.	Placing by Time.
1	35-45-h.p. Maudslay ...	R. Verney ...	88.1	x	1
2	24-h.p. Minerva	E. Edwards ...	88.7	x+ 27 1.5	9
3	24-h.p. Deasy ...	P. Graham ...	90.87	" 24 1.5	8
4	24-h.p. Deasy ...	E. W. Lewis ...	91.2	" 21 1.5	7
5	22-h.p. Minerva	R. Rhodes ...	93.6	" 36 4.5	13
6	18-h.p. Germain	H. Ramoisay ...	95.0	" 16 3.5	5
7	20-25-h.p. Simms	A. Kemp ...	97.0	" 36 3.5	12
8	24-h.p. Minerva	C. Andrews ...	102.3	" 53	18
9	18-28-h.p. Gladiator ...	F. C. Baisley ...	104.5	" 42 4.5	16
10	24-h.p. Deasy ...	Miss M. Hind ...	109.0	" 39 1.5	14
11	30-35-h.p. Simms	G. H. Woods ...	113.3	" 20 1.5	6
12	30-h.p. Thornycroft ...	H. Niblett ...	115.5	" 40 4.5	15
13	35-h.p. Iris	A. C. Earp ...	116.3	" 11 3.5	3
14	30-h.p. Thornycroft ...	B. Redwood ...	117.9	" 30 1.5	10
15	25-30-h.p. Austin	O. Thompson ...	148.7	" 32	11
16	20-h.p. Vauxhall	R. Selz ...	119.82	" 55 3.5	20
17	30-h.p. Brooke ...	M. Brooke ...	119.84	" 4 4.5	2
18	30-h.p. Thornycroft ...	H. Moyses ...	126.4	" 48 3.5	17
19	30-h.p. Beeston-Humber	C. Cooper ...	126.6	" 16 2.5	4
20	25-h.p. Iris	A. E. Perman ...	137.7	" 55	19

CLASS IV.

For petrol cars of over 50-h.p. by formula.

Plac-ing.	Car.	Driver.	Marks.	Time.	Placing by Time.
1	35-h.p. Daimler	O. Thompson ...	115.5	x+ 11 3.5	3
2	35-h.p. Ariel	P. Lewis ...	118.0	" 10	2
3	40-h.p. Iris	F. R. Bircham ...	127.0	" 41 1.5	8
4	60-h.p. Thames	W. Clifford Earp	131.0	" 32 3.5	6
5	40-h.p. SPA	R. Lamb ...	133.0	" 31 3.5	5
6	45-h.p. Thornycroft ...	T. Thornycroft	139.0	" 36 2.5	7
7	40-h.p. Ariel	C. Sangster ...	154.0	" 22 4.5	4
8	20-h.p. Mercedes	F. Guy Lewin ...	164.0	x	1

CLASS V.

For Steam Cars.

Plac-ing.	Car.	Driver.	Marks.	Time.	Placing by Time.
1	15-20 Stanley	D. J. Mooney ...	—	—	—

NORTHAMPTONSHIRE.

A MEETING of the committee was held at the George Hotel, Northampton. There were present the Rev. W. Seggins Pratt (in the chair), Sir Thomas Hesketh, Major W. Briggs, Lieut.-Colonel A. F. Mulliner, Dr. A. A. Hope, Dr. Lewis, Councillor S. Yarde, Mr. J. G. Hipwell, Mr. Charles W. Phipps, Mr. Sidney F. Harris (hon. secretary), and Mr. J. F. Stops (hon. solicitor).

It was agreed that a hill-climb should be held, and that the hill leaving Priors Marston for Helidon should form the first part of the test, taken from a standing start at the cross-roads. After that the cars should proceed through Priors Marston on to the Byfield road, where there is a second hill, which could be taken with a flying start.

A sub-committee was also appointed to arrange a gymkhana at Easton Neston on the 17th prox.

AUTO-CYCLE.

THE Auto-cycle Club's twenty-four hours' ride from London to Plymouth and back finished at Thames Ditton on Saturday evening. Rain held off on the return journey, but the roads were greasy, and several sideslips occurred, though there were no bad accidents from this cause.

Out of thirty-three starters the following competitors accomplished the double ride in twenty-four hours, and so qualified for gold medals: O. C. Godfrey 5-h.p. Rex; R. M. White, 3½-h.p. Hazel; J. S. Cavalier, 6-h.p. N.S.U.; R. G. Mundy, 3½-h.p. Triumph; J. S. Harwood, 3½-h.p. Triumph; A. S. Phillips, 5-h.p. Vindec Special; Martin Geiger, 3½-h.p.



The Auto-cycle Club's 24-hour Ride.—The five leading competitors at Photo by] Yeovil on the return journey. [E. W. Ashworth.

N.S.U.; F. C. Dee, 5-h.p. Vindec Special; W. G. McMinnies, 5-h.p. Vindec Special; L. A. Baddeley, 3-h.p. Baddeley; and W. M. Randle, 10-h.p. Lagonda tri-car. Silver medals were also offered for completing the ride in twenty-six hours, but no one qualified for these although three other riders completed the distance so as to secure certificates, viz.—E. B. Denbigh, 8-h.p. Eysink, S. Brough, 3½-h.p. Brough, and A. G. Peppercorn, 2½-h.p. Anglian.

MANCHESTER.

THE club held the last run of the season on Saturday, when twenty cars mustered at Tideswell, near Buxton. The air was fresh, and the alternative routes, if hilly, were varied and pleasant. After tea at Tideswell the old church was inspected, and the fine afternoon tempted many to continue the journey through the Derbyshire hills before returning home.

BROOKLANDS.

THE race meeting arranged at Weybridge for to-day (Saturday) has been cancelled, but that announced for Bank Holiday will take place. The race for the Daimler Plate will not be held on that day, as originally announced. In its stead the International Plate and Walton Stakes, originally fixed for the 3rd inst., have been transferred to Monday's list of races. An entirely new feature will be the half-mile sprint for the Oatlands Selling Plate.

Before the next meeting the members' car enclosure, which has been arranged on a plot of ground bordering the inner edge of the track, will be ready for use. It is situated near the fork at the entrance to the

finishing straight, and will be approached from the Byfleet road through a new entrance.

In addition to the previous races it has also been decided to hold the following event, which was originally fixed for to-day, viz., the White Steam Car Plate of 150 sov., for White steam motor-cars of the 30-h.p. type of 1907. Distance 5.997 miles. The entrants are Earl Russell, Lord Blythswood, Sir John Murray, Messrs. F. Coleman, Col. Wentworth-Forbes, W. Northey, F. Payne, Col. John Wright, E. C. Wright and J. W. Hunt. In the International Plate, a 60-h.p. Gobron Brillie car has been entered by a lady, Mrs. G. E. Taylor; and Messrs. J. T. C. Moore-Brabazon, A. L. Guinness and Warwick J. Wright will drive Minervas in the Walton Stakes.

ESSEX COUNTY.

THE hill-climbing competition of the Essex County A.C. was held on Saturday, at Battledown Hill, near Billericay. The result was a win for Sir Charles Locock, Bart., Mr. J. Gurney Fowler winning the sealed handicap.

IRISH.

THE competitions held under the auspices of the Irish Automobile Club invariably possess the merit of novelty, and the hill-climbing contest, which took place on Saturday last was not an exception. The contest was decided on the aggregate time taken by the cars to climb two hills. One of these had a gradient of 1 in 5.3, and its surface was very bad. The second hill was longer, but had a better surface and a much easier gradient. Consequently the possibility of the competing cars being specially geared to suit the gradient of the hill was put out of court, and as a further precaution in that direction the location of the hill was not disclosed to the competitors until the cars assembled at the club house on Saturday morning. The cars were classified according to their chassis price, and to the car doing the fastest aggregate time on both hills a gold medal was offered, with a silver medal to the second fastest. In addition there was a handicap in each class, the cars that were under the extreme limit of price receiving an allowance, but as a matter of fact the car that won the gold medal in the price classes also won the special certificates offered in the handicap. There was also a cup offered, presented to the club by Messrs. Humber, Ltd., to the class winner whose performance showed the highest result by dividing its time ratio by its actual time. The time ratio of the car was found in the following manner:—

$$\frac{129,400 W}{B^2 \times S \times C} + 14.34.$$

This cup was secured by the 16-h.p. Calthorpe driven by Mr. G. W. Hands. A cup presented by Mr. T. Henshaw for the car doing the fastest aggregate time on the two hills was won by the donor on his 35-h.p. Daimler.

The two hills selected for the competition were Altidore Hill and Ballinaslaught Hill. Both lead from the low-lying land on the Co. Wicklow coast to the watershed of the River Vartry. Altidore is 1,284 yds. long, with a total rise of 418 ft., while Ballinaslaught Hill has a total rise of 611 ft. in 1 mile 755 yds. The sharpest gradient on Altidore is 1 in 5.3, while the other hill has a bit of one in 6.8. We append a return showing the time of the first three competitors in each class on the two hills and their total time, and also the handicap results. His Excellency the Lord Lieutenant honoured the competitions by his presence. He drove down in his Daimler car, accompanied by Lady Aberdeen, and watched the ascent of the cars in the second test.

Details:—

Name and Car.	Altidore.	Ballinaslaught.	Total.
	M. s.	M. s.	M. s.
CLASS A. (under £200).			
1. Mr. P. D. Perry's 15-h.p. Ford	3 15½	4 16 1-5	7 29 3-5
2. Mr. C. E. Chambers' 10-h.p. Chambers	4 39 4-5	5 53 4-5	10 35 3-5
3. Mr. A. W. Inglis' 9-10-h.p. Adams-Hewitt	4 37 4-5	6 48 4-5	11 26 3-5
CLASS B. (under £300).			
1. Calthorpe Motor Company's 16-h.p. Calthorpe	3 4 4-5	4 10 4-5	7 15 3-5
2. Argylls' Ltd., 14-16-h.p. Argyll	3 31 4-5	5 3	8 34 4-5
3. Mr. E. W. Boothe's 12-14-h.p. Singer	4 40 2-5	4 55 3-5	9 36
CLASS C. (under £450).			
1. Mr. T. C. Pullinger's 16-20-h.p. Beeston Humber	2 47 2-5	3 37 2-5	6 24 4-5
2. Mr. J. E. Mills' 12-16-h.p. Clement-Talbot	3 9 1-5	4 15	7 24 2-5
3. Mr. R. J. Mcreedy's 15-20-h.p. Unic	4 31 3-5	5 38 1-5	10 9 4-5
CLASS D. (under £600).			
1. Mr. W. Sexton's 20-24-h.p. Clement-Talbot	3 19 1-5	4 9	7 28 1-5
2. Mr. T. M. Greer's 24-h.p. Minerva	3 8 1-5	4 51	7 59 1-5
3. Mr. G. M. Meare's 20-36-h.p. Beeston-Humber	3 45 3-5	4 45 3-5	8 31 1-5

Name and Car.	Altidore.	Ballinaslaught.	Total.
	M. s.	M. s.	M. s.
CLASS E. (under £750).			
1. Mr. T. Henshaw's 35-h.p. Daimler	1 51 1-5	2 28 2-5	4 19 3-5
2. Mr. S. T. Robinson's 40-h.p. Weigel	2 27 1-5	3 16 1-5	5 43 2-5
3. Mr. A. V. FitzHerbert's 30-h.p. Daimler	2 20 1-5	3 43 3-5	6 3 4-5
HENSHAW CUP FOR FASTEST TIME.			
1. Mr. T. Henshaw's 35-h.p. Daimler	1 51 1-5	2 28 2-5	4 19 3-5
2. Mr. C. L. O'Callaghan's 30-h.p. Daimler	2 57 1-5	2 47 3-5	5 14 4-5
3. Mr. S. T. Robinson's 40-h.p. Weigel	2 27 1-5	3 16 1-5	5 43 2-5

HANDICAP RESULTS.

CLASS A. (under £200).

	Handicap Time.
M. s.	
1. Mr. P. D. Perry's 15-h.p. Ford, received 70 sec.	6 9 3-5
2. Mr. C. E. Chambers' 10-h.p. Chambers, scratch	10 33 3-5
3. Mr. A. W. Inglis' 19-20-h.p. Adams-Hewitt, received 28 sec.	10 58 3-5

CLASS B (under £300).

	Handicap Time.
M. s.	
1. The Calthorpe Motor Company's 16-20-h.p. Calthorpe, scratch	7 15 3-5
2. Argylls' Ltd., 14-16-h.p. Argyll, scratch	8 34 4-5
3. Mr. E. W. Boothe's 12-14-h.p. Singer, received 10 sec.	9 26

CLASS C. (under £450).

Cars received 7 sec. for each £10 under £450.

	Handicap Time.
M. s.	
1. Mr. T. C. Pullinger's 16-20-h.p. Beeston Humber, scratch	6 24 1-5
2. Mr. J. E. Mills' 12-16-h.p. Clement-Talbot, scratch	7 24 1-5
3. Mr. Seton Pringle's 15-h.p. Coventry-Humber, received 91 sec.	9 37 2-5

CLASS D. (under £600).

	Handicap Time.
M. s.	
1. Mr. W. Sexton's 20-24-h.p. Clement-Talbot, received 35 sec.	6 53 1-5
2. Mr. T. M. Greer's 24-h.p. Minerva, received 55 sec.	7 4 1-5
3. Mr. G. M. Meare's 20-36-h.p. Beeston Humber, received 60 sec.	7 31 1-5

CLASS E. (under £750).

	Handicap Time.
M. s.	
1. Mr. T. Henshaw's 35-h.p. Daimler, received 20 sec.	1 51 1-5
2. Mr. A. V. FitzHerbert's 30-h.p. Daimler, received 52 sec.	2 20 1-5
3. Mr. S. T. Robinson's 40-h.p. Weigel, scratch	2 27 1-5

ON Thursday the North-East Lancashire A.C. had a garden party at Stanley Grange, Hoghton.

THE Guernsey Motor Association held its first run last week to the residence of the Lieutenant-Governor.

THE Automobile Club of Ceylon is renting premises at Colombo for the purpose of a garage for the use of members.

THE competition for the Gamage Cup of the West Essex A.C. will take the form of a non-stop run from the headquarters at Seven Kings to the 48th milestone on the Colchester road and back again, on Saturday, the 10th inst.

OF the nine gold medals awarded in the Scottish Reliability Trials seven have been given to cars which were fitted with Dunlop tyres.

SUCCESSSES of the "Continental" tyres during recent weeks include fastest times at the Lincolnshire A.C.'s speed trial, the Manchester A.C.'s hill climb, Midland A.C.'s climb at Shelsley Walsh, and the Coventry M.C.'s open hill-climb reported in last week's M.C.J.

A SHORT time ago the Motor House had over fifteen high-powered cars in stock. Now, probably as a result of the opening of the Brooklands track, not a single one remains. It certainly looks as if there are plenty of private people about who intend to take up motor racing as a hobby now that the track is provided, and if the Motor House can find a ready market for racing cars, it behoves go-ahead makers to list such vehicles as well as ordinary cars in their catalogues. Although the demand in nearly all instances has been for a British vehicle, the fact that very few firms in this country have built racing cars has resulted in the Motor House having to supply foreign-built machines to satisfy their clients' requirements.

CASES UNDER THE MOTOR CAR ACT.

ALLEGED NOISE.

Mr. W. T. Lord answered to a summons at the South-Western (London) Court for failing to stop the action of the machinery of his motor-car, necessary for the prevention of noise. Defendant had visited the motor track at Weybridge, and returning, pulled up in Priory Lane, Putney. The noise of the machinery was said to be considerable; so much so that a polo pony took fright and, wrenching itself away from the groom, bolted, causing two lady cyclists to fall into a ditch. P.C. Welton said the defendant was asked many times to stop the engine. Defendant said the machinery did not make any more noise than a sewing machine. The magistrate fined the defendant £5, with £5 5s. costs.

EXCEEDING THE LIMIT.

At Kilmarnock, a motor-cyclist has been fined £3 and costs, for exceeding the ten mile limit in Dalry.

At Lancaster, on Saturday, John Cunningham, chauffeur, Edinburgh, and Ernest Henry Bunnay, motor-car owner, Birkenhead, were charged on separate informations with exceeding the speed limit over the Garstang Road trap, Ellet. The Chairman said the Bench had decided to fine each defendant 50s. and costs, or in default a month's imprisonment. These amounts are only half what has hitherto been imposed by the Lancaster county magistrates for speeds up to twenty-five miles an hour. Beyond that speed the fines have been £7 and £10.

At Haywards Heath Petty Sessions, William K. Lamotte, of Shirley, has been fined £15, with £1 17s. 6d. costs, for driving a motor-car at Handcross at a greater speed than twenty miles an hour. Defendant has been previously fined £10 for a like offence.

A REGISTRATION POINT.

At Dudley, John Eades, of Birmingham, has been fined £3 for using a motor-cycle without registering it, and with refusing to give his name and address after an accident. Defendant was making a trial run with a motor-cycle which he had recently purchased, when he ran down a cyclist, smashing his machine and breaking his arm.

ALLEGED OBSTRUCTION.

Chester police have initiated a crusade against owners leaving motor-cars in streets unattended. On the 26th ult. Mr. Crosland Taylor, J.P. Helsby, and Mr. Claremont, of Old Trafford, were charged with wilfully causing an obstruction. The magistrates' clerk said the way owners left their cars standing with the machinery in motion was a perfect nuisance. Mr. Crosland Taylor pleaded that it was merely a technical offence, and the Bench dismissed both summonses on payment of costs.

DANGEROUS DRIVING.

Percy Mitchell, of Hampstead, was summoned, at Raglan Petty Sessions, for driving a motor-car to the danger of the public. Superintendent Captain Parker handed a letter to the magistrates, and stated that if the defendant had in the first place given them the information he had since communicated, proceedings would not have been taken. Considerable correspondence had passed with solicitors in London, and it now appeared that it was the chauffeur who was driving. He was now travelling about the country, but they hoped to catch him in due course. Upon the payment of £3 2s. 8d. costs the summons against Mr. Mitchell was withdrawn.

George Lowrie, a chauffeur, was summoned at Gateshead, on Monday, for driving a motor-car without lights and to the danger of the public. The police said he dashed across Redhugh Bridge at fifty miles an hour without paying his toll. He was fined £5 and costs for each offence. Charles E. Smith was also summoned at Gateshead for driving a motor-car to the danger of the public. He was fined £5.

Captain John Haig, of the Lodge, Ascot, was fined £18, including costs, by the Berks magistrates at Wokingham, on Tuesday, for driving a motor-car at a speed dangerous to the public at Eashampstead. Major Daikie, of the Royal Field Artillery, Tidmouth, the principal witness, said the car passed a wagonette, containing three ladies, which he was driving, at a terrific speed, and it was a merciful providence that they were not killed.

HEAVY HAULS.

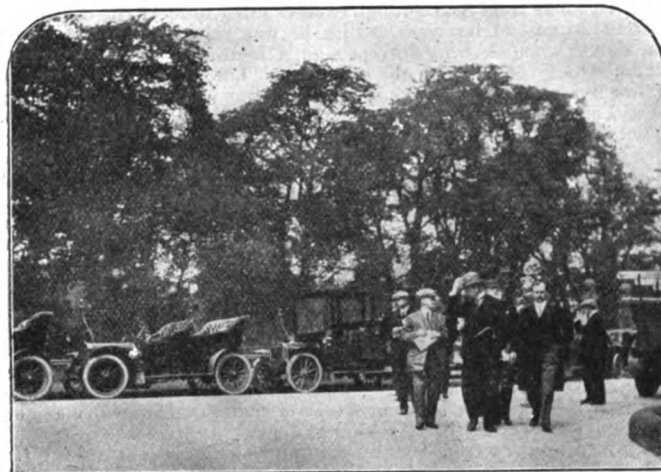
At Morpeth, on the 24th ult., five motorists were fined sums aggregating to £7; on the 25th eight were fined £33 and costs at Kingston. On Monday last five drivers were fined £14 and costs for exceeding the regulation limit in Bushey Park, and five others were fined £24 and costs at St. Ives (Hunts) for exceeding the legal limit at Fenstanton. On the same day £70 were paid by motorists summoned at the Steyning Petty Sessions, and £50 by other victims at Godalming. At Arundel, too, there was a batch of cases, the fines aggregating £59, and at Haywards Heath three fines totalled £25, exclusive of costs. On Tuesday, at the Beaconsfield Sessions, five motorists were fined £12 5s. and costs and a warrant was issued against another—all for exceeding the legal limit. Three motorists were also fined £5 each at Wokingham.

In the Scottish Reliability Trial five of the gold medallists used Shell motor spirit. The winner of the Scottish Cup for the vehicle showing the lowest petrol consumption also used Shell spirit.

MR. F. L. MARTINEAU, who drove in the recent Scottish Reliability Trials, is enthusiastic as to the behaviour of the Palmer tyres fitted to his Pilgrim car. From start to finish they were not touched, and the vehicle was driven to and from Scotland from the works at Farnham, fitted with the same tyres.

THE PEKIN-PARIS MOTOR RUN.

PRINCE BORGHESE has at last crossed Asia on his Itala car and is now in Europe, he having safely arrived in Moscow on Saturday last, forty-seven days after setting out from Pekin. He left Nijni Novgorod, where he was entertained by the Vice-Governor of the province, early on Friday, the 26th ult. The entry into Moscow was most enthusiastic, the whole populace turning out to give the Prince a royal welcome. He was met eighteen versts outside Moscow by the Italian and French Consuls and the representatives of the Moscow Automobile Club. Eighteen cars and many members of the Italian colony escorted the Prince into the city, where the local motorists presented him with a medal. In the evening the Italian colony gave a banquet in honour of the intrepid motorist, to whom they presented a beautifully bound album adorned with a large enamelled gold crest of the city of Moscow, and containing an address and numerous views of the city and its environs, while the journalist who accompanied him from Pekin received a gold pen mounted with a sapphire. In the course of an interview with the representative of the "Standard" Prince Borghese, in recounting some of the incidents of the journey, stated:—"We travelled only by day, and always contrived to sleep somewhere, either in peasants' huts or inns. Incidents? Oh, yes, incidents enough, but—" and the gesture implied that it was hopeless to expect him to begin on that interminable subject. "There was nothing unpleasant, and it is untrue that the peasantry ever attempted to prevent our progress. The best piece of road from Pekin to Moscow was undoubtedly the Gobi desert. I was never over such places as are called "roads" in Russia. When I was told that a highway existed between Irkutsk and Moscow I expected to find something like a road, but I was disap-



The Visit of the Imperial Industries Club to the Argyl Works at Alexandria.

Sir G. Hayter Chubb, Sir T. B. Hitching, the Hon. J. W. Taverner, Sir J. Roper Parlington and Mr. Gilbert Batholomew being received by Mr. W. A. Smith and his co-directors.

pointed. I avoided the worst place round Lake Baikal, and took the ferry across. I believe the road round the lake is impassable for man and beast, to say nothing of a machine. Forty kilometres an hour was the best speed I have made in Russia, and fifteen kilometres the slowest. The weather has been bad, and it has rained almost incessantly since I left Irkutsk, there having been only three fair days. I have been surprised and gratified by my reception in Moscow. I shall drive myself to Paris, but it looks as if the rest of the trip would prove rather a test of my internal economy than anything else."

The Prince, who was resting in Moscow until Wednesday, hopes to arrive in Paris on the 10th inst., two months to a day after his departure from Pekin.

The last news of the Spyker and two De Dion cars was from Tscheliabinsk, near the frontier, which place was reached on Monday.

THE IDEAL CHAUFFEUR.

Here's to the man with nerve of steel,
Here's to the man behind the wheel,
Whose eye is true and temper mild,
Who ne'er his lips with curvè defiled
E'en though he punctured every tyre.
His work is more to him than hire.
He keeps his motor clean and bright;
He ne'er demurs at trips by night.
If you should meet this man some day,
Please send him to me right away.

G. E. BIRD in "Automobile Topics."

COMPENSATION CASES.

In April John Rous was knocked down by a motor-car when crossing one of Bristol's busiest roads. A claim for compensation has just been heard at Bristol. It was alleged by several witnesses that the car was travelling twelve or fourteen miles an hour. The jury awarded £100 compensation.

At Gainsborough County Court, Charles Warboys, of London, has claimed damages from Messrs. Rose Brothers, Ltd., engineers, Gainsborough, for loss by the death of his son, Robert E. Warboys, who died as the result of a collision with a motor-car while cycling to Gainsborough on February 21st last. For the defence the driver of the car and the other occupant said they saw Warboys 150 yards away as they turned the bend in the road at the rate of seven or eight miles an hour. He was on the wrong side and had his head down. They continued towards him, sounding the horn continuously. When twelve yards separated them Warboys raised his head. The driver thought he was going to turn to the correct side, but he did not. When they were only two or three yards apart the driver of the car turned with the object of avoiding the cyclist. The latter turned towards the proper side simultaneously, and this brought about the collision. Mr. Turrell contended this was the only course the driver of the car could take. His Honour, in summing up, said the question for the jury was whether, when the occupants of the car saw the deceased coming on the wrong side of the road they were guilty of negligence in waiting until they were within two or three yards before applying the brakes and putting on the clutch. The jury after a long absence announced that they were unable to come to a decision.

At the West Riding Assizes, on Monday, Mr. Justice Ridley and a special jury heard an action in which Hugh Curran, a groom, claimed £500 damages for personal injuries against Mr. T. H. Woollen. Mr. Scott Fox, K.C., for the plaintiff, said that Curran had been employed to go out with a horse from Scarborough each evening to meet the coach. On the 22nd August of last year, while he was riding the horse on the grass about two miles from Scarborough, a motor-car came up from the rear and struck the horse on the left flank. The groom was thrown off and was for some hours unconscious. He was in hospital from August 22nd to February 18th, and was now only able to move about on crutches. The defendant went into the witness-box. He said he saw the plaintiff on the horse on his left side sixty or seventy yards ahead. The witness was about in the centre of the road, and blew his horn twice. When he was near the level of the horse it suddenly swerved and jumped over the corner of the radiator, bending the right lamp bracket and doing other damage. The jury found a verdict for the plaintiff for the amount claimed.

AUTOMOBILE ACCIDENTS.

THE case of G. F. O'Connor, mentioned in last week's *M.C.J.* as having been remanded on a charge of manslaughter at West Ham, has been again before the magistrate, who discharged the accused with the remark that he did not see that a case of manslaughter was made out. At the inquest a verdict of "Accidental death" was recorded.

WHILE alighting from a motor-bus, on which he was travelling from the Law Courts to his residence in London, the other day, Mr. Justice Joyce stumbled and has been absent from the courts for a week in consequence.

A RUNAWAY motor-wagon on Wednesday week, on the main road between Woodley and Stockport, resulted in the Old Toll-bar House at Lower Bredbury being partly wrecked.

An elderly lady, named Miss Hooper, of Wimbledon, was run over and killed on the evening of the 26th ult. by the motor-car of Mrs. C. N. Williamson, the novelist. Mrs. Williamson and a lady friend were being driven through Wimbledon, when Miss Hooper, in attempting to cross the road in front of the car, was knocked down. The front wheels passed over her, and she was dragged along the road for some distance by the hind wheels, receiving such terrible injuries that she died almost immediately. At the inquest on Tuesday, the jury found that the fatality was due to a pure accident, and exonerated the chauffeur from blame.

THE heroic conduct of a nurse who lost her life in an endeavour to save a small boy named Greenwell has been told to a coroner's jury at Streasley, near Reading. Her charge was about to cross the road when the nurse, named Harris, heard the sound of a motor horn. The road is narrow and full of curves, and, realising the danger, she at once rushed and clutched him, but both being frightened they hesitated, and failed to get out of the path of the car, both being run down. The nurse, however, flung the child before her, and took the force of the blow of the vehicle herself, receiving such injuries that she died. The owner of the car, Mr. Morley, of Eversleigh, Hants, said he was sure deceased sacrificed her life in saving the child, who was merely scratched.

A "VANGUARD" motor-omnibus overturned on Sunday afternoon at Hackney, and several passengers were seriously injured. The vehicle, which was on its way from Epping Forest to Bethnal Green, skidded, collided with the kerb, and turned completely over. There were seven inside and two outside passengers at the time of the mishap and all were injured.

At Kingston, on the 26th ult., William Adams, a chauffeur, nineteen years of age, of Epirus Road, Fulham, was charged with recklessly driving a motor-car at Walton-on-Thames on July 17th and causing the death of Rebecca Mayhew, a patient at the Metropolitan Convalescent

Home at Walton-on-Thames. Mr. William Lewis appeared to prosecute on behalf of the Treasury, and Mr. C. L. Attenborough defended. The magistrates committed the defendant for trial at the Surrey Assizes.

WHILE cycling along the Windsor Road between Slough and Eton a few evenings ago Mr. Gny Nickalls came into collision with a motor-car. Mr. Nickalls, who had an arm broken, was taken home by the motorist to Farnham Royal, where he was surgically treated.

A MOTOR-CAR accident occurred at Kingston-on-Thames on Saturday morning. A car owned by Mr. Foster, Kingston, and driven by Mr. Wilson, of the same place, was proceeding along Queen's Road, in the direction of Richmond Park, when, in passing Alexandra Road, it collided with a grocer's cart, driven by George Hall. The force of the impact overturned the cart, and Hall was thrown on his head into the roadway, and rendered unconscious. He was removed in the motor-car to Kingston Victoria Hospital, where his condition was considered critical.

A MOTORING fatality occurred at Nottingham on Saturday. As Mr. George Fowler, of Basford Hall, was being driven into the city by his chauffeur past a coal cart, a man who had been noticed counting the money he had in his possession stepped from behind the cart in front of the car, which was proceeding at a moderate pace. The man was knocked down, one of the wheels of the vehicle going over his head. Mr. Fowler at once conveyed the unfortunate man to the general hospital, where, however, he died shortly after admission.

A SERIOUS motor-car accident occurred near Monmouth, a car, containing Captain E. Evans, colliding, head on, with that of Mr. J. N. Booker, of Ross. Mr. Booker sustained a lacerated knee, and Captain Evans's chauffeur, who was shot through the wind screen to the road, was badly cut by the glass.

ROAD REPORTS.

BRENTFORD.—The Rev. T. Henry, Vicar of St. George's, Brentford, has suggested that a petition from the ratepayers be prepared for presentation to the King, asking him to use his best endeavours to widen the High Street, Brentford, through which he frequently passes on his cars.

COWFOLD.—At a general meeting at Cowfold it has been agreed to have the main road tar-sprayed. It will cost the village about £20 for the tar, the County Council bearing the cost of labour involved.

REDDITCH.—The main roads in this district are now for the most part in excellent condition. Some of the country lanes and bye-roads are rough and uneven. Long stretches of the Bromsgrove road are still under repair.

RATHDRUM.—The district council of this Irish resort have passed several recommendations of the county surveyor in regard to the improvement of the roads of the rural district. The report of the surveyor that Aughavannagh Bridge is in parts "shaky, distorted, tilted, sagged, bulged, with stones missing and others split," was considered. He suggested that £300 should be expended upon it, a proposal which was adopted.

WEST SUSSEX.—The West Sussex County Council has decided to tar the surface of any main roads in their area where half the cost is contributed by the locality, the county contribution for the whole of such work not to exceed £100.

HAYES.—At the Bromley Rural District Council, on Tuesday, a letter was read from the Hayes Parish Council suggesting that a danger signal should be erected near the schools at Hayes as a warning to motorists not to drive too quickly, as the road was largely used by school children. Sir Henry Lennard said at West Wickham they had put up a large placard: "Drive slowly; schools in front." This has had good effect, and he suggested that the same plan should be adopted at Hayes. This was agreed to.

New showrooms have lately been opened at 93, Fulham Road, S.W., by the Miesse Petrol Car Syndicate, Ltd.

WEIGEL MOTORS (1907), LTD., have opened well fitted up West End show-rooms at 30, Dover Street, W., under the management of Mr. Pryce Harrison.

MORS (ENGLAND), LTD., have just issued a new catalogue of the Mors 15-20-h.p. live axle car, which gives full particulars of the vehicle, together with very clearly prepared drawings of the different parts of the chassis. In the course of a run from Brooklands to town the other day on one of these cars, in company with Mr. L. Carle, we were very much impressed with its silent and speedy qualities.

WE are informed that both the Daimler Motor Company (1904), Limited, of Coventry, and the Daimler Motoren Gesellschaft of Unterturkheim Germany, have instituted actions in the Chancery Division against the British and Colonial Daimler-Mercedes Syndicate, Ltd., claiming injunctions to restrain the latter syndicate from using the name "Daimler-Mercedes" in connection with motor-cars dealt in by them.

FROM Messrs. Brown Bros., Ltd., comes a copy of their new catalogue of "Brown Cars"; this gives full particulars of the five models, viz., 10-12-h.p. two-cylinder, 18-20-h.p., 20-22-h.p. and 25-30-h.p., four-cylinder and 40-h.p. six-cylinder. Illustrations are given of the principal parts of the chassis as well as of complete vehicles, the latter including: not only touring vehicles but a useful 10-12-h.p. traveller's car and a 20 cwt. delivery van.

PUBLIC MOTOR SERVICES.

THE service of motor-wagons for goods from Leith to Galaahels is being largely taken advantage of by merchants and manufacturers in the border town.

THE increasing number of empty properties in the borough of Paddington is ascribed by the finance committee, in a report issued on Saturday, to the motor-bus traffic in the neighbourhood.

ON Saturday Messrs. Tilling and Company's motor-bus service from Peckham and Catford to Greenwich was terminated; on Sunday the firm initiated a new service from Oxford Street to Sidecup.

MR. S. A. CHAMBERS, presiding at the meeting of the Automobile Cab Company (Ltd.), on Monday, said the loss of £10,196 on the year was mainly due to two causes. They had been unable to obtain full delivery of the cabs until November, 1906, which caused them to miss the best part of the season of that year; while exceptionally bad weather had been experienced in 1907. As an instance of how the weather affected their takings, he pointed out that for the week ending January 12th, when the weather was bad, the takings per cab were only 19s. per day; during the Easter holidays, when it was fine, they rose to £1 16s., and during Whitsuntide, when it was bad again, they fell to £1 1s. 7d. Of their thirty-two cabs, the average number running was nineteen or twenty, the remainder being in the hospital, while their experience had led them to regard it as not imprudent to write off 33½ per cent. depreciation off their cabs. Several shareholders suggested that a committee should be appointed, but nobody would volunteer to serve on the committee, and eventually the resolution for the adoption of the report was agreed to, and the retiring directors, Mr. S. A. Chambers and Mr. C. G. Henty, were re-elected.

ARRANGEMENTS are in progress for placing another 400 motor-cabs on the London streets. The cars will be four-cylinder, of 12 to 16-h.p., and fitted with a taximeter.

PASSENGER coaches run every Wednesday over the level roads through Romney Marsh to the interesting old Sussex town of Rye. The motor traffic has given several little frequented towns and villages in the Hythe district a new lease of life.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

MOTOR INVESTMENT EXCHANGE.—Registered in Guernsey, £15,000. The signatories are: J. Le Messurier, Ecirvain, Manor Place, Guernsey; H. M. Mauger, St. Martin's Road, Guernsey; A. J. Roussel, Guelles Road, Guernsey; P. J. Mauger, Fort Road, Guernsey; H. Ogier, La Croix, Castel, Guernsey; H. Le Messurier, Hauteville, Guernsey; G. Ridgway, Manor Place, St. Peter Port, Guernsey.

S. F. EDGE (1907), LTD.—£275,000. To acquire the business of S. F. Edge, Limited, and to carry on the business of motor-car manufacturers and dealers, &c. 75,000 £1 shares have been offered for public subscription, the list of applications for which closed on Thursday.

READING MOTOR COMPANY.—£2,000. To acquire the business carried on at 57, Castle Street, Reading, and elsewhere as Cannadine and Company, and to carry on the business of motor-car manufacturers and dealers, &c.

POLICE TRAPS.

THE trap in the Shooter's Hill road is again in frequent operation, its victims being summoned at the Woolwich Police Court.

THE Birmingham City Council has been considering the traffic by-laws of the town, and in the course of the discussion the chairman of the Watch Committee promised that the question of the speed of motor-cars passing through Birmingham would have the attention of the chief constable. Wariness should therefore be practised by motorists in the district.

THE police trap on the Garstang road at Ellet is again in active operation, leading motorists to the Lancaster court.

SURBITON is again the centre of a carefully planned police trap.

A MEASURED distance of a mile in the vicinity of Bishopston, Renfrewshire, is reported as having been the scene of police trapping activities lately.

CAVENDISH PLACE is a favourite spot in Eastbourne for police traps.

P.S. WAGHORN is operating in the Handcross, Friars Oak, and Bolney districts of Sussex.

A MOTOR trap is being operated at Fenstanton, on the road between Huntingdon and Cambridge.

THERE is a measured furlong in the borough of Godalming.

ON the Chichester road, near Arundel, the police trap is in daily operation; at Poling is another trap a quarter of a mile in length; Walberton is also the scene of a trap of regular occurrence.

HENFIELD, Washington and Bramble are three villages from which large hauls of motorists have lately been made to the Steyning Petty Session. Motorists should be careful when passing through these during the holidays.

THE police trap in Loampit Vale, Blackheath, is likely to be in operation on Monday next.

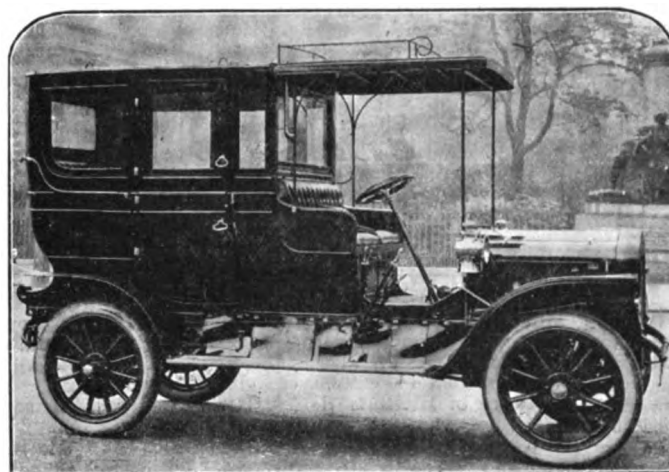
UNDER the title "A Remarkable Brochure," Messrs. Humber, Ltd., have issued a circular summarising the success of the Humber vehicles in the Isle of Man and Scottish trials.

MOTORING ON THE RIVIERA.

THE "Corniche d'Or" of the Estérel, as the coast road is known, was only completed in 1893, and as a piece of modern roadway-making is the peer of any of its class elsewhere. The record of its building and the public spirited assistance which was given the project on all sides would, or should, put to shame those road-building organisations of England and America which for the most part have aided the good-roads movement with merely an unlimited supply of talk about what was going to be done. As a roadway of scenic surprises, the "Corniche d'Or" of the Estérel is the peer of the better known rival beyond Nice, though it has nothing to excel that superb half-dozen kilometres just before, and after, Monte Carlo and Monaco. The interior route of the Estérel, the Route d'Italie, mounts to an altitude of 300 metres, while the "Corniche" is practically level, with no hills which would tire the least muscular cyclist or the weakest powered automobile. Since the beginning of the transformation of the Estérel 240 kilometres of new roadways have been laid out. After this great work was finished, came the question of erecting sign-boards along the various routes and chemins and carrefours and bifurcations, and the work was not treated in a parsimonious fashion. Within the first year of the completion of the road-building over two hundred important and legible signs were erected by the efforts of a wealthy resident of St. Raphael, with the result that the value of the Estérel as a great "parc nationale" became apparent to many who had previously never even heard of it.

This delightful track of unspoiled wildwood is bounded on the north by the Route d'Italie, while the ingeniously planned "Corniche" follows the coast-line all the way to Cannes, which is really the door by which one enters the Riviera of the guide-books and the winter tourists.

The "Corniche d'Or," its inception and construction, was really due to the efforts of the omniscient "Touring Club de France." Formerly



The 30-h.p. White Steam Car fitted with limousine body for the Marchioness of Bute.

the way by the coast was but a narrow track, or a "Sentier de Douane." To-day it is an ample roadway along its whole length, on which one has little fear of speeding automobiles, for the simple reason that the jutting capes and promontories of porphyry rocks are death-dealing in their abruptness and frequency, and no automobilist who is sane—let it be here emphasised—takes such dangerous risks. The forest and mountain region of the Estérel between those two encircling strips of roadway is possessed of a wonderful fascination for those who are brain-fagged or town-tired; and to roam, even on foot, along these by-paths for a few days will give a whole new view of life to any who are disposed to try it. If one purchases the excellent map of the region issued by the "Touring Club de France," or even the five-colour map of the "Service Vicinal" of the French Government, he will have no fear of losing his way among the myriads of paths and roadways with which the whole region is threaded.—Mr. F. Miltoun in "Rambles in Provence."

INTER-MOTOR CYCLING CLUB CONTEST.

FIVE clubs competed in the inter-team contest promoted by the Motor Cycling Club on Saturday. The competition took place on 12½ miles of road between Daventry and Rugby, with Daventry as headquarters, and had to be covered several times, the full distance being 100 miles, with a luncheon stop at fifty miles. The conditions were for a non-stop run, no adjustments being permitted, and the clubs were represented by six riders each—viz., four motor-cyclists and two drivers of passenger machines. The result was a win for the Coventry Motor Club, with 534 marks, the Motor Cycling Club being second with 479½, Birmingham Motor Cycle Club third with 392, Southern Motor Club fourth with 359½, and the Great Yarmouth and District Motor Cycling Club fifth with 239 marks.

FORTHCOMING EVENTS.

AUGUST.

- 2nd to 5th.—Automobile Club of France Criterium and Coupe de la Presse.
 3rd (Sat.).—Sussex County A.C. Gymkhana at Eastbourne.
 Southend M.C. holiday tour on south coast.
 The Somerset A.C. run to Weymouth.
 Gymkhana of the West Surrey A.C.
 5th (M.).—Crystal Palace A.C.'s races at Bexhill (abandoned).
 Brooklands A.R.C. Meet.
 Meet of the New Forest A.C. at the Burley Pony Show.
 10th (S.).—Entries for R.A.C. Commercial Vehicles Trials finally close at 12 noon.
 Annual Race Meeting of the Auto Cycle Club at Canning Town.
 Meet of the Lincolnshire A. C. at Brocklesby Park by invitation of Earl Yarborough.
 17th (S.).—Brooklands A.R.C. Meet.
 Lincolnshire A.C. Hill Climb at Syston Park.
 19th to 24th.—Auto Cycle Club's six days' trial.
 20th.—Open competition for light cars organised by the Essex Motor Club over a 200 miles course.
 24th (S.).—Hertford County A.C. at Lower Aston Hill for a members' driving test.

SEPTEMBER.

- 9th.—Industrial Vehicle Trials commence.
 14th (S.).—Motor Union Meet at Leicester.

OCTOBER.

- 19th.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

- Cordingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Aug. 3rd—8.45	...	5th—8.41	...	7th—8.38	...	9th—8.36
" 4th—8.43	...	6th—8.40	...	8th—8.37	...	10th—8.34

In Glasgow the lighting up time to-day (Sat.) is 9.40 p.m., and to ascertain the approximate times on succeeding days 45 min. should be added to the above figures; in Birmingham an addition of about 13 min. is necessary.

THEFT OF A MOTOR-CAR.

GEORGE GARRARD, chauffeur, was found guilty at the New Bailey, London, on Monday. He was charged with obtaining £100 by false pretences from Samuel Brown, a motor dealer, Brompton Road, and pleaded guilty to a second indictment charging him with stealing a motor-car, the property of Mr. B. L. Rose. Garrard was a chauffeur in the employ of Mr. Rose, who in June had two motor-cars—a Daimler and an Argyll. Garrard was instructed by his master to sell the latter car, and he accordingly went to Mr. Brown and represented that he had a Daimler car for sale. Brown having tried the car agreed to give Garrard £205 for the car, after Garrard had produced what purported to be a written authority from Mr. Rose for the sale. Brown parted with £100, but on making inquiries as the car was not delivered he learned that Garrard had no authority to sell the Daimler car, and that consequently he had been defrauded of his money. The man, however, had sold the two head lamps, which cost £16, for £4 10s. The Recorder passed a sentence of six months' hard labour.

GARAGE LIABILITY.

In a case heard at Birmingham, Mr. F. A. Byrne claimed £39 from Motor Plants, Ltd., for damage to a motor-car while in their keeping for sale on commission. The cylinder was cracked owing, it was alleged, to the defendant's negligence in not draining the water jackets during frosty weather. After hearing evidence Judge Bray said it had not been established to his satisfaction that the damage to the car was caused by the negligence of the defendants. There would, therefore, under the circumstances, be judgment for the defendants on the claim.

THE COMMERCIAL VEHICLE TRIAL.

SPECIAL difficulties have arisen in connection with the routes for the heavy classes (classes F, G, and H) in the R.A.C. Commercial Vehicle Trials, for which fifty-five entries have been received. If a weak bridge is found anywhere along the line of direction chosen, it probably causes a disorganisation of the scheme for that day, and a general substitution of fresh routes. For six weeks past the R.A.C. has had a car travelling throughout the districts that are to be invaded, and it is gratifying to know that the plans as regards routes are now nearly all settled. Vehicles in Class A travel 70 miles a day, in Class B 60 miles, in Class C 55 miles, and so forth, bringing up the mileages to be arranged and mapped to a total of about 300 per day, or 6,600 for the twenty-two running days of the trials.

THE DU PRE CHALLENGE CUP.

THE contest for the Du Pre Challenge Cup took place on Kettleby Hill, on June 22nd, the event being restricted to members of the automobile clubs of Leicester, Nottinghamshire, and Derby and District. We have just received the adjudicated result as decided by the R.A.C., showing that Mr. G. H. Waite's 8-h.p. Clyde was the winner of the cup this year. Others in order of merit were Dr. P. E. Tressider, 15-h.p. Clement-Talbot; Dr. Hogarth, 12-16-h.p. Talbot; Capt. Byron, 24-h.p. Minerva; Mr. H. Wormleighton, 14-h.p. Clyde; Mr. H. B. Oliver, 24-h.p. Minerva.

BUSINESS NEWS.

MR. GIBBON BROOKS, 51, Queen Street, Cardiff, has been appointed agent for Cardiff and district for the sale of Weigel cars.

CALLING in at the works of Messrs. Dorwald and Company at 30-32, High Street, Wandsworth, S.W., the other day, we found them well equipped to undertake all kinds of repairs to motor-cars at the shortest notice.

MR. W. H. TOWNSEND, of 124, Commercial Street, Newport, Mon., is making a speciality of the welding of castings by means of his special oxy-hydrogen process; he claims to be able to repair every description of broken or defective castings, and sends us an illustration of a damaged base chamber which was finding its way to the scrap heap, but which he was able to restore to its original condition.

IN exactly a fortnight from receiving the first Leon Bollee cars out of the fourteen purchased by the Motor House twelve of them were disposed of, the twelfth, a handsome landaulet, being sold to the Duchess of Newcastle.

ARRANGEMENTS are being rapidly pushed forward for the manufacture and marketing of "Miraculum," the new puncture stop for pneumatic tyres.

THE CRYPTO ELECTRICAL COMPANY, of 155-7, Bermondsey Street, S.E., have appointed Mr. S. Mansel Jones their sole agent for the whole of South Wales for the sale of their dynamos, motors, alternating to continuous current transformers, &c.

A TYRE repair establishment has been opened at 215, Shaftesbury Avenue, London, W.C., by Mr. H. George.

THE New Engine Company inform us that they have increased the horse-power of their smaller N.E.C. car from 15-h.p. to 20-h.p., and have also lengthened the wheel base from 9 ft. to 9 ft. 6 in., making it an all-round carriage suitable for any class of work. They have also got out a new 40-h.p. chassis designed chiefly to meet the demand for a car suitable for extremely large bodies, so that they now build three types—20-h.p., 30-h.p. and 40-h.p. Amongst recent orders received are one for an extra large 30-h.p. landaulet for Mr. William J. Parkyn, of Manchester, a 30-h.p. Victoria for Mr. F. Copestake, of Hentfield and Brighton, a 20-h.p. double landaulet for Mr. Fred Wallis, the well-known surgeon, and a 20-h.p. double landaulet for Dr. Owen Lankester.

A COMPANY has been formed in New Zealand to develop a new motor tyre made of chrome leather, devised by Mr. W. H. Bird, of Wanganui. The feature of the new production is the building up of the tyre in such a way that the edge of the leather engages with the ground. Small pieces of chrome leather, cut in the shape of the cross section of the tyre, are placed side by side until the circle is complete, when it is compressed and vulcanised to form.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment or some is directly specified in forwarding, and the terms arranged before publication.

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COMMENTS.



CONSIDERABLE interest attaches to the Reliability Trial which the Royal Automobile Club has decided to hold next year—probably in June. So far as present information goes the scheme is to devise a 2,000 miles Reliability contest, included in which will be not less than 20 miles of timed hill climbs and a run on the Brooklands Track of 200 miles. Here is a combination of the Scottish Trial idea with an essential feature of the Tourist Trophy, it being proposed that the car which does not finish on the track on the allowance of fuel provided shall be out of the event. The presumed average time per mile over the 2,000 miles will be arrived at by the time per mile on the track in minutes; then the time lost by delays on the road will be added in minutes—except the delays on the hill climbs—and the time occupied in the hill climbs will be also added in minutes. Classification will in all probability be by price, minimum weight, minimum wheel base, and minimum piston area. An event organised on such a comprehensive scale, and embodying most of the ideas that are comprised in the leading Continental and British trials, should become a classic institution, and also have the effect of encouraging the trade to concentrate their efforts on the Trial of the year, leaving the county and other contests of minor degree to amateur owners of cars.

Club Contests.

SHOULD the 1908 Trial have such a result we do not anticipate any restriction of energy in club life. In fact, it should be quickened by the chances offered to amateur drivers to get the best out of their vehicles. At present many private owners do not enter for club events because of the competition of the trade. They feel the opportunities for success are unequal, and are inclined to hold aloof. This question of club competitions is becoming a very difficult problem owing to the multiplicity of the meetings and the variety of regulations governing the same, and should be made the occasion of a conference to draw up some scheme of uniformity ere the next season.

The Brooklands Track.

MONDAY'S prize list at the Brooklands Motor Track totalled £2,400, and attracted cars and drivers of international renown. But it cannot be said to have excited the public to any extent; and to the improvements already made since the opening day others will have to be added if motor racing is to become a Bank Holiday sport. Firstly, punctuality in running the events should be secured; secondly, the possibility of confusion as to the identity of cars on the track should be eliminated by the numbers being newly painted before they enter the course; and thirdly, some indication of the speed attained should be given at the earliest possible moment after the race. If the authorities continue to withhold the actual time of each contest, or decline to publish the rate of speed per hour, they might at least have the time taken along the finishing straight duly proclaimed. People like to be able to say they

saw a vehicle going at so many miles per hour, and even such a modicum of comfort as we suggest would probably satisfy many. Otherwise there are indications that unofficial times will leak out, and then the inaccuracies made public will be worse than the absence of knowledge altogether.

Petrol Precautions.

THE warning which the London County Council have again addressed to the Metropolitan City and Borough Councils with regard to the discharge of petrol into sewers is of general importance. They state that, from information in the possession of the Council, there is good reason to believe that much waste spirit is discharged into the sewers from private premises, and it is suggested that the best safeguard against the danger seems to be the provision of suitable intercepting chambers on the surface drainage at large garages and other premises where considerable quantities of petroleum spirit are used. Thus far the immunity from accident from such causes which has been enjoyed by the automobile industry has been a tribute to the care generally exercised. These periodical warnings of the L.C.C. have, however, their service in keeping constantly before private and trade users the risks associated with the careless handling of motor spirit.

Dust Trials.

THE Dust Committee of the R.A.C., the members of which were the judges in the Dust Trials, has been authorised, in view of the Vacation, to make and publish the awards in the Dust Trials on its own responsibility. The Dust Committee is already in a position to report that the Trials have yielded very valuable data, that the photographic records give clear and unmistakable comparative results, and that it will be easy to correctly and fairly award the prizes in the first two classes in a few days, i.e., for manufacturers' standard cars, and for the inter-club competition for amateurs' cars. It will take some time, however, to consider whether any award should be given in the experimental class, and to work out the information derived from the experimental work carried out by manufacturers and by the Club itself.

Damages against a Motorist.

LAST week we reported the circumstances of a case heard at Leeds in which a groom recovered £500 damages from Mr. T. H. Woollen, who is well known as one of the most careful drivers in the country. The plaintiff took action to recover damages for personal injuries caused in a motor-car accident which happened a year ago. In opening the case counsel acknowledged that the motorist was not proceeding at more than eight or ten miles an hour, and it was not disputed in evidence that the horse swerved and jumped over the right hand side of the radiator, doing damage to the car. Although some of the jury seemed anxious to respond to the invitation of the defendant's counsel to inspect the car for themselves, the judge said he did not wish to see the vehicle, and after his summing up the jury quickly found for the plaintiff. After perusing the evidence we feel sure that there were points

requiring further elucidation; and it is certainly strange that juries and judges are not more keenly desirous of confirming, or otherwise, the evidence that is brought before them by actual investigation. The damages in this particular case appear altogether out of proportion to the offence, and Mr. T. H. Woollen will assuredly have the sympathy of his friends in this his first experience in a law case in connection with motor matters.

The Motor Club and Motor Boating.

THE Motor Club continues its progressive way and the membership is rising rapidly, its influence also advancing in proportion. A most important development has just taken place by which the British Motor Boat Club has joined forces with the establishment in Coventry Street, London, W., so that members of either organisation will enjoy all the advantages and privileges of the other. We would congratulate the Motor Club on thus becoming possessed of a marine section, and the British Motor Boat Club on this alliance with one of the most virile of the motoring organisations. The combination promises to become an important factor in the British automobile movement.

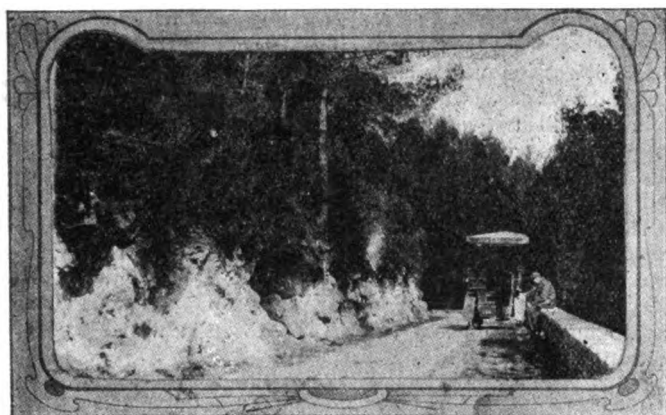


Photo by] Touring in France.—A Halt in the Esterelle. (Mr. A. Wastnag.)

The Bexhill Meeting.

It will be remembered that the Competitions Committee of the R.A.C. were recently commissioned to inquire into the proceedings at the last automobile race meeting at Bexhill. This investigation has now taken place. Statements as to the conduct of the meeting, submitted by competitors and others, were read by the secretary and noted; and Mr. Robert Todd, who had previously examined the evidence on behalf of the R.A.C., summarised the chief points of complaint. These points had been duly forwarded to the Crystal Palace A.C. in order to give that club full opportunity to prepare their case. Evidence was taken by the Competitions Committee from the following:—Mr. H. Hollands, hon. secretary of the Crystal Palace A.C.; Mr. S. F. Edge and Mr. F. W. Bailey, Clerks of the Course; Mr. E. G. Hemmerde, M.P., instructed by Messrs. Kenneth Brown and Co., on behalf of the Crystal Palace A.C.; Mr. G. Skinner, a non-competitor; Mr. Chas. Jarrott, a competitor; Mr. A. V. Ebbelwhite, starter and timekeeper; and Mr. F. Straight, timekeeper. Ultimately, after discussion, it was resolved that the permit for the Crystal Palace A.C.'s hill climb on the 27th ult. should be allowed to stand, and that the Crystal Palace A.C. be given the opportunity of requesting the R.A.C. to cancel the permit already granted for their Bexhill meeting on August Bank Holiday. If the secretary of the R.A.C. was not notified of such request within forty-eight hours of the time at which the resolution was communicated, the permit was to be cancelled by the R.A.C. without further notice. It was further agreed that

the committee should be informed that the permit for the hill climb had not been withdrawn, in view of the inconvenience which would result to competitors from such short notice of the cancellation of the meeting. It was unanimously resolved:—"That the committee of the club be requested to instruct the Competitions Committee to consider and report as to the best method of ensuring the attendance of competent officials at all open meetings."

Competent Officials wanted.

THIS is an important point requiring the serious consideration of motoring authorities, and, although it will doubtless be a difficult task to arrive at a satisfactory solution of the difficulty of providing such officials for all open meetings, the Committee should carefully consider the question—as they have now been officially requested to do. At the meeting of the R.A.C. Committee last week, Col. Holden, in moving the adoption of the minutes, dealing with the inquiry, said that the resolutions indicated that, in the opinion of the Competitions Committee, the meeting had not been conducted in several particulars in strict accordance with the Open Competition Rules. This is the first time such an inquiry has been held; we trust such procedure will not be required at any future race meetings, no matter under whose auspices they are held.

Liability in Motor-car Accidents.

ON Tuesday, Mr. J. Bertram, M.P., introduced a Bill into the House of Commons, with the object of defining the liability of the owners or persons in charge of motor-cars in cases of accident. The Bill provides that in all cases of injury to persons, or damage to property arising from motor-cars on a highway, the owners and the persons in charge shall be jointly and severally liable in damages to the person injured, or his dependents, as defined by the Workmen's Compensation Acts, or to the owners of the property damaged, unless and until it can be shown that such injury or damage was due to the wilful negligence of the person injured, or the person in charge of the property. As the law stands now, a person suing for damages would have to prove that there was no contributory negligence on his part. If this Bill becomes law, the owner of the motor-car will have to prove that there was contributory negligence—a very different thing, and one that will require careful consideration by those who look after motoring interests in Parliament.

Alcohol from Peat.

THE publication of the report of the Fuels Committee of the Motor Union and the importance which it assigns to alcohol in connection with the future of the motor industry gives added interest to some experiments recently carried out under the direction of Sir William Ramsay by some Swedish and French chemists. These were made with dried and compressed Irish peat which was first mixed with 90 per cent. of water. Diluted sulphuric acid was added to the peat in definite quantity, and the whole heated to a certain temperature. The resultant was then cooled, and the acid neutralised with lime. Fermentation was next set up, the mixture being frequently aerated, and ultimately alcohol was distilled from the supernatant liquid. Apart from the bye-products of the process, the system is valuable, and its simplicity leads to the hope that it may be developed on some of the peat lands of Ireland. Mr. Roger Wallace, K.C., who was the first chairman of the Automobile Club in the old days when Whitehall Court was the hub of the automobile world, is interesting himself in the furtherance of the project, and should his plans mature automobile engineers will do well to anticipate the position by carefully studying the construction of engines designed for use with alcohol.

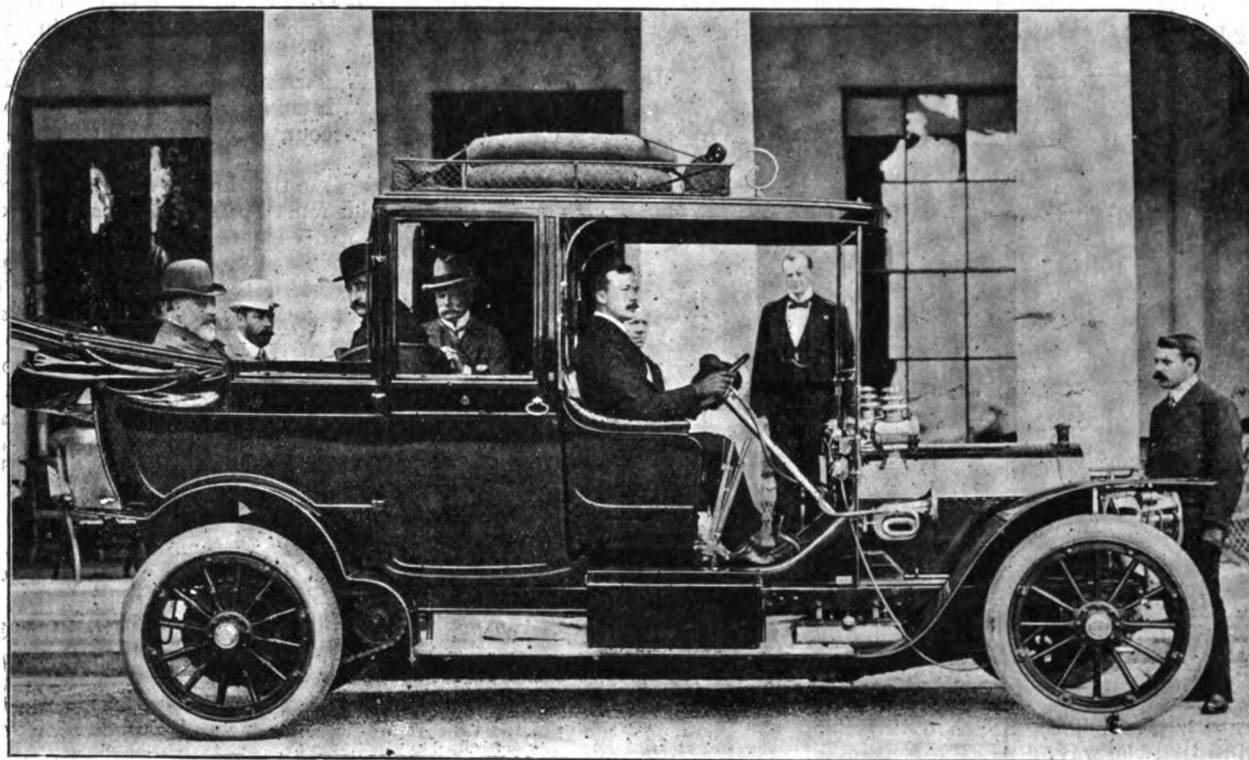
In a Swarm
of Bees.

MOTORISTS have strange experiences on the road, and to the terrors of stone-throwing by lads and other incidental dangers of the journey must be added the attentions of insects, &c., that infest the highways. The other day as Mr. W. Boswell, of Horncastle, was riding his motor-tricycle while on his business rounds in the Fens he ran into a swarm of bees. At a little distance he had thought they were flies; when he drew nearer it was not difficult to discover that they were bees. He had to face the music, and, putting on speed, drove as mightily as he could. They pursued him for a couple of hundred yards, and then he got beyond the majority. But a number clung to his clothing, and as they were subsequently shaken off they appeared stupefied, and fell to the ground—as Mr. Boswell surmises in relating the experience to us, overcome by the fumes of petrol. The incident is not unique, but exceptional enough to be worth the recital.

watching motorists on the road than to allow them to go about the work for which they were primarily instituted.

Reciprocity when
Pleasuring.

A CORRESPONDENT draws attention to one of the worries incidental to motoring that have occurred in his experience. We all know the familiarity of the acquaintance who learns that his neighbour has a new car, and who is not averse to having spins thereon to anywhere that is forty miles distant. Then comes the social aspect of the matter, and in the end the host—not always a voluntary agent, by the way—finds his trip somewhat expensive. As our reader observes, the matter does not concern Midas, but it gives quite a shock to the professional man who has had a series of tyre troubles, and did not contemplate the cost of entertaining his neighbours when he determined to become a motorist. Doubtless the best way to settle such a matter would be for the host to find the motive power for the machinery and the guests to reciprocate with



King Edward and the Prince of Wales leaving Goodwood. In the car with his Majesty is Count Mensdorff, while in the doorway is the Duke of Richmond, who entertained the King last week.

Photo 29)

(Russell and Sons.

Police
Traps.

THERE is no doubt that police activity during the holiday season will be energetically directed against motorists on many of the main roads. As usual, from the south we have reports which show that a large proportion of the police force will be located in many villages as well as upon the lonely parts of the main road watching motorists. In many of the northern districts, too, provocation will have to be endured by those who drive cars, as local authorities apparently have an idea that the holiday seasons are profitable trapping times, and may be utilised to add substantially to their revenues. Reference to our report of cases under the Motor Car Act last week afforded ample illustration of the way in which, to quote the "Sussex Daily News," "motorists help to keep the rates down." At Steyning, Arundel, Haywards Heath and elsewhere many motorists were summoned, and it would really appear as if there were something in the suggestion made in a northern county the other day that it is more profitable to employ police

regard to fuel supplies for the passengers. Should fines occur a kind of co-operative alliance might be established, for these are risks to be shared. Besides, an arrangement like that with J.P.'s aboard would be of considerable educational value.

Poona.

FOLLOWING the success of the 14-16-h.p. Argyll cars in Scotland comes news of a good run of a similar vehicle in India. A gentleman anxious to test the merits of the car decided to travel from Poona to Mahabaleshwar and back in company with several other motorists on cars of various makers. A start was made from Poona at 7.35 a.m., the several cars starting simultaneously, and Mahabaleshwar was reached by the Argyll exactly three hours later, no stop of any kind having been made. It was the first up all the hills. An abnormally good run was made back to Poona and thence on to Bombay, no trouble of any sort being met with and the engine running as cool as when the run was started.

B

THE PEKIN-PARIS RUN.

THE ARRIVAL OF PRINCE BORGHESE IN ST. PETERSBURG.

BY CAPTAIN W. G. WINDHAM.

B EING the only Englishman who went out to meet Prince Borghese on his arrival at St. Petersburg on the 1st inst., I have thought it might be of interest to give a few details of his magnificent reception. Arriving at St. Petersburg on Saturday morning the 27th ult., I ascertained that the first motorist expected to arrive was the Prince on his 40-h.p. Itala, and that he was due on Monday morning. However, owing to his reception in Moscow, he did not leave there till 6.30 the following Wednesday morning. As soon as the news spread that the car had left Moscow, arrangements were made by the Automobile Club of Russia for as many of their numbers as possible to go out in their cars to welcome him and to escort him back into St. Petersburg.

The rendezvous was made outside the magnificent building of the cathedral of St. Isaacs, so at 10 a.m.—the time appointed—I wended my way there and found several cars with their occupants lined up ready for the start. I had the honour of being



Prince Borghese arriving on his Itala Car on the outskirts of St. Petersburg.

asked to accompany M. Nicholas Kritch on his Buick car, who was appointed to lead the way, flying the C pendant as leader. Shortly before the departure was made, at 10.30 a.m., a large English-made motor-omnibus made its appearance, which caused no little curiosity and sensation; apparently, it was hired by the Italian community of St. Petersburg to welcome their country's representative, who had accomplished such a wonderful feat. Some time after the procession had started a two-seated Gobron-Brillie came rushing along, and I ascertained that it had been placed at my disposal by Mr. N—, the head of some enormous iron works. As I was, however, already comfortably situated, I declined it with thanks and the car was sent back.

The journey out was an eye-opener to me as to what is expected of a car in Russia and also what the vehicles must have gone through on such a journey as that from Pekin to St. Petersburg. Owing to a mistake in the route we crossed over a road that throughout my travels in all parts of the world I have never seen the equal of—enormous deep holes and ravines passed through it, loose rocks, weighing anything up to 50 or 100 lbs., and, added to this, the mud was in most places a foot thick. The cars skidded in all directions, and one, in consequence of a skid, nearly went down the side of a steep ravine. Having arrived at a picturesque village about 20 versts out of Petersburg called Poulkovo (observation station), my friend blew a trumpet to stop the cars in order that those who were behind

should have time to collect, when the lot—some eight or nine—should get together in order to meet the Prince, who was expected about eight or ten versts further on the road. But, before this could be done, lo and behold, the Prince's car was seen to appear round the bend of the hill, and before anyone could realise the fact he was in our midst. Immediately a loud "Hurrah" went up and he was surrounded by his friends and a large bouquet of flowers was presented to him. I was lucky to have my camera ready and got the first photo which was taken of him. After a lot of hand shaking the various vehicles were ordered on to Tsarskoe Selo, where several people had gone out by train to meet the traveller, who, being ahead of his time, had to retrace his steps some few miles.

While waiting in this village I carefully examined the car and was greatly surprised as to the excellent condition it was in. There was not, as far as I could see, a single thing about it which was the worse for its journey, and, considering the awful country through which it must have travelled, it is indeed truly wonderful. People in England cannot imagine the kind of roads there are in Russia, and it is no little wonder that most of the cars imported into that country are quite inefficient for the work expected of them.

Prince Borghese told me that he had only his second pair of tyres on the front and his fourth pair on the back wheels; they are made by Pirelli, of Milan—square-treaded without non-skids—and judging by the look of them they are about 920 by 120 mm. on all four wheels. He carried four spare tyres, two of which had not been opened out and were still in their waterproof wrapping as supplied by the makers. The lamps were self-contained acetylene, made by Carello, of Turin. The bonnet has the words, in large white letters, "Pekino" (Pekin) painted on one side and "Parigi" (Paris) on the other. The engine was in excellent condition, and I could not detect the slightest thing wrong in the working of the car except that the radiator was steaming somewhat. One cannot be surprised at this, as the car was not fitted with wings and the mud covered the lower part of the radiator. Apparently there were no number plates on the car, and I wondered what Police-Sergeant Jarrett, of Ripley fame, would have said had he been on duty at that spot. I noticed that indiarubber shock absorbers had been roughly tied on between the springs, showing one the necessity of a properly sprung car on bad roads.

The cortège of cars arrived and formed up into line opposite the station of Tsarskoe Selo, the Itala car standing alone directly opposite the entrance. Here several hundreds greeted the prince, and champagne being handed round in the open, a speech was made in French welcoming the Prince to Russia, and congratulating him on being the first man to cross from Pekin to St. Petersburg on a motor-car. After this luncheon was served, and a medal bearing the inscription "Souvenir de l'Automobile Club de Russie," encircling the club's initials was handed to the prince by the president of the club. On the reverse side was an automobile in gold, and the words Pekin—St. Petersburg—Paris.

I had a chat with the Prince, and asked him, as an old motorist of '97 and a member of the English Automobile Club, if he had any message which I could convey to the English club, and he said, "Yes; I am very disappointed that there were no English competing, and I hope if ever there is another journey of this sort made that England will take part in it." On thinking over these words I cannot help from expressing my thoughts that had the British flag been attached to that car instead of an Italian I certainly should have had a mixed feeling of pride and joy. It was only some three years ago since I went over the factory of the Itala firm in Turin—then quite an insignificant and small factory—and again last February I had the pleasure of being shown round their new works, which are far bigger than anything I have yet seen in our country.

plainly showing one the enormous strides Italy is making in the manufacture of motor-cars.

Luncheon finished, the party, led by our car, proceeded back towards St. Petersburg. The only stop made was to meet the Italians, who presented the Prince with an address; they had only managed to get out part of the way on account of the roads being too bad for the bus. With the blasting of trumpets and every head out of the window Prince Borghese entered St. Petersburg. The cars were temporarily halted under the shadow of the large granite rock on which stands the equestrian statue in bronze of Peter the Great, where the prince was photographed. The cars in procession paraded the Neveski, finishing up at the Hotel de l'Europe, where the traveller was received by more friends. A dinner was given to him in the evening by the leading officers and merchants of the city, finishing off what might be truly said a very pleasant memory of a great performance.

Before finally concluding I should like to say a few words about the motor-car in Russia, having carefully watched its progress during the last four years, in which time I have made some twenty visits. There is no doubt whatever that there is a very big business to be done with cars and accessories in that country. So far, I am sorry to say that it is the foreigner who has got a footing. English cars are few and far between. I was informed by several leading motorists in St. Petersburg that the English did practically nothing at the last motor exhibition held early this year. Last February I was asked by letter to publish the fact that a show was to be held at St. Petersburg and to try and induce British manufacturers to exhibit. This letter was published in nearly all the leading motor papers, but notwithstanding this I hear that there were only a few motor-buses and mackintoshes on exhibition, the cars being conspicuous by their absence.

A very wealthy merchant, owning enormous steel works, told me that the car which was wanted for Russia is not a fast one—as it is impossible to drive them fast—about 14-h.p., and one which is built fairly high off the ground, and above all one which is strong. He also told me he was prepared to take over an agency for a car of this description. But in Russia, he added, no agent will buy a lot of chassis on the chance of selling them, but if they were sent out there he would push the sale of them, and these are the only conditions which would ensure a car agency being taken up. Surely a statement or offer made by one who, I am informed, is one of the richest men in Russia, is worth the attention of some English firm.

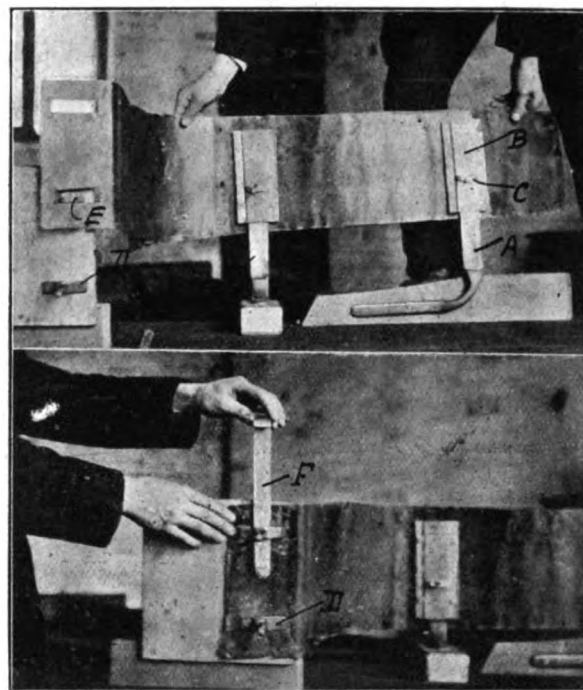
MOTORISTS who contemplate a tour in France may be interested to know "Continental" tyres are stocked by the Societe Automobile du Nord, 12, Rue de la Pomme d'Or, Calais; Messrs. Coleman-Fourquet, Garage du Casino, Boul. Sainte-Beuve, and the Grand Garage International, 83, Boul. Daunou, Boulogne.

THE six-cylinder Hotchkiss car still maintains its record of reliability by adding yet again another week's non-stop run to the already large total in its great trial of 15,000 miles under the observation of the R.A.C. Having completed 947 miles during the past week, the absolute non-stop run to last Saturday's date now amounts to 8,389 miles, and brings the grand total in Great Britain, Ireland, and France to 19,166 miles.

TWO separate challenges for £1,000 each have been issued by Mr. S. F. Edge. In the first he offers to pit a team of six six-cylinder Napiers, identical with that on which he made his twenty-four hours' record, against any other team in the world, on the condition that the cylinder capacity of the acceptors' cars shall be the same as that of the Napiers. He proposes three races of three, twenty and 100 miles to be run off at Brooklands some time this month. The other challenge arises out of a controversy with Mr. Charles Jarrott with regard to the use of oxygen, and Mr. Edge suggests a race for £1,000 stake, under Byfleet Plate conditions, without oxygen.

THE BAILEY DETACHABLE MUD GUARD.

WE illustrate herewith a new design of patent detachable mudguards or wings, which has lately been introduced by Mr. Wm. Bailey, of Speke Hall, Garston. The upper illustration gives an underneath view of a mudguard being placed in position on the brackets, which, while normally attached to the body of the car, are shown temporarily fixed to a bench. As will be seen, the brackets A are of a flat shape, so made to fit into sheaths B, connected to the under side of the wing, which, when in position, are secured by winged screws. The method of connecting the guard to the step, by which means all rattle is obviated, is depicted at F. In this case the sheaths are fixed to the bottom side of the step, and pass through holes made in the guard. A locking bar F is then inserted, this being secured by the winged screws D. The front guards of most cars can be attached in the same way, but in cases where the wings extend over and down the inside of the



wheel, the sheaths would require to be attached to the side of the chassis with the opening facing forward, the brackets on the guard pointing rearwards. Mr. Bailey claims that with mudguards arranged on his system the set of four can be removed with the greatest ease within three minutes, thus facilitating access to the engine, brakes, tyres, &c., and enabling the wings to be properly cleansed without the dirt passing on to the wheels.

SIR JOHN LAWSON WALTON, M.P., the Attorney-General, has just acquired a 15-h.p. Coventry Humber car.

MESSRS. F. G. GROOME, LTD., of Whalley, Lancashire, are encouraging picnic parties to adopt motor char-a-bancs for their trips. They have several vehicles in this service.

"THE MOTOR CHAPERON," by Mr. and Mrs. C. N. Williamson, is a novel introduced with a map showing the full geographical extent of the scenes over which the action takes place. Its utilitarian value is further foreshadowed in the dedication to the president of the Rowing and Sailing Club at Rotterdam, and then the list of illustrations suggests a most extensive and interesting itinerary. The novel has a plot which many will follow for its own sake; those who do not, will read to the end for the delightful impression that is given of motor boating along the Dutch waterways.

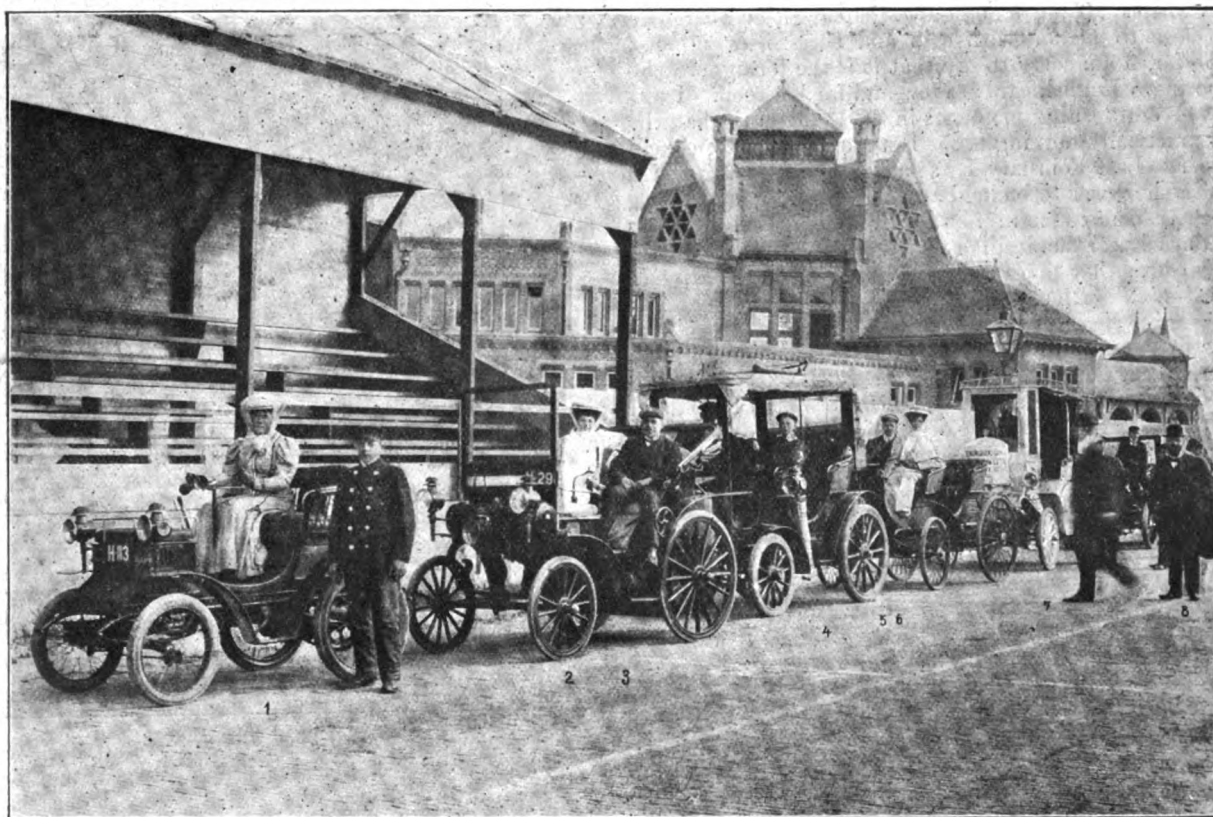
SOME NOTES ON RADIATORS.

RADIATOR troubles are, of course, mainly two in number. One is heating and the other is leaking. It is the duty of the manufacturer to fit a radiator that will cool sufficiently in all cases. There are certain ways of estimating the size of radiators of any given type necessary for any given motor, but these are only approximate and simply lessen the amount of labour necessary in the actual testing, which is the only proper way. When a car comes into the hands of the user with a radiator that does not cool properly, several things may be tried in the hope of finding a way out of the trouble. The pump may not be carrying water through fast enough, and the use of a larger, more powerful pump may help. If the radiator has vertical tubes or vertical water passages it will sometimes work better without a pump than with one, and this experiment deserves a trial. The water connections should always be examined, and, if there is any chance for an air or steam pocket or trap, this should be eliminated, for it will effectually stop the circulation. The connections should

by substituting a rotary pump for the geared one, so that the water can flow by thermal currents even after the pump has stopped.

If the radiator is going to leak through faulty construction, it will do so in the first few days of use. After that a leak is the result of either accident, freezing or faulty suspension. A radiator should be supported on the frame in a manner to give it slight play so that the bending of the frame will not pull it to pieces. When a radiator is tied to the frame by cross rods running from the right-hand side of the radiator to the left-hand side of the frame, and *vice versa*, it will, remarks an American writer, surely leak.

There is no reason for a radiator leaking on account of freezing if the user will be thoughtful enough to put in wood alcohol before the cold weather comes instead of waiting for the first cold snap. Forty per cent. of wood alcohol and sixty per cent. of water will keep a radiator from freezing down to about zero weather. Leave this mixture in until after the last frost in the spring. If the radiator shows a tendency to boil over or evaporate rapidly,



One of the most interesting items of the programme at the recent automobile meeting at Scheveningen was a procession of early motor-cars, some of which are shown in the above illustration. No. 1 is a 1900 Peugeot, No. 2-3 an 1898 Daimler, No. 4 a 1901 Peugeot, No. 5-6 an 1897 Peugeot, and No. 7 an 1889 Delahaye. [De Auto.]

be inspected for carrying capacity. On a 6-h.p. car the smallest point in the connections should not be below $\frac{1}{2}$ in. or $\frac{3}{8}$ in. inside diameter, increasing gradually as the power increases, so that with a 40-h.p. car the connections should be $1\frac{1}{2}$ in. or more.

Sometimes a radiator will suddenly begin to act badly and the driver notes that, although the engine is overheating, the radiator itself is cool. This generally means that the pump is not working, or, if the latter is in operation, that the water is not going through the radiator, but is being by-passed at some point. A steam pocket in the piping will also produce similar results.

When the water boils for a minute or two after stopping the water, the radiator is probably a little too small. The geared pump in stopping, of course, stops the water flow and the still water in the cylinder jacket continues to heat to the boiling point, producing steam and forcing the water out of the overflow. This can sometimes be overcome by steam venting the top of the water jackets or the radiator inlet pipe. It can also sometimes be overcome

replenish it with about half and half wood alcohol and water. The presence of the wood alcohol will do no harm and cause no danger, and will in every way act exactly like water except that occasionally a very slight odour of the alcohol may be detected. When a slight leak occurs, it may often be stopped temporarily by throwing in a handful of bran or some similar substance.

A honeycomb radiator, if it has very thin water spaces, will in time become clogged with lime deposits and should therefore be flushed out with steam and a little glycerine about once a season. A thermo-syphon radiator will not work when the water level gets below the radiator inlet pipes. With this, when the pipe that conducts the hot water from the motor to the radiator enters the latter near the top, it is necessary to keep it well filled with water at all times. When the water in the radiator is boiling, care should be taken in removing the filler cap, for the chances are that the moment it is detached boiling water and steam will shoot up through the opening.

THE CRITERIUM DE FRANCE.

THE Criterium de France reliability contest, which has been looked upon in France as the principal event of the motoring year—after the Grand Prix race—has been attended with unfortunate results, largely as the result of excessive speed, so much so that on the end of the second day, M. Maujan, the Under Secretary of State to the French Ministry of the Interior, ordered the event to be stopped. Forty-four entries were received for the trial, and of these thirty-five were duly weighed in, the vehicles comprising two Gladiators, two Peugeots, three De Dions, a Vinot, a De Dietrich, a Gobron, two Aries, three Cottin-Desgouttes, three Cornilleau-Sainte Beuve, two Martini, a Gillet-Forest, two Martin-Lethimonnier, three Regina-Dixi, a Mercedes, a Motobloc, a M.R.J., a Brillie, a Rebours, a Charron, two Westinghouse, and an Argyll, the latter, driven by M. Jules Dubois, being the only British car in the competition. The vehicles were required to be fitted with four-seated side-entrance bodies, and to be of a total minimum weight of 1,650 kilog.,

vehicles taking part in the Criterium. It appears that Rouiller was trying to pass a vehicle and the two were enveloped in a thick cloud of dust. At that moment the other car dashed up in the opposite direction. The crash was terrific, both cars being smashed to pieces, four persons—Rouiller, on the Bordeaux car, and Martin, one of the directors of the company, Villemain and Metayer on the Martin-Lethimonnier—being killed outright and two (Amigues and Fauveau) succumbing the same evening to their injuries. It had been arranged that those competitors who successfully went through the four days' reliability trial would qualify for the speed contest known as the Coupe de la Presse, fixed for August 6th on a 78.5 kilometre circuit near Trouville, which, starting and finishing at Lisieux, passes through Pont l'Eveque, Cormeilles, Lieurey and les Quatres-Routes, this having to be covered five times to give a total distance of 392½ kilometres. This part of the trial was to run on a petrol allowance basis, viz., 19 litres per 100 kilometres, equal to, roundly, fifteen miles to the gallon. In view of the reliability trial having



The Criterium de France.—M. Dubois at the wheel of the Argyll Car, the only British vehicle in the event.

including the passengers, or equivalent ballast. The contest started on August 2nd with a run from Paris to Clermont Ferrand (414 kilometres), the subsequent programme being: August 3rd, Clermont to Bordeaux, 337 kil.; on August 4th to Nantes, 373 kil.; and on August 5th to Trouville, 360 kil., the rules providing for a minimum average speed of 25 miles per hour. The first day's run went off without any serious accident or incident. The start from Paris took place at 5.30 a.m.; the cars were despatched at half-minute intervals, and all safely reached Clermont within the specified time. It was on the run from Clermont to Bordeaux on Saturday that two disasters occurred, as a result of which no less than seven persons lost their lives. In the first accident a Martini car driven by M. Segesmann dashed into a tree at Camps, near Libourne, owing, it is stated, to one of the tyres bursting. The driver, mechanic, and two of the passengers got off with slight injuries, but M. Luquin, a photographer on the staff of "La Vie au Grand Air," was killed. On the news reaching Bordeaux two local journalists named Amigues and Herbert set out for the scene of the accident on a 40-h.p. car driven by M. Rouiller, the Peugeot agent in that town, who was also accompanied by a friend named Fauveau. All went well for about seven miles, when at a spot called Yvrac M. Rouiller's car ran full tilt into one of the Martin-Lethimonnier

been stopped by the Government it was decided to allow the twenty-eight cars which had reached Bordeaux in accordance with the regulations to take part in the Coupe contest. The vehicles were sent off from Bordeaux to Trouville on Sunday in pairs and at ten minute intervals, strict injunctions being given to the drivers that any excessive speed would be followed by *contraventions*. The race for the Coupe de la Presse duly took place on Tuesday. We learn by telegraph that there were twenty-six starters and that the contest was won by M. Renaux, who, on a Peugeot car, covered the 245 miles in 4 hr. 33 min., equal to an average of about fifty-four miles per hour.

STILL another addition to technical literature appertaining to motor-car design and construction comes to hand from Dr. Max Janecke's Verlagsbuchhandlung, Hanover. It is entitled "Entwerfen und Berechnen von Kraftwagen," and is the work of Herr Ernst Valentin and Dr. Fritz Huth; it forms one of a series of treatises on motor-cars—this, the ninth, dealing with the various components of a petrol car chassis, other than the motor itself. The text is amplified by 136 drawings and illustrations, the subject being dealt with in the exhaustive manner usual in German technical works of the kind.

CONTINENTAL NOTES.

The Brescia Meeting.

The entry lists for the Brescia race meeting have now been closed. For the Coupe Florio on September 1st there are thirty-nine competitors, comprising three each Spa, Itala, Isotta-Fraschini, Bianchi, De Luca-Daimler, Rapid, Benz, Brixia-Zust, Sueddeutsche Fabrik, Wolsit, Junior, two Rochet-Schneider, two Darracq, an Eisenach and an Aries. The Coupe de Vitesse, on September 2nd, has brought in seventeen entries—three each Bayard-Clement, Brasier, Itala, Spa, Lorraine-Dietrich, a Darracq, and a Diatto-Clement.

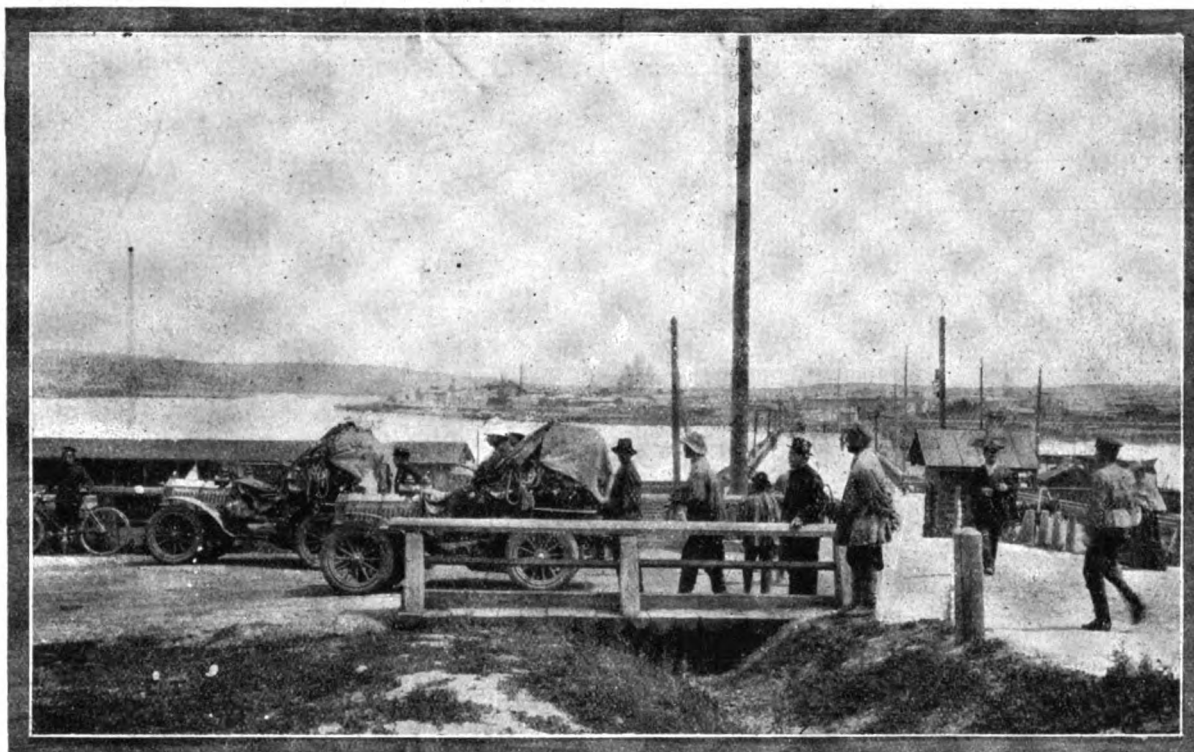
The Pekin-Paris Run.

Prince Borghese arrived in Berlin on his Itala car at five o'clock on Monday afternoon on his journey from Pekin to Paris. The Prince, who was welcomed in Berlin by a deputation of the Imperial Automobile Club, was to be entertained at a banquet on Tuesday, the start for Paris being postponed on that account until Wednesday. The last news of the two De Dions is from

improved and modified. One of the most useful additions is an atlas comprising twenty-eight road maps of the various sections of France and Belgium, these being supplemented by one of the Grand Prix course and fourteen of the Auvergne district. The Guide is one of the most complete published; the towns and villages are arranged in alphabetical order, so that they are easily referred to, and under each is given a large amount of useful information, such as the leading hotels and garages, the places of interest in the neighbourhood, &c. Motorists contemplating a tour in France should procure a copy of the Guide Michelin, for which only a small charge is made to cover the cost of postage.

Miscellaneous Items.

The post-office authorities at Munich have just put into service six motor-cars for the collection and delivery of letters and parcels.—So far thirty-nine entries have been received for the Coupe Florio contest to be held on the Brescia Circuit



The Pekin-Paris Run.—Two of the cars leaving Irkutsk, Siberia.

Elabouga, in the Government of Viatka (East Russia), which place was reached on Monday. M. Godard, on the Spyker, is stated to be some distance behind.

Public Services in Russia.

The Russian Ministry of Ways and Communications in St. Petersburg is inviting proposals until September 1st next for the establishment and working of a public motor-car service between Novorossisk and Soukhoun.

Public Services in France.

Motor-omnibus services are about to be started between Clermont-Ferrand, Vichy and Royat, in the Auvergne, and between Albertville and Beaufort, Savoy.

Touring in France.

The 1907 edition of the Guide Michelin, issued by Messrs. Michelin and Co., of Clermont Ferrand, the well-known tyre manufacturers, has just made its appearance. A new shape has been adopted for the book, which has also been considerably

on September 1st.—Prince Leopold of Bavaria has recently acquired a 50-h.p. Züst car.—A 40 and a 100-h.p. De Dietrich, as well as an 80-h.p. Pipe, have already been entered for the race to be held by the Automobile Club of Roumania next month.—The Technical Committee of the French Automobile Club is offering a gold medal to the constructor of the car which in the Coupe de Vitesse at the Brescia meeting attains a speed of at least 62½ miles per hour and has the lowest petrol consumption.—An electric motor-bus service, in which the vehicles while running on the ordinary roads collect energy from an overhead cable, has just been started between the railway station and the centre of the town of Gmund, Austria.—The Sociedade Portuguesa de Automoviles, of Lisbon, have taken delivery of a Napier 40-h.p. six-cylinder touring car.—The Ligue Contre l'Alcoolisme, a temperance union of France, has contributed a sum of 2,000 francs to the prize fund for a competition of automobile motors using denatured alcohol as fuel.—The annual hill-climbing trial at Chateau-Thierry, France, has been fixed for September 29th.—A motor-cycle volunteer corps is being organised in Germany.

THE garage of Messrs. John Croall and Son, Ltd., of George Street, Edinburgh, is capable of accommodating 140 cars.

THE Scottish Automobile Club have a few copies of the report of the Reliability Trial remaining, which may be had post free from the Secretary of the Club, 163, West George Street, Glasgow, on receipt of P.O. for 2s.

THE Cab and Stage Carriages (London) Bill just introduced by the Home Secretary will, if passed, enable the taximeter to be used on horse-drawn vehicles at fares not to be less than 6d. a mile.

A SPECIAL branch of the Board of Trade is being constituted by that Department to deal with matters relating to London traffic so far as they come within the scope of that office. Colonel Sir Herbert Jekyll, K.C.M.G., will be in charge.

STEADY progress is being made with the automobile movement in South Africa, evidence of which is seen in the fact that the Star Engineering Co. has lately secured an order for no less than forty 12-h.p. Star cars for shipment to that part of the Empire.

At the annual judging competitions held at Harlow in connection with the Essex Hunt, Mr. J. Swire, the Master, said that of the thirty-one couples sent out to be "walked" only twenty-one couples were returned. Not a few of the couples, he added, had been done away with by the motor juggernaut.

A. A. PATROL No. 119, who was protecting the entrance to Basingstoke on the London side, had the good fortune to save a child from being run down by a motor-car one day last week. In justice to the motorist, it should be mentioned that the car was going very slowly, and no blame whatever was imputed to the driver.

THE garage of Mr. Henry L. Sawers, situated at 20-30, Upper Gray Street, Salisbury Place, Edinburgh, should be a convenience to motorists visiting that city. In addition to being agent for Winton cars, Mr. Sawers has a large stock of Rushmore lamps, Sawyer non-skid bands, and other accessories well known to practical motorists.

HIGHWAYS and byeways are numerous in Somersetshire, the main thoroughfares of which are being recommended (in the "Little Guide" to the county just published by Messrs. Methuen and Co.) both for breadth and surface. This new publication is one of the firm's well-known series, in which the main attractions of the county are well set forth in alphabetical order.

MOTORISTS who are alleged to have exceeded the legal limit in Philadelphia are not necessarily taken before the local bench in the first instance. They receive a notice from the town solicitor, requesting a call to settle the matter; it is only on failing to do so that they are taken to court, where, apparently, conviction is as certain as it is at the Haywards Heath Petty Sessions.

FROM the Pope Manufacturing Co., of Hartford, Conn., U.S.A., we have received a copy of a most artistically produced book, entitled "An Industrial Achievement," which gives an interesting account of the development of the Pope business during the past thirty years. Following this is a description of the several factories of the concern in different parts of the United States, the concluding pages showing the many trophies won by the different Pope cars.

A SIMPLE tool which is being placed before motorists by Messrs. Markt and Co. is the "Baby" Auto Torch for the repair of leaks where the soldering iron is used. Petrol is employed with this, and although it only occupies a space of about three inches, it will burn a couple of hours on one filling. Being absolutely automatic and capable of reaching any out of the way corners, the "Baby" Torch will add to the efficiency of the repair outfit of the automobile. Other specialties in horns, bells, electrical accessories, are referred to in the firm's new catalogue, which will be of service to those who are interested in the high-class grade of motor specialties Messrs. Markt and Co. have introduced to the British motorist.

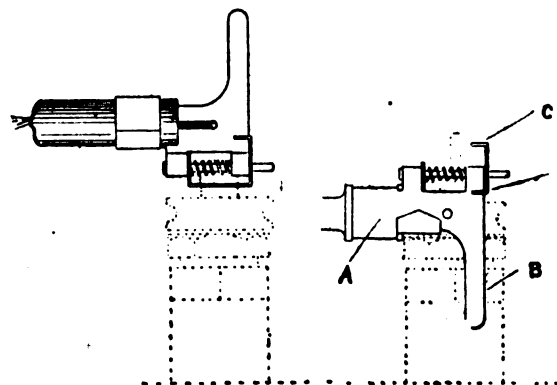
HERE AND THERE.

THE LONDON AND PARISIAN MOTOR COMPANY have received an order from the Rt. Hon. Lord Lonsdale for a six-cylinder Hotchkiss car.

"THE CAR TO BUY" is the title of a new volume containing a list of motor vehicles, with full particulars as to prices, records, &c., alphabetically arranged and classified. It is published by the Motor Press.

To facilitate the exceptionally heavy postal traffic which Blackpool experiences during the holiday months, a system of carriage of the mails by motor has just been introduced. The mails for all places on the Fylde district coast, including Lytham, Ansdell, Fairhaven, St. Anne's, South Shore, and Blackpool, are now being transferred from the express trains at Preston to a motor vehicle which leaves at 1.30 a.m. In this way the mails reach Blackpool several hours earlier than has been possible by train.

MR. W. F. KELLY, of Messrs. Wayte Bros., Lemon Street, Dublin, has recently brought out a neat little fitment for attachment to the sparking plug, which combines both a wire terminal and a cut-out, so that with the engine running the firing in the cylinders can be tested without any fear of shock, or damage to the coil or magneto. Fig. 1 shows the arrangement in the ordinary position for giving a spark in the cylinder, and



Figs. 1 and 2.

Fig. 2 indicates the cut out in operation. As will be seen, the high-tension cable is attached to a hinged piece A held in place by a slot at C. Taking the cable, at a safe distance from the terminal end, between the fingers, and giving it a combined half-twist and slight pull, the part A is withdrawn from the slot C, and to test the spark the tongue B is brought to within a short distance of the "earthed" portion of the plug, while to cut out the latter the tongue is dropped into the lower slot D. The device may also be used as a cut-out switch alone by the insertion of a special insulated handle, which can be supplied and fitted at a small extra charge, and which proves convenient where circumstances, such as shortness of cable or the presence of chain connections to the plugs, render it inexpedient to make use of the combination of switch and terminal.

THE latest trade list of Messrs. W. Searle and Co., 33, Glasshouse Street, London, W., gives the revised prices of the O. S. Speedometer which won the first prize in the speedometer trials of the A.C.F. last year. The working parts of this apparatus are singularly few in number, and its patent magnetic system has the advantage of permanent magnetism. The O.S. system of transmission is positive and supple, and allows of taking into account the variations in height of different types and makes of tyres and correcting, when necessary, to within 1 per cent. The speed of the car is instantaneously and correctly indicated, whether in increasing or decreasing speed. Messrs. W. Searle and Co. give a guarantee for the O.S. speedometer, by which they agree to keep the device in perfect working order for a year, irrespective of distance run, and at their expense, unfair usage excepted.

AN automobile club has just been formed at Rio de Janeiro, Brazil.

MR. G. HOPE JACKSON, of the Engineering Works at Navan, is undertaking motor repairs.

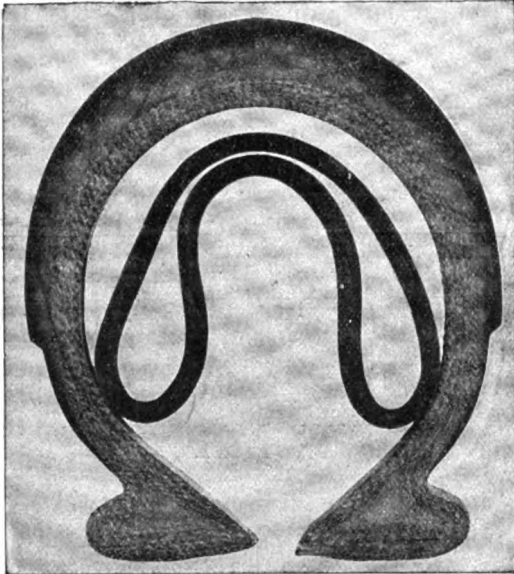
REPAIR work to motor-cars is undertaken at the Perth Motor Works in the High Street of that town.

MISS DAISY HAMPSON, of Southport, has, we learn, just acquired a six-cylinder Itala car from Itala Automobiles, Ltd.

THE Daimler Company have recently opened a depot in San Sebastian at 91, Calle San Martin, for the benefit of their numerous customers in Spain.

BUILTH WELLS District Council has asked the Breconshire County Council to limit the speed of motor-cars to eight miles an hour while passing through the urban area. The "Western Mail" suggests that the chauffeur will, doubtless, walk alongside.

WE have lately been trying the Sirdar non-nipping inner tubes on some of our tyres, and find them possess all the advantages the Sirdar Rubber Company claim for them in the way of easy fitting. As will be seen from the accompanying sectional illustration, the tubes when deflated assume a curved instead of the usual flat shape. By placing the tube within the cover in the way depicted, and seeing that there are no creases in it, it will be found that the tube is about $1\frac{1}{2}$ in. from either edge of the cover, so that it is impossible for it to get nipped—a cause of many damaged tubes—when fitting the cover.



Not only so, but it is unnecessary to partially inflate the tube before fixing the cover, this effecting a saving of time in making tyre changes. It is also claimed that the tubes are self sealing, as when inflated they are compressed both laterally and longitudinally, with the result that when punctured the tube tends to close up instead of stretching open the hole and letting the air escape. Fortunately, we have not yet been called upon to test this particular advantage.

THE annual exhibition of drawings, &c., sent in for competition for prizes offered by the Coach Makers' Company revealed the widespread interest of the carriage builder in motor-cars. The first prize for the drawings of a two-seated motor-car suitable for a country doctor went to Mr. G. D. Thomson, 58, Skene Square, Aberdeen; the company's silver medal was given to Mr. A. R. H. Hora, 44, Grove Park, Denmark Hill, S.E., for drawings of a three-quarter landaulet motor-car body.

WE had an opportunity the other day, at the depot of Messrs. Donne and Willans, Ltd., of inspecting one of the latest models of the 16-h.p. Rochet-Schneider vehicles. This is a live axle car which has many points of interest, among which may be mentioned the special automatic carburettor, the "clean" appearance of the dashboard and the substantial design of the back axle. The chassis is well adapted to receive either a town carriage or touring body, and should fully sustain the reputation of the makers for high-class work.

WE learn that Ariel Motors, Ltd., are building three racing cars for the 1908 Grand Prix race of the A.C.F.

THE R.A.C. has decided that it will not observe any car for more than 15,000 miles during the present year.

DURING the progress of the recent motor-cycle run between London and Plymouth Messrs. Hayward and Slade were in attendance at the Black Swan Hotel, Winchester, and were able to render efficient assistance to a motor-cyclist whose machine had become disabled in the contest.

AT a meeting of the Metropolitan Asylums Board, on Saturday, a discussion took place on a recommendation of the Ambulance Committee to purchase a chassis for a light ambulance of the brougham type. Ultimately the matter was referred back.

EDINBURGH has now its Argyll depot, this being due to the enterprise of Argylls, Edinburgh, Ltd. It is located in Shandwick Place, and is under the management of Mr. J. F. Bradford. Mr. W. A. Smith has just formally declared the premises opened for business, among the visitors to the depot on that occasion being the Lord Provost of Edinburgh.

THE Automobile Club of Victoria (Australia) are thinking of asking all their members to carry "number plates" on their cars without waiting for the long-promised legislation. It is thought that this must have a beneficial effect upon the public generally, as well as the Legislature. Officers of the police force and Government and public officials are frequently being driven out in members' cars as object lessons as to the gross misuse of the roads by horse vehicle drivers.

MR. H. C. SMITH, of Mount Clare, Roehampton, made an arrangement with the Commissioners of His Majesty's Office of Works whereby the public are allowed to drive over Priory Lane and Clarence Lane (his private property) for the purpose of going to and from Richmond Park. As injury was being done to the surface of the roads and annoyance caused to Mr. Smith and his tenants owing to the excessive speed of motor-cars using the lanes, Mr. Smith has, with the concurrence of the Commissioners, put up a notice in the lanes that the speed of motor-cars and motor-cycles must not exceed ten miles an hour, and that any contravention of this regulation will involve legal proceedings against the offender.

A COMPULSORY winding-up order having been made against Straker and MacConnell (1906), Ltd., the statutory first meetings of the creditors and shareholders were held last week before Mr. H. E. Burgess, Official Receiver. The chairman reported that the insolvency of the company was attributed by its officials to the failure of the issue of the capital in April, 1906, whereby the necessary working capital was not obtained, the failure to obtain orders for cars at the Olympia Motor Exhibition in November, 1906, the heavy expenses connected with the carrying on of a branch business in Pall Mall, and the fact that the company was unable to obtain orders for cars there; also to the difficulty of obtaining delivery of cars from the manufacturers within the stipulated time.

OUR attention has been drawn to a new series of signs for garages and motor repair works introduced by the Chameleon Signs, Limited, 318, Dashwood House, New Broad Street, London, E.C. They have many points of commendation. Now that motor establishments are being kept open by night as well as by day the necessity for an illuminated sign has become generally recognised, and in the Chameleon device the proprietors of such establishments will find exactly what they require. This is suspended from the wall in the same way as the ordinary outside lamp, the face, however, being in the shape of a tyre while the wording is adapted to meet the local needs. Red and white are the two colours utilised in the new sign, and these are constantly changing by a simple and automatic arrangement not likely to get out of order or to add to the cost of the advertising appliance. As prominent as the illuminated clock often seen in our large towns, the new sign should have particular recommendation from the motor industry, especially on the part of those motor firms whose premises are at the commencement of the town, and who desire to arrest the attention of incoming motorists.

CORRESPONDENCE.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE USE OF OXYGEN IN RACES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice a letter in your issue of the 3rd headed "The Use of Oxygen in Races." This is incorrect. The position was that Mr. Jarrott stated that when Newton, on my six-cylinder Napier, ran a dead heat with him, that it was because oxygen was used. My answer to this is that my six-cylinder Napier with the same driver will meet Jarrott on his same car for the Byfleet Stakes under exactly the same conditions as the dead heat was run, but oxygen barred. Instead of Jarrott agreeing to this, so that I could prove to him he was mistaken in his statement, he wants to make a match under entirely new conditions, with different drivers, and apparently has very little faith in his statement that he can win, as he is not even prepared to risk the stakes which were divided for the Byfleet Stakes.

If he really does want to race against me personally under the Byfleet Plate conditions, I am quite willing to meet him, the stakes to be £1,000 a side. Mr. Jarrott knows full well that I do not go in for

A motor-car, unlike a horse, may be pressed to its very utmost for a considerable distance without any appreciable variation of speed; under normal conditions it cannot "spurt" to pass another car, as it is already doing its best, and it is in this very respect that motor racing lacks the interest possessed by horse-racing—on which, however, I fear my knowledge is very limited, and, in a different degree, in yacht-racing.

The use of oxygen, however, alters this to a large extent, and it seems to me that automobile racing, especially on a scientifically prepared track, would be infinitely more attractive if spectators were assured of close and hard fought finishes, such as the race between the Napier and the Lorraine-Dietrich at Brooklands on July 6th, instead of a race which soon after the start becomes simply a procession of fast-travelling cars. I do not know whether oxygen was used in the race referred to or not; I only cite it as an example of an interesting race.

The advantages given by oxygen are necessarily of a more or less temporary character, and I do not think that the use of such an adjunct in a race would by any means prevent the best cars from winning. I understand the B.A.R.C. propose to exclude the use of oxygen except in certain special races; I trust these special races will comprise the larger



The Criterium de France and the Coupe de la Presse.—The cars being weighed in.

racing now, but if he wants to race me it must be for something worth running for and that will cause him to remember it, whether he wins or loses it. I do not want to hear anything more from him through the papers. If he wants to have a clean and clear match he can have it, but when he does it will give cause to one of us to remember it.

In this matter I think all Mr. Jarrott's sportsmanship has been thrown to the wind to try to belittle Mr. Newton's driving, and yet he is afraid, apparently, to meet him under the conditions that he (Jarrott) says he can beat him under and risk the stakes which were divided. I think anyone can draw their own conclusions from this.—Yours truly,

S. F. EDGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As both a motorist and a spectator I fail to see what the objection really is to the use of oxygen cylinders; the increased possibility of any accident through overheating appears to be very, very slight, and if the use of oxygen is allowed equally to all cars in a race, I do not see that any suggestion of unfairness can be made in regard to it. And there is this to be said for it: that by its use far more interesting racing may be presented, and what is, and will remain, the chief drawback to automobile racing, viz., the almost certain tendency for the cars to string out into a procession where nothing except a mishap will alter their relative position, appears to be in a very large degree eliminated.

portion of the programme. I may add I am neither connected with any trade firm nor any oxygen company.—Yours truly,

GILBERT N. TRAVERS.

THE SUPPLY OF PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Sir Marcus Samuel, addressing the shareholders of the "Shell" Company, is reported to have said: "Supplies of petrol are today so ample that . . . there is not the remotest danger of any failure of petrol supplies." He went on to say that he viewed with "amusement" the suggestion of the Motor Union there was a possibility of a shortage in the supply.

The users of motor-cars, however, cannot share the "amusement" of Sir Marcus Samuel when they know that between November, 1904, and December, 1906, the price of petrol to the retail agent was increased from 7d. to 1s. 1d. per gallon. The unfortunate consumer is, therefore, entitled to ask (and, perhaps, Sir Marcus will explain) why it is that in spite of the fact that "in Koetsi alone we have proved territory extending over a length of more than sixty miles, containing anti-clinals of oil throughout the entire area," the distributing companies have put up the price of petrol 85 per cent. in two years.

Sir Marcus, however, made a statement which goes far to prove the need for the warning which the Motor Union has given. Petrol spirit forms on the average about 3 per cent. of the crude petroleum, and Sir

Marcus states that "the price will necessarily depend upon whether we and other producers with whom we have to compete are obliged to produce crude oil for the sole purpose of making petrol, or whether, as at present, we can find remunerative markets for the other products which are left when the petrol is removed from the crude."

The price, therefore, at which petrol can be sold depends upon the market for the 95 per cent. of residuals. The Motor Union have been authoritatively informed that the market for these residuals, of which paraffin is the most important, is on the decline. Is Sir Marcus prepared to assert to the contrary?

If, as he appears to think, that it is within the range of possibility that one day he will be "compelled to produce crude oil for the sole purpose of making petrol," or, in other words, to waste 95 per cent. in order to obtain 5 per cent. of saleable product, will he deny that the shortage of petrol will be very real, and the price very high? Possibly a chemical process is known to Sir Marcus Samuel which will make it financially possible to increase largely the proportion of petrol obtainable from the crude; and having in the matter of this knowledge the advantage of the rest of the world, it may have justified him in speaking with such confidence.

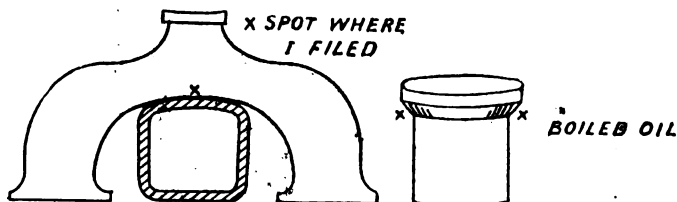
May I venture to suggest to Sir Marcus that he has overlooked in his speech the recommendation of the committee to motorists as to the need for using petrol spirit of a greater specific gravity and for inventing and using a carburettor which will burn paraffin? If this is done the "Shell" Company will be able to dispose of the overstocks of residuals and sell petrol in consequence at a reduced rate, provided, of course, the financial combinations, composed mainly of foreign interests, controlling the petrol supplies of the United Kingdom, will not use their monopoly powers to maintain this spirit at an artificial value.—Yours truly,

W. REES JEFFREYS.

POOR COMPRESSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see from the *M.C.J.* of the 29th ult. that a correspondent of yours, Mr. G. Collis, has had the same trouble with want of compression on a Wolseley that I had. May I say what I found and did, on the chance of its being of use? After great search I found the leakage was round the edge of the cups containing the inlet valves. The bridge-



shaped pipe rested on the inlet petrol pipe, so that neither of the two inlet valve cups could be screwed down firm. I gave a few file strokes to the under side of the pipe, and then with a camel's hair brush painted a little boiled linseed oil round the seat of each cup, screwed them down, and have had splendid compression ever since. I shall soak them with spirit of wine when I want to move them again.—Yours truly,

J.

CHARGING ACCUMULATORS FROM PRIMARY BATTERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with interest "Analyst's" criticism of my letter on primary battery charging, which appeared in the *M.C.J.* three or four weeks since. In spite of the writer's caustic comments I do not see my way clear to depart in the slightest from my original statements, and, with your kind permission, I will briefly give my reasons for not doing so. To begin with, I should like "Analyst" to know that what I said in the letter was not some new-fangled theory of my own, but the outcome of a long experience and study of accumulator charging from primary batteries, and anyone who experiments with Bunsen and bichromate cells will arrive at similar conclusions.

Although "Analyst" writes against the Bunsen cell, I cannot make out from his letter that he has a very close acquaintance with it or the chemistry of its working. For instance, he informs me that "the greater part of the nitric acid in a Bunsen cell is converted into ammonium nitrate." Now the chemical action that takes place in a Bunsen cell is as follows:—The hydrogen, liberated by the action of the sulphuric acid on the zinc, breaks up the nitric acid into water and nitrous acid, thus: $H_2 + HNO_3 = H_2O + HNO_2$. The nitrous acid, being an unstable body, again breaks up into water, nitric oxide, and nitrogen-peroxide, thus: $2 HNO_2 = H_2O + NO + NO_2$.

It is probable that there is a little ammonia nitrate formed, but nothing like to the extent that "Analyst" would have us believe, the main products of the action being water and nitrogen-peroxide gas—since nitric oxide combines with the oxygen of the air to form nitrogen-peroxide.

The writer also wishes to know how I prove that nitric acid is a more powerful oxidising agent than chromic acid, and seeks to show that I am wrong by quoting the chemical formula for both acids; from

which, no doubt, I am to infer that because chromic acid contains more oxygen than nitric acid it must be a better oxidising agent. Really, I think I am entitled to ask if "Analyst" knows anything about chemistry at all. The oxidising power of a body does not, as he seems to think, depend so much on the amount of oxygen it contains as upon its chemical stability. Thus, for instance, hydrogen-peroxide, H_2O_2 , contains less oxygen than either nitric acid or chromic acid, yet, being a body that very easily breaks up, it is a most powerful oxidising agent. Exactly the same may be said of nitric acid, for, although containing less oxygen than chromic acid, it is very much more unstable, and consequently a better oxidising agent. I also beg to differ from the writer when he says that the carbon surface of a cell is a more important point than the oxidising agent. A cell with a moderate carbon surface but good oxidising agent is worth much more than a cell with a large carbon surface but poor oxidising agent, although I quite agree that the larger the surface of the carbon the better.

In conclusion, I beg to state that ordinary commercial nitric acid lasts much longer than the chromic acid solution. One supply gives about forty hours' charge, and the fall in current is not half so rapid as with the bichromate cell. I have, therefore, no hesitation whatever in saying that, except for the unpleasant smell of the nitric acid, there is no primary cell on the market to surpass the Bunsen in small cost of upkeep and great efficiency of working.—Yours truly,

ELEKTRIK.

A NEW ERA FOR MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have noticed a tendency of late on the part of the police to adopt methods by which they have every reason for making themselves really beloved of motorists and the general public. A constable will now take up a position at a corner or bend in the road where he can command a good view of branch roads, and when a vehicle approaches will signal if the road is clear, or hold up his hand as a note of warning if special caution is to be taken. This is always done in an unofficial manner and in a generous spirit—the outcome of a desire to minimise danger.

Is this a new era by which the force is to become the friend of the motorist, instead of endeavouring to harass him? Let us hope this is the case, and that, instead of looking out for traps set to catch the unwary, the drivers may now count on being assisted in avoiding danger. Yours truly,

ERNEST E. ADAMS.

THE TURN OF THE TIDE IN MOTOR BODY DESIGN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The illustration in your last issue of the new car just supplied to H.R.H. Prince Louis of Battenberg marks a wise return to the rear-entrance tonneau. This is an example none too soon. Side entrances in the majority of cases mean side draughts, as well as unhandiness, if not danger, in turning, through too great length and distance between the wheels; there is, furthermore, no choice between forwards and sideways position for the passenger; the rear, with lamp, number, &c., is out of observation; long side baskets are impossible, while rear luggage induces side-slip. Moreover, after six months' use all side-entrance doors rattle. An experience of both side-entrances and the rear-entrance tonneau leads me unhesitatingly to give the preference to a roomy, comfortable form of the latter as most suited to a motor-car.—Yours truly,

COMMON SENSE.

IMITATION AGAIN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I ask the assistance of all motorists, whether members of the Association or not, in connection with what appears to be a rather childish action on the part of our friends the police?

It consists of donning a yellow armlet, with the presumed object of passing as A.A. patrols. Two instances of this occurred recently on the Great North Road, but the bearing, behaviour, and I may say the boots of the masqueraders were so obviously dissimilar from those of our men that the deception was promptly discovered, and reported to me.

As is well known, each A.A. patrol carries a special badge bearing an identification number, and I shall take it as a favour if any motorist who may have reason to question the bona-fides of a patrol will kindly stop and demand the man's name and official number, and send particulars to the A.A., Princes Buildings, Coventry Street, W.—Yours truly

STENSON COOKE.

DOES A CAR RUN BETTER AT NIGHT THAN DURING THE DAY?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have lately seen in the papers one or two queries as to why a motor-car, apparently or actually, runs better at night. I know that it is a case of fact and not of supposition, and I have always considered the reason to be that at night, owing to the lowering of the temperature of the atmosphere, the moisture which was present during the day as a vapour in the air condenses to its liquid form, and deposits as dew or mist, and therefore the mixture of petrol vapour and air which we draw

into the cylinder has a greater explosive value owing to the reduction in the quantity of water vapour present. Of course, with a car which tends to overheat, another factor has to be considered—i.e., that the lower temperature of the atmosphere will tend to keep cool the circulating water.—Yours truly,

A. DUCKHAM.

[The matter referred to by our correspondent touches on an interesting subject, on which we shall be glad to have the views of readers.]

SPEED TRIALS AND HILL CLIMBS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are afraid that the faith of the motoring public in those who make and sell cars must be receiving some severe shocks lately. The use of special gears for hill-climbing is now supplemented by the use of oxygen for spurring purposes in track racing. Presumably those who enter for these events are eager to secure advertisement therefrom, but it seems to us that the use of such artifices as the above gives results which are not correct statements of the relative merits of the contestants. This leads to still more misrepresentation when the successes of high-powered cars are used to advertise those of smaller power of the same make. There are too many other points about a car than speed, either on the level or uphill, that we think manufacturers who have made a special study of the problems involved in satisfying the modern demand for silence, ease of control, fuel consumption, &c., should encourage those competitions in which these features are matters of moment. At present there are few tests worthy of the name other than the Scottish Trials, and we believe that trials of similar character to the Dust Trials at Brooklands would merit and receive hearty support.—Your truly,

VAUXHALL MOTORS, LTD.

FRONT WHEEL BRAKES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Seeing how important to every motorist—and indeed to every road user—is thorough efficiency in motor-car brakes, and looking at the large proportion of accidents due to brake failure or inadequate braking power, it seems surprising that so little attention has so far been paid to front wheel braking. There was a time, perhaps, when this was regarded as a difficult problem, but the practicability of brakes on the steering wheels has long since been proved, and, even if only regarded in the light of an emergency brake, the weight is so trivial and the cost so small that there seems no real excuse for such a safeguard not forming part of the equipment of every car.

Probably 90 per cent. of the motor accidents that occur both to the motoring and non-motoring public might be avoided were a little extra brake power available at the moment, and seeing how readily this extra power may be obtained by means of front wheel brakes, the matter seems one worthy the serious consideration of every careful car owner and driver. I might also point out as a further recommendation that the judicious use of the front wheel brake is said to minimise, if it does not entirely eliminate, the risk of side-slip.—Yours truly,

FRANK O'CONNOR.

MOTORING IN THE ISLE OF WIGHT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Knowing the difficulty of finding real automobile engineers and trustworthy repairers in the provinces of England, I would like to recommend to motorists visiting the Isle of Wight the repair department of the Isle of Wight Motor Syndicate, Ltd., at The Works, near St. John's Station, Ryde, where repairs of all kinds are attended to under the personal supervision of the works manager, who has working under him several excellent mechanics from London.

I hope I am supplying a crying want to visitors, and saving them from the evils of small repairers—I speak from personal experience. I have no interest whatever in the company mentioned beyond gratitude and extreme satisfaction at the work they have done for me.—Yours truly,

HOLLYMOUNT.

WHEELS FOR MOTOR-CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the extract of Dr. Hele-Shaw's paper read by that gentleman before the Congress of Health, I am glad to see an authority in the motor world raising the question of wheels, for, however luxurious the pneumatic tyre may be, we must admit that it is no more suitable for a motor-car than slippers are to go navvying with, and therefore only possible for the wealthy. If the motor-car is to be of real, practicable, everyday use, we must reconsider the subject of wheels. Personally, I am surprised that the subject has received so little attention from our leading men. I have lately been using a car fitted with wheels which seem to me to be an improvement upon pneumatic or solid, for they possess the following advantages:—Unpuncturable, remarkably free from skidding and very slight dust-raiser, while being quite as easy to ride as pneumatic-shod wheels.

I may say that freedom from tyre-trouble greatly increases the pleasure of riding. I am afraid, however, that fashion, fostered by

capital and the great interests of the pneumatic tyre trade, will greatly hinder development in this direction. It is a most interesting question, and to the motor industry very important. Mr. S. F. Edge's and other records show what perfection the mechanical part has reached. The fuel question is receiving attention. Now if the subject of wheels and tyres can be opened up much good should result, for, as at present understood, they are a source of worry, unnecessary expense, danger from skidding, bursting, &c., and annoyance from dust.—Yours truly,

O. COOK.

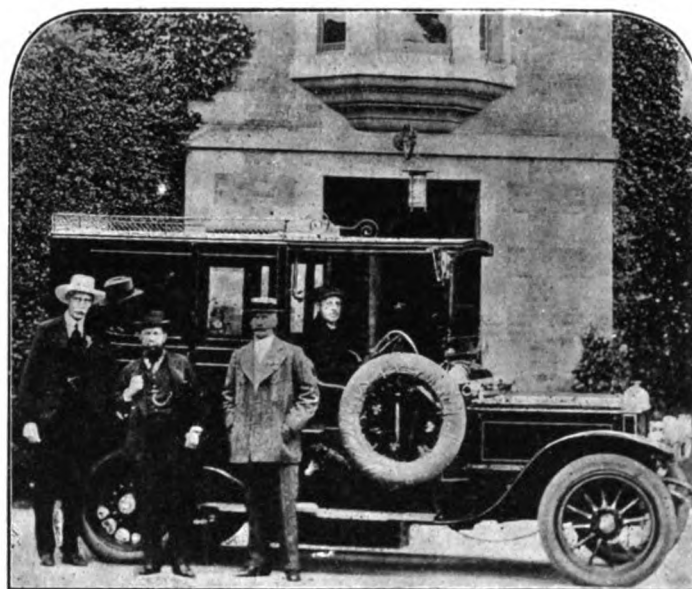
SELF-STARTING DEVICES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been told that there is a patent self-starter for starting motor-cars, but it has not yet been taken up by the public, as it has not been considered a necessary fitting for cars. In my case, however, if this starter is any good it would be a great boon, as I suffer from an affection of the heart, and I find most cars are too hard for me to start. I shall feel greatly obliged if you or any readers of the *M.C.J.* can give me any information concerning these starters.—Yours truly,

MONTACUTE.

A QUESTION OF AVERAGES.—“A.M.I.C.E.” writes:—“Our friend the tester has omitted to note that he is dealing with average speed per hour. He does two kilometres in 96 seconds. The first he does in 60 sec.; the second he does in 36 sec. The average is one kilometre in



The photograph reproduced above was taken at Badworth Hall on the occasion of a recent Primrose League gathering, and shows, reading from left to right, Sir Frederick Milner, Bart., His Grace the Duke of Norfolk and Captain Whittaker, the owner of the car—a Daimler, which was supplied through Mr. F. O. Clarke, of Retford.

48 or 75 k.p.h. as stated by his friend. He has failed to note that the two periods of time are not equal, so that he cannot split the difference (which is not getting the average speed in miles per hour) of two separate averages. Take it at one hour up and one-half down and see the results both ways.”

MR. S. NEWTON, 125, Brixton Hill, S.W., will be pleased to hear from anyone who found three inner tubes near Stonebridge Park, on the Harrow Road, on Saturday last.

MESSRS. W. E. CLARK AND COMPANY, Station Road, Doncaster, will be glad to hear from anyone who has found a lifting jack with aluminium body on the Worksop road near Tickhill.

A. J. H. 5 is the trader's mark the name of the owner of which is wanted by a correspondent at Ramsgate, who has been struck with the appearance of a car recently in the district and bearing that number. We shall be pleased to hear from the firm.

SUGGESTIONS TO INTENDED MOTORISTS.—Vauxhall Motors, Ltd., write:—“With reference to ‘Experientia’s’ letter in your last issue, it may be of interest to mention that every component of the Vauxhall car is plainly stamped with a part number, so that in ordering spares or replacements it is only necessary to quote the number. This completely specifies the part without reference to either the type of car or the number thereof. This system has been developed by us to avoid the confusion caused by clients’ descriptions, and to facilitate ordering by cable, and we believe that such a system is invaluable both to the manufacturers and users of motor-cars.”

BANK HOLIDAY AT BROOKLANDS.

THOSE responsible for the motor race meetings on the Brooklands Track at Weybridge have been favoured by the most cheerful climatic conditions, and Monday's weather was strictly according to the rules that have prevailed there up to the present. The innovation of the shilling enclosure brought a greater concourse of people than had previously been seen near the track, but at no time during the meeting did the appearance of the great expanse of open ground suggest the appearance of a crowd. A varied programme, the presence of several drivers of international repute, as well as of Englishmen who had won renown in recent Continental events, and an extra train service contributed to the success of the meeting. The officials are to be congratulated on the results of their effort to attract the Bank Holiday public. But towards the end of the day the proceedings lagged somewhat and unpunctuality became more pronounced, with the result that a large number of people left ere the last race was run. Estimates of the total attendance varied from 5,000 to 14,000, the true record probably being between the two figures.

An attempt to infuse popular interest into the proceedings was made in

THE INTERNATIONAL PLATE

of 500 sovs. for cars of a cylinder dimension under 135 and which were required to be driven by subjects of the country of origin of the vehicle, with that country's flag carried as the distinguishing mark of the car. The cars left the paddock carrying the Belgian, British, French and Italian flags—a feature that was evidently suited to the taste of those who occupied the shilling enclosure. The distance was about 8½ miles, and of the ten entrants nine faced the starter, the result being:—

S. F. Edge's 49.9-h.p. Napier (F. Newton) 1; Charles Jarrott's 52.9-h.p. Dietrich (Gabriel) 2; T. Thornycroft's 48.6-h.p. (T. Thornycroft) 3.

THE BELGIAN PLATE

of 350 sovs., for cars complying with the regulations of this year's Ardennes Circuit race, was the next event on the programme, and produced a good race between two Napiers for the first two places and between the Minerva team for third and fourth positions. In fact the real race was between this quartette. Glentworth, on the third Napier, never got going well, his engine missing with irritating regularity. Result:—

S. F. Edge's 60-h.p. Napier (H. C. Tryon), 1; S. F. Edge's 60-h.p. Napier (C. Edge), 2; D. Citroen's 52.1-h.p. Minerva (H. Porlier), 3. Also ran, Mr. J. T. C. Moore-Brabazon's 52.1-h.p. Minerva (J. T. C. Moore-Brabazon); A. Huntley-Walker's 48.6-h.p. Darracq (Marquis de M. St. Mars); D. Citroen's 52.1-h.p. Minerva (A. Janssens); S. F. Edge's 61.5-h.p. Napier (C. A. Glentworth).

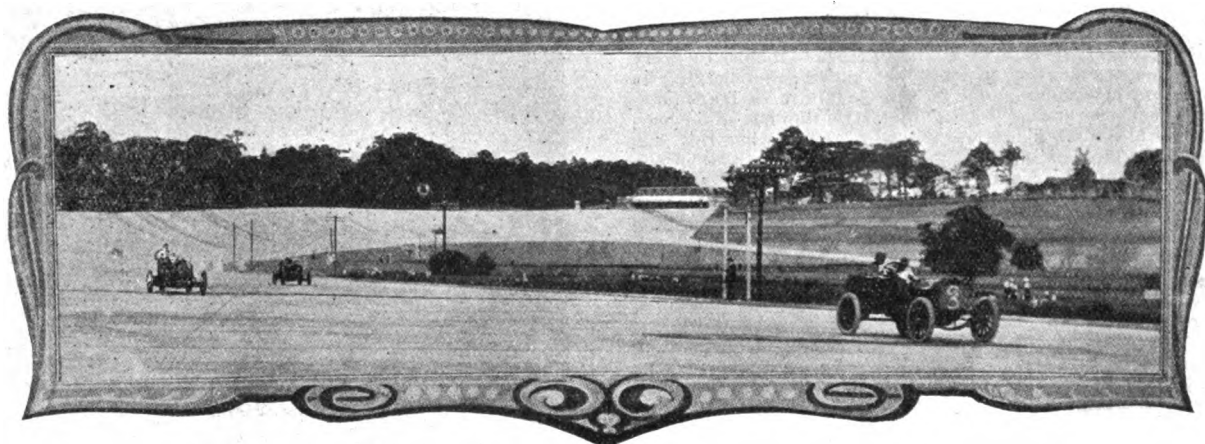
A sprinting event followed, made conspicuous by the performance of the Sizaire entered by Mr. Charles Jarrott. This was the

OATLANDS SELLING PLATE

of 200 sovs., for cars of a cylinder dimension of 40 and 1,800 lbs. weight. 3.465 lbs. were allowed or added for every 0.1 difference of dimension. The distance was three-fifths of a mile along the finishing straight and the race resulted as follows:—

S. F. Edge's 38.4-h.p. Napier (J. F. Browning), 1; Charles Jarrott's 8.9-h.p. Sizaire (R. O. Clarke), 2; H. P. Barker's 10-h.p. Darracq (H. P. Barker), 3. Also ran, F. S. Bennett's 10-h.p. Cadillac (owner); J. W. Madeley's 10-h.p. Cadillac (owner); S. F. Edge's 25.6 Napier (J. Hennessy); J. J. C. Bradley's 20-h.p. Queen (N. Macklin).

The winning car was subsequently sold for 215 gs. to Col. Carleton-Smith.



Racing at Brooklands.—D. Resta leading on his Mercedes in the Prix de la France Race.

Also ran, D. Citroen's 52.1-h.p. Minerva (A. Janssens); D. Jameson's 51.1-h.p. Spa (A. Capris); D. Citroen's 52.1-h.p. Minerva (H. Porlier); E. Herington's 47.2-h.p. Ariel-Simplex (P. Lewis); Mrs. G. E. Taylor's 51.8-h.p. Gobron-Brillie (M. Leaspagnandelles); L. Soncin's 48.6-h.p. Dietrich (L. Soncin).

Newton made a poor start and finished the first lap behind Gabriel, Lewis, Thornycroft, Janssens, Porlier, and Capris in the order named. During the second lap, however, he went well forward, and Thornycroft and Janssens changed places. Gabriel still led until in the last round Newton sprinted into the first position. There was a good run for the third place between Thornycroft and Janssens.

THE WHITE STEAM CAR PLATE

of 150 sovs. for 1907 White steam cars, was over a distance of six miles, but the similarity of the cars proved somewhat confusing to the public in following the course of the event, which resulted in one of the closest races of the day. The order of the finish was:—

F. Coleman's car (G. Holloway), 1; Col. J. Roper Wright's car (W. Taylor), 2; F. Payne's car (H. Payne), 3. Also ran, Sir John Murray's car (F. Corke), Col. Wentworth Forbes's car (H. Turner), P. Northey's car (H. T. Cummings), Earl Russell's car (C. Saunders).

There was close running between the first two all the way, and the uniformity of performance was a feature of the event.

Only a small field turned out for

THE HEATH STAKES

of 350 sovs., for cars of a cylinder dimension under 200, over a course of 2½ miles, and the cars finished practically together. Their rush along the straight resulted as follows:—

J. E. Hutton's 75.9-h.p. Mercedes (J. E. Hutton), 1; A. Huntley-Walker's 71.6-h.p. Darracq (Demogeot), 2; S. F. Edge's 60-h.p. Napier (C. Edge), 3.

The great race of the day was the PRIX DE LA FRANCE of 800 sovs., over a distance of 15½ miles, for cars complying with the regulations of the Grand Prix of 1907. Unfortunately the start was considerably delayed, the labour of dealing out petrol for the allowance of 1.8 gallon for the event occupying considerable time. The quantities in the tank at the start and at the finish were measured and the difference between these gave the amount of fuel consumed. In the end the result was:—

F. R. Fry's 75.9-h.p. Mercedes (D. Resta), 1; J. E. Hutton's 75.9-h.p. Mercedes (J. E. Hutton), 2; S. F. Edge's 60-h.p. Napier (H. C. Tryon), 3. Also ran, F. Rendle's 75.9-h.p. Mercedes (A. G. Brown), S. F. Edge's 49.9-h.p. Napier (F. Newton); H. M. Gordon's 67.5-h.p. Motobloc (A. Debuissy); L. Soncin's 84.9-h.p. Dietrich (owner); S. F. Edge's 93.7-h.p. Napier (C. Edge); Prince P. d'Arenberg's 80.4-h.p. Dietrich (Gabriel); A. Huntley-Walker's 80.3-h.p. Darracq (Demogeot); Baron Turekheim's 80.4-h.p. Dietrich (Duray).

Hutton got clear away and led for the first lap, when Resta took the lead and continued to retain his advantage till the last round, when he was passed by the other Mercedes. On entering the straight, however, Hutton had the misfortune to break his water pipe and accelerator pedal, while a rear tyre was in shreds. He thus lost first place and finished second. Tryon, Demogeot, Newton, and Edge steadily improved their positions as compared with their running in the first lap. All the others had trouble with their engines except Debuissy. On the fifth lap Gabriel had advanced to the fourth place but fell back to seventh.

The last event of the day was the race for the WALTON STAKES of 200 sovs., for cars of a price not exceeding £850, 38½ lbs. being allowed for every £10 that the cost of the vehicle was below £850. This was over a course of 3½ miles and resulted as follows:—

J. T. C. Moore-Brabazon's £800 Minerva (J. T. C. Moore-Brabazon), 1; A. Huntley-Walker's £675 Darracq (owner), 2; D. Citroen's £800 Minerva (H. Porlier), 3.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

THE design for the new badge of the Royal A.C. has been submitted to the King, who has made alterations therein which were referred to the committee at their last meeting.

Mr. T. H. D. Berridge, M.P., and Mr. Philip Dawson have been added to the new premises committee.

The Earl of Shaftesbury and Col. Ivor Philipps, M.P., have been elected members.

ESSEX COUNTY.

THE Essex County A.C. held a gymkhana on Monday at Wickford in aid of the restoration of the Runwell Parish Church. The results of the various competitions were as follow:—

Obstacle race.—1st, Mr. Burnett Tabrum, J.P.; 2nd, Mr. F. Lindus Forge.

Starting and Stopping Race.—1st, Sir Charles B. Locock, Bart.; 2nd, Mr. F. Lindus Forge.

Ladies' Passenger Race.—1st, Sir Charles B. Locock, Bart.; 2nd, Mr. Watson.

Hat-trimming Race.—1st, Miss Mason; 2nd, Miss Miller.

Musical Chairs.—1st, Dr. Tench's passenger; 2nd, Dr. Cayley's passenger.

Week-end Race.—1st, Sir Charles B. Locock, Bart.; 2nd, Mr. F. Lindus Forge.

The prizes were presented by Lady Locock.

ESSEX.

MEMBERS who intend participating in the 200 miles' standard rides of the Essex Motor Club should now begin to prepare. The fixed route is:—Start at Woodford and journey via Epping, High Ongar, Chelmsford, Witham, Colchester, Ipswich, Saxmundham, Kessingland; check here and return by the same route. Members may go for these rides at any time by giving notice to the hon. secretary at least four days prior to the attempt. They must complete the 200 miles in twelve hours, arriving at the various checking places to schedule time. An entry fee of 2s. 6d. must accompany each application for trial. Checking sheets will be issued, and the rules must be conformed to. Further particulars will be sent on application to the hon. secretary, Mr. A. Geo. Reynolds, Woodford Green, Essex.

SOUTHEND AND DISTRICT.

ON Saturday last the Southend and District Motor Club began a Bank Holiday trip, meeting at the Royal Huts Hotel, Hindhead, on the Portsmouth road. On Sunday they continued the run across country to Winchelsea and Rye, and on Bank Holiday followed the coast road to Folkestone, Dover, Deal, Sandwich and Margate, from whence some of the party returned by boat and others continued the journey via Canterbury and Gravesend. An unofficial run in connection with the club was enjoyed by some other members to Clacton-on-Sea. The Southend Club has now a membership of sixty, and has arranged to participate in the annual hospital carnival at that seaside resort on the 14th inst.

WEST SURREY.

THE fourth annual gymkhana of the West Surrey A.C. was held on Saturday, at Prior's Field, Compton, kindly lent by Mr. and Mrs. L. Huxley.

The winners were as follow:—

Chalk Line Race.—1, Mr. J. F. Kimber (6-h.p. Rover); 2, Mr. E. Williams (14-h.p. Martini); 3, Dr. F. W. Bryden (6-h.p. Speedwell-De Dion).

Tortoise Race (120 yards).—1, Mr. R. W. Buttemer (14-h.p. Renault); 2, Mr. R. Crothers (9-h.p. Darracq).

Starting Race.—1, Mr. E. G. Williams; 2, Lieut. S. A. Gabb (15-h.p. Darracq).

Passenger Race.—1, Mr. E. G. Williams; 2, Mr. R. W. Buttemer.

Skilful Driving Competition (distance about 700 yds., through six obstacles).—1, Mr. E. G. Williams; 2, Mr. J. F. Kimber.

Archery Race.—1, Mr. E. G. Williams; 2, Mr. J. F. Kimber; 3, Col. Swaine (9-h.p. Cadillac).

Musical Chairs.—1, Mr. E. Fairtlough (12-h.p. Darracq); 2, Mr. R. Crothers.

MOTOR CYCLE UNION OF IRELAND.

THE second race meeting of the season under the auspices of the Dublin centre of the Motor Cycle Union of Ireland took place on Saturday afternoon at Portmarnock. Unfortunately the Silver Strand

was not in its usual condition owing to the fact that the storm on the previous day brought in a lot of loose sand. The two miles handicap was won by J. G. Drury, jun., on a 3½-h.p. Triumph, and the twenty miles handicap (Kavanagh cup) by R. Walshe, 2½-h.p. F.N.

AUSTRALIA.

THE Automobile Club of Victoria (Melbourne) held a one-gallon petrol trial on June 29th, starting from Windsor (three miles out) and running through Oakleigh to Fern Tree Gully and back. It was an ordinary give-and-take road, which included two or three decent hills, but the roads were in good condition in the main and quite dry. Twenty-six cars started, including one driven by Mrs. Tom Rand. The result—on "ton mileage"—was as follows:—1, Mr. W. C. Knight, 10-h.p. De Dion, 41.28 miles; 2, Mr. J. W. Proctor, 8-h.p. De Dion, 34.68 miles; 3, Mr. S. L. Staughton, 8-h.p. De Dion, 32.22 miles; 4, Mr. W. S. Ross, 8-h.p. Rover, 31.89 miles; 5, Mr. B. Edols, 12-16-h.p. Talbot, 31.40 miles; the sixth, seventh, eighth, and ninth places all being filled with 6 or 8-h.p. De Dions. Mr. Knight won the two-gallon event held last year, and also the Club's "open" hill-climb a few months back on the same car.

THE Transvaal A.C. now consists of 180 members.

THE Hull Auto Cycle Club had a run from that town to Scarborough on Monday last.

THE North Yorkshire A.C. is endeavouring to popularise its club room at the Station Hotel, York, among motorists.

THE 120-h.p. Mercedes driven by Mr. F. Guy Lewin, of Messrs. Friswell, Ltd., made the fastest time at the Aston hill-climb of the Hertfordshire A.C.



Mr. T. Cordery at the wheel of the 28-38-h.p. Ariel-Simplex he drove in the Scottish Reliability Trial, and which won the Gold Medal in Class 5.

ON the last Sunday in July several members and friends of the Blackheath A.C. were entertained by Professor Carlton J. Lambert, M.A., of the Royal Naval College, Greenwich, at his bungalow, Westham Hill.

THE COMMERCIAL VEHICLE TRIALS.

NO further entries have been received beyond the fifty-five already notified in the M.C.J. Messrs. Straker and Squire, Ltd., have cancelled their entry of a petrol-electric omnibus chassis and substituted a two-ton delivery van.

The vehicles will start from the first depot (Messrs. Thornycroft's Works, Chiswick), on Monday, September 9th.

St. Albans has been omitted from the route, and Biggleswade has been substituted, owing to the impossibility of obtaining suitable accommodation at the former place.

THE Sirdar Rubber Company, Ltd., have recently received two more repeat orders for Royal Sirdar tyres for His Majesty the King, and another repeat order for the War Office Ambulance at Aldershot.

FROM the Universal Motor Imports, of Charles Place, Drummond Street, London, N.W., we have received a copy of the catalogue of automobile components made by the Briscoe Manufacturing Company, of Detroit, U.S.A., for whom they are British agents. The list gives particulars of the Briscoe specialities in the way of radiators, engine-bonnets, mud guards, tanks, metal dashboards, steering wheels, &c. The radiators are made in a variety of patterns and of the honeycomb and tubular types. Particular attention is drawn to the "Staggered Gang Fin" radiator, in which the tubes are not set directly behind each other, but are staggered so as to give each one a clear front exposure and so increase the cooling efficiency.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING LEGAL LIMIT.

At Huntingdon on Saturday, F. H. Smith, of Park Street, London, was charged with furiously driving a motor-car at Little Stukeley. When stopped the defendant stated that the car belonged to the Military Attaché at the American Embassy. The defendant did not appear, but on his behalf a solicitor argued that, being a servant in the employ of a foreign representative, he was exempt from English laws. A letter of explanation was read, which stated that it was very embarrassing to have a servant charged with an offence against English law, and asking that the charge be withdrawn. The Bench, however, decided to go on with the case, and imposed a fine of £12 and costs.

At Mortlake, on the 31st ult., fines of £5 each were imposed on six motorists who had exceeded the ten mile limit in Richmond Park; several others were fined at the Milverton Police Court for going beyond the legal speed in the neighbourhood of Leamington; at Knaresborough two drivers were convicted.

Joseph Jackson, living at East Ham, was summoned at Stratford for driving a motor-cycle at a speed exceeding twenty miles an hour. The defendant on July 21st was timed over a measured furlong at Blake Hall Road, Wanstead. He covered the distance at the rate of twenty-five miles per hour, and when stopped he said "I did not think I was going so fast." The defendant was fined 10s. and 4s. costs. Henry Pollard, of Erith, was summoned for a similar offence; he was said to have covered the furlong at twenty-seven miles an hour. In a letter to the Bench he said he only paid £4 for the machine. A fine of 10s. and 4s. costs was imposed.

The Garstang Road trap has proved a costly affair for many motorists. At Lancaster on Saturday two were charged with exceeding the speed limit on this road and one on the Burton Road. John Lloyd,



The above amusing sketch is reproduced from a drawing sent us by Mr. A. House, of the Northern Automobile Company, Manningham Bradford.

of Liverpool, had to pay £2 10s. and costs for going at the reported rate of twenty-three miles an hour, and he had the cold comfort of being told that had he taken but one second more to traverse the trap he would not have been summoned.

DANGEROUS DRIVING.

Two motor-car drivers in the employ of the Daimler Motor Company were summoned on the 2nd inst., at Buntingford (Herts.), for driving cars at a speed which was dangerous to the public—offences alleged to have been committed while they were taking cars from Coventry to Harwich en route for Germany. At the conclusion of the evidence for the prosecution Mr. Staples Firth, who defended, submitted that there was no evidence of anyone having been endangered on the road, and the case was dismissed.

ROAD REPORTS.

SUNRISE HILL.—The Warwickshire County Council has decided to erect a danger signal at a distance of 200 yards from the top of Sunrise Hill and another about 75 yards from the sharp turn half way down the hill.

THE PRESTON ROAD.—The North-east Lancashire A.C. recently petitioned the Fylde Rural District Council to abolish the toll-gate on Freckleton Marshes, on the road to Blackpool, and declare the road a secondary one. The Highways Committee have recommended the Council to take over the road if the automobile club will arrange with the owners of the toll-bar for its abolition and the cost of fencing the road and other expenses.

BARNES.—The Highways and Bridges Committee of the Surrey County Council has recommended that body to make application to the Local Government Board for a ten mile speed at the Bridge Road, East Molesey, and at Barnes Terrace, High Street, and Church Road, Barnes. The Council has agreed to take this course.

BROMLEY, KENT.—The main road at Bromley is being repaired between the eleventh and twelfth milestones from London, and in the near future repairs will be executed between the ninth and tenth milestones in the High Street. The main road is now being coated through

out with tar by the Tar-spra Company; and Mr. Stanley Hawkins, the Borough Engineer, deserves the thanks of motorists, as well as of the local public, for his care of the roads.

NELSON.—There are no important works of repairing likely to be carried out in this Lancashire town during the next few weeks.

WORTHING.—During the holidays it was observed by many motorists that the main road between Worthing and Arundel had been torn up to quite an unusual degree. Locally this is attributed to the heavy motor traffic which took place in Goodwood week.

WARWICKSHIRE.—In Warwickshire the mileage of roads for which the County Surveyor is responsible is 457 and the cost of maintenance last year was £32,000, about £5,000 above the expenditure in 1904. That portion of the Coventry road which was treated with tarmac about fifteen months ago has so far stood very well, but, while it has proved to be entirely dustless, the County Surveyor, Mr. John Willmot, considers that its wearing qualities are still on trial.

HANDCROSS.—Application is being made for a ten mile per hour speed limit to be imposed on motor-cars at Handcross.

YARMOUTH.—No roads will be under repair in this borough during August. Dust is unknown in the streets of the town, the roads being watered by Mr. J. W. Cockrill, the Borough Surveyor, with sea-water.

STREATHAM.—The Rector of Streatham, having called attention to the danger arising from fast motor traffic along the narrow portion of Tooting Bee Road, Streatham, near St. Leonard's Church, the Wandsworth Borough Council has decided to erect warning boards at each end of the road in question, directing motorists and cyclists to drive slowly.

TAR SPRAYING.—The Local Government Board is said to be considering the question as to whether the expenses incurred in the tar spraying of main roads can legitimately be made a special expense for parochial authorities. On their decision will depend the carrying out of several experiments now in contemplation in the southern counties.

BLACKPOOL.—All the street works are now completed for the present season, and nothing is likely to be done to the roads in the borough of Blackpool for the next two months.

PUBLIC MOTOR SERVICES.

THE Great Western Railway Company have been asked to extend their motor-bus service between Newport and Merthyr.

THE Home Office is making enquiry into the cause of the recent motor-bus accident at Hackney. In reply to a question in the House of Commons Mr. Gladstone has stated that only seven mishaps to motor-buses have occurred in London during the past three months. He also paid a tribute to the desire of the motor-bus companies to adopt any devices likely to arrest skidding.

MR. R. C. MARLEY has drawn the attention of the Surrey County Council to the speed at which motor-buses are driven at Barnes, and asked the chairman of the Highways Committee if nothing could be done to regulate it. Mr. Pain, the chairman of the committee, said the clerk was in correspondence with the President of the Local Government Board on the subject, and it was hoped that the result would be satisfactory.

THE Great Western Railway road motor service between Redruth and Falmouth and Falmouth and Portreath has re-commenced.

DURING the twelve months ended June 30th, 3,137 instances of motor-omnibuses and cabs being dealt with for noise have been recorded at Scotland Yard. Two hundred and fifty-seven cases of smoky exhaust were also chronicled.

NEARLY 400 driving certificates have been issued by the R.A.C. to employees of the Central Motor Cab Company, Ltd., the proprietors of the red taxicabs now plying in London.

THE Motor-Bus and Traction Company of Ireland, Ltd., has been formed with a capital of £205,000 to establish motor-omnibus services and other forms of motor traction in Ireland, more particularly around Dublin, Belfast, and Cork. The directors will endeavour to link up certain routes on the railway and to act as feeders thereto. The company has entered into a contract for the delivery of ten motor-buses within a month. The directors are Lord Headley, Captain R. E. Palmer, Sir Thomas Myles, Mr. T. L. Plunkett and Mr. W. A. Wallis. Mr. R. G. Batchelor, 69, Victoria Street, S.W., is the engineer to the company, and Mr. P. J. Kevans, 31, Dame Street, Dublin, is the secretary.

ACCORDING to a driver who was summoned at the City of London Court for causing an obstruction by leaving his motor-bus for six hours in Bishopsgate Street Without, it is a rule of the London Road Car Company that when there is a breakdown the car is not to be moved until seen by one of the fitters; otherwise the conductor is fined.

EARLY next month Messrs. A. W. Gamage, Ltd., will close their Holborn establishment at 7 p.m. instead of 8 p.m. in the evenings, and on Saturday at 4 p.m. instead of 5 p.m. This decision has been arrived at as a result of the rapid transit in London, which is causing shopping to be done earlier in the day and earlier in the week.

WE have from time to time recorded some excellent performances by Palmer Cord tyres, demonstrating their reliability under very severe conditions. The latest is undeniably most creditable, the Palmers fitted to Mr. Clifford-Earp's Thames six-cylinder 60-h.p. car having covered over 2,000 miles, including the Scottish Reliability Trials and the South Harting Hill climb, without a single puncture.

MARSEILLES AND ITS PEOPLE.

THE Marseillais has been portrayed by many a French writer, and his virtues have been lauded and his faults exposed. Méry, a Marseillais himself, has traced an amusing character, while Edmond About and Taine were struck by the Marseillais' love of lucre and violent amusements. Alexandre Dumas has drawn more or less idyllic portraits of him. The topographical transformation of Marseilles in recent times has been great. It was first among the great cities of France to cut new streets and build sumptuous modern palaces, says Mr. Miltoun. The Rue de la République, if still lined in part with inferior houses, is nevertheless one of the fine thoroughfares of the world. Its laying out was a colossal task, cutting through the most solidly built and most ancient quarter of the city. Neither the aristocratic nor the bourgeois population have ever come to it for business or residence, but it serves the conduct of affairs in a way which the tortuous streets of the old régime would not have done. Many of the great avenues of the city are as grand in their way as the best and most aristocratic of those in Paris, and the world of commerce, of the Bourse, and of the liberal professions lives surrounded by as much sumptuousness and good taste as the same classes in the capital itself. In other words, "la société Marseillaise" is no less endowed with good taste and the love of luxurious appointments and surroundings than is the most Parisian of Parisian circles—a term which has come to mean much in the refinements of modern life. "Des plaisirs bruyants et grossiers" may have struck the Taines of a former day, but the twentieth-century student of men and affairs will not place the Marseillais and the things of his household very far down in the social scale, provided he is possessed of a mind which is trained to make just estimates. Le Prado is another of the fine streets of Marseilles. It is a majestic boulevard, the continuation of the Rue de Rome, beyond the Place Castellane. Practically it is a great tree-bordered avenue, which is lined with the gardens of handsome villas. It is as attractive as Unter den Linden or the Champs Elysées.

AUTOMOBILE ACCIDENTS.

IN attempting to pass a wagon on the road between Streasley and Moulford last week, a motor-car, in which Colonel Lambert was riding, came into violent collision with the vehicle and its passengers were seriously hurt.

THE coroner's jury has recorded a verdict of accidental death in the case of a little boy who was knocked down by a motor-cyclist on the south side of Clapham Common last week. Apparently the nursemaid in charge darted with deceased from behind a tramcar without noticing the motor-cyclist approaching.

WHILE a car from Elgin was proceeding along the road near Enzie United Free Church last week, it roused a calf from the side of the road. The car was deflected to the side of the road, where it crossed the ditch, and, coming in contact with a strainer post, the front axle was broken. The car finally came to rest in a corn field, after ejecting the chauffeur through the glass screen in front. The man was happily little the worse for the adventure, but the car was greatly damaged.

A MOTOR-CAR collision happened on the curve opposite Rossett Church recently, when a car belonging to Mr. Griffith Williams, Marlow, collided with a car the property of Mr. Gibbons Frost, Chester. Both cars were wrecked, and the occupants were thrown out, but, happily, escaped with a shaking and few bruises.

ON Saturday a motor-car, owned and driven by Mr. Robert Cripps, of Nottingham, collided near Melton Mowbray with a cyclist who, coming from the wrong side of the road, crossed in front. He was knocked down and so severely injured that he died during the night. The sudden application of the brakes caused the motor to swerve through the hedge, but Mr. Cripps and a companion escaped unhurt.

MR. R. WOODMAN, a motor-cyclist, of Peterborough, was admitted to the Spalding Hospital on Sunday night suffering from injuries sustained through a collision in the dark with a milk-cart.

MR. S. S. MOSSOP, solicitor, Holbeach, while motoring last week, collided with a cart which carried no lights. He was pitched out of the car and lay on the road a quarter of an hour unconscious. The driver of the vehicle, who is unknown, drove off. The motor-car was wrecked.

WHILE travelling through Southwold on Sunday on the way to Yarmouth, Mr. Arthur Roberts's motor-car collided with a brake. In the motor-car were Mr. Roberts, Miss Ruby Celeste, who appears with Mr. Roberts in his sketches, and the chauffeur. All three were thrown out, and the car was considerably damaged. Mr. Roberts escaped with a slight injury to one of his legs, but Miss Celeste sustained severe injuries to her head, which rendered her unconscious. The chauffeur received nothing worse than a severe shaking.

A 40-h.p. car returning from the Brooklands track on Monday overturned near Esher owing to a tyre bursting. The occupants—three gentlemen and a lady—were thrown out. Miss Dorothy Mitchell was severely injured internally, and was taken to hospital. The others were little hurt.

At the Westminster Coroner's Court on Tuesday, an inquest was held on the body of George Mason, who died in St. George's Hospital from injuries received in a collision between his cart and a motor-car. The evidence was very conflicting, but it appeared that on Saturday, while the deceased was driving along Cromwell Road, a motor-car, which was overtaking him, collided with the cart and he was thrown on his

head on the roadway. The jury returned a verdict of "Accidental death," and censured the chauffeur "for a great error of judgment," the coroner saying he quite agreed.

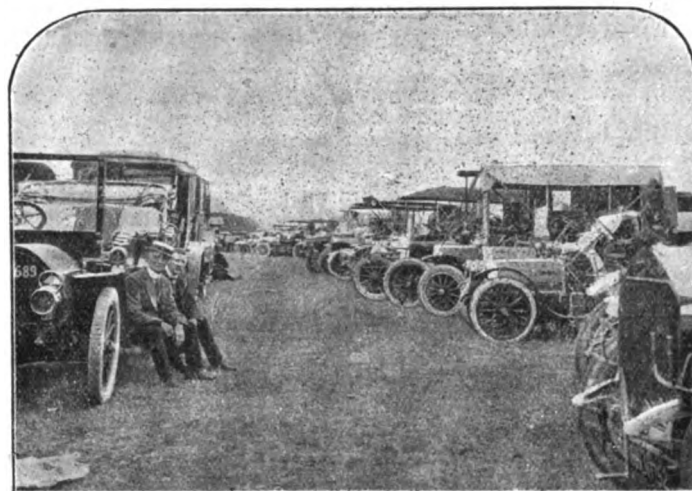
COMPANY NEWS.

COMPANY MEETINGS.

THE RENARD ROAD AND RAIL TRANSPORT CORPORATION, LTD.—The statutory meeting of this company has just been held, when Lord Ribblesdale, the chairman, made reference to the enquiries which have already been before the directors in connection with the development of the Renard road train system. In India and Egypt syndicates are in course of formation to demonstrate locally the merits of the train, and from Japan an order has been secured for the first demonstration train to be sent out there. A contract has also been secured for Chili, and Messrs. De Roubaix, of Antwerp, have, within the last few days, proved that a Renard train consisting of a motor and three trucks each carrying a load of four tons can be run under normal conditions at a total expense of under 2d. per ton per mile when fully employed. Negotiations are proceeding for the formation of demonstrating syndicates for Lancashire and Yorkshire, and the Board is placing a train at the disposal of an Irish syndicate at the Dublin Exhibition. Captain C. C. Longridge also spoke to the effect that the shareholders would take it as an indication of the Daimler Company's belief in the Renard train that they had entered into the preliminary syndicate by which this corporation was formed.

NEW COMPANIES REGISTERED.

STERN-SONNEBORN OIL COMPANY.—£25,000. To acquire (1) that part of the business of the Oelwerke Stern-Sonneborn Aktien Gesellschaft, of Hamburg, Cologne, and Paris, which is carried on in the United Kingdom and the colonies, dependencies, and Protectorates of the British



A leading feature of the Goodwood Race Meeting last week was the large number of motor-cars present each day. The photograph reproduced above shows only a few of the many vehicles in the open air garage.

Crown, under the sole agency of and in part in joint account with J. Wallach and L. C. Wallach (trading as Wallach Brothers), under the style of the Stern-Sonneborn Oil Company; and (2) the business of the Chemische Werke für Textil Industrie G.M.B.H., of Hamburg, carried on in the British Empire; and to carry on the business of manufacturers of and dealers in oils, greases, &c. No initial public issue. First directors: Messrs. L. Stern, J. Sonneborn, J. Wallach, and L. C. Wallach. Messrs. J. Wallach and L. C. Wallach are managing directors.

F.I.A.T. MOTOR-CAR COMPANY.—£203,000 (200,000 £1 cumulative preferred participating ordinary and 60,000 £1 deferred). To carry on the business of proprietors of motor-cabs, omnibuses, cars, carriages, vans, and other public or private conveyances of all kinds, carriers of passengers and goods, &c. First directors: Lord Grimthorpe (chairman), Sir W. J. Bell, D.L., Mr. T. Wilks, Mr. A. Du Cros, Capt. J. Orr-Ewing, Mr. D'Arcy R. Baker. The subscription list opened on Thursday, and closes to-day (Saturday). It is intended to put 400 Fiat motor taximeter cabs on the streets of London, commencing in November next, and on a conservative estimate of the takings the profit is estimated to secure a preferential dividend of 7 per cent. on the cumulative preferred participating ordinary shares five times over. The offices of the company are at 62, London Wall, E.C. The directorate is exceptionally strong, and the company has secured an advantage in contracting for the supply of Fiat chassis for its cabs. The cabs will be able to do long distance journeys for pleasure trips, and a considerable number of the vehicles will be fitted to carry luggage for the convenience of the public. With regard to the finance of the company, the preference shares are cumulative and the surplus profits are divided as to 60 per cent. to the cumulative preferred participating ordinary shares and 40 per cent. to the deferred shares.

FORTHCOMING EVENTS.

AUGUST.

- 10th (S.).—Entries for R.A.C. Commercial Vehicles Trials finally close at 12 noon.
 Annual Race Meeting of the Auto Cycle Club at Canning Town.
 The meet of the Lincolnshire A.C. to have been held at Brocklesby Park by invitation of Earl Yarborough, has been cancelled owing to the illness of his lordship.
 Non-stop run of the West Essex A.C.
 14th (W.).—Cardiff M.C. run to the Leys.
 17th (S.).—Brooklands A.R.C. Meet.
 Derby A.C.'s run to Chatsworth House.
 Harrogate A.C.'s hill climb.
 North London A.C. run to Great Berkhamstead.
 Northamptonshire A.C. gymkhana at Easton Neston.
 Newcastle and District Motor-Cycling Club's fuel consumption trial.
 Lincolnshire A.C. Hill Climb at Syston Park. Entries close on the 12th inst.
 19th to 24th.—Auto Cycle Club's six days' trial.
 21st (W.).—Meeting of the General Committee of the Motor Union.
 Lincolnshire M.C.C. at Stamford.
 24th (S.).—Hertford County A.C. at Lower Aston Hill for a members' driving test.
 North-East Lancashire A.C. gymkhana.
 Berkshire A.C. gymkhana.
 Yorkshire A.C.'s closed hill climb near Pateley Bridge.
 27th (T.).—Touring competition through Southern Germany.
 31st (S.).—Cardiff M.C.'s run to Chepstow.

SEPTEMBER.

- 1st (S.).—Florio Cup race of the Italian A.C. over the Brescia circuit.
 5th (T.).—Vehicles competing in the R.A.C. commercial vehicle trial must be within the gates of the depot.
 Arachon motor-boat meeting.
 7th (S.).—Auto Cycle Club's hill climb at Birdlip.
 Motor Cycling Club 200 miles reliability trial.
 9th (M.).—Industrial Vehicle Trials commence.
 14th (S.).—Motor Union Meet at Leicester.
 Brooklands A.R.C. meet.
 21st (W.).—Nottinghamshire A.C. hill climb.

OCTOBER.

- 5th.—Brooklands A.R.C. meeting.
 19th.—Gordon Bennett Aeronautical race at St. Louis, Missouri.
 20th.—Gaillon Hill Climb.

MARCH, 1908.

Cordingley's Motor-Car Exhibition at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Aug. 10th—8.34	...	12th—8.28	...	14th—8.25	...	16th—8.21
„ 11th—8.31	...	13th—8.27	...	15th—8.23	...	17th—8.19

In Glasgow the lighting-up time to-day (Sat.) is 9.10 p.m., and to ascertain the approximate times on succeeding days 26 min. should be added to the above figures; in Plymouth an addition of about 16 min. is necessary.

COMPENSATION CASE.

MR. B. H. MARTINEAU was sued, at Brompton County Court, by Mr. George Fowler, a leather merchant, of Bethnal Green, for £25 in respect of personal injuries and damage to a pony and trap, said to have been caused by the negligence of defendant's chauffeur, at Cavendish Square, W., in March. His honour awarded plaintiff £15 damages.

POLICE TRAPS.

AT Monk Fryston, near Selby, the police have instituted a quarter of a mile trap.

ON the Hadham Road, Bishop's Stortford, the police have lately been watching cars with a view to summoning their drivers.

A NEW trap has been established near Beverley Brook, in Richmond Park.

THERE is a measured distance in the Barrack Road, Christchurch, Hampshire, in which eleven motorists were recently caught. Their fines ranged from 1s. to £10.

A MEASURED furlong is now the scene of police trapping operations at Blake Hall Road, Wanstead, Essex.

THERE is a police trap between Totton and Southampton on the Lyndhurst road.

THE quarterly report of the Chief Constable of Cheshire shows a decrease of 226 apprehensions, which, it is openly suggested in the county, may result from the concentration of their attention to motorists during the last few months.

BUSINESS NEWS.

MESSRS. G. T. RICHES AND COMPANY, of Store Street, N.W., have sent us samples of the C. and A. (copper and asbestos) washers of which they are making a speciality. They are made in no less than about seventy-five sizes, ranging from 10 by 15 mm. to 90 by 100 mm., and will be found useful not only in connection with sparking plugs and valves, but also for making any water and air tight joints in connection with the piping on motor-cars.

IN the case of controls operated from the steering wheel opinions apparently differ considerably as to whether it is an advantage for the levers to revolve with the steering wheel or remain stationary when the steering wheel is moved. It is sometimes urged that when the levers move with the wheel the change in the positions might lead to confusion in the mind of the driver and cause mistakes to be made, but this would appear to be mainly theoretical or more would have been heard of the objectionable features of such a general system in practice. In the Bowden Controls, operated from the wheel, the motorist has a free choice and can have either system fitted at will.

THE ELECTRIC IGNITION COMPANY, LTD., have recently made some extensive alterations to their premises, including the building of an elaborate test shop, through which all materials and finished goods will in future have to pass. This further check on their products will enable them to guarantee all their manufactures for two years, instead of one year, as hitherto.

WE hear that notwithstanding the fact that Vauxhall Motors, Ltd., have recently largely augmented their resources at Luton for turning out the 12-16-h.p. Vauxhall cars, they have been compelled to put on a night shift to cope with the work.

WITH our present issue we publish interesting particulars relating to "Miraculum," the new puncture stop for which it is claimed that, when injected into the inner tubes of motor-car and bicycle tyres, it effectually seals punctures and at the same time acts as a preservative of the rubber. A company, the prospectus of which will shortly be issued, has been formed for the purpose of acquiring the patent rights of this compound for the United Kingdom. The capital is £25,000, of which 20,980 £1 ordinary shares will be issued for subscription at par. The Board is a very strong one, and a notable feature of the project is that the company have made arrangements for the handling and marketing of their product by the E. M. Bowden's Patents Syndicate, Ltd. Prospectuses and all further information may be obtained during the period that the list is open from the brokers, solicitors, bankers, auditors, and from the secretary of the company, Mr. Arthur E. Cowley, 48, Dover Street, London, W.

MISS TALBOT, a well-known figure in Wales, and practically owner of Port Talbot and the surrounding district, has ordered a 40-h.p. six-cylinder Napier.

THE recent Irish A.C. hill-climbing competition again proved the excellence of "Continental" non-skids. Three gold medals, the Humber cup and the Henshaw silver cup were carried off by cars fitted with this well-known make.

MR. W. KEMPTON CANNON, the well-known jockey, has just purchased from the Motor Supply Company, Ltd., of 111, Piccadilly, W., an 8-11-h.p. Panhard landaulet. He has also recently opened a motor garage in Newmarket.

A NOTICE BOARD is to be placed at the bottom of Rottingdean Hill, near Brighton, cautioning motorists to proceed slowly when passing the school in the vicinity.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

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VOL. IX.]

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COMMENTS.



WITH considerable persistence the authorities of the Brooklands motor track are seeking to excite enthusiasm for the events that take place at Weybridge. We have just received a revised set of Supplementary Regulations, in which has been incorporated many of the suggestions made in the Press for the better government of the race meetings. Thus, for the next races, on the 14th prox., every vehicle will have to carry a metal disc, painted black, behind the driver's seat. This must be at least two feet in height and length, and, apparently, the possibility of confusion as to the identity of the cars on the course is to be eliminated by, as we suggested last week, "the numbers being newly painted before they enter the course." The committee have decided upon a system of handicapping based on allotting different distances to competing cars in handicap races; the cars will carry a uniform weight, and will be started simultaneously from the various starting points allotted by the handicapper. Colonel H. C. L. Holden will act as honorary official handicapper to the B.A.R.C. For 1908, 26-h.p., 40-h.p., 60-h.p., and 90-h.p. have been adopted as the classification for "standard size races," and four events on these lines will be contested at the next meeting, as well as a Mercedes sweepstakes and a five-mile handicap sweepstakes, which, by the way, will be the longest race of the day—thus pointing to the possibility of a succession of short and sharp sensations calculated to incite the enthusiasm of the public.

The Dust Trials.

THE Dust Committee of the R.A.C. has issued its report in connection with the trials which were recently held on the Brooklands track so far as Classes I. and II. are concerned. With regard to the experimental Class III. it is proposed to issue no report at present, as the results obtained in the use of the experimental devices entail lengthy investigations before they can be published in a useful form. It will be remembered that the tests took place under favourable circumstances, and fortunately the actinic conditions were suitable, so that the photographic records, of which 130 were taken, have yielded concordant and satisfactory means of estimating the comparative excellence of the cars. In Class I., for makers' vehicles of standard design, the first prize, a silver cup, presented by the R.A.C., has been awarded to Mr. Frederic Coleman for his 30-h.p. White steam car, and the second prize, the Club's silver medal, to Mr. E. Gascoine for a 12-16-h.p. Wilson-Pilcher car. The silver cup which formed the prize in the inter-club competition for amateurs' cars, Class II., has been awarded to the Irish A.C., which was represented by Mr. Dermot Mooney's 20-h.p. Stanley steam car. It is noted by the judges that in the inter-club competition for cars driven by amateurs, smaller dust clouds were made, as a rule, than in Class I., a fact that was not unexpected, as the clubs entering cars had in most cases selected the competing vehicles by previous eliminating tests. In connection with the general arrangements made at the trial we may mention that the course was covered with limestone dust carefully gauged to a thickness of half-an-inch by the

use of gauge rakes between each run. Previous to entering on the dust patch the cars had to pass over a dust patch of the same thickness, but narrower, so that the cars could be driven over it with the wheels running on the bare concrete clear of the dust. The object of this was to observe whether any of this centrally-laid dust would be disturbed by the air current passing under the cars independently of the disturbance caused by the wheels themselves, and it may be at once stated that in very few cases was any such disturbance noticed.

No Lights at the rear—in Scotland.

RECENTLY we recorded that the House of Lords had at the last moment agreed to the omission of Scotland from the provisions of the Lights on Vehicles Bill. Already instances have been brought to our notice showing that the necessity for the application of that measure to the northern part of Britain is as great as it is on this side of the Tweed. A motorist driving in the Paisley road at some little distance from Glasgow ran into a lorry, from which various boards were projecting, the collision resulting in injury to a couple of men. When the case came before the sheriff, the agent for the motorist pointed to the absence of rear lights on the slow-moving lorry as a contributory cause of the accident, which freed the accused to a certain extent from the charge of negligent driving. This, however, had no weight with the authorities and a conviction was recorded with a fine of £5. Often have we emphasized the fact that slow-moving traffic unilluminated at the rear constitutes a great danger to the safety of the public on the road. And yet this menace is to be perpetuated in Scotland.

The Godiva Procession.

APPROPRIATELY enough, in the city of Coventry motor-cars figured in the Lady Godiva procession, and, although it would have destroyed the accuracy of the legend to have mounted her ladyship on a car, the automobile was much *en evidence*. A motor-lorry carried the members of the Beeston-Humber Prize Silver Band, who led the way. The trades section of the procession was headed by a vertical milling machine made by Messrs. Alfred Herbert, Ltd. Included in this part of the spectacle was the motor-car presented to the Coventry and Warwickshire Hospital by the Daimler Motor Company, and for which the committee, having been prohibited from balloting, are now waiting offers for purchase. The appearance of the Renard road train was also further proof of the modernised procession with which the people of the City of Spires and Cars were delighted last week.

Traffic Competitors.

EVERY year the chairmen of the leading railway companies are heard deploring the decline in first-class traffic, especially on those lines which serve racecourses and similar places of pleasure. This year on the Ascot Cup day no fewer than 1,066 motor-cars were observed standing on the racecourse. This means that at least 3,000 people who would have gone to Ascot by the first-class trains availed themselves of what they regarded as a more pleasant way of reaching their destination. This constant advance of motor-car traffic is one of the problems that railway managers will have to seriously consider in the

near future, for it is not only apparent on such special occasions as that we have instanced that the motor-car is becoming ubiquitous, but in the ordinary way motor-cabs and motor-buses are now bringing ladies from the suburbs into the West End, and are seriously affecting the lines which serve that quarter of London. Even the motor-car firms that recently made money by hiring out cars find the competition of the "neat red cabs" a retarding influence in connection with their business.

A Legal Point.

THE dismissal of a case against a motorist at Guildford, reported in another column, and the case mentioned in our legal reports last week, are the most hopeful omens for motorists that have lately fluttered from the dismal dulness of the police courts. They suggest the care which should be bestowed on the diverse points which occur in particular cases. Despite the objection which the Bench took to Mr. White's question as to what the motorist would have done in the event of a certain contingency occurring, they dismissed the case, the counsel successfully contending that a hypothetical charge was brought of driving in a manner which might have been dan-



"Le Miserable" (See page 540).

gerous had there been anyone about, and it was his duty to rebut that attack by showing that had the hypothetical case occurred, the conduct of the driver would not have caused danger to the public. The point is an ingenious one, which our readers when summoned to the court should bring before their counsel.

The Circumstances of the Case.

ANOTHER useful point was that mentioned on page 526 of the last issue of the *M.C.J.*, when summonses against two motor-car drivers were dismissed at Buntingford after Mr. Staplee Firth's submission to the Bench that there was no evidence of anyone having been endangered on the road. The case is important, not only by reason of the particular verdict arrived at, but also because of the legal eminence of the chairman of the Bench, he being the Rt. Hon. Sir Robert Romer, P.C., a retired Justice of Appeal. Hitherto cases of alleged danger to the public have been overawed by the judgment of *Smith v. Boon* and *Mayhew v. Sutton*. But it should be remembered that when the Lord Chief Justice gave his famous dictum in the latter case the regulations issued by the Local

Government Board under the Act of 1896 were in force. We are now living under the Act of 1903, which calls into question "all the circumstances of the case." At Buntingford the prosecution were apparently relying on the Mayhew judgment, but for the defence Mr. Firth urged that there was no evidence of what might have been on the road—a point which appealed to the legal mind of the chairman. We can only wish that all magisterial benches were presided over by men capable of appreciating the legal point without prejudice.

Tarring the Roads.

DURING the last few months many of the smaller local authorities in the South of England have been considering ways and means of securing the tarring of their roads, with a view to the mitigation, if not the abolition, of the dust nuisance. Encouraging such a policy, the East Sussex County Council have recently made known the fact that they were willing to contribute half the cost of tar spraying in villages where the rural council was willing to find the other moiety. The result has been that many parish assemblies which had previously found it impossible to undertake such work have been setting the necessary machinery in motion for securing the assistance of the County Council. Unhappily, the hope that had been raised has now been considerably set back by a notice of the Local Government Board to the Lindfield Parish Council, declining to sanction the expense of such work as an illegal expenditure on the part of the parish. Those councillors who have already signed cheques in connection with the tarring of the roads in these rural districts are liable to be surcharged, and the decision of the L.G.B. cannot fail to stop many schemes that were in progress for rendering the roads of the county possible for the new traffic. It is held by the central authorities that the cost of such should be made a county matter instead of a purely local one. Whilst we must regret the immediate effect of such a ruling, it seems to suggest that a little argument should suffice to convince the Local Government Board that the cost of roads, instead of being a merely county matter, should be a national charge, and that when that time comes we may reasonably expect considerable changes in the road surface.

The Recognition of Drivers in the Scottish Trial.

IN view of the persistence with which we urged the recognition of the drivers in the Scottish A.C. Trial who made non-stop runs, we are glad to learn that the authorities have determined thus to acknowledge the skill and endurance with which they guided their vehicles to success. The Trials Committee have agreed to present a gold badge to each driver whose vehicle obtained a non-stop certificate, and doubtless this recognition will be esteemed by all who become possessed of such distinction. Those thus entitled to the gold badge of the Scottish A.C. are, in the order of the classes in which they competed, Messrs. M. I. Livings, J. Downie, Mrs. E. A. Riley, Messrs. W. G. Tuck, W. Scott, J. Reid, F. Eastmead, P. E. Harry, W. McLean, J. Hadley, W. T. Lord, C. Harman Wigan, W. S. Macharg, Captain F. V. Wentworth, W. Watson, A. F. Kemp, G. M. Young, Buchanan Shiel, and Captain Corbet.

"The Honour of the Force."

THERE is a trap on the Selby and Doncaster road at Egghboro'. It was worked the other day by Sergeant Higson, stationed at the south end of the quarter-mile, and accompanied by P.c. Burland. When a car, driven by Mr. J. H. Hall, a well-known Sheffield motorist, was crossing the line at the south end he set his watch, and at the north end received a signal from P.c. Wilson with a white flag. He then stopped his watch. P.c. Burland corroborated this account of the proceeding in the police-court, and volunteered the information that he "was in a crouching position, and the sergeant was kneeling behind a hedge." And these are honourable men, engaged in

upholding the dignity of the law and the honour of the force. Why do they not come out into the open? Another instance of the ridiculous position in which the police often place themselves was shown at Godalming on Monday, when the constable said he signalled when the car passed by opening his coat, and then turned to look at the position of the vehicle, the signalling occupying less than one second. At the request of the solicitor for the defence the constable gave a demonstration in court, and the magistrate timed the signal at two to three seconds.

Limiting Speed.

MR. HAROLD COX has suggested to the Home Secretary that devices should be applied to motor-buses with a view to preventing them travelling beyond a fixed maximum rate of speed. Mr. Gladstone replied that there was no such contrivance actually in use, but it was possible that mechanism which might effect the object proposed might be invented. In that event the Commissioner of Police would carefully consider the question of requiring such apparatus to be fitted to motor-omnibuses in the Metropolis. Should such actually take place our friends of the Highways Protection League would doubtless agitate for the application of the speed-restrainer to ordinary automobiles—and the condition of the motorist would be curious indeed. The point is scarcely worth considering—save from the point of view of urging consideration for other users of the road as the best way of placating the public and the authorities, so that the next state of the motorist may not be worse than the present.

Worcester.

WORCESTER, a pleasant historical city in the centre of one of the most delightful of our English counties, is visited by many motorists during the course of the year, and they will find much to interest them in the official guide just issued under the authority of the Corporation by Messrs. Littlebury and Co. Not far from the city are many equally delightful resorts; Evesham, the field of battle, Tewkesbury and Edgehill, also the scenes of conflict. The region reeks with the names of personages of renown—Milton, Baxter, Wesley, Wolsey and Shakespeare, while inside the city boundaries is the cathedral and many timber framed structures testifying to the ancient lineage of the place. A map of the district shows many streams purling through the valleys of this delightful Garden. Almost within an hour's run by motor-car—having regard to the restrictions of the legal limit—Birmingham and Dudley may be reached, to bring the visitor within reach of industry; but in the other direction, and at no greater distance, are Tenbury, Hereford, and Ross, while nearer still Evesham, Bromyard, and Malvern give an alternation of pastoral beauty to delight the driver, and of hilly eminences to test the car. Altogether Worcester is a good centre for the roving motorist who has got over the passion for speed and wishes to indulge his delight in the scenery of the Midlands.

Petrol Precautions.

LAST week we were able to indicate the care and promptitude with which the London County Council is seeking, in conjunction with the borough authorities, to deal with the discharge of petrol into the sewers. The danger has become a serious one, and several instances of risk to life as well as actual damage to property could be given in support of the serious warning already addressed to our readers. Those responsible for control of motor-bus and motor-cab garages should take heed that no waste of petrol is allowed in the yards, for not only is such a practice expensive to their companies, but it is also dangerous to the public. In order to obviate the risks run in such places, as well as trade and other garages where large quantities of petrol are about, a simple form of interceptor is being suggested in connection with the drainage system. This is a three-chamber device, the drainage going into the first

chamber with a flush and the spirit rising and vaporising above the water. Thence the drainage flows into the second compartment, any petrol that may have escaped from the first chamber being here intercepted. Should, however, the matter not be clear from this foreign element a third chamber is provided, through which it passes ere entering the sewer. Oils, &c., are taken to the top of the water in the process, and the periodical inspection of this interceptor will do something to secure the safety of London's drainage system. We are glad to know that the responsible authorities have taken the subject in hand and it becomes an alarming problem. It behoves the motor industry to accord their support to such simple precautions as are now suggested.

Motor-car Imports and Exports.

JULY proved a very active month as regards importation of foreign motor-cars and parts into the United Kingdom. The number of complete vehicles which reached this country last month was 409, their value being given as £191,967. Parts were responsible for an additional £253,817, which gives a total of £445,786, as against £416,814 in the corresponding



A magnificent view of Loch Lomond may be had from Stonymill Road, which is only a short distance from the Argyll Works at Alexandria, N.B. The road strikes to the left uphill for about a mile, with an average gradient of 1 in 7, and is one of those beautiful little frequented by-ways that delight the hearts of tourists. It leads on to Helensburgh amid fine scenery of moor and glen. The above illustration shows an Argyll car negotiating the hill during a test run.

month of last year. For the first seven months of the current year the figures are:—Number of cars imported, 3,210; value of same, £1,364,526; imports of motor parts, £1,570,162; total, £2,934,688. For the similar period of 1906 they were:—3,799 cars of a value of £1,561,883; parts, £1,165,012; total, £2,726,895. Turning to the exports of British motor-cars and parts, these continue to show a steady expansion. The number of vehicles shipped during the seven months ending with July last was 1,062, of a value of £400,479; to this have to be added parts estimated at £292,063, which gives a combined total of £692,542, as contrasted with only £400,479 in the corresponding period of 1906.

A 20-h.p. MOTOR WAGON built in the spring of the year by Messrs. Durham Churchill and Co. has been running for three months under contract with the Bradford Dyers' Association, making daily journeys of from fifty to sixty miles on five days of the week.

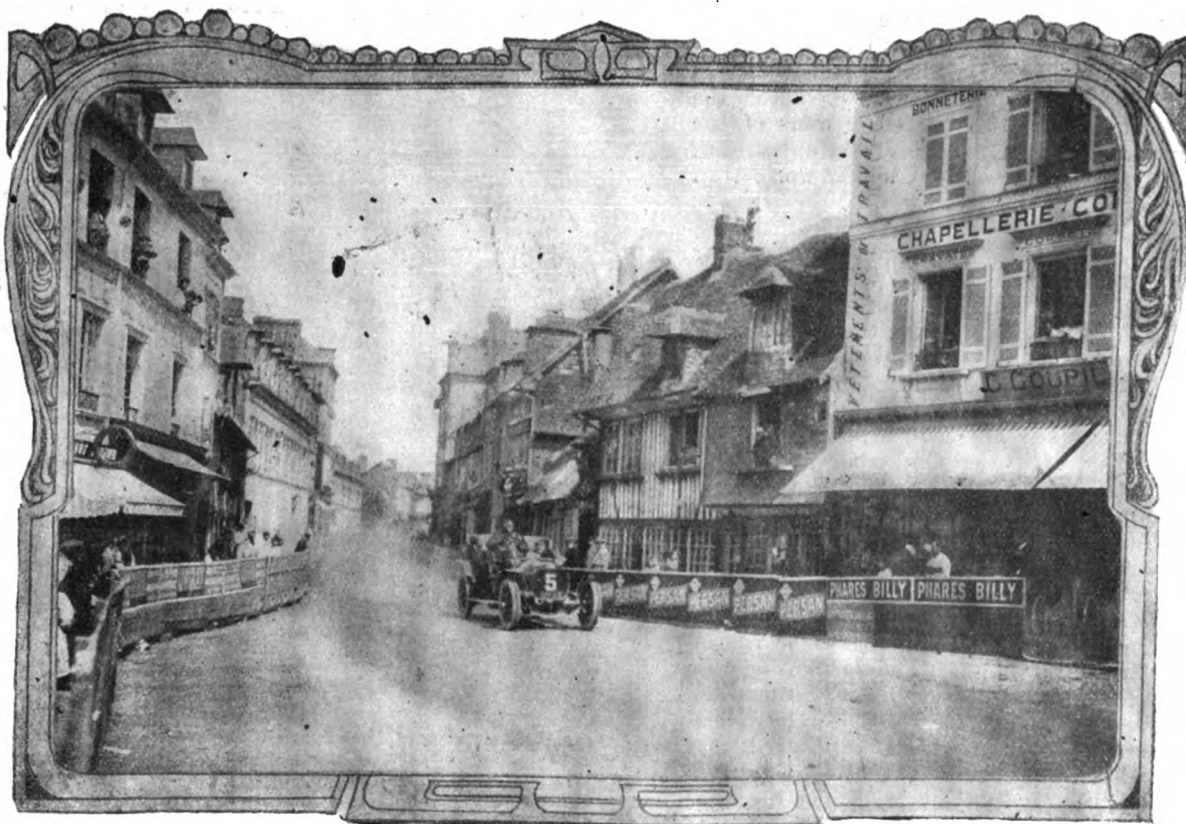
THE COUPE DE LA PRESSE.

AS briefly mentioned in the last issue of the *M.C.J.*, the race known as the Coupe de la Presse was held on the 6th inst. on a 78.5 kilometre circuit near Trouville, five rounds having to be made to give a total distance of 392½ kilometres. The event was confined to those cars which had successfully passed through the Criterium de France reliability trial, and was on a petrol allowance basis, a quantity of spirit equal to 19 litres per gallon per 100 kilo., or 15 miles to the gallon, being served out to the competitors. Twenty-eight cars qualified for the race, and of these the following twenty-six started, being despatched at two minute intervals in the order given:—

Car.	Driver.	Car.	Driver.
Gladiator...	Molon.	De Dion-Bouton	De Marceay
Motobloc-Elastes	Barriaux.	Gladiator...	Vonlatum.
Brillie ...	Hérissé.	Westinghouse ...	Burekhard.
Gillet-Foret ...	Nemo.	Mercedes...	Gasteaux.
Cornilleau-Ste-Beuve	Cornilleau.	De Dion-Bouton	Vrignon.
Cottin-Desgouttes	Lature.	Aries ...	Vallée.
Rebour ...	Rivière.	Cottin-Desgouttes	Francès.

the fourth round still saw Sorel easily leading, he being five minutes in front of Renaux. Perret (Peugeot) had trouble through a broken spring, which delayed him considerably, the third place being taken by Vimont (Westinghouse). Petiet (Aries) was the only one to retire in this lap, leaving twenty cars in the running for the last circuit. Sorel, who was looked upon as the winner, unfortunately ran out of petrol ten kilometres from the finishing post, and, with Renaux going well, the latter proved an easy winner, he being four minutes ahead of Vimont (Westinghouse), who was second, Zélélé, a negro driver, being third on a De Dion. The following table gives the times of the eighteen competitors who finished:—

Order.	Driver.	Car.	Time.		Petrol Consumption.
			H.	M.	
1.	Renaux	Peugeot	4	32	69.2
2.	Vimont	Westinghouse	4	36	68.6
3.	Zélélé	De Dion	4	44	70.5
4.	Vrignon	De Dion	4	48	72.7



The Coupe de la Presse.—M. Renaux on the winning Peugeot Car passing through Cornilles.

Westinghouse ...	Vimont.	Cornilleau-Ste-Beuve	Morin.
De Dion-Ponton	Zélélé.	Lorraine-Dietrich	Sorel.
Aries ...	Petiet.	Cottin-Desgouttes	Cottin.
Vinot-Deguingand	D'Hespe.	Charron ...	Debray.
Peugeot ...	Perret.	Peugeot ...	Renaux.
M.G.R. ...	Rault.	Gobron ...	Dureste.

The first lap proved the fastest of the day, Sorel (De Dietrich) being round in 52 min. 42 sec., followed closely by Renaux (Peugeot) and Vrignon (De Dion). Three cars retired, viz., Rault (M.G.R.), Morin (Cornilleau-Ste-Beuve), and Gasteaux (Mercedes), the latter leaving the road at one of the bad turns and dashing into a field. Sorel still led at the end of the second round, Renaux being four minutes behind, and De Marceay (De Dion) third. The only one who fell out was d'Hespe, on the Vinet-Deguingand. The order at the end of the third circuit was unchanged as regards the first two places, but Perret (Peugeot) had run into the third position. Twenty-one competitors finished the lap, the missing one being Francès (Cottin-Desgouttes), who broke one of his wheels at Lieuray. The end of

5.	Cottin	Cottin-Desgouttes	4	53	62.3
6.	Burekhard	Westinghouse	4	53	69.3
7.	Molon	Gladiator	4	57	—
8.	Hérissé	Brillie	4	59	—
9.	Lature	Cottin-Desgouttes	5	4	—
10.	Dureste	Gobron	5	6	—
11.	Vonlatum	Gladiator	5	6	—
12.	Vallée	Aries	5	17	—
13.	De Marceay	De Dion	5	23	—
14.	Barriaux	Elastes	5	27	—
15.	Perret	Peugeot	5	52	—
16.	Rivière	Rebour	6	26	—
17.	Debray	Charron	6	36	—
18.	Nemo	Gillet-Foret	7	35	—

The winning Peugeot, which was fitted with Continental tyres on Vinet detachable rims, is rated at 28-h.p., the dimensions of the four-cylinder engine being 130 mm. bore by 120 mm. stroke. Renaux's running was extremely regular, as will be seen from his lap times, which were respectively 54 m. 57 sec., 54 m. 13 sec., 53 m. 57 sec., 54 m. 20 sec., and 55 m. 21 sec. His average speed worked out at fifty-four miles per hour

THE PEKIN-PARIS RUN.

THE ARRIVAL OF PRINCE BORGHESE IN PARIS.

THE last stage of the long journey which rendered the attempted trip by motor-car from Pekin to Paris *un fait accompli* was made by Prince Borghese on Saturday last, when he safely arrived in the French capital on his 40-h.p. Itala, amidst the cheers of the populace, who turned out in crowds to give him a royal welcome. The Prince left Pekin on June 10th, so that the journey occupied exactly two months. His route lay, for the most part, through uninhabited regions, across vast deserts, where the heat was overpowering, and over hundreds of miles of boggy and roadless country.

The following incidents of the run as far as St. Petersburg are taken from the "Daily Telegraph," which with notable enterprise secured as its correspondent Signor Luigi Barzini, who accompanied the Prince. On the third day the Itala car was buried over the axles in a morass, and held up by immense roots of trees, which had to be cut away with axes, whilst two days after it had to be drawn through about eighteen miles of deep sand by coolies and mules. At Pong-Kiong the "Daily Telegraph's" special representative's telegram on June 18th describing the journey was the first message despatched from that office, the only one within a radius of 100 miles, for six years. Near Urga the car stuck in a morass and fell on to its side. With the aid of Mongolians using beams as levers, and oxen, the car was pulled backwards out of the swamp. On the next day the vehicle again sank in thick mud to the axles, and gradually sank lower until rescued by Mongolian shepherds after the carriage work had been removed to lighten the car. It was a 'four hours' task, and the party encamped for the night on the Daturdaba Mountain. On June 24th the delicate parts of the car were removed to enable it to be dragged across the river Iro by oxen, and on the 25th a sandstorm was encountered, the car being nearly overturned. Between Misovsk and Irkutsk, in Siberia, the vehicle was taken for a winged locomotive by the villagers. On July 30th a bridge broke down, and the car and occupants were precipitated into a torrent, the passengers having a narrow escape. Three hours were occupied by Siberians in salving the car, which on the next day narrowly escaped collision with a railway train. On July 8th, failing other means of transport, a sunken boat was salvaged from the river Kemchuk, and used to carry the car across. It was engulfed in a bog on July 10th, the united efforts of more than thirty men and five horses being required to extricate the vehicle. The next day the river Tom was crossed by means of a boat impelled by four horses trotting in a circle on the deck and communicating their motion to the paddle-wheels. Just before reaching Omsk, on July 13th, the brake seized; the wood of the carriage-work caught fire, and axes had to be used before the flames were extinguished. Near Perm, on July 20th, the spokes of the left back wheel became loose, and were soaked in a bath all night, but on the next day the wheel collapsed, and was repaired by a native "telega" maker. The first well-made road since leaving Pekin was encountered near Kazan on July 22nd. Thirty versts from Moscow the car was met by a Cossack guard of honour, the Prince being accorded a great reception on entering the city, an occurrence which was repeated on his arrival at St. Petersburg.

In our last issue we published an exclusive account, by Captain Windham, of the arrival of the Prince in St. Petersburg. Leaving that city on the 2nd inst. the night was passed near

Dvinsk, and on the following day Kovno, 510 miles from St. Petersburg, was reached. The German frontier was crossed at Wirballen on the 4th inst., and, passing through Konigsberg, Elbing, and Marienburg, a halt was called at Stargard. The Prince's entry into Berlin was to have been a grand function on Tuesday, the 6th inst.; but he arrived at four o'clock on the previous afternoon, nearly twenty-four hours before the time fixed. He was met at Landsberg by four automobiles carrying representatives of the reception committee, the German Imperial Automobile Club, and the Italian colony, and, after some discussion, it was decided to continue the journey, the party pulling off at the Hotel Bristol, where a large concourse of people had collected. Tuesday was an off-day so far as travelling was concerned, but a busy one in other respects, among the principal items being a welcoming banquet at the German Automobile Club, and another given by the Italian colony in Berlin. Leaving the German capital early on the morning of the 7th inst., and escorted by a number of cars which had journeyed from Paris to meet the travellers, the way was made to Bielefeld (about 280 miles), a stop for lunch at the invitation of the local automobile club being made at Hanover.

Another stage was completed on Thursday, when Germany was left behind and Belgium entered, the stopping place being Liege. Paris could easily have been reached on Friday, the 9th inst., but, in order not to disarrange the plans which had been made for the Prince's reception, the night was passed at Meaux, only twenty-eight miles from the capital.

On Saturday last several hundred automobilists and cyclists went out to meet the Prince between Paris and Meaux in order to accompany him on his triumphal entry into Paris. In view of the relatively short distance Meaux was not left until about 2:30 p.m. At Joinville, on the outskirts of Paris, the bridge was blocked by motor-cars, bicycles, carriages and pedestrians on either side, and an immense shout went up as the car driven by Prince Borghese appeared in sight. Thence the drive through Paris, up

the Cours de Vincennes, and along the boulevards to the offices of the "Matin," the organiser of the run, was a long, uninterrupted crescendo of enthusiasm. The Prince Borghese frequently had to stop, his progress being barred by the great press of people. The crowd was densest along the grand boulevards, and, in spite of detachments of mounted troops sent to clear the way, the procession, headed by a huge motor-char-a-banc conveying a band, had considerable difficulty in reaching its destination. In the salons of the "Matin" the Prince made a modest little speech, in which he protested that he was not the hero his admirers would have him to be. He and his companions had accomplished their ride simply by patience and perseverance and by attacking each day's difficulties and obstacles without thinking of what the morrow would bring forth. It was by concentrating all their energy on each stage that they had been able to accomplish the journey from Pekin to Paris. Finally, Ettore Guizzardi, the Prince's mechanician throughout the trip, climbed into the historic car, and, backing it a few feet, drove it up an inclined plank on to a platform in front of the "Matin" offices, where it was on view for three days. In the evening the Prince was entertained at a banquet given in his honour by the Itala Company at the French Automobile Club. M. Henri Fournier, the Parisian agent for the Itala cars, read a long speech complimenting Prince Borghese on the achievement of his task, and drawing attention to the splendid merits of a

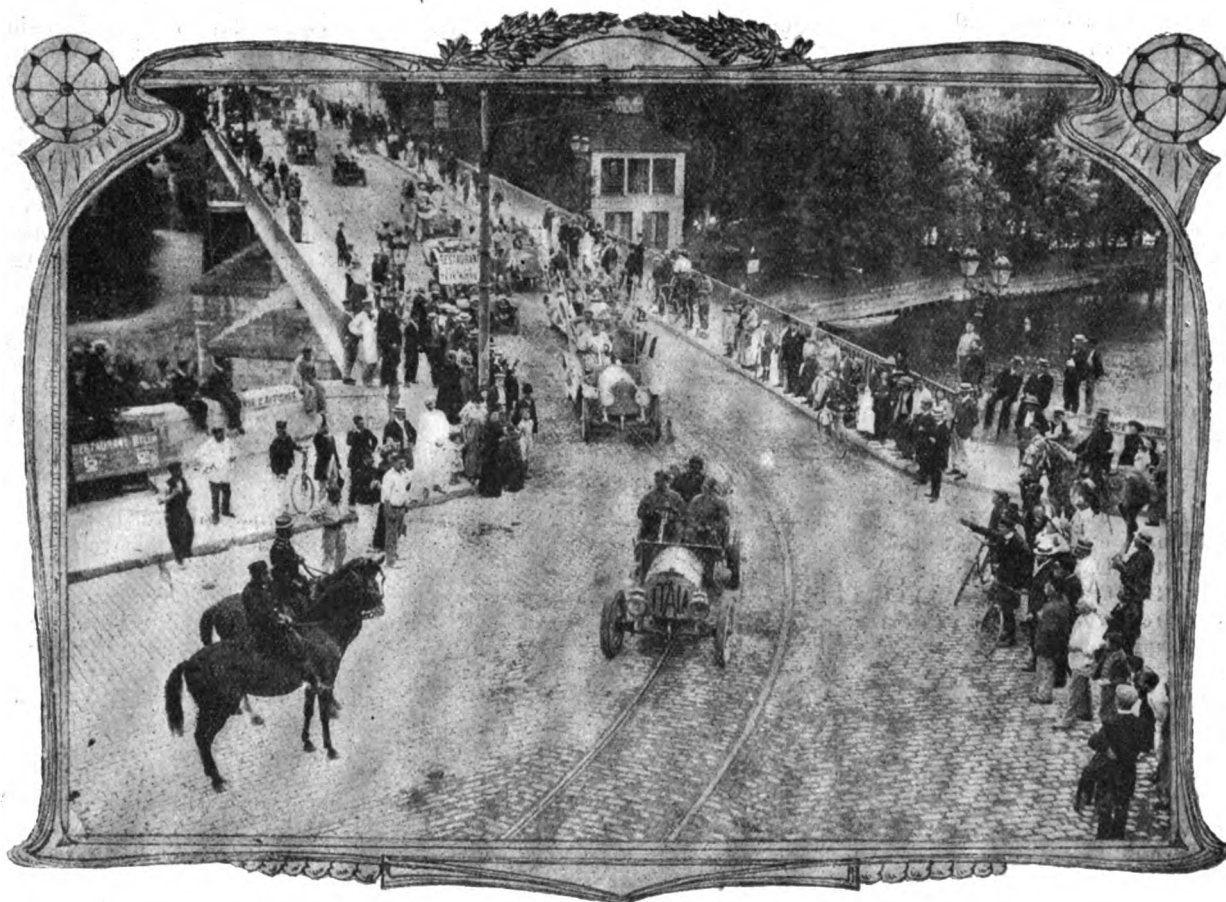


Prince Borghese

car which has accomplished a journey unequalled in the world's history. After the "Matin" toasts, of which there were two, Count Martignoni expressed the congratulations of Italian automobilists, and M. Verona spoke in the name of the Italian Press. The Prince in replying said he had no speech to make, only thanks to return. Thanks to the "Matin" for the conception and promotion of the run. Thanks to the Itala firm for the splendid machine that had carried him through so successfully. Thanks to France and its great automobile industry, which by its labours in earlier days had rendered it possible for mechanical locomotion to reap such a triumph. Later a grand fete was held in the Tuileries Gardens, with cinematograph and firework displays.

The appended table shows briefly his progress across the two continents:—

In the course of an interview at Meaux the Prince stated that the run through China was fairly good in places, but bad in others. The greatest trial was the Gobi Desert. He never at any time, however, had any difficulty in finding his way, for he always kept close to the telegraph wires. The car is exactly as it left Pekin sixty days ago, excepting that one of the rear wheels, the two back springs, and a front one have been replaced. At no time throughout the journey were the travellers ever in serious want of food. "On the whole," he added, "I am tired after all the banquets and luncheons, and I am glad the race is over. I could, of course, have arrived in Paris at least a week ago, had I not been detained by many kind-hearted people who wished to honor us on our way through their districts. I am not, however, the least bit physically tired, though I have had sixty days in an automobile, with only an average of five hours sleep a day. I



The Pekin-Paris Run.—The arrival of Prince Borghese on his Itala Car in the French capital.

June 10.—PEKIN.	July 12.—Kolivan.
" 11.—Cha-tau-Chung.	" 13.—Kainsk.
" 12.—Shimpamwan.	" 14-16.—Omsk (3,000 miles).
" 13.—Shin-wa-fa.	" 17.—Ishim.
" 16.—Kalgan.	" 18.—Tumen.
" 17.—50 miles from Kalgan.	" 19.—Ekaterinberg.
" 18.—Pong Kiong (300 miles).	" 20.—Perm.
" 19.—Udde.	" 21.—Village near Perm.
" 20.—Tuerin (650 miles).	" 22.—Melet.
" 21-23.—Urga.	" 23.—Kazan.
" 24.—Daturdaba Mountains.	" 24.—60 miles from Kazan.
" 25.—Kiatkha.	" 25.—Nijni Novgorod.
" 26.—Verkhnoudinsk.	" 26.—Vladimir (5,600 miles).
" 27-30.—Misovsk (1,260 miles)	" 27-30.—Moscow.
July 1.—Tankoe.	" 31.—Novgorod.
" 2.—Irkutsk.	Aug. 1.—St. Petersburg.
" 3.—Zima.	" 2.—Near Dvinsk.
" 4.—Nijniudinsk (1,770 miles).	" 3.—Kovno.
" 5-6.—Kansk (2,000 miles).	" 4.—Stargard.
" 7.—Krasnoiarsk.	" 5-6.—Berlin.
" 8.—Atchinsk (2,200 miles).	" 7.—Bielefeld.
" 9.—Mariinsk.	" 8.—Liege.
" 10.—Turuntayeva.	" 9.—Meaux.
" 11.—Tomsk (2,500 miles).	" 10.—PARIS (between 7,000 and 8,000 miles).

remain in Paris for a few days; then I go to Milan, and finish my journey at Turin on August 22nd."

THE Victoria Carriage Works, Ltd., have lately supplied a 24-30-h.p. Leon Bollee car with special landaulet body to Capt. Cottrell-Dormer, of Oxford.

FROM Messrs. Hans Renold, Ltd., Progress Works, Manchester, we have received a copy of a new booklet they have just issued relating to their patent silent chain and sprockets for high-speed driving. This form of chain is now being largely used on motor-buses and industrial vehicles, and the work before us deals very fully not only with its principle of action, but also with the care and attention which it requires. It is made in various types, the latest pattern having a patent bearing, which gives a considerably increased wearing surface and consequent additional durability to the chain. The final pages are devoted to some illustrations showing different applications of the silent chain, the book generally being one of the most complete of the kind that we have received.

A MOTORIST'S CAUSERIE.

IF some of those anti-motorists who are continually writing to the daily papers with regard to the dust nuisance could only be taken for an automobile tour of the southern counties, they would, I fancy, be astonished at the large amount of work that is being quietly done in the way of road tarring with the view of alleviating the trouble. On several recent runs through Surrey and Sussex to the coast—Brighton, Eastbourne, Bognor, and elsewhere—I have passed many empty tar barrels on the roadside, silent evidence of the change that is being made, and the fact that those responsible for the maintenance of the roads are fully alive to the necessity of the times.

I AM glad to see the subject of cars running better at night than during the day has been revived. Although not altogether prepared to agree with the theory advanced by Mr. Duckham, I am fully in accord with him that engines do run better in the evening than in the day. Only the other week, when we had what was, for this wet summer, an unusually sunny day, my car was running anything but well in the afternoon, the engine being in a mood of fits and starts, and I tried various remedies, but all to no purpose, and eventually decided to push along

man, had wished his son to follow in his footsteps and do his military service, his duties in the performance of which had brought him amongst the men engaged in guarding the Grand Prix course.

THE Continental Tyre Co. have, I notice, lately raised the question whether it is advisable to fit only one non-skid on the rear wheel of a car. Many people assert that one non-skid fitted on either of the back wheels is quite sufficient to prevent skidding, whilst others whose opinion is equally authoritative consider that two non-skids are essential. The matter, however, must be regarded from a practical standpoint, and let me, therefore, take the following instance. An 18-h.p. touring car was fitted with a non-skid tyre on one of the back wheels and a plain tread tyre on the other, and it was observed that the wheel fitted with the non-skid was subjected to a greater strain, doing, in fact, all the pulling of the car, whilst the other wheel with the plain tread barely, and sometimes even did not, touch the ground. In hilly districts this was even more discernible, especially on slippery roads, the car sometimes making practically no headway owing to the strain being all on one side. The effect of the combination was to quickly reduce the tread of the plain tread tyre to shreds, consequent upon the plain tyre not having the



The Pekin-Paris Run.—The arrival of M. Godard on the Spyker Car at Tomsk, Siberia.

home as best I could. To my surprise, as the evening wore on the motor forgot all its troubles and "pulled" as well as it has ever done. In my own mind I attributed this to the very reverse of Mr. Duckham's reason, viz., to the moist condition of the air—a view which is to some extent substantiated by the experiments which have been made in the way of introducing water into the explosion chamber. There is no doubt that this is one of the many "unsolved problems" of motoring, but some day the true explanation will be found.

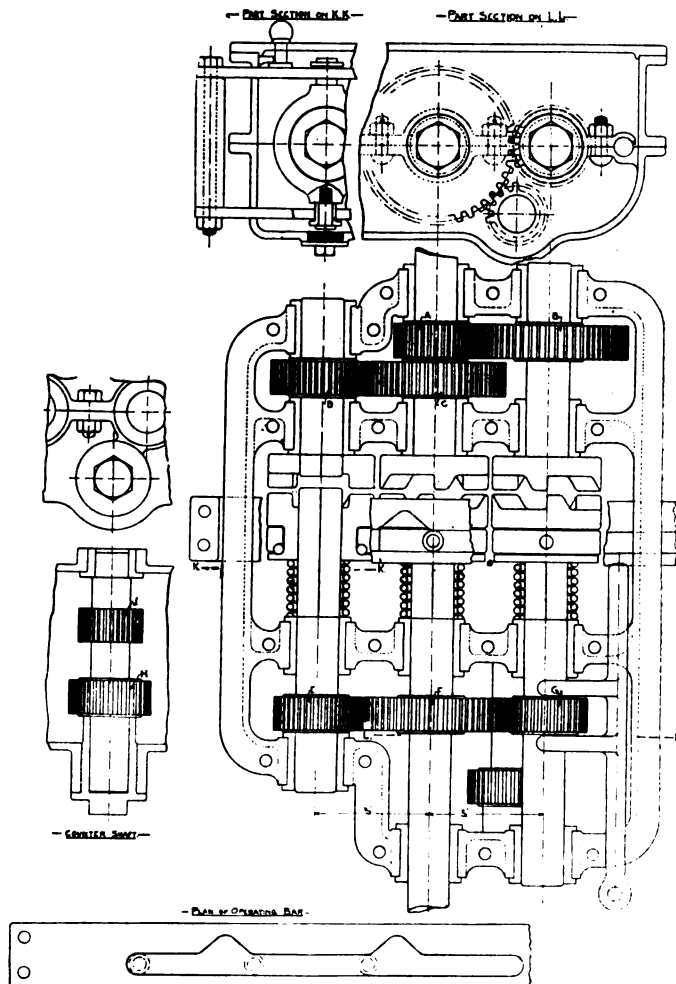
MR. MORGAN DONNE, of Messrs. Donne and Willans, Ltd., the Rochet-Schneider agents, told me the other day of a curious experience he had over in Dieppe, on the occasion of the Grand Prix Race. After spending some time at the grand stand he made his way towards the fork in order to see for himself how the racers took the nasty turn. Taking up his position near some French soldiers, he was astonished to hear one of them address him in good English, "Aren't you Mr. Donne?" Explanations followed, and it turned out that the soldier in question was born in London and had been a traveller in the motor accessory trade in the metropolis. His father, a French-

same grip upon the road as the non-skid. If the rear wheels of cars are fitted with tyres of which the co-efficient adhesiveness varies, it seems to me only natural that the wheel which is less adhesive will revolve more easily as the motive power is increased to drive the car forward. This is, however, not with advantage to the tyre, but at the cost of the materials of which it is manufactured, viz., the rubber and the canvas. With the combination of one non-skid and one plain tread tyre it is not only the latter which suffers, but also the former, which is subjected to twice the amount of the ordinary strain. The natural inference to be drawn is, I think, that both rear wheels should be fitted with non-skids, but, if there are motorists who think otherwise, I am open to conviction.

WITH reference to the subject of motoring in the Isle of Wight, a correspondent, who signs himself "Satisfied," writes me that he has motored in the Isle of Wight ever since 1899 and used many kinds of cars. "My repairs have always been done in thorough business-like way by Mr. A. Clarke, of George Street, Ryde, whose excellent skill has induced the Automobile Club and Motor Union to appoint him as their official repairer." ARCANUM.

THE LOCKE CHANGE-SPEED GEAR.

WE illustrate herewith the details of an improved change-speed gear which has lately been devised by Mr. D'Arcy Locke, of the Wick Motor Depot, Christchurch, Hants. The gear has been specially designed for motor-bus work, or on other cars in which a frequent change of speed is necessary. As will be seen, it is of the type in which the pinions are always in mesh. The extension of the engine crankshaft, or the main clutchshaft, carries fixed to it two pinions, A and C, meshing with pinions B and D, carried on short countershafts. These latter, as also the main shaft, terminate in dog clutches—at about the centre of the gear-box—by which they can be connected at will to other short countershafts or the main tail shaft respectively; these countershafts also carry fixed to them



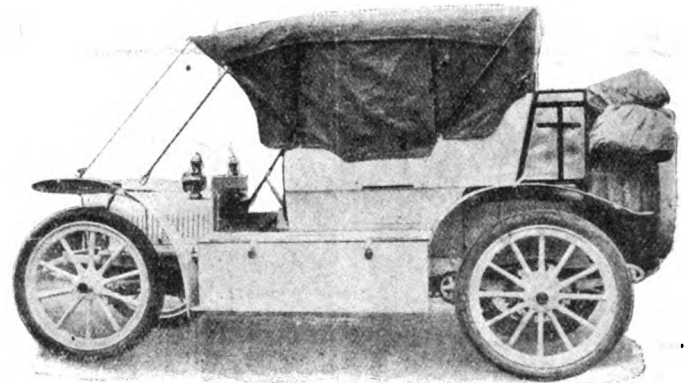
Sectional Plan and Detail Views of Locke Change-speed Gear.

the pinions E and G, running in mesh with the pinion F on the tail shaft. Thus, by letting in the required clutch, the first speed is obtained through the pinions A and B, and thence through G to F on the tail shaft. Similarly the second speed is through the pinions C and D and thence through E to F, whilst the third speed is direct, the two side clutches being disengaged and the central one brought into engagement. The clutches are held out by the actuating bar seen at the foot of the illustration, and are forced into mesh by the spiral springs shown, the operating bar being actuated by a single lever. The reverse motion is obtained by sliding the pinion G back into mesh with an intermediary spur wheel. The drawings show shafts fitted with plain bearings. These can, however, if necessary, be replaced by ball bearings, while the Hele-Shaw disc clutches can be substituted for those of the dog type. Mr. Locke claims that not only is the gear noiseless, but, the pinions being always in mesh, it is practically everlasting. As the drawings show, the

arrangement is very compact, and, the shafts being short and well supported, it is strong and rigid, rendering it well adapted for hard work.

ACROSS AFRICA BY MOTOR-CAR.

MUCH interest is being shown in Germany in an attempt to cross Africa by motor-car which is being made by Lieut. Graetz, who left Dar-es-Salaam, German East Africa, on Saturday last, accompanied by Herr von Roeder and a mechanic named Neuberger. Graetz purposes to make his way to Tabona, the biggest native town in the Protectorate, using, of course, the caravan road. From Tabo he will strike off to Bismarcksborg, at the southern corner of Lake Tanganyika, one of the toughest bits of German territory. This behind him, the officer will reach British territory, Karonga on the Nyassa, across which his car will be towed on a barge. Thence the route runs over mountainous ground to Fort Jameson and farther on to Mwomboshi, where it intersects the Cape-to-Cairo railway line, and from this point the road to Bulawayo offers no striking difficulties. The next town of any importance in his programme is Palapye, to the north-east of the Kalahari Desert, which he



purposes crossing along the road, about 750 miles, mapped out by Professor Passarge. We give an illustration of Herr Graetz's 45-h.p. car as equipped for its long journey. It was built by the Sueddeutsche Automobilfabrik of Gaggenau, and is fitted with wheels of larger diameter than usual and also a radiator of increased capacity. The outfit includes a full supply of spare parts and a telephone apparatus so arranged that it can be connected up to any telegraph line *en route*, and two U-shaped rails to enable the car to cross any soft places or streams that may be encountered. About 90 gallons of spirit are carried, and arrangements have been made for additional supplies at some of the stations to be passed through. Herr Graetz expects the journey will occupy about six weeks.

MR. RANDEL has recently opened a new motor garage in Colombo, where he has also established a motor repair department in charge of Mr. T. Young. The garage is 100 feet in length by 65 feet in breadth and is equipped with all necessary machinery for the repair of cars, as well as with the H.F. appliances for vulcanising tyres. It will be of service to the growing number of motorists in Ceylon.

THE judging for the July competition promoted by Argylls Motors, Ltd., took place at 17, Newman Street, W., on Friday, the 9th inst., when a large batch of claims from private owners of Argyll cars was thoroughly sifted. The handsome silver rose bowl, valued at 50 guineas, the prize for the July competition, was awarded to Mr. J. H. Crowther, of Huddersfield, who had driven one of the new types of 14-16-h.p. Argylls from Glasgow to Huddersfield in splendid time, and, in spite of the many stiff gradients he had to negotiate, without changing gear once during the whole journey.

THE Mayor of Johannesburg has a motor-car provided by the municipality, which allows him £500 a year for its maintenance.

A MANSION at Redhill has been entered by burglars, who with the aid of a motor-car managed to get away with about £1,000 worth of silver and silver plate.

THE ferry bridge over the Arun at Littlehampton is to be superseded by a new steel girder bridge. This will be opened early next year, and will do much to facilitate traffic along the south coast, notably between Brighton and Bognor.

THE police in the South Wales district are waging war on the lads who throw stones, &c., at motorists, and at Penarth the other day seven boys were fined 10s. each or seven days' imprisonment for thus endangering the lives of users of the public highway.

A CENSUS of the traffic through Staines on a recent Race meeting day was taken by the surveyor to the local urban District Council, and showed that of 8,909 vehicles passing through the main street of the town, no fewer than 1,366 were motor-cars.

ON the Itala car with which Prince Borghese journeyed from Pekin to Paris D.W.M. ball bearings were fitted, and none required renewing during the journey—a tribute to the efficiency of these bearings, with which the name of Messrs. Ludw. Loewe and Co., Ltd., is identified.

WE learn that Mr. W. T. Lord is resigning his position as the manager of Messrs. Straker Squire's establishment in Shaftesbury Avenue, W.C., to rejoin Messrs. Argyll Motors, Ltd., under which firm he will hold a responsible position. Mr. Lord will be settled at the Argyll Works, Alexandria, N.B.

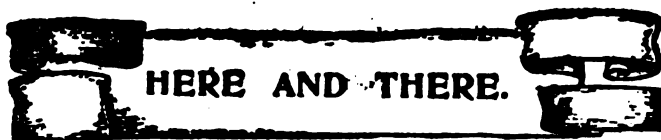
THE strikes that have taken place in Belfast have incidentally favoured the introduction of motor-cars and wagons for the conveyance of goods, where previously horse drawn traffic prevailed. During the past few days the cross channel steamers arriving at Belfast carried an unusually large number of vehicles for service in that city.

THE H.F. system of vulcanising is becoming a recognised part of the equipment of Scottish motor repair establishments, the necessary plant having been installed at Cupar by Messrs. E. Walton and Son, at Montrose by Messrs. A. Milne and Son, at Brechin by Messrs. A. Simpson and Son, and at St. Andrews by Messrs. A. Duncan and Son.

JUDGING by the illustrations, Mr. J. C. Dare's new novel, "Champion, the Story of a Motor-Car," belongs to the sensational class. According to the publishers, Messrs. Cassell and Co., Ltd., it "palpitates with the energy of the car, while the treacherous love of one woman, and the crowning truthful love of another, lend sentiment to the throbbing interest of a telling tale."

THE first prosecution under the new bye-laws of the Thames Conservancy Board has just taken place, the owner of a motor-boat having been fined seven shillings and costs for opening a can of petrol on a motor-launch while waiting with other boats in Molesey Lock.

THE acquisition by Messrs. A. W. Gamage, Ltd., of Holborn, of the business of Messrs. Benetfink and Co., in Cheapside, E.C., is an event of interest in the commercial circles of the City. This amalgamation of one of the oldest trading firms in Cheapside with the modern emporium further West gives Messrs. Gamage a unique position. Their motor accessory department has grown to considerable dimensions, and the smaller branch which Messrs. Benetfink have established in Cheapside will, of course, be extended and brought up to date, to the convenience of the many motorists in the district about the Guildhall. In making this announcement to the Press the other day, Mr. A. W. Gamage referred with pardonable pride to the development of his firm, which has paid such close attention to the requirements of the man who motors.



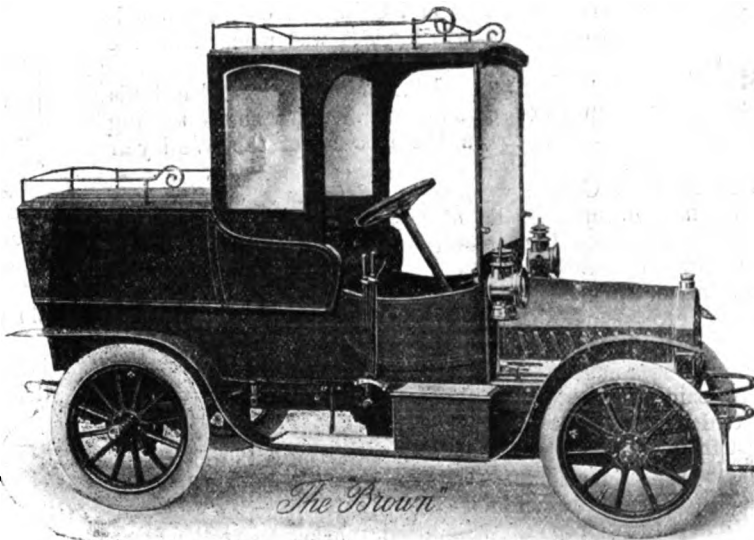
MESSRS. FRANCIS BROS., of Barnet, are the official repairers to the R.A.C. in that locality.

DURING the first half of the present year the nominal capital of the motor, cycle, 'bus and car companies registered in

England was £4,591,191; Scotch and Irish registrations of the same group totalled £53,500.

THE "Ever-ready Soap" is being introduced to the motor industry by Messrs. Henry Lewis and Co., 274, New Cross Road, Deptford, London, S.E. This is recommended to remove grease and dirt, and, being applicable with or without water, should prove of great service to motorists in removing objectionable matter from the hands when such could not otherwise be possible. It is put up in neat tins and has the advantage of economy in price as well as efficiency in application.

WE illustrate herewith the useful 10-12-h.p. car specially designed for the use of commercial travellers which has recently been put on the market by Messrs. Brown Bros., Ltd. As will be seen, the body has been devised so that the traveller and his driver shall be protected even in bad weather, the front seats being not only provided with a canopy, but with front glass screen and side doors. The rear portion takes the form of a large chest, in which a wide range of samples can be carried.



The "Brown" 10-12-h.p. Travellers' Car.

The chassis is of the Brown 10-12-h.p. two-cylinder standard type. The change-speed gear is adapted to give three speeds and a reverse, with direct drive on the top through a cardan shaft and bevel gear to a substantially-constructed live axle. Altogether the vehicle is one which should meet the requirements of a large number of "commercial," and enable them to cover their ground in much less time than is possible by the usual horse-drawn broughams, or to considerably increase their range of action within the usual business hours.

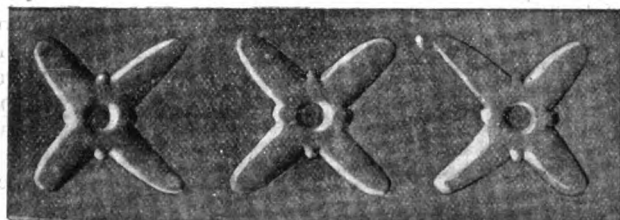
FOR these motorists who visit Ireland by the Fishguard and Rosslare route of the Great Western Railway co. Wexford is, practically, the starting point of their Irish tour. The town is prosperous, according to the idea of prosperity that prevails in the Emerald Isle, and the Corporation is enterprising enough to publish a capital guide to the place. On the Quay, Messrs. Thompson Bros. have a garage and repair shop for motor-cars—ranking among the largest in the country. They are well acquainted with all types of cars and keep a large staff of mechanics for dealing with any vehicles going that way. In addition to the repair of motor-cars, Messrs. Thompson Bros. have large stocks of spare parts, tyres and petrol, and their advice may be usefully sought by English motorists travelling in that part of Ireland.

MR. E. W. GLASSCOCK has extended his motor garage in South Street, Bishop's Stortford.

At Thorne, near Doncaster, Mr. G. W. Simpson has a motor repair establishment, and also stocks petrol and accessories.

MOTOR-CAB weddings are becoming popular in many districts, and ten motor-cabs were employed by a bridal party in a London suburb the other day.

It is claimed by the Motor House that their "Garantire" tyre is the only fully guaranteed tyre upon the market, their bond, a copy of which is given with every cover sent out,



stipulating a minimum life of 4,000 miles. The accompanying illustration shows the registered design of the tread of the "Garantire" tyres.

ALTHOUGH the President of the United States has never been quite won over to the automobile, his young sons are fast learning how to manipulate a motor-car.

THE last news of the Pekin-Paris competitors—M. Godard on a Spyker, and MM. Cormier and Collignon on De Dions, is from Nijni Novgorod, Russia, which place was reached on the 12th inst.

MR. CUTHBERT MORRELL, J.P., of York, has placed his motor-car at the disposal of some local ministers who are touring the villages around the city in the interest of the Wesleyan Foreign Missions.

THE Humber Company have completed at their Coventry works the first of a new model of motor-cabs. The vehicle is fitted with a 10-12-h.p. four-cylinder engine ingeniously arranged below the driver's footboard.

THE motor works of the Elsworth Motors, Ltd., in Bradford, have come into the market owing to the death of Mr. Elsworth, who went down in the "Berlin." At the auction last week the reserve price was not reached.

THE painting of his motor-car number on a piece of card-board tied to the car with a string has not saved a Derby motorist from being fined 10s. and costs at the Kington (Hereford) police court for using a motor-car with "the identification mark at the rear of the same not easily distinguishable."

THE new tariff proposals submitted to the Australian Parliament provide for a tax on foreign motor-cycles of ten guineas or 30 per cent. and of £10 or 25 per cent. on those of British origin. In each case whichever sum is the larger will be required. For motor lorries, wagons, carts, and parts the respective rates are 35 per cent and 25 per cent.

A REPAIR shop for motor-cars as well as a conveniently located garage has been established by the Dublin and Glasgow Motor and Engineering Company, 27, Lotts, off Middle Abbey Street, Dublin. Messrs. W. A. Porteous and M. Weidner are the proprietors of the establishment. Both are well able to assist motorists touring in that part of Ireland.

MOTOR-CARS were greatly in evidence at the Ludlow Agricultural Show. Among the many there with parties were Sir C. Rouse Boughton, Bart., Sir Wm. Curtis, Bart., Mr. Hugh Heber Percy and Mr. Whitaker, of Bromcroft Castle. It would seem that agriculturists at their annual show are doomed—if it can be so put—to have as many motor-cars about them as horses.

MOTORING is making rapid progress in the Argentine Republic. A correspondent in Buenos Ayres writes that the automobile exhibition which is shortly to be held in that city is already an assured success. Arrangements are also in hand for holding a road race in November next from Buenos Ayres to Tigre and back for the El Pais Cup. There is also some talk of building a motor track in the Palermo Park.

IN the Victoria Road, Scarborough, Messrs. Castlehouse Bros. have opened a well-equipped motor garage with accommodation for about a score of cars.

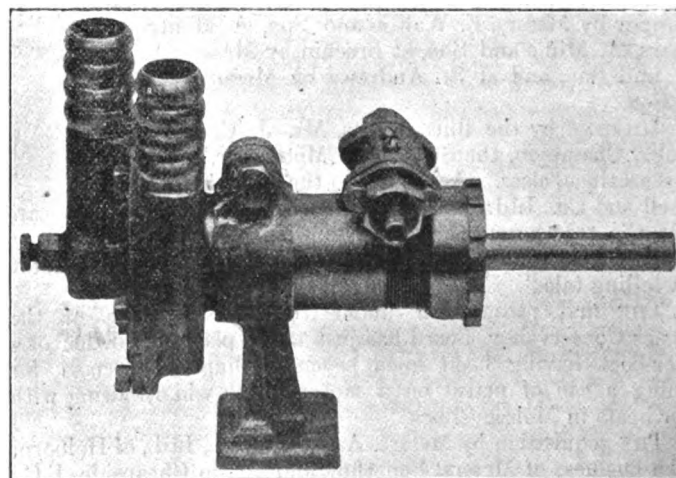
A MOTOR ambulance car is proposed for Swansea, and at several local works subscriptions are being collected for its purchase. The chief constable of the town is interesting himself in the matter.

THE Motor Club of Victoria (B.C.) has issued a circular giving the rules of the road in British Columbia for the benefit of visiting motorists. The most important point of difference between these rules and those usually observed in America is that one keeps to the left side of the road instead of the right and in overtaking and passing vehicles going in the same direction one passes on the right.

At the meeting of McNamara and Co., Ltd., on Tuesday, Sir J. Pound, who presided, said the Postmaster-General had expressed satisfaction at the manner in which the company had carried His Majesty's mails. Their experience with motor vehicles had been varied but valuable. They had, during the past few months of the present financial year, managed to work their motor-vans more satisfactorily, both as to work done and with regard to maintenance charges. Motors for commercial purposes were yet in the experimental stage, but the facilities they offered for quick transit were likely to be further made use of.

PRINCE SCIPIO BORGHESE, the hero of the Pekin-Paris run, is the second son of Prince Paul Borghese, a keen sportsman, and is only thirty-six years of age; he is a scion of one of the oldest Roman families. Various honours have been conferred upon them by successive Popes, and they have given Cardinals to the Church. It was Cardinal Camillo Borghese who ascended the Papal Throne in 1605 as Paul V. Cardinal Scipio Borghese built the Villa Borghese, just outside Rome, which a few years ago was acquired by public subscription and presented to the City of Rome. Prince Mark Antony Borghese, who married Pauline Bonaparte, the sister of Napoleon I., sold to his brother-in-law the Borghese art collection for 13,000,000 francs, receiving in part payment the principality of Piedmont. At the fall of the Napoleonic kinglets the Prince lost his throne and received back a portion of his ancient sculptures.

AN ingenious combination water and oil circulating pump is being made by M. J. de Boisse, of Billancourt (Seine); it is driven by one set of gearing in the usual way either by pinions



or chain, and while it is claimed to be impossible for any leakage of water into the oil or *vice versa* to take place, the heat of the circulation water keeps the oil in a liquid state, however cold may be the atmosphere.

THE six-cylinder Hotchkiss has now completed the semi-final week of its undertaking, and has added another non-stop run of 937 miles to the already large non-stop total of 9,273 miles. The car has travelled, including the 6,250 miles in France, 20,523 miles.

CONTINENTAL NOTES.

An Anti-Automobile Society in France.

France has at last got its counterpart to the Highways Protection League, La Société Protectrice Contre l'Excès de l'Automobilisme, having just been formed by the efforts of M. Ambroise Colin. The chief object of the new body will be to secure reforms in the laws concerning accidents due to the reckless driving of motor-cars, so that those responsible will be held more fully accountable. The figures which have been compiled to indicate the necessity of such reform show that while in 1899 there were only 1,534 accidents in France attributable to automobiles, the number increased to 1,860 in 1902, 2,328 in 1903, 3,969 in 1905, and to 4,725 in 1906.

Motor-Car Sales a Bulgarian Monopoly.

It is reported that the Bulgarian Government has decided to make the sale of motor-cars in the country a monopoly, and that offers are shortly to be invited for the undertaking.

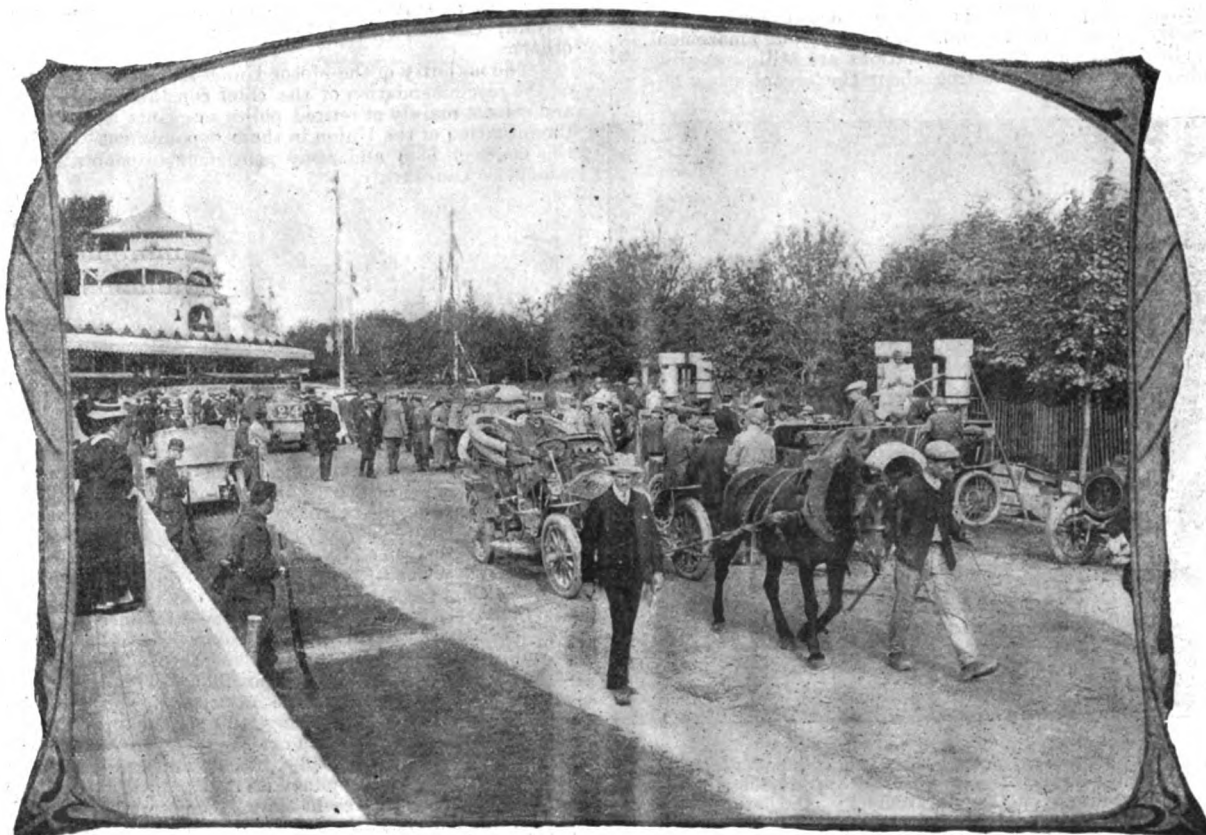
ments are also in hand for the starting of a public service between Rothenburg and Leukeshausen.

Public Services in France.

Public motor-car services are being established between Aix-les-Bains and Chambéry and between Grenoble and La Grande Chartreuse. The vehicles which are being employed are of the Mors 28-40-h.p. type, fitted with 12-seated bodies.

Miscellaneous Items.

Arrangements are in hand for the formation of a Motor Volunteer Corps in Spain.—The Automobile Club of Padua, Italy, is organising a motor meeting for September 8th, when a series of one and ten kilometres speed trials will be held.—A service of motor-cabs is being introduced into the town of Würzburg, Germany.—The King of Saxony has just ordered a new 45-h.p. Mercedes car.—A French company has recently formed a company at Stockholm for the introduction of



The Coupe de la Presse.—The cars, after being filled up with the measured quantity of petrol, were hauled to the starting point by horses.

The 1908 French Motor Racing Season.

It is reported that the Competitions Committee of the A.C.F. is busily engaged in arranging the dates for the principal motor-car races to be held in France next year. It is stated unofficially that the Grand Prix will again take place at the beginning of July on the same circuit as that employed this year. The Coupe de la Presse has also proved so successful that the event will most probably be repeated under the same rules and regulations, about a month after the Grand Prix.

A Miniature Four-cylinder Car.

The N.S.U. Company, of Neckarsulm, Germany, which has hitherto confined its attention to motor-cycles, has just brought out a miniature four-cylinder car, the engine being rated at 6-10-h.p.

Public Services in Germany.

A company has been formed in Geestemünde to establish a service of motor-buses between that town and Stotel. Arrange-

taximeter motor-cabs in the Swedish capital. It is stated that sixty vehicles will shortly be placed in service.—Thirty-two motor lorries have already been offered by manufacturers to the French war authorities for use in connection with the forthcoming military manoeuvres in South-West France.—The date of the international motor-car race in Roumania has been fixed for September 27th.—The Saxon Ministry of War has placed an order for a 50-h.p. Nacke car with limousine body for the use of the Commander-in-Chief.—The touring competition for the Rochet-Schneider cup, which was to have been held on the 19th inst. under the auspices of the Automobile Club de l'Auvergne, will not take place, the French Government, as a result of the accidents in the Criterium de France, having refused permission for the event.—The next motor-car exhibition in Brussels is to be held from December 21st to January 2nd next.—The "Auto," of Paris, proposes to hold a reliability trial for single and double-cylinder cars at the end of October next.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE CONTROL OF THE ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is probably within your knowledge that some differences of opinion exist between the Motor Union and the Automobile Association in connection with the adoption by the former body of a badge so like our own that our scouts often find it difficult to distinguish between them.

The Automobile Association was formed with the primary object of employing road agents for the purpose of assisting motorists, while the work of the Motor Union has been confined chiefly to legislative matters, and with the latter (until the adoption of a badge), and with the other well-recognised functions of the M.U., the A.A. has always been careful not to interfere.

The sphere of work of these two important institutions being so widely dissimilar, my committee keenly regretted the misunderstandings which had arisen, and feeling that a continuance of them would be inimical to the interest of both bodies and to motorists generally, set themselves to try to remedy the present regrettable state of affairs. To this end, meetings between leading members of both executives took place quite recently in the Motor Club. Judge of our amazement, therefore, on finding that while these negotiations are still proceeding, the Motor Union is deliberately setting about the organisation of a

warn drivers of dangerous places, and to advise motorists when driving through villages and towns where special caution is necessary.

The Union have been moved to take this step in consequence of the many complaints that have been received from small towns and villages on the main roads as to the inconvenience and annoyance caused by the passage through them of many hundreds of cars. The annoyance so caused has given rise to demands for the imposition of speed limits of five and ten miles an hour.

The Committee of the Union do not believe that the multiplication of speed limits would meet the difficulty, and have therefore resolved to take the above step in the belief that it will be more likely to bear practical results by restraining speed through villages and towns and checking the small minority of reckless and inconsiderate drivers who are doing so much harm to the movement.

Before bringing the scheme into operation the Union communicated with chief constables throughout the country, with the result that the co-operation of the police authorities has been generally secured.

The Union agents will be distinguished by a cap, a belt, and armlet. They will be stationed on the Hastings, Brighton, Portsmouth, Bath, Oxford, Cambridge, and Leicester roads, the Great North Road, and others.

The majority of the Motor Union road agents have been appointed on the recommendation of the chief constable or local superintendent, and consist mainly of retired police-sergeants and constables, and it is the intention of the Union in these appointments to give preference to this class of men and army pensioners in connection with their road scheme.—Yours truly,

C. D. ROSE,
Chairman, the Motor Union.
W. REES JEFFREYS,
Secretary, the Motor Union.

TO THE EDITOR OF *The Motor-Car Journal*.

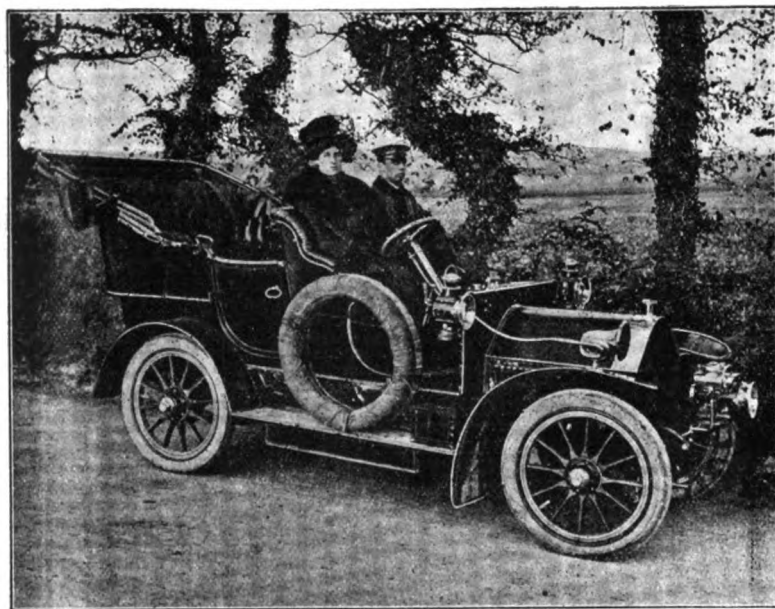
SIR,—As a founder member of the Automobile Club, and one who keenly had its interests at heart up to a few years ago, I, after the rupture, certainly did not have the same confidence, and lost a certain amount of interest in its policy; but when the Motor Union was formed, the possibility of such a body appealed not only to the writer, but to a large number of other motorists. The squabble between the Automobile Club and the Motor Union did not add lustre to the former body, and the very clever secretary of the Motor Union deserved his success in gaining for his members what was indubitably the proper solution of the dispute. Much was expected from the Motor Union by motorists, but what has been done? Practically nothing. Partial assistance has been afforded in a few law cases, and there has been a fair amount of success in preventing a few roads from being closed or falling within the ten mile limit. In regard, however, to these ten mile limit areas, in most instances motorists themselves would have been liable to have been fined for going at anywhere near that speed, for such a pace in many instances would be well nigh impossible.

Then arose the Automobile Association, springing from the ranks of motorists themselves, it being felt that the formation of such a body was the only means by which cars would be enabled to be driven in comfort and safety on the road. Its success was instantaneous, and all classes of owners readily joined its ranks, until, I understand, there are 5,000 members at the present time. The committee are all drivers and owners, and embrace all shades of opinion—but they are unanimous in their love of the car—and work harmoniously towards making it possible for motorists to ride in comparative comfort on the road.

What have the Motor Union done in this direction? Nothing. But, notwithstanding the fact that nearly all the members of the Automobile Association are members of the Motor Union, the latter at this late hour, apparently frightened at the success of the younger and more energetic and representative body, tardily have not only closely copied the Automobile Association badge (a most paltry and unsportsmanlike action), but are now seeking, by communication with the police, to place upon the road in stationary positions a certain lot of old fossils dressed as if preparing for a circus, to act as—what? One was stationed at the end of the tram line between Kingston and Thames Ditton (Winlow Bridge) on Saturday last, and very unhappy he looked, his hands folded behind, except when his back was to the road, and ne'er a sign did he give, although a large number of cars were passing. The Automobile Association scouts were on bicycles, and were well in evidence where they should be, patrolling the roads. The only badges seen on cars were Automobile Association badges, and very few were seen without this symbol. Not one Motor Union badge was noted, and for honour's sake I trust few will be seen.

As a humble member of the Automobile Association, a consistent road user, and one holding the belief that he has saved the amount of his membership many times over, I cannot conclude without wishing every success to the Automobile Association, and trust that its membership will go on increasing, and that its power will be extended until it ultimately becomes the ruling body for Automobillism.—Yours truly,

AB INITIO.



Mrs. Brooke, of Westgate-on-Sea, at the wheel of her 15-h.p. Coventry Humber, which she has driven for considerably over 15,000 miles without any mechanical trouble.

system of road scouts on roads which are already patrolled by A.A. scouts, thereby duplicating the work and unnecessarily draining the funds of the Motor Union, and are sending to automobile clubs throughout the country a long circular inviting their assistance in so doing, and concluding with the insidious enquiry:—

“Do you think it would be an additional inducement to motorists to join your club, if, by so doing, they could obtain the services of a disciplined force of road protectors?”

Envious of the great position the Automobile Association has earned for itself, apparently jealous of its phenomenal popularity, and despite the fact that the action in copying our badge was almost universally condemned, the Motor Union is endeavouring to appropriate the principal feature of our organisation, and is making one more attempt to hinder and confuse the work we are doing.

In putting the facts before you, Sir, I think you will agree that the Automobile Association has a very genuine grievance, and that we are right in continuing to resent in every possible way this unfriendly and unsportsmanlike cribbing of our ideas and policy.—Yours truly,

W. J. BOSWORTH, COL.,
Chairman Automobile Association.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a matter of some public importance, it may interest your readers to learn that the Motor Union of Great Britain and Ireland have resolved to place a number of trustworthy road agents upon the roads to

MR. EDGE'S CHALLENGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with considerable amusement Mr. S. F. Edge's challenge. After having carefully prepared six cars, he challenges the world in the sum of £1,000, or he suggests that some firm should go to the expense of spending £6,000 to possibly capture £1,000, and further that every firm who wish to compete must make special cars to fulfil the necessary obligations of their being of equal cubical contents to his own.

Mr. Edge's £1,000 are very safe. Possibly the safety was the reason of the challenge.

Surely there is no need for such a challenge. Mr. Edge has had his answer at the last Brooklands meeting. According to the account he won the International Plate. In this case the car was slightly smaller than one or two others entered in that race. I congratulate him on that victory. In the Prix de la France I see a 93.7 Napier was beaten by two 75.9 Mercedes. I can hardly congratulate him on that, but, taking the two races together, they are quits. In the Heath Stakes I see a 60-h.p. car of his make was beaten by two other cars of larger engine power. He has nothing to be ashamed of in that. In the Belgium Plate I see his 60-h.p. cars beat cars of a far lesser horse power. He has nothing to be proud of in that. I also note in the same race five cars of various makes finished in front of his own of a far greater horse-power than they. In the Oaklands Plate I see he won, having the honour of having beaten with a 38.4-h.p. car other makes of cars, including one of 9.10-h.p. He has nothing to be proud of in such a victory, especially as in the same race four of these small cars actually finished in front of his own 25.6-h.p. Napier.

What more does Mr. Edge want? It surely suggests to him that he is only one of a crowd, and that there are other motor-car manu-

"JUSTICE" AT MARYLEBONE.

TO THE EDITOR OF *The Motor-Car Journal*.

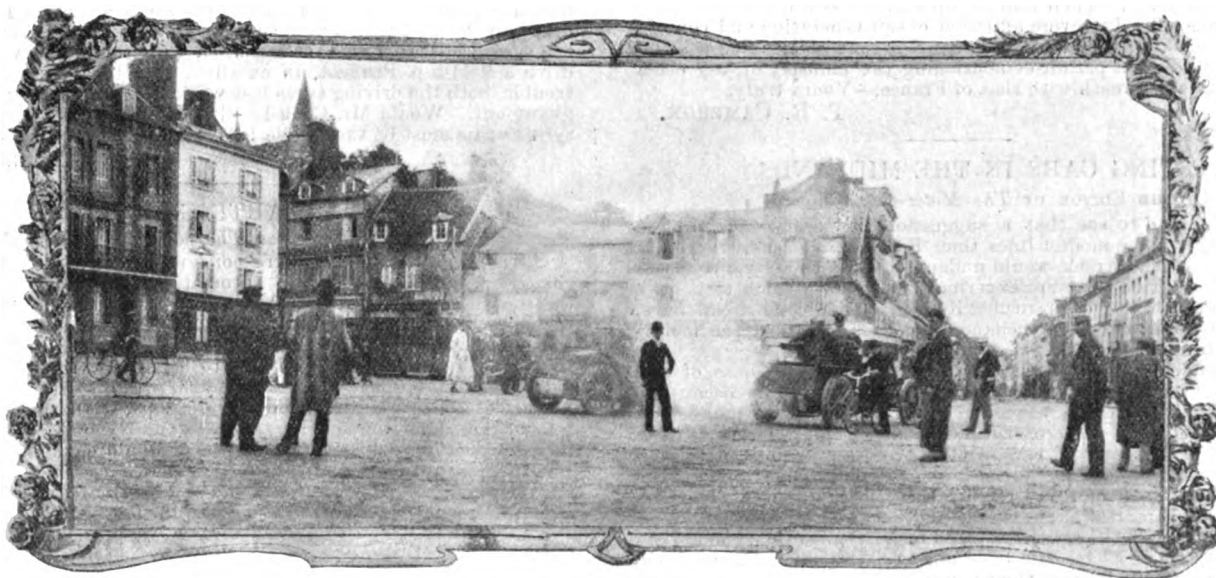
SIR,—I wish to bring to your notice the injustice meted out at the Marylebone Police Court. On August 1st I was summoned for exceeding the legal limit on a motor-cycle in Regent's Park on July 14th. The evidence of the parkkeeper was listened to, mine was ignored, and in considerably under five minutes from the time the case was called it was finished, and I was fined £5 and costs. There was no real investigation of the case such as would have occurred in a French or any other court.

The facts were: I was travelling at sixteen miles an hour, which I admit is above the regulation speed, but at the time I thought the same speed was allowed in the park as in the suburbs of your city, and the speed, considering there were no people about, was in no way excessive.

As I have held an English driving licence for five years and have never previously been in an English police court, and never had an accident either on a car or motor-cycle, I consider the fine out of all proportion to the offence. Perhaps the magistrate thought I had not paid enough to the revenues and made it extra heavy, as other motor-cycles and car owners were fined 5s. and £2 the same day.

I had not the £5 in cash in my pocket at the time, and requested the presiding magistrate, Mr. Plowden, to allow me to go home for the money, but as I only rent rooms (my own furniture) this was refused me, and when I asked an officer of the court to go with me my request was ignored.

As a foreigner I consider the English law must be had indeed to treat a man as a felon for offences of this nature, and I shall certainly communicate the case to the French press. I had two witnesses with me who were prepared to substantiate my statements, but I had to admit



A View at Font L'Eveque, on the Coupe de la Presse Circuit.

facturers. In the same issue I see a letter signed by Mr. Sidney Smith calling me to account because a Weigel car was fitted with oxygen cylinders at some Brooklands meeting. I have made enquiries, and find that this car was the property of a private gentleman, who, presumably, can do as he likes. It was not entered either by me or my firm, nor was it our property, over which we had any control. I should have been ashamed of a victory won by the utilisation of a "fake." It is regrettable that Mr. Sidney Smith fails to mention in his letter that he is an employee of Messrs. Napier, and I fail to understand why an employee issues challenges in the face of the fact that I issued one direct to his firm some little time back, which was refused in a somewhat ungentlemanly style, and which has resulted in a law action.

I have no desire to enter into controversies or receive challenges, or challenge the subordinates of any firm. I am only prepared to deal with the principals. I shall be most happy to pit a 40-h.p. standard Weigel against a 40-h.p. standard Napier, the conditions to be that they are standard chassis; they to have the right to pick any chassis out of my shop, and I to have the right to pick any chassis out of their shop; the test to include greatest speed on the flat and greatest speed uphill; the same gear in both instances to be used. Mine is not a vainglorious challenge issued upon lines which cannot possibly be accepted by any firm, or made to appear as if Weigel Motors, Limited, were the only firm really prepared to prove it, backed up by a large sum of money. Mine is a purely sporting challenge issued with the object of bringing gentlemen who are in the habit of issuing challenges of all descriptions broadcast to a definite conclusion. If they do not so accept it, let me use the term which is employed continually throughout letters which are written on their behalf over a variety of different signatures, viz., "Let them for ever be silent."—Yours truly,

D. M. WEIGEL.

I was travelling more than ten miles an hour, which the magistrate seemed to think finished the case.

Trusting you will find space in your journal for this letter, and hoping it may save others from like treatment.—Yours truly,

L. SONCIN.

THE RACE BETWEEN EDGE AND JARROTT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have, as an enthusiastic motorist, taken the greatest interest in the possibility of seeing a match arranged between these two gentlemen, but having read Mr. Edge's last letter I am sorry to see that he is not very anxious to meet Mr. Jarrott. To seriously suggest that he will not race for less than £1,000, he surely puts himself on the basis of a professional jockey or racing chauffeur instead of the sporty motorist we have been led to believe him. I hold no brief for Mr. Jarrott, but we all know him for what he is, viz., a clean, straightforward English sportsman, and I cannot see any need for personalities.

We do, however, want to see this match, and I have a suggestion to make. In order to remove all trade questions let there be three heats. The first heat to be run on two Napiers, choice of machine to be by ballot at the start. The second heat to be run on two Dietrichs with similar conditions and the third and deciding heat on two cars to be provided by the Committee of the B.A.R.C., the name of which is not known until the start of the race. The winner to receive a cup and the loser a souvenir medal, which I feel sure the Club will be willing to offer. This would overcome all difficulties, remove all question of the race being run as an advertisement for one make of car or the other, and yet we should all see what I think we all desire to see, viz., a race between the

two English crack drivers, and I am certain the public would flock in their thousands to Brooklands to see the contest. Cannot a meeting be arranged on the lines I have mentioned?—Yours truly,

CHARLES PINNOCK.

IS FRANCE LOSING THE LEAD?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Judging from the results of the important races that have this year been held on the Continent, 1907 seems to have proved a very disastrous year to the French motor-car industry. To a certain extent the huge French export trade in automobiles has been built up upon racing successes, and it is even claimed that two of the large firms which have been conspicuously successful in races in late years export almost their entire production, their cars having a rather poor reputation for quality in France, and, therefore, not selling well there. Thus these big international races, it would seem, create a market abroad for cars that are not wanted at home. But as this trade has been favourably affected by French racing successes, so it must be adversely affected by failures. International races originated in France, and for some years French cars won all the honours. In 1902, however, the Gordon Bennett Cup was won by an English car, and the following year it was secured by a German one. Fortunately for France the apparently invincible combination of a Thery and Brasier car the next year won back the coveted cup and successfully defended it the following year. The international cup race then ceased to be run, but in the several important races which took its place France once more proved victorious. This year all the important races so far have been won by other than French contestants, although in one of these races the French had an overwhelming majority of entries, and in all the others they were well represented. The severe drubbing the French received in the Grand Prix race is not exactly to be deplored. Their uninterrupted successes during the past three years engendered a severe affliction of self-veneration and conceit, while the French automobile press assumed a tone of extreme self-importance and would not permit of mentioning the industry of any other country in the same breath with that of France.—Yours truly,

T. R. CAMERON.

TESTING CARS IN THE MIDLANDS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am glad to see that a suggestion has been made that a motor track upon more modest lines than Brooklands be constructed in the Midlands. Such a track would undoubtedly prove a boon to motor manufacturers desiring to test or experiment with cars, which tests have now to be done on the open road. Run on sound commercial lines, such a scheme would have every chance of success, provided the motor-car manufacturers in the Midlands supported it.

The testing of cars on public thoroughfares is one phase of the speed question which is seldom commented upon, probably because it is noticeable only in those towns where a considerable number of cars are manufactured. Wherever there is a large output, such as is at present the case in Coventry, cars in course of test are met with continually in all parts of both the business and residential districts. A car that is being tested is no more objectionable than any other if it is operated with the same apparent care, but the fact is that testers frequently drive very much faster than the law allows, and faster than ordinary motorists drive. Car testers as a class are exceedingly skilful drivers, and their worst fault is over-confidence in their powers. In several instances they have proved themselves brave and generous enough to take the consequences of their recklessness, and have driven their cars into ditches rather than injure pedestrians. It is not the danger to be apprehended from this fast driving, therefore, that is its worst feature, but its effect upon the goodwill of the general public. When a pedestrian escapes a car which is exceeding the limit, with only a few inches to spare, he does not usually spend the next few minutes in admiring the skill of the driver. On the contrary, he wonders how he was lucky enough to escape being killed, and what can be done to stop the nuisance.

The suggestion of a track for car testing purposes is an opportune one, for from an economic standpoint it is very desirable to have the testers under the eye of the factory authorities, for it prevents abuse of cars and at the same time assures that they are thoroughly tested.—Yours truly,

W. DAWSON.

STEAM CARS IN SPEED TRIALS AND HILL-CLIMBING COMPETITIONS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see from a recent issue of the *M.C.J.* that the reason given for the White steam car breaking down in the match against Mr. C. Sangster's petrol vehicle on the Brooklands Track on the 20th ult. is that "the safety valve on the steam pipe from the generator to the engine—which had been screwed down to enable a higher pressure than normal to be employed—blew out." The secret of the success of steam cars in races and hill-climbing competitions is thus made known—the safety valve is screwed down to enable a higher pressure than normal to be employed! There has lately been an outcry against the use of oxygen on petrol cars in such events, this additional aid to "spurts" being con-

sidered as a form of "doping" if not "faking." The question now arises whether the safety valve incident does not come within the same category. Certain it is that the car was not being run under normal conditions.—Yours truly,

VAPEUR.

A WAIL FROM LIVERPOOL.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—For several months I have been searching the advertisement columns of the motor journals for a second-hand motor-car in or close to Liverpool. During this time only one Liverpoolite has speculated in an advertisement. Nearly every town in Great Britain has advertised motors, London, of course, taking absolutely the peak of eminence.

What appears so extraordinary to me is that a town like Liverpool has nothing to offer, whereas Manchester, Birmingham, and all other towns worth mentioning advertise cars—even such obscure hamlets as Sloo-cum-Podger can offer a car now and again.

There are hundreds of cars in Liverpool travelling around, also some pre-historic vehicles that give one a nightmare. Am I to understand that all the good cars belong to motorists passing through the town, and the pre-historic cars are all Liverpool has to offer, and so really ashamed to advertise such obsolete freaks on wheels?—Yours truly,

J. J. WILSON.

WHEELS FOR MOTOR-CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Seeing Mr. O. Cook's letter in your journal respecting wheels for motor-cars, I presume it is meant not only the wheels but the tyres, which he says are such an improvement upon pneumatics or solids, being unpuncturable and as easy riding as pneumatics. From 1899 to 1903 I drove an Orient Express with solid tyres, and when I had done with it the tyres were nearly as good as when I first had the vehicle. I now drive a 9-11-h.p. Peugeot, an excellent car, the tyres being the only trouble, both the driving tyres last week, after about six months' use, giving out. Would Mr. Cook kindly give me the name of the car and tyre, as this must be the article I have been looking for?—Yours truly,

E. PLUMBRIDGE.

SELF-STARTING DEVICES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to your correspondent "Montacute," I write to say that I am the patentee of an automatic starting device which works quite well in the experimental form in which it is at present. The main difficulty in connection with it is that it seems impracticable to place it in the market as a fitment for any car, because each different one would require special details in the design to fit it, and this would make the cost almost prohibitive. Most probably the starter will become a feature of some special car, and prove, I hope, to the advantage of both its makers and the public. If your correspondent would forward through your office details as to his car, I would have pleasure in giving him further information, and also the probable cost of a simpler form of starter which can be made for a much less sum, which, although not automatic, will prevent all severe strain in starting.—Yours truly,

H. S.

BRAKES ON TRAILERS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice on page 442 of the *M.C.J.* the remarks on brakes on trailers. If I am not out of place, may I tell you that I have patented an automatic brake for all types of drawn vehicles? The arrangement is good and cheap and does not require any attendant or attention whatever, and acts in exact proportion to the load or descent. The device can be seen in use at the Reckleford Iron Works, Yeovil, on a large haulage van drawn by a traction engine.—Yours truly,

R. DIBSDALL.

THE Maidenhead Motor and Engineering Company will be pleased to hear from anyone who may have picked up a Stepney spare wheel on the road between Redbourne and Bracknell.

THE Weigel cars and their Detachable Rim Troubles in the Grand Prix Race.—Messrs. Rudge-Whitworth, Ltd., Coventry, have sent us a long letter in reply to the one from Dr. Doolittle which appeared in the *M.C.J.* of the 3rd inst. They state:—"We observe that Dr. Doolittle attributes the involuntary shedding of his detachable rim on the Weigel cars in the Grand Prix to inaccurate fitting, which he alleges is due to some operation, of which he only heard afterwards, which we did to some wheels which were not used in the race. The facts are (1) Dr. Doolittle himself advised this process; (2) the process does not and did not enlarge the circumference of the wheels; (3) after this process was completed a steel band was shrunk on to all the front wheels by the Stevenson Wheel Company, and an accurate diameter was formed on them by turning on a lathe. Obviously, therefore, the effect, if any, of our process was absolutely eliminated in the front wheels, and yet during the race Laxon's car shed three front rims and Harrison's car eventually pulled up with both front rims coming off together."

CLUBS AND ASSOCIATIONS.

BROOKLANDS.

THE next race meeting at Brooklands has been fixed for Saturday, September 14th. At a recent meeting of the club committee four standard classes of engines were adopted. Races will be arranged for these classes at all future meetings, and this announcement will give manufacturers a working basis for the designs of next season's racers. The classes are restricted by the D²n dimension with weight maximums as follows:—

	D ² n dimension.		Cyl. bore.		Weight.
Class I.	... 64 ...		about 4 inches (101 mm.)	...	2,000 lbs.
Class II.	... 100 ...		about 5 inches (126 mm.)	...	2,500 lbs.
Class III.	... 150·1 ...		about 6½ inches (155 mm.)	...	2,700 lbs.
Class IV.	... 225·1 ...		about 7½ inches (190 mm.)	...	3,000 lbs.

Class III. will comprise all racing engines built under the limitations agreed upon for racers at the recent International Automobile Conference at Ostend.

place will probably be at Brecon. Mr. S. L. Gregor has resigned the secretaryship of the Welsh A.C., and Mr. J. Shimell Andrews has been appointed to the position *pro tem.*, but will be permanently placed at the next meeting. There will be no further runs this year.

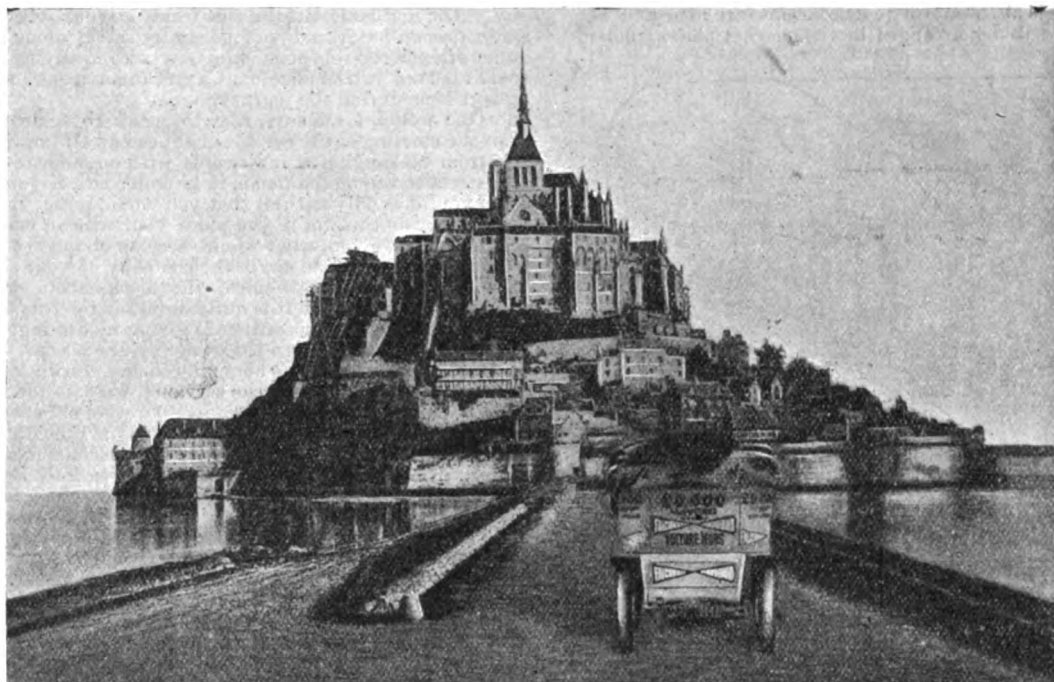
CARDIFF MOTOR CLUB.

THIS Club will have an open hill climbing competition for motor-cars and cycles (under the competition rules of the R.A.C. and A.C.C.) on Wednesday, September 11th, on the hill leading from Caerphilly towards Cardiff. The hill is 1,194 yards in length, total height 337·03 feet, has an average gradient of 1 in 8·6, and the steepest portion is 1 in 6·2. The events will be divided into five classes, to include cars with cylinders the diameter of which squared and multiplied by number of cylinders is not more than 151.

Entries close on the 27th inst. Further particulars, entry forms, regulations, formulæ, &c., can be obtained from the hon. secretaries, Queen's Hotel, Cardiff.

AUTO-CYCLE CLUB.

ON Monday next the A.C.C. six days' trial will commence, the first day's run being from Hatfield to Coventry, 193 miles; on Tuesday from



Touring in France.—A Mors Car at Mont St. Michel.

WELSH.

At a meeting of the Welsh Automobile Club, held at the Tenby Hotel, Swansea, the recent hill climb and reliability run was discussed. In the latter there were twenty competitors, most of whom applied for non-stop certificates. The committee fully discussed the claims of each, and at the end of their deliberations it was found that sixteen out of the twenty starters had been successful. They were as follows:—Captain Hughes Morgan (the donor of the cup and actual winner of the hill climb and reliability run), Messrs. Hubert S. Thomas (second in the hill climb, but who, through Captain Hughes Morgan's withdrawal, came first and won the trophy), E. Lewis, B. W. Valentin, H. G. Davies, A. A. Jones, E. Williams, Wm. Thomas, M. Whittington, W. T. Farr, George Ace, John S. Brown, C. F. Sutton, S. Williamson, F. E. Jacobs, and Mrs. James Harries.

Those who were not granted non-stop certificates were:—Messrs. Edward Mills, T. P. Rose Richards, and George Ace (10–12-h.p. Argyll.) The former had a blade of the cooling fan broken. Mr. Ace's car was twenty-four minutes late in arriving at the Llandovery control owing to a burst tyre; Mr. H. F. Taylor's car went into a ditch, and Mr. Richards was stopped through a choked petrol pipe, whilst at the control the car was started a little before time. Mr. Jacob did not actually finish without stopping, he having to stop his car when nearing Swansea to avoid running into a gipsy. The committee, however, took this totally unexpected occurrence into consideration.

The trophies will be presented to the winners, with the certificates, at a dinner to be held in October. An attempt is being made for the South Wales, Herefordshire, and Welsh Automobile Clubs to meet shortly. Nothing has as yet been definitely arranged, but the meeting-

Coventry to Llangollen, 161 miles; Wednesday to Aberystwyth, 166 miles; Thursday to Cardiff, 142 miles; Friday to Gloucester, 170 miles; Saturday to London, 168 miles. There are twenty-eight entries in the motor-cycle class and five in that for passenger motor-cycles. Circuitous routes will be taken.

AUSTRALIA.

THE Automobile Club of Australia (Sydney), held their first half-gallon petrol consumption test on the 6th ult., the road being from Kensington (just outside Sydney) to La Perouse and back. Twenty-two cars faced the starter. The cars were divided into four classes:—A, six-cylinder; B, four-cylinder; C, two-cylinder; and D, one-cylinder. The longest run was twenty-three and a half miles, by Mr. H. S. Cusack's 8-h.p. Rover. The results (based on a formula) were as follows:—Class A, Mr. J. M. Arnott's six-cylinder 40-h.p. Minerva, 10 miles. Class B, Mr. L. W. Page's 12–14-h.p. four-cylinder Innes, 15½ miles. Class C, Mr. J. Phizackerley's 10-h.p. two-cylinder Talbot, 15½ miles. Class D, Mr. H. S. Cusack's 8-h.p. single-cylinder Rover, 23½ miles.

ONTARIO MOTOR LEAGUE.

At the last meeting of the committee of the Ontario Motor League it was decided to affiliate with the Royal Automobile Club of Great Britain. Official headquarters have been established in the Stair Building, Toronto, where the secretary will be permanently located.

The League has adopted a comprehensive good roads policy, which, if approved by the Government, will mean the expenditure of a large

sum on road improvement throughout Ontario, the plan simply being to petition the Government to grant one-half instead of one-third of the cost, as at present, under the Good Roads Act.

The League has also found time to engage in other activities and has supplied twenty-five cars for a charitable mission, by giving some seventy odd of the patients of the Home for Incurables a pleasant day's outing.

THE COMMERCIAL VEHICLE TRIALS.

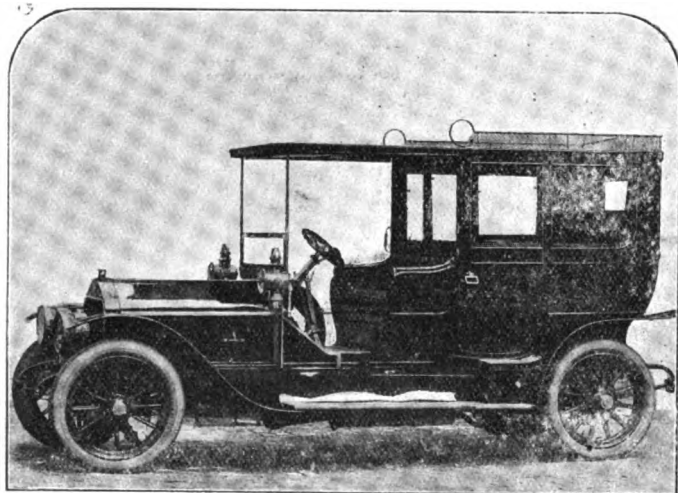
THE Royal A.C. has received an entry from Messrs. Mann and Overton, Ltd., for a 10-12-h.p. Unic van in Class A.

It has been decided that the Club shall undertake to supply the fuel for the competing vehicles. Each competitor has now to say what fuel he wants and the Club will provide it for him (at his expense) in any quantity he orders. Competitors may supply their own fuel, but it will have to be sent to one of the stations on the trials and be delivered to one of the officials before being handed over to the competitor.

To meet the requirements of the law, those vehicles which draw trailers must carry a man on the trailer to apply the brakes. Competitors may carry any load they like so long as it is not below the minimum weight for their class and is not so heavy as to take them up in the next class.

The vehicles will be on exhibition in the following towns:—Bristol, Birmingham, Liverpool, Manchester, Leeds, Sheffield, Nottingham, and Bedford, those at Sheffield and Bedford being held under canvas.

In these depots, except at those where exhibitions are held and at Leicester, the vehicles will be arranged in the market-places under



The 45-h.p. six-cylinder Siddleley recently supplied by the Wolseley Company to Lord Howard de Walden. The chassis is fitted with a limousine body with extension canopy and screen, the painting being dark blue and upholstery to match. The wheels are fitted with Continental tyres.

taraulins, as covered storage accommodation of a sufficiently extensive character cannot be obtained.

On Saturday the following additional entries were received, these closing the list, which now comprises sixty-two entrants:—

Class D, Durham, Churchill and Co., a 26-seated "Churchill" char-a-banc.

Class E, Ryknield Motor Company, Ltd., a 3-ton Ryknield van; T. C. Aveling and Company, Ltd., a 3-ton paraffin wagon.

Class F, Ryknield Motor Company, Ltd., a 5-ton Ryknield lorry; Fiat Motors, Ltd., a 5-ton brewer's covered lorry and a 5-ton lorry with removable sides and back.

WHERE SHALL THE MECHANICAN SIT?

WRITING in our French contemporary, "La Vie Automobile," M. Edouard Ponté takes up the question of the increasing popularity of covered-in cars and the tendency there is among motorists to give up driving themselves, attributing this largely to the unsolved problem of the most suitable position on the car for the mechanic. The following free translation of his article may prove of interest to some of our readers.

It is a well-known fact at the present moment that an automobile owner does not drive his own vehicle; he nearly always leaves it to his mechanic. In town this is quite comprehensible, perhaps nearly always necessary. When in the country or when touring it would seem that it might be otherwise. Thus, however, for many, motoring is ceasing to be a sport but is becoming a mere matter of convenience. Why is this and what are the reasons of the change?

The dust on the roads, the general inclemency of the weather, and the fear of the wind have helped to multiply covered cars during the

last few years. The limousine and landaulet are reigning masters; the Cape hood does not suffice for the open car, everybody wants to be as comfortable in a car as in a sleeping compartment. The tyres only seem to bewail this state of things. The closed car and its protective windows are in the majority. Do we not further desire a vehicle to do both services—handy for town and comfortable for madame's visits and monsieur's business, and also to be available for the road, for we do not desert it in spite of the summer heat, the dusty roads or the showers?

Who is to drive a landaulet or a limousine? surely the mechanic. Otherwise, when at the wheel of one of these travelling houses, you are curiously like the servant of your wife, who is in the interior, or of your friends, who are separated from you by the window; they do not seem to recognise you, and give their instructions through the speaking tube! The closed-in car demands that your mechanic should drive when in town, and in the country separates you from the rest of your friends. That is why motorists are giving up driving themselves.

If, on the contrary, you are in possession of an open car, the classic double or triple phaeton with a good Cape hood, which you like to drive yourself for the pleasure of winding about the roads or to feel the powerful vitality of the motor between your hands, how many difficulties do you not meet? It is necessary that you should have a mechanic, if your income allows it, for the vehicle for touring purposes needs oiling, cleaning, and thousands of other little things that you would not care to do, and in this manner you will be able to be many days on the road without being tired. But the mechanic, where do you place him in the car while you drive all day? What a question to ask, one would say. The mechanic sits in the front to your left, of course. That is quite proper, but you do not generally travel alone; you have a wife, some friends, or relations, who are accompanying you, and who are seated behind in the phaeton. You cannot speak to them, or, if so, only a short time during the journey.

One would, I am sure, like to speak to someone during the day's run; the steering of the car does not take up all the time so as to prevent one from exchanging a few words with one's nearest companion. One can speak to the mechanic, it is true; but, if you have other persons with you, it is only natural that you would prefer their company. But you cannot do this, for if you place your wife or one of your friends on the seat next to you, what would become of the useful mechanic? If you put him behind to sit in the company of your friends, they would, perhaps, resent this; besides, the mechanic would be put in an awkward position, and it is quite unusual for this to be done. This is another reason why motorists are giving up driving.

The question is, when the owner drives his car, where is he to place the mechanic? In the old mail coaches, drawn by horses, it was very easy to solve the problem, the servants were inside and the master on top. But who in the world wants to revive old customs? In the case of a motor-car the matter is undoubtedly a difficult one. Let us study the case. One can, it is true, seat the mechanic on the front floor board with his feet on the step. This used to be frequently done, a cushion being given him to make the boards less hard. To seat the mechanic on the footboard is, however, a custom which has been done away with for a long time in France, although it is still followed in Germany. The Dowager Queen of Italy has found an excellent solution to the question. A gentleman of the Royal suite drives her high power triple phaeton, and a seat is installed for the mechanic above the step to the left, and of nearly the same height as the front seat. The idea is perfect for a large, imposing Royal car, which comprises seven comfortable seats, and has 140 mm. tyres and a powerful 60-h.p. engine. Private vehicles—I am only thinking of the good 25-h.p. touring car—do not come up to such a standard, and the question I wish to put is, where shall we locate the mechanic? Will someone suggest a solution?

MOTOR CYCLING RECORDS.

ON Saturday, on the Canning Town Track, the Auto Cycle Club held its annual race meeting for the *Motor Car Journal* cup and other trophies. In the One Mile Time Trials C. R. Collier (Matchless motor-cycle with J.A.P. engine) established a new flying start record for 76 by 76 machines, doing 62 sec. in place of his own 63 sec. C. E. Bennett (Mansfield cycle with Buchet engine) was second in 63 sec., and H. V. Colver (Matchless) third in 67 2-5 sec.

The Five Mile Handicap for the *Motor Car Journal* Challenge Cup was run in two heats, the result of the final being G. Aldington (Kerry), 60 sec. start, 1; C. E. Bennett (Mansfield), scratch, 2; A. A. Chase (Chase), scratch, 3. Aldington won by nearly a lap in 6 min. 57 3-5 sec.

In the One Hour Scratch race, 76 by 76, the result was H. V. Colver (Matchless), 51 miles 146 yards, 1; C. E. Bennett (Mansfield), 43 miles 1,318 yards, 2; M. Geiger (N.S.U.), 43 miles 140 yards, 3. T. A. Carter (Matchless), and G. H. Gerhard (Brooklands), retired soon after the start. Bennett rode well for twenty-three miles, when he was delayed by a burst front tyre. He made fresh records as follows:—One mile (standing start), 1 min. 18 1-5 sec.; five miles, 5 min. 41 sec.; ten miles, 11 min. 24 2-5 sec.; fifteen miles, 17 min. 12 1-5 sec.; twenty miles, 22 min. 58 sec. After Bennett's tyre punctured Colver took up the running, and set up new figures for thirty miles with 35 min. 32 2-5 sec., and thirty-five miles with 41 min. 23 4-5 sec.

An interesting event would have been the match between the brothers, C. R. and H. A. Collier, on the one side and J. Marshall and

F. Hulbert on the other. The distance was five miles; the former couple rode their Matchless machines and the latter their Triumph machines, which were used in the Tourists' Trophy race. The event, however, was brought to an abrupt abandonment in the tenth lap. Hulbert and H. A. Collier had been making a splendid race for first place, and, in passing the former, Collier touched his opponent's machine. Hulbert and his bicycle were sent bowling over and over, the rider then grazing his face along the track. Fortunately no bones were broken, and he suffered only cuts and bruises to his hands and face—a remarkable escape considering that they were travelling at over fifty miles an hour.

The Five Miles Open Handicap, 76 by 76, resulted:—C. E. Bennett (Mansfield), 15 sec. start, 1; C. R. Collier (Matchless), scratch, 2; H. V. Colver (Matchless), 5 sec. 3. Time, 5 min. 40 2-5 sec. Bennett won by a lap from Collier, and beat the record which he had just made in the hour race. Only a wheel divided second and third.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

MOTOR SUNDRIES.—£1,000. Agreement with Mr. H. J. Tonks. First directors: Messrs. E. A. Gedge, W. A. Turquand, H. J. Tonks, and E. Funk. Norfolk House, Laurence Pountney Hill, London, E.C.

ROGERS' HUB WHEEL SYNDICATE.—£250. Motor and accessory manufacturers and dealers. Central Chambers, Commercial Road, Portsmouth.

MIRACULUM.—£25,000. Agreement with Mr. W. Bowden. Puncture-composition manufacturers. First directors: Messrs. H. Cooney, E. J. O'Reilly, J. R. Nisbet, and G. T. Langridge. 48, Dover Street, W.

CAR SUPPLY COMPANY.—£3,000. Mr. H. Wolfenden, jun., is governing director for life, subject to holding £1,000 shares. 34, Knightsbridge, S.W.

EDINBURGH GARAGE AND MOTOR AUCTIONS.—Registered with a capital of £5,000. No initial public issue.

SOCIETE ANONYME DES ACCUMULATEURS A.C.S. (SYSTEME DE SEDNEFF).—£140,000. To adopt an agreement with Cesar Trouin and Sigismond de Szepczynski, and to carry on the business of manufacturers of electric accumulators, electrical plant and accessories thereto, engineers, &c. 790-792, Salisbury House, E.C.

LONDON TAXI CABS.—£10,000. To carry on the business of motor-cab and vehicle proprietors, &c. The directors may increase the capital to not more than £500,000, in 495,000 preferred ordinary shares of £1 each and 100,000 deferred shares of 1s. each.

MERCEDES MIXTE.—£125,000. To enter into two contracts (1) with Mr. R. G. E. Wemyss, and (2) with Mr. S. Sellon, and to carry on the business of dealers in (but not manufacturers of) motor-cars, carriages, cabs, omnibuses, vans, and other public or private conveyances, and fittings for all kinds of motor vehicles, garage proprietors, &c.

BRITISH AUTOMOBILE IMPROVEMENTS.—£10,000. Agreements (1) with Mr. S. Alley, and (2) with La Société des Appareils Electriques Ignis. No initial public issue.

TUBULAR WHEELS.—£20,000. To adopt an agreement with Mr. V. H. Minton and Mr. A. O. Wright, and to carry on the business of manufacturers of and dealers in wheels for motor and other vehicles, &c. No initial public issue. Registered without articles. 25, Ludgate Hill, Birmingham.

AUTOMOBILE ACCIDENTS.

A WOMAN was knocked down by a motor-car at Box, on the great Bath Road. She was dragged some distance, and died an hour later.

A LAD named Charles Taylor, who has been in the boys' camp at Merstham, Surrey, slipped from the tail board of a van at Merstham, the other afternoon, and a motor-car ran over him, causing almost instantaneous death.

A SERIOUS motor collision occurred at Preston on Saturday, several having miraculous escapes. A tramcar temporarily obscured the view of Charles Richardson, who while driving a motor-car failed to observe a cyclist named Nightingale crossing the road until nearly upon him. The motorist swerved his car on the footpath, striking James Wignall, who was hurled into a wall. Nightingale struck the side of the car and his bicycle was wrecked.

A FATAL motor-car accident occurred in Cross Street, Manchester, on Saturday. A man named Connor stepped off the pavement to cross the street and, hesitating, was run down by a passing motor-car. He was taken to the infirmary in the car, where his skull was found to be fractured, and he died within half an hour of admission.

As General Booth and his touring party were passing through Neath in four motor-cars on Saturday, the leading car knocked down a four-year-old boy named Parsons. The lad was picked up and carried to a surgery close by, but was found not to have been severely injured, having, in fact, only received a slight scalp wound. General Booth, who was much concerned at the occurrence, expressed his deep regret.

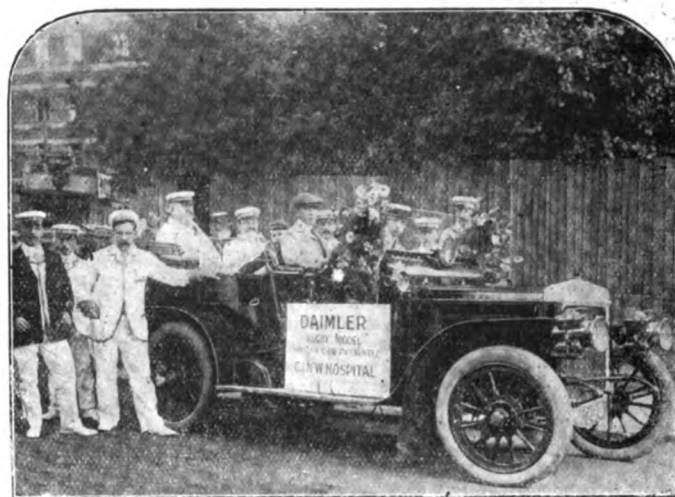
At Hammersmith Mr. Drew has held an inquiry concerning the death of Gerald Reed, age 19, who died in the West London Hospital, as the result of injuries sustained through coming into collision, while cycling, with a motor-car. The evidence of several independent witnesses

was to the effect that about ten o'clock on Bank holiday morning a motor-car was being driven from Kensington towards Hammersmith Broadway, and outside the West London Hospital it pulled into the centre of the road to pass an omnibus going in the same direction. The deceased was cycling in the opposite direction, at the rate of twelve or fourteen miles an hour, with his head well down over his handle bars. As soon as the driver of the car saw him he sounded his hooter, and the deceased looked up and turned to his off-side, evidently intending to pass between the two motor vehicles. Then he seemed to lose his head, and turning to his near side ran into the front of the car, which knocked him off his machine and ran over him. The jury, in returning a verdict of "Accidental death," expressed the opinion that the accident occurred through the deceased losing his head, and they exonerated the driver from all blame.

ON Monday night a motor-car was proceeding from Brighton to London when, in allowing a passage to another car, near Kingswood, it collided with a direction post, and, turning a somersault, fell into a deep gravel-pit. The car was wrecked, and the chauffeur, Ernest Priddington, was pinned underneath. Though badly bruised he had no bones broken. The occupants of the car were somewhat seriously hurt, and were taken to London by another car which was passing.

ON Monday morning a boy was run over and killed by a Great Eastern motor-bus in Bethnal Green Road, E. The lad was running behind a van, clinging to the tailboard, and when near Wilmot Street a man shouted to him to get off. He left the van, and ran to the near side without looking where he was going. He was caught by the bus, and the near side front wheel passed over his chest, causing instantaneous death.

MR. H. THOMAS, of Twickenham, was cycling along the Richmond road on Monday when he collided with a motor water-cart belonging



One of the Daimler cars which took part in the Godiva Procession in Coventry.

to the local district council. The vehicle passed over his chest, killing him instantly.

AN inquest has been held at Birmingham on Frederick Brooks, who was killed while cycling in the neighbourhood of the Bromsgrove Lickys on Wednesday of last week. It was alleged that Brooks was knocked off his machine by a motor-car at Rednal, and that the driver of the car went ahead. On hearing the result of the accident the owner of the car, Mr. A. J. Astbury, communicated with the police. Mr. Astbury, who was driving, Mr. and Mrs. Charles, who were in the car, and the chauffeur, all swore that the cyclist was in an unsteady condition, and fell after the car had passed. The jury returned a verdict of "Accidental death," but the foreman stated that the jury thought the driver ought to have stopped to see what had happened.

ON Sunday an accident occurred on the Aberfoyle road, near Balfour, N.B., in which a motor-car, swerving to avoid a cyclist, came to grief. All its five occupants, Mrs. Vereker (daughter of Sir Charles Cayzer, Bart.), and her family were thrown out, one being seriously injured.

A MOTOR and char-a-banc accident occurred at the four cross-roads near Bickington village, about four miles from Newton Abbot, on Tuesday. The Torquay char-a-banc, heavily laden with passengers, was crossing the highway leading from Exeter to Plymouth, going to Haytor, when a motor-car, proceeding in the direction of Plymouth, dashed into the body of the char-a-banc, lifting it off its bearings and hurling it into the road. The occupants of the char-a-banc sustained a severe shaking.

GETTING out of control on Tuesday a motor-wagon ran away down Highgate Hill and collided with a van, which arrested its progress. Joseph Jackson, the driver of the van, was injured.

AT an inquest at St. Pancras on Tuesday concerning the death of a volunteer who was run over by a motor-bus, the jury returned a verdict of "Accidental death," adding that in their opinion the company owning the bus should give substantial compensation,

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING LEGAL LIMIT.

At the South-West London Police Court, Edward Green, J.P., residing at Ashfield, Dringhouses, Yorkshire, has been summoned for driving a motor-car at an excessive rate of speed over a measured furlong in Priory Lane, Putney, which he was alleged to have covered at a speed of 22½ miles an hour. A penalty of £3 and costs was imposed.

For motoring up Kingston Hill at the alleged speed of twenty-seven miles an hour, on the 6th ult., Mr. Warwick J. Wright has been fined £3 and costs.

Charles Chester, of Cricklewood, who was fined £3 at Guildford on Saturday for driving a motor-car at the rate of thirty-six miles an hour, strongly protested that it was impossible for his cab to do more than twenty miles an hour. Prior to being trapped by the police the cab had broken down on four separate occasions, and just before entering Godalming the cab broke down altogether, and he could not get it to budge an inch. He telephoned to London for a fitter, who arrived at about midnight with another cab, into which he transferred his fares. They resumed the journey to town, but five miles on, in Guildford High Street, the relief cab refused to move. He had to remain in the street the rest of the night with the cab, and it was nine o'clock the next morning before a third vehicle arrived.

NO LIGHT.

At Bromsgrove, George Wagstaff, Hewell Road, Barnt Green, was charged with driving a motor-car without having a lighted lamp attached. P.C. Phaysey proved that not one of the lamps was alight. Mr. Morgan, the owner of the car, said defendant was driving him home to Barnt Green from Birmingham, and, on the way, a cart which was on the wrong side of the road ran into them. The horse put its head through the glass screen of the motor, and the lamps were damaged. They tried to make one serviceable lamp out of two injured ones, but the lamp kept going out, and they stopped six times in half-a-mile. He (Mr. Morgan) got out at Selly Oak and returned home by train, the driver going on by road. It was late at night, and the man could not leave the vehicle in the road, because that would have been an obstruction. The case was dismissed on payment of costs.

DANGEROUS DRIVING.

At the Haywards Heath Petty Sessions, on Monday, Mr. D. M. Weigel was summoned for driving a motor-car on the highway at Handcross at a speed (fifty-six miles an hour) dangerous to the public, on June 9th. There was a second summons against defendant for refusing to stop the car at the request of a police-constable in uniform. P.S. Waghorn testified to being in charge of the timing apparatus, which showed that the car covered the measured furlong in 7¼ sec. He gave P.C. Edgeler a signal to stop it. In cross-examination he said that altogether six men were engaged in connection with the timing operations, but witness did not think that anybody except P.C. Edgeler saw the number of the car. The information given to him by P.C. Edgeler on June 9th appeared in his book several pages after the record of particulars from Mr. Weigel on July 5th. The defendant gave evidence to the effect that he drove a racing car A 4 K K to Brighton on the day in question. They had engineered a meeting of twenty cars of their make for a trip to Brighton. Two Weigel racing cars were with the party. Descending Reigate Hill the clutch of witness's car fired, "setting fire to the car and myself." Witness hurriedly alighted and got the fire extinguished. At Reigate he ascertained that the clutch would not transmit more than eight or nine horse-power, and slipped. He could only use the first speed from Reigate to Brighton. He could not exceed fifteen miles an hour except down hills, when he let it go. After a hearing of six hours the case was adjourned to the 16th inst.

DRIVER SENT FOR TRIAL.

Robert Evrard, 21, a French chauffeur, was committed for trial on Saturday, at Marlborough Street, on a charge of manslaughter. A car which he was driving in Oxford Street, London, W., on Tuesday, ran into two children, killing one, May Smith.

On Tuesday an inquest on the child was held by the Marylebone coroner, when the jury found that she was killed by being run over by a motor-car in Oxford Street, and that the driver of the car drove at too fast a pace at the time, and neglected to sound his horn, and was therefore deserving of severe censure.

WHY GOGGLES?

At Kingston, Captain Randolph Wemyes has been summoned for driving a motor-car to the danger of the public at Esher on July 28th, and for failing to produce his licence. He was fined £10 for driving dangerously and £1 for failing to produce his licence. Edward Oliver Arter, a chauffeur, of 21, Old Bond Street, W., was similarly summoned. The Bench thought there was a doubt in the case, and dismissed the summonses, the chairman remarking that it was a pity that goggles were used by motorists, as it made the task of identification much more difficult.

HEAVY HAULS.

Several motorists were fined at Morpeth on the 7th for furious driving, and many others for the same offence at Slough; on Saturday half a dozen others were fined £3 3s. and costs each at Carlisle; four others were fined an aggregate of £5 and costs at Reigate. On Monday ten defendants were summoned at Christchurch for exceeding the speed

limit on the main road leading from London to Bournemouth. Fines of £1 and costs were inflicted and none escaped. On the same day a number of motorists were summoned at Southampton and fines amounting to £46 in addition to costs were inflicted. Fourteen cases against motorists were heard at Godalming, in six of which the fines aggregated £22 and costs. Convictions were recorded in every instance. At Warwick, on Monday, fines amounting to £8 5s. were inflicted on four motorists caught in traps on the Banbury and Myton roads respectively. On Tuesday, fines of £5 were imposed in each of six cases heard at Lewes, and at Wokingham five motorists were fined to an aggregate amount of £41. At the Lambeth Police Court four defendants suffered loss to the extent of nearly £5.

POLICE WATCH V. SPEEDOMETER.

Two motor-car cases from Sheffield have been heard at Snaith. In the first Mr. J. H. Hall, 51, Crescent Road, Sharrow, was summoned for exceeding twenty miles per hour at Eggboro' on July 17th. Mr. Wing, of Sheffield, appeared for the defendant, and after the police evidence said his client would directly contradict the statement of the officers. The officers admitted that defendant knew of "the trap," and knowing that he would have been foolish to travel at the rate of twenty-six miles an hour. He had been a motorist for years and had travelled 40,000 miles on the road, never having been in trouble with the authorities. Mr. Wing said it was impossible for the police officer to give the signal as suggested, and said it would not be safe to convict on the evidence.

The testimony of Mr. Hall and his witness having been heard, the magistrates decided to hear the second case, and George Knibbs, driver for Mr. Walter John Walsh, of Sheffield, was charged with exceeding the limit. For the defence Mr. Wing said defendant had a speedometer on his car, and was going at eighteen miles an hour. The speedometer was actually perfect, and defendant called attention to it, and offered to take the officers back, and run the car with the watch, but they declined. Some people thought it was un-English to adopt these traps, but when the police did adopt them they should not refuse to have their methods tested.

The Chairman said they had decided to convict, and the defendants would be fined £4 each, to include the costs.

Mr. Wing gave notice of appeal in Mr. Hall's case, and the recognisance was fixed at £50.

DISMISSALS.

At Edisbury sessions, on Monday, Albert Stock, of Whalley Range, Manchester, was charged with driving a motor-car at a dangerous speed. A police officer and three private witnesses declared that the defendant drove along Chester Road at forty miles an hour. The defendant averred that he had driven every member of royalty, including Princess Christian, who had presented him with a diamond and ruby pin in recognition of his careful driving. He denied the excessive speed. The case was dismissed.

Before the Guildford County Bench on Saturday, Geoffrey Taylor, of Bayswater, was summoned for driving to the common danger on the Portsmouth road at Thursley. Mr. Moresby White, who appeared for the defence, asked the defendant whether, if a lady had suddenly crossed the road on her way to church, the chauffeur would have slowed up at once. Defendant replied, "Certainly." The Bench took exception to this question, but Mr. White contended that a hypothetical charge was brought against them of driving in a manner which might have been dangerous had there been anyone about. As the Lord Chief Justice had pointed out, it was the duty of the defence to rebut that charge by showing that had the hypothetical case occurred their conduct would not have caused danger to the public. The Bench dismissed the case.

EXCEEDING PARK LIMITS.

At Bow Street Police Court, on Monday, Lord Aberdare was fined 40s. and 2s. costs for exceeding the ten miles an hour limit in St. James's Park. At the same court Frank Markham, chauffeur to Earl Cawdor, was summoned for a similar offence. Mr. Staples Firth defended, and although Mr. Marsham said he quite accepted the evidence of the defendant and Lord Cawdor, he was satisfied that the furlong was correctly measured, and that the defendant was exceeding the maximum speed, although he would not say by how much. He therefore imposed a fine of 40s. and 2s. costs.

ARMY MOTOR RESERVE.

THE inspection of the first Division, Aldershot Army Corps, which General Sir John French has just completed, began with a Staff Tour. The Army Motor Reserve furnished a detachment of thirteen officers, under the command of Captain A. C. Duckworth. Prior to the commencement of the tour, Lieutenant-Colonel Mark Mayhew, commanding the Army Motor Reserve, inspected the detachment at Surbiton.

Second Lieutenant the Hon. R. Kitson drove the Right Hon. R. B. Haldane, K.C., M.P., during the recent cavalry manoeuvres in Scotland.

The Aldershot Army Corps manoeuvres are to be preceded by a most important Staff Tour, probably in Suffolk, and the Army Motor Reserve will be required to provide about forty cars for this service. During the actual manoeuvres many of the officers and their cars will be retained for duty.

PUBLIC MOTOR SERVICES.

NOTWITHSTANDING the decision of the local Council not to grant licences to motor char-a-bancs to ply for hire, visitors may, by journeying to Deganwy or Llandudno Junction, yet enjoy the motor tours through Wales arranged by the Llandudno Motor and Garage Company, Ltd. The tours include Bettwsycoed, Snowdon Loop, Llanrwst, &c., and also a new one to Llandudno visitors, i.e., through Colwyn Bay, Abergelle, Denbigh, Ruthin to Corwen and home *via* Cerrigydruidion, Pentrevoelas and Bettwsycoed.

THE Folkestone Motor Company, Ltd., have put a new motor vehicle with accommodation for nineteen passengers in service between Folkestone and Hythe. The body was built by Messrs. Maltby, of Sandgate.

THE Watch Committee of the Brighton Corporation have favoured applications by the Sussex Motor Road Car Company with respect to the service of motor-buses between Worthing and Brighton, and a motor-coach service between Worthing and Seaford.

SIR EDWARD HENRY, the Chief Commissioner of the Metropolitan Police, has made an inquiry into the recent motor-omnibus accident at Hackney. It appears that the omnibus in question was of a somewhat lighter pattern than the majority of those in use in London. At the time of the accident the roadway was in a very greasy condition, and, though the information shows that the driver was proceeding carefully, the omnibus skidded badly about thirty yards from the point at which it came to grief. It then skidded again, striking the kerb with force, and overturned. Having regard to the immunity of omnibuses from accidents of this nature, Sir Edward says he does not consider that additional regulations are at present required to guard against similar disasters.

THE motor-omnibuses of the Star Company which ran between Oxford Street, London, W., and Peckham have been temporarily withdrawn from public service with a view to a complete overhaul.

THE London cab-drivers have been holding meetings of protest against what they allege as an undue preference given to motor-cabs by the Home Secretary. Their main ground of protest seems to be the reduction of the shilling fare to sixpence.

A MOTOR-BUS service will be established at Cambridge next week.

A NEW service of motor-omnibuses, run by the All British Chassis Company, Ltd., and which are to bear the letters "A.B.C.," commenced running in London on Monday between Oxford Circus and Liverpool Street, *via* Holborn.

ROAD REPORTS.

HERTFORD.—The main roads about the borough of Hertford are reported to be in good condition, and no repairs are likely to be required for some little time.

LICHFIELD.—Several roads in the Lichfield district have lately been under repair, notably the Rugeley and King's Bromley road and between Lichfield and Handsacre.

WARE.—The Local Government Board has decided to sanction a speed limit of ten miles an hour in certain streets in Ware, including Baldock Street, the High Street, Bridge Foot, Amwell End, and portions of Watton Road, Star Street, and Viaduct Road.

SLOUGH.—The Bucks County Surveyor has made the following report with reference to the Bath Road, near Slough, and the Highways Committee of the Bucks County Council have directed that copies of it shall be sent to the Motor Union and the Automobile Club:—"I regret to again have to report further injury to the Bath Road by steel-studded wheels of fast driven motors. A thick coating of Clea Hill granite, rolled last winter along Ditton Park, has been cut away down to the gravel foundation, leaving dangerous holes, which had to be filled with granite rammed in to liquid tar."

SOMERSET.—The last surviving toll-house on the highways of Somerset is about to disappear, arrangements having been made whereby the road from Bleadon to Uphill, near Weston-super-Mare, will be thrown open and improved.

BARNET.—Application to the Local Government Board, through the County Council, is now being made by the Barnet Urban District Council for the ten mile motor-car limit in High Street, Wood Street, Union Street, New Road, Alston Road, and the Avenue, Barnet.

LLANDUDNO.—The Llandudno District Council has obtained the sanction of the Local Government Board to levy tolls on visitors using the Marine Drive and the Promenade round Great Orme's Head for three years from the 6th inst.

KNARESBOROUGH.—Mrs. Boyd Carpenter has complained to the Knareborough Rural District Council that the carriage work of her motor-car had been damaged by liquid tar off the roads while driving between Killinghall and Ripley, and holding the Council liable for damages.

POLICE TRAPS.

A POLICE trap has been established in Priory Lane, Putney.

A TRAP is being worked at Pillerton Priors, Warwickshire, about five miles outside Stratford-on-Avon, on the way to Banbury road, and about two miles from Sun Rising Hill.

LYMINGTON is likely to have its police trap in the near future.

WHAT is locally termed a "police control" in the village of Horley has been responsible for the appearance of nine motorists at the Hexham Petty Sessions.

THE village of Killinghall, near Harrogate, is the centre of police trapping work in that district.

ON the hill leading down into Holford, on the Minehead road, is a police trap. It is about half a mile from the village and on the Bridgewater side.

A TRAP is being frequently worked at the bottom of Williton Hill, on the road between Minehead and Taunton.

TELEPHONIC communication between the various police headquarters in Essex is now frequently employed in connection with cases of rapid driving by motorists.

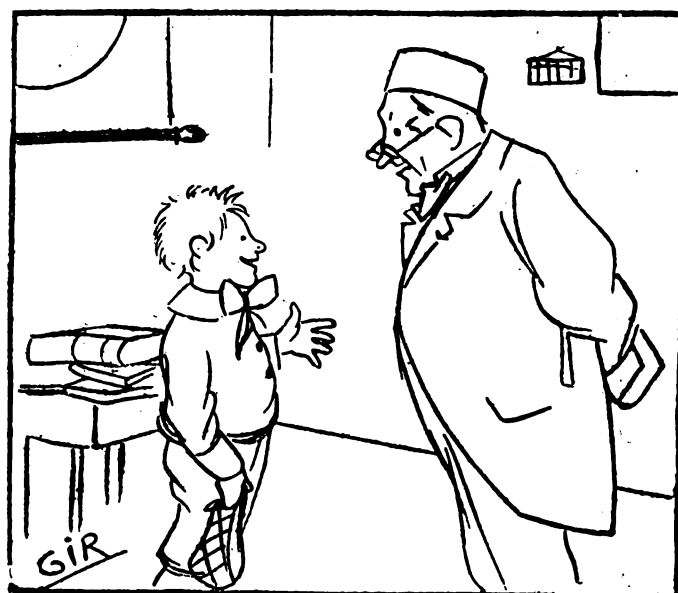
AT Lexden, near Colchester, the police have a measured furlong which Colonel Howard, the chairman of the Colchester bench, regards as an insufficient distance for a proper test of the speed of a passing car.

SEVERAL police traps are reported from Cumberland, and hardly an important village in the county is safe from the motorist's point of view.

AROUND Warwick police activity has become marked, and motorists should be careful when driving through Kineton, Kenilworth and the neighbouring towns.

A POLICE trap is in operation in the village of Kingstown, three miles to the north of Carlisle, and on the main road to Glasgow.

AT Moortown, Leeds, the police have a measured distance—full of danger to motorists.



The Schoolmaster: Now, by boy, tell me what "en panne" means.

Boy: Please, sir, I don't know. I have only been out on a — car.

[Reproduced from a sketch by Gir, issued by the Clement-Bayard Co.]

EGGBORO', on the Selby and Doncaster road, is the scene of a police trap in frequent operation.

THE Warwickshire police have established a series of traps for motorists for a distance of about twelve miles between Nuneaton and Wilnecote, on the Watling Street Road, and in five days there have been nearly a dozen victims from various parts of the country.

THE STORAGE OF PETROL.

A BREACH of a petroleum licence was brought to the knowledge of Mr. Plowden at the Marylebone Police Court on Monday. The New Motor and General Rubber Company, Ltd., of 374, Euston Road, N.W., were summoned by the L.C.C. for keeping petrol at their works without a licence, they having become unlicensed through violating the conditions of the licence granted them on December 14th last.

In March last, at the special request of the company, a clause was added to the licence permitting them to keep a pint of pure petroleum spirit in the ground floor work-room. When, however, the Council's inspector (Mr. Butler) went there on July 22nd he discovered twenty-four gallons of the spirit in a wooden barrel and ten gallons in another vessel. A wooden barrel, it was pointed out, was no protection against fire, and had a fire occurred the results might have been very serious.

The defence was that the spirit had not been there long, and the intention was to send it away.

Mr. Plowden, from the Bench, remarked that every moment was a moment of danger, and imposed a fine of £10, with 23s. costs.

FORTHCOMING EVENTS.

AUGUST.

- 17th (S.).—Derby A.C.'s run to Chatsworth House.
 Harrogate A.C.'s hill climb.
 North London A.C. run to Great Berkhamstead.
 Northamptonshire A.C. gymkhana at Easton Neston.
 Newcastle and District Motor-Cycling Club's fuel consumption trial.
 Lincolnshire A.C. Hill Climb at Syston Park. Entries close on the 12th inst.
 East Surrey A.C. run to Esher.
 Walthamstow M.C. run to Welwyn.
 Birmingham Motor-Cycling Club hill climb at Rednal.
 18th (Sun.).—Newcastle M.C. run to Barnard Castle.
 Western District M.C. run to Beaconsfield.
 19th to 24th.—Auto Cycle Club's six days' trial.
 21st (W.).—Meeting of the General Committee of the Motor Union.
 Lincolnshire M.C.C. at Stamford.
 24th (S.).—Hertford County A.C. at Lower Aston Hill for a members' driving test.
 North-East Lancashire A.C. gymkhana.
 Berkshire A.C. gymkhana.
 Yorkshire A.C.'s closed hill climb near Pateley Bridge.
 East Surrey A.C. run to Littlehampton.
 Somerset A.C. gymkhana at Weston.
 Sussex County A.C. hill climb.
 West Essex A.C. run to Orsett.
 25th (Sun.).—West Essex A.C. run to Southend.
 Birmingham Motor-Cycling Club run to Shelsley Walsh.
 31st (S.).—Cardiff M.C.'s run to Chepstow.
 Coventry M.C.'s reliability trial.
 Lincolnshire Motor-Cycling Club meet at Skegness.

SEPTEMBER.

- 1st (S.).—Florio Cup race of the Italian A.C. over the Brescia circuit.
 Southern M.C. picnic.
 5th (T.).—Vehicles competing in the R.A.C. commercial vehicle trial must be within the gates of the depot.
 Arachon motor-boat meeting.
 7th (S.).—Auto Cycle Club's hill climb at Birdlip.
 Motor Cycling Club 200 miles reliability trial.
 9th (M.).—Industrial Vehicle Trials commence.
 14th (S.).—Motor Union Meet at Leicester.
 Brooklands A.R.C. meet.
 21st (W.).—Nottinghamshire A.C. hill climb.

OCTOBER.

- 19th—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

- 21st-23rd.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Aug. 17th—8.19	...	19th—8.15	...	21st—8.11	...	23rd—8.7
„ 18th—8.16	...	20th—8.14	...	22nd—8.9	...	24th—8.5

In Glasgow the lighting-up time to-day (Sat.) is 8.45 p.m., and to ascertain the approximate times on succeeding days 26 min. should be added to the above figures; in Plymouth an addition of about 16 min. is necessary.

BUSINESS NEWS.

MESSRS. POWELL AND CO. have large premises at 98, High Street, Marylebone, W., for the sale of second-hand cars, motor accessories, &c. They are also equipped for carrying out any necessary repairs and make a speciality of keeping a number of cars on hire.

MESSRS. DOBBIE, MCINNES, LTD., of 45, Bothwell Street, Glasgow, are introducing a new patent combined speed indicator and mileage recorder for motor-cars. It is known as the Britannia.

MR. S. BLACKER-DOUGLAS, of Lowestoft, has written to Mors (England) Ltd., stating that he has had his 19-h.p. Mors car since 1903, and during that time he has been through almost every town in France. He has never been held up on the road, and although he must have travelled quite 40,000 miles on the vehicle it still goes as well as ever.

MR. ROBERT NEWTON's motor engineering works, in Wood Street, Manchester, are well equipped for the repair of motor-cars generally. The proprietor also undertakes the teaching and driving and advising clients as to the purchase of motor-cars. His office is at 46, Bridge Street, Manchester.

THE Sirdar Rubber Company, Ltd., have written in connection with a claim made by a foreign manufacturer of tyres, that their firm was the first to reduce the cost of tyres to the users. They add, "In fairness to ourselves, we shall be glad if you will point out that we were the first to do this, and did it months ago, because we came to the decision that we would not spend money on tyres for trials, races, &c., or in assisting those who were taking part in them, which is a very heavy tax on any tyre maker, but that we would put all such money saved into the quality of our rubber, and at the same time be able to reduce the cost to the users. We might mention, too, that we also treat the

trade very liberally, as we can afford to for the above-mentioned reasons. We give the trade the full benefit of our largest wholesale terms without binding them to contracts, being satisfied to rely upon the quality of our tyres to get their repeat orders; and although we can, as advertised at the moment, allow the users 15 per cent. cash discount off our current list prices, we make such arrangements that the trade will not suffer if they push the sale of these British-made tyres." We may add that, owing to the rapid increase in their output, the Sirdar Company are seriously thinking of further reducing their prices, because of the decrease in cost of production.

THE Burlington Carriage Company, Ltd., the British agents for the Delaunay-Belleville cars, are making extensive alterations to their premises at 315-317, Oxford Street, London, W., to accommodate their increasing trade.

MESSRS. CLEMENT-TALBOT have a notice from Mr. G. S. Munro, Superintendent of Juries and Awards of the New Zealand Exhibition (International), that a gold medal has been awarded to them for their exhibit of Clement-Talbot cars.

NEWS has just been received that a gold medal of the New Zealand International Exhibition, which has been running for six months and excited the widest interest in the colony, has been awarded to Humber, Ltd., for the exhibit of Beeston and Coventry Humber cars.

THE BRITISH LEATHER CLOTH MANUFACTURING COMPANY, LTD., of Hyde, have sent us samples of their special leather cloth known as "Rexine," which is being largely used by motor-car and motor-body builders for upholstering purposes in place of leather. The material is claimed to be more than a substitute for leather, inasmuch as it possesses all the qualities of the latter, yet it is only one fourth the price. As to its wearing qualities the makers state that it will stand the hardest wear and tear, that it is scratch proof, will not crack, peel, stretch or sag. Long exposure to sun and wet has no deteriorating effect upon it, while a matter of considerable importance is that it cuts up to much better advantage than leather, there being no waste. The samples of Rexine sent us comprise specimens of both the ordinary leather grain material and those with an embossed pattern, and are in a variety of colours.

MR. STRELITZ, of Perth, Western Australia, is making an extended tour on the Continent on his 30-h.p. Daimler car, and has already covered 5,000 miles without a single involuntary stop.

MR. RICHARD C. THOMAS has been appointed London manager to the International Insurance Company, Ltd., of 2, Haymarket, S.W., which makes a speciality of motor-car and motor-cycle insurance. Mr. Thomas's previous experience in insurance business was with the Ocean Accident Insurance Corporation as their chief inspector at their Law Courts branch, having been with them six years.

MR. C. J. GLIDDEN has just completed his forty thousandth mile with the aid of Castle accumulators and Castle synchronised coil.

PITLOCHRY is a favourite centre for Scottish tourists, and those who motor through that delightful district will be glad to know that the Pitlochry Garage and engineering works of Mr. W. Blues, in Main Street, Pitlochry, has been opened with full facilities for the repair as well as the accommodation of cars.

AN explosion has occurred in a shed upon the premises of Mr. B. Hancock, in Halesowen Road, Old Hill. By some means a quantity of petrol was accidentally upset, and the fumes came into contact with a lighted lamp, with the result that an explosion occurred and the shed was destroyed, in spite of the efforts of the local fire brigade. Two motor-cars were badly damaged.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

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[No. 442.]

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“THE INDUSTRIAL MOTOR REVIEW.”

“THE INDUSTRIAL MOTOR REVIEW,” which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

“The Industrial Motor Review” is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



THE motor promises a revival of the prosperity of the road—not only because of the distribution of tourists about the country, but from the commercial aspect as well. The handling of merchandise and the conveyance of produce by motor-van and wagon is also being developed, and should become a regular feature of business life.

While passenger services are being fostered in many districts, express motor transport is being encouraged over long distances. But it is not only on *terra firma* that the motor will ensure a return to prosperity; a revival of canal activity may in some degree be brought about by means of the motor-boat. On Saturday last about fifty canal managers and directors and Black Country manufacturers made a trial trip on a motor-barge. The run took place over the old Birmingham and Worcester Canal from Breedon's Cross, near King's Norton, to Tardebigge, near Blackwell, the journey taking about three hours, and including a run through a tunnel $1\frac{1}{2}$ miles in length. The barge has a 15-h.p. motor, the fuel used being paraffin, and the machinery occupying very little space and in no way interfering with the cargo capacity. It was fully demonstrated that a boat of this type can run at a maximum speed of about six miles an hour, and an average, including delay at locks, of four miles an hour, which compares favourably with the two miles an hour of horse-drawn barges.

Makers' Clubs.

CLUB life in the United States is not confined to the towns and cities; some of the manufacturers of cars have been organising associations of users of their vehicles. These makers' clubs have held runs, dined together and discussed in solemn conclave. The promotion of such sociability is said to have good results and to have done much to encourage those responsible for the production of the various types of cars. In the early days of the movement some of the French manu-

facturers organised runs of owners on their particular vehicles, and much useful pioneer work was done in that way. On this side doubtless the feeling generally is that the automobile industry has outgrown such methods.

Railway Companies and the Roads.

In the early days of motor traffic in connection with the conveyance of passengers, the Great Western Railway Company experienced considerable difficulty with the local authorities throughout Cornwall, whose neglect to maintain the surface of the roads in good condition made it impossible for the railway company to run a satisfactory and remunerative service. In a great measure the difficulties have since been overcome, district councils and kindred bodies recognising that the use of the roads in such a connection meant prosperity to many of their districts. The experience of the G.W.R. has, however, proved a lesson to other companies, and we understand that the directors of the Great North of Scotland Railway Company have decided not to accede to the wishes of several parishes in Aberdeenshire to establish public services of motor vehicles unless the local highway authorities are prepared to assist by keeping the roads in order and guaranteeing them against claims from alleged extraordinary traffic. It is to be hoped that the Scottish authorities will recognise the necessity of conceding to the wishes of the railway company as a means of local development.

Wind-resistance Experiments.

ELSEWHERE in the present issue we publish the results of some interesting experiments lately carried out by Mr. S. F. Edge, with regard to the effect of large covered bodies on the speed of automobiles. The trials resulted in demonstrating that whilst a speed equal to seventy-nine miles per hour was attained on the Brooklands track when the wind resistance was not more than that presented by the radiator, dashboard, and driver, it was reduced to less than forty-eight miles when the wind resistance area was increased to thirty square feet. Mr. Edge hopes at an early date to carry out similar experiments as regards the effect of weight on speed and petrol consumption. We might suggest that it would be interesting to continue the wind-resistance tests by comparative trials of the chassis illustrated on page 552, and the same or similar vehicles fitted with different types of bodies, ranging from the side-entrance double phaeton to the larger seven-seated limousine.

An Indian Trial.

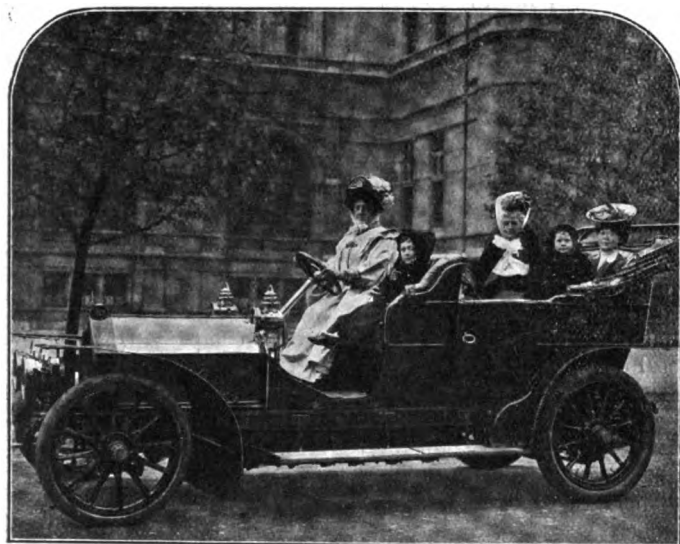
FOLLOWING Christmas, on December 26th, 27th, and 28th, the South Indian Motor Union will hold a Reliability Trial of 343 miles, divided into three daily runs, and including a hill-climb on the Chittoor Ghaut. There will be three classes, based on price, viz., below £200, not exceeding £350, and above £350. Each car will be allotted 1,000 marks at starting, from which a mark will be deducted for every minute a car is stopped or pushed or assisted in its passage, except when in control or delayed in starting. An interesting regulation, necessary where the climate is so different to our own, is that “no petrol is to be filled into any tank or vessel after sunset or before sunrise, unless such replenishing is carried out 100 yards

from any other car." Entries close on November 30th, and should be made to Mr. G. V. Scovell, care of Post Office, Bangalore. Madras will be the central point of the trial, and the establishment of Messrs. Oakes and Co., Ltd., the official garage.

Motoring in Ireland.

THE value of association in connection with automobilism has often been demonstrated in Great Britain, and the Irish Automobile Club is to be congratulated on the practical work it is doing for the motorists of the Emerald Isle as well as

for those from this country touring in that part of the United Kingdom. For some time past the Club has sent petrol to the North Wall for the convenience of motorists arriving at Dublin from England, as up to the present it has not been obtainable there. On the representation of the Club the London and North Western Railway Company, which has always shown considerable enterprise where motorists are concerned, have erected a special shed for the storage of petrol at the point of landing, and arrangements have been made whereby motorists can obtain it at North Wall. This should be a great convenience to British motorists landing at Dublin.



Mrs. E. H. Turnbull on her 24-h.p. De Dietrich Car.

Against the Coroners.

SEVERAL correspondents have lately attempted in the public Press to raise a "hue and cry" against those coroners who, after investigating all the circumstances attending the unfortunate deaths of persons who have lost their lives in motor-car accidents, have accepted the verdict of the jury exonerating the driver of the automobile from blame. "The leniency of many of our coroners towards motorists does more than anything to encourage the road hog," says Mr. Horace Bleackley, who urges that the Lord Chancellor should be informed of those coroners who thus express themselves. Others have written deploring the fact that the decision as to whether or not the fatality should be regarded as a case of manslaughter rests with these officials instead of the police magistrates at petty courts. Those who take this view entirely overlook the fact that coroners are guided by a jury who certainly are not all motorists, and who are as capable of looking at things with an impartial attitude of mind as any magistrates upon the bench. So far as we have been able to observe, the coroners have had singularly few cases involving the automobile before them, when the number of vehicles in use is considered; and this attempt to prejudice those who are disposed to take a

consistent view of their duties deserves the reprobation of all who have not yet lost the sense of British justice.

The Medical Examination of Drivers.

THE medical aspect of automobilism is of importance as well as of interest, and the examination of Mr. S. F. Edge after his record run revealed that, in the case of a man whose normal condition may be described as "fit," even such an exercise had no deleterious effect. But all drivers have not the stamina of the man who could drive four and twenty hours and regard it as a mere incident of the week's work. In our correspondence columns Dr. E. Danvers-Atkinson raises a point of supreme value, and one upon which the individual experience of our readers is invited. The man who drives a motor-car should have a good nerve and sound constitution. Ordinarily, perhaps, these points need not be laboured; but it is frequently the unexpected that happens, and then the man of weak heart or of dissipated nerves goes to the wall—and his car with him. Dr. Danvers-Atkinson has specialised in the examination of men for motor-cab work, and his experience, as mentioned in his letter, suggests several reasons for the exclusion of unsound men—from this particular point of view—from the driving seats of automobiles.

Medals for Drivers.

WITH a view to encourage continuity of service, good conduct, and general steadiness on the part of professional drivers, the R.A.C. has decided to award medals to those drivers holding the Driving and Mechanical Proficiency Certificates who qualify for them, on the following basis:—A bronze medal will be awarded to the driver holding both the Driving and Mechanical Proficiency Certificates, who shall serve in one situation, either in workshop or private service, for a period of three years. The bronze medal will also be awarded to the driver holding the Driving Certificate only, who shall remain in the same service for a period of four years. A silver medal will be given to the driver holding both the Driving and Mechanical Proficiency Certificates who shall serve as already described for a period of four years. The silver medal will also be awarded to the driver holding the Driving Certificate only after he has remained in the same service for a period of five years. A gold medal will be awarded to the driver holding both the Driving and Mechanical Proficiency Certificates who shall serve in one situation for a period of five years. In every instance the time of qualifying service will count from the date of issue of the certificate.

The Location of Police Traps.

A MOTORIST was summoned by the police at the South West London Court for driving a motor-car beyond the legal limit in the Portsmouth Road, Putney. The defendant's counsel took objection to the summons because it failed to disclose full information regarding the offence complained of. He pointed out that Portsmouth Road was mentioned, but there was no indication of the exact locality where the speed was alleged to have been exceeded. In reply, the chief clerk admitted that the wording was somewhat vague, but Mr. de Gray declared that it would be against public policy to explain where the police trap was actually situated. There may be something in his contention from the official point of view; but, on the other hand, the absence of this information absolutely prevents any opportunity being afforded for checking the accuracy or otherwise of the statements made by the police. As the case stood the constable went into the box and asserted that the motorist had been timed over a measured furlong, but did not give its location beyond the general fact that it was in the Portsmouth Road. Mr. de Gray's ruling in the matter certainly seems at variance with all preconceived notions as to the necessity of exactitude in police-court evidence, and possibly

some of the motoring organisations may be able to suggest a question to one of their friends in the House of Commons. Unless the police are compelled to give full evidence, the chances of fair play are restricted to very narrow limits.

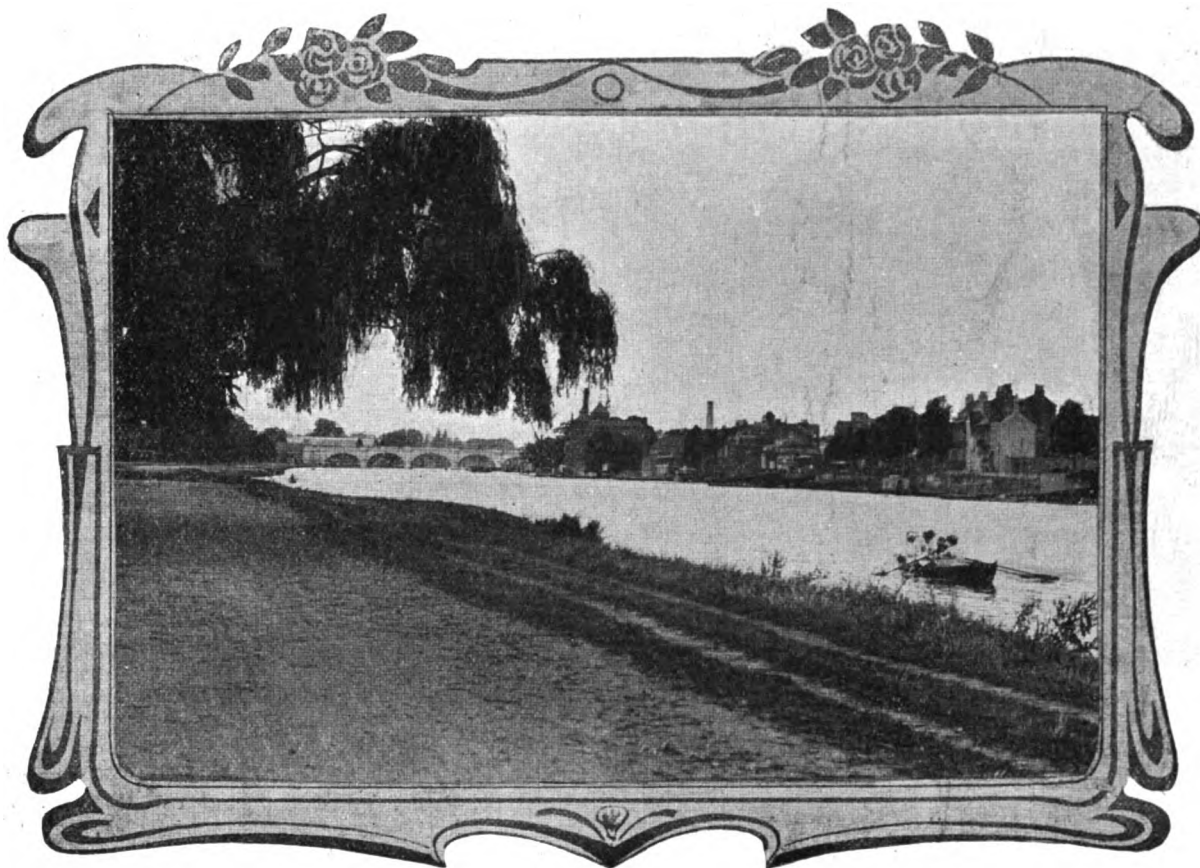
On the Towpath.

RUMOUR is again busy with the Thames towpaths, and unfortunately is proving true in many of the reports now being circulated with regard to the exclusion of motor-cars therefrom. It is generally thought that the L.G.B. will grant an order prohibiting automobiles on the towpath from the Middlesex side of Kingston Bridge to Hampton Court. The prospect of relief for the users of the river and the river bank at Hampton Court has stirred some Surrey-siders into action. The towpath within the jurisdiction of the Urban District Council of Molesey, from Hampton Bridge past Molesey Lock to Sunbury, well over two miles, is, in the opinion of many residents, totally unsuited

for any purpose other than as fuel for the engine of a light locomotive. Provided that where due precaution is taken to prevent petroleum spirit from escaping into a sewer or drain and provision made for disposing safely of any surplus petroleum spirit, and where no fire or naked light is present, quantities not exceeding one gill may be used for the cleaning of a light locomotive at a safe distance from any building, place of storage of inflammable goods, or much frequented highway, or for the repair of tyres, under suitable precautions.

Tar Spreading.

LATE in May last some tests in the spreading of tar by means of machines were carried out under the direction of the Roads Improvement Association on certain roads in Middlesex and Berkshire. Since then the portions of the highway thus treated have been kept under constant observation with a view to gauging the durability as well as the immediate efficacy



The Towpath along the River Thames between Kingston and Hampton Court, which is to be closed to motor-cars.

for a motor road. The authorities have tested local opinion, and they are now about to approach the Local Government Board to extend to them their powers of closing the highway to motor traffic. It is said the path in places is less than 8 ft. wide, and in addition to its narrowness, there is a slope towards the river, which renders it a dangerous road.

The Storage of Petrol.

ON the 15th inst. new Regulations regarding the storage and conveyance of petrol came into operation by direction of the Home Secretary. No more than sixty gallons are to be kept in any one storehouse, and where two or more such places are in the same occupation, and are situated within twenty feet of one another, they are to be deemed one and the same storehouse. In the storehouse or in any place where a light locomotive is kept or is present, petroleum spirit must not be used for the purpose of cleaning or lighting, or as a solvent or

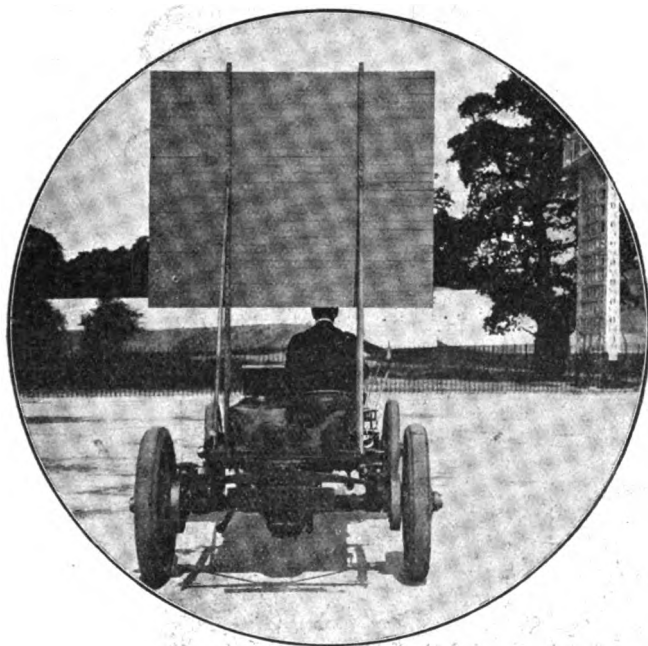
of the work. It will be remembered that, at the same time, a competition was held for the best preparation of tar for road purposes, a 100 guineas trophy being offered by the Ballymenagh Woollen Factory Company. This has now been awarded to Messrs. R. S. Clare and Co., Ltd., for their patent Tar Compo. A gold medal of the Association will also be given to that firm. The competition for the best tar spreading machine has resulted in the award of the first prize of 100 guineas and gold medal to Mr. Thomas Aitken for his patent tar sprayer illustrated in our issue of June 1st, and of the second prize and silver medal to Messrs. Tarspra Ltd., for their Tarspra motor-van.

FROM the Shrewsbury Arms Hotel, at Rugeley, comes an illustrated guide to the "Cannock Chase District," which will be of service to motorists passing through the town, giving, as it does, the principal roads with a useful mileage table. The Shrewsbury Arms Hotel has an excellent motor garage.

SOME WIND-RESISTANCE EXPERIMENTS.

SOME interesting trials in regard to the wind resistance of rapidly moving motor-cars were carried out on the Brooklands track on Friday, last week, by Mr. S. F. Edge, with the assistance of two R.A.C. official timekeepers, Messrs. F. T. Bidlake and A. G. Reynolds. The vehicle which was used, a 38.4-h.p. (R.A.C. rating) six-cylinder Napier, driven by Mr. Tryon, had been fitted with a wind screen, 6 ft. wide by 5 ft. high, built up of laths each 6 ft. long and 2 in. wide, so that each lath represented one square foot. Sixteen runs were made, commencing with the total area exposed to the wind, and after each run two square feet, *i.e.*, two laths, were removed, and the result of these runs came out as follows:—

Area of wind resisting screen.	Time over flying quarter of a mile.	Speed in miles per hour.
1st run, 30 square ft.	18½ sec.	47.85 m.p.h.
2nd „ 28 „	18 „	50.0 „
3rd „ 26 „	17 „	52.9 „
4th „ 24 „	16 „	56.15 „
5th „ 22 „	16½ „	54.0 „



Back View of the Wind-resisting Board fitted to the Napier Car.
Photo by (Campbell-Gray).

6th „ 20 „	16½ „	55.5 „
7th „ 18 „	15½ „	57.0 „
8th „ 16 „	15½ „	57.6 „
9th „ 14 „	15 „	60 „
10th „ 12 „	14½ „	62.5 „
11th „ 10 „	14 „	64.2 „
12th „ 8 „	13½ „	66.15 „
13th „ 6 „	12½ „	70.25 „
14th „ 4 „	12 „	75 „
15th „ 2 „	12½ „	73.8 „
16th „ Normal	11½ „	79.0 „
17th „ 15 sq. ft. arranged as gridiron.	15½ „	57 „
18th „ 24 sq. ft. in two blocks with 6 sq. ft. interval between them.	17½ „	51.1 „

As will be seen, besides the sixteen runs two others were made, the results of which are very interesting. First, a run with each alternate lath removed, leaving a total wind resistance area of the screen of 15 square feet. The time, however, for this run was 15.45 sec., giving a speed of 57 m.p.h., showing very clearly that, although there was actually only 15 square feet of resistance on the screen, owing to the arrangement and apparent extra skin and corner friction, &c., the resistance was the same as if it had 18 square feet of continuous surface,

indicating that a large number of small protuberances on a motor-car are detrimental to its free running. The next test was to have a total area exposed of 24 sq. ft., but arranged in two portions, the top one consisting of 13 sq. ft. solid, then a gap of 6 sq. ft., and then the remaining 11 sq. ft. solid. The total solid area exposed was thus 24 sq. ft., but the actual effect on the car was as if about 27 sq. ft. were exposed.

It will be noted in going through the accompanying table that the slowest speed recorded with maximum wind resistance was 47.85 miles per hour, whereas the highest was 79, a variation of over 31 miles per hour merely by the addition of wind resistance and practically no additional weight. Owners of large touring cars with wind shields, limousines, etc., will realise from this the enormous extra work they are demanding from their engines, and incidentally from their driving tyres, when they travel fast against a strong head wind. This extra work, of course, is only obtained by the consumption of considerably more petrol, and so the varying petrol results that users sometimes get must be very carefully considered, as well as the direction of the wind when petrol consumption tests are being made; in fact, the only useful ones are when an "out and home" course are chosen. We may add that the front area of the car and driver outside the wind screen area was about 11½ to 12 sq. feet.

WILD FLIGHTS IN BORNEO.

PIONEERS of the motor movement look back with feelings not distant from amusement on the antics of animals in the early days in this country. But, apparently, never did motor-car startle sedate British quadrupeds as it does the animals and people of South Borneo. Thither, a little while ago, went Mr. C. F. Wearne, a motor expert, of Singapore. He found a delightful road for motoring, but the progress of the car along this road was the signal for a wild stampede of the inhabitants of every kampong that was passed; and the farther it penetrated inland the more fearful an object the motor-car appeared to be for the people. Whole villages fled off to the jungle wilds rather than face the awful monster. They seemed to regard the innocent motor-car as the very Devil himself. Mr. Wearne made several trips up and down from Bandjermassin to the terminus of the road, but each successive trip seemed to breed as much terror in the hearts of the jungle folk as did its initial appearance among them. On one occasion the occupants of the car came upon a small group of fisherfolk on the river bank almost without warning. With wild screeches one and all of them dropped their piscatorial tackle and fled, disappearing as swiftly as so many rabbits in a warren. Another time an old man and an old woman were sitting by the roadside, when, before they knew it, the car had run up almost abreast of them. The poor old couple must, indeed, have imagined that some fiend was after them, for, with terrified shrieks and arms outflung, they rushed straight for the riverbank, threw themselves into a canoe, and paddled off for dear life. On yet another trip the motor-car overtook on the road a herd of bullocks driven by a squad of natives. Hearing the warning "toot" of the horn, the drivers looked behind, and when they saw what must have appeared to them a new form of the Devil, they darted through among the animals and shot, wildly yelling, ahead. They could not go off at the sides of the road, for on each flank was a deep bog, so they fled on till the morass was passed. Meanwhile the bullocks themselves seemed to be infected with the terror which had seized upon their drivers, for the whole herd stampeded until they also found roadside openings, where, safe from the pursuing monster, they could rest their heaving flanks.

A MOTOR-CAR service between Dawson City and other points in the Klondike region may be inaugurated before another year has passed, owing to the enterprise of Captain J. B. Hubrick, of Dawson City, who has purchased a 40-h.p. Pope-Toledo car with which to start the enterprise.

THE ADVANTAGES OF DUPLICATE IGNITION.

WHEN we consider the fact, which surely everyone will admit, that the ignition systems at present in use can be made reliable, the question naturally arises, Why have duplicate ignitions? Do the advantages outweigh the disadvantages? Well, it is not a case of six-of-one and half-a-dozen of the other, because a great advantage is there, and it stands out very prominently, in the shape of providing a means, should the system being used fail, of reaching home safely, when otherwise it might have been one of those, now happily rare, cases of being stranded in some out-of-the-way district. With regard to the possibility of the system being reliable, as stated, and yet failing, we have only to remember that it is not perfect—some types are far from being so—and that we are all liable to fail at times. Having this in mind, one is inclined to say that, although a duplicate ignition may not be necessary, yet it is a great advantage. As a matter of fact, there is no doubt that with a good accumulator and coil system of ignition, which receives all the care and attention it should from the hands of a competent person, an extra and fully-charged accumulator and a few necessary spares being carried, the motorist can feel almost as free from the anxiety of being stranded through a breakdown in the ignition system as though provided with a stand-by, the purpose for which it so often serves.

In considering the disadvantages of a dual ignition, we have to remember the complicated wiring that some types necessitate, and the fact that two ignitions demand more attention than one—as, of course, to have a duplicate ignition and not have it prepared for work is practically equal to having a fire extinguisher that has never been “charged” fitted to a car. There is yet another disadvantage of the double ignition, because the man of moderate means wants the selling price of the car reduced, and to have two ignitions generally adds substantially in the other direction.

“Example is better than precept,” therefore let us relate a true incident by way of illustrating a case where a duplicate ignition system was being wasted. It will convince some motorists—those who have any doubt about it—that it is possible to be stranded even with two ignitions, and also serve to show the type of man very often employed as chauffeur, solely on account of cheapness, as there are, despite all that is written to the contrary, plenty of skilled and trained mechanics, with long driving experiences, ready to start for a respectable wage. The incident referred to took place during the visit of the Colonial Premiers to the City. After they had just passed a certain point of the route, a motor-car came round the corner, and, for what seemed some unaccountable reason, stopped dead in the middle of the road. The furious attempts to make it start brought no more fruitful results than heightening the colour of the driver's face, and the passengers, consisting of a lady and gentleman, got out and proceeded on their journey in a horse-drawn cab. A motor engineer among the spectators along the route, and who had been watching the interesting event, asked the driver what was the matter, and if

he could be of any assistance. “Oh,” said the driver, “it's the carburettor, I've had a lot of bother with it, I'll have to send for a repairer to come and take it down.” He then went on with his work, which consisted of pouring about a quarter of a gallon of petrol into each cylinder. This individual reluctantly parted with some further information, which was to the effect that the car—a Panhard by the way—was on hire. The engineer then said, “It strikes me it is not the carburettor that is at fault at all, but the magneto. Wash the platinum points with a little of that petrol. Have you not an accumulator as well?” After mumbling something, which contained a refusal to wash the platinum points, the driver said, “Yes, I have an accumulator, but I never use it. Besides, it is not connected up.” “Never mind that,” said the engineer, “you jump up, and let me have a go at it.” It was the work of a few moments for him to connect one terminal of the accumulator to the make-and-break and the other to the earth terminal of the magneto coil, afterwards removing the carbon brush of the Eisemann magneto. The engine started up after a few turns, owing

to the driver flooding with petrol, and ran splendidly. Of course, if anything had been wrong with the coil or distributor this would not have been possible, and it shows the advisability, when a supposed dual ignition is fitted, of their being so arranged that they do not rely too much on each other; or, if the complicated wiring necessary with a separate coil would rather be done without, it is always possible to carry a spare coil in case of emergency, and so diminish the risk of ever being stranded in outlandish places through ignition faults.

However, the driver in our little story, after imagining that he would be stopped for a few hours, while a repairer came and perhaps took down a carburettor that there was nothing wrong with, was, in less than half-an-hour, able to be on his way again.

J. MORSE SCOTT.



Some of the members of the Army Motor Reserve at the Red Lion Hotel, Banbury.

in less than half-an-hour, able to be on his way again.

THE Great Eastern Railway Company's guide to the Continent, edited by Mr. Percy Lindley, is to hand, with many excellent illustrations and several good maps, which will be of service to those of our readers touring in North Holland, Belgium, Germany and the Tyrol.

PETROL motor designers and all engaged in the development of the internal combustion engine will be interested in the new work just published by Messrs. Longmans, Green and Co. It is entitled “Balancing of Engines, Steam, Gas, and Petrol,” and is from the pen of Mr. Archibald Sharp, B.S.C., who, as is well known, has long devoted special attention to the question. The work is intended for the use of students, draughtsmen, and designers, to whom it is offered as an elementary text-book. The subject is, of course, of a highly technical nature, but graphical methods are principally used, so that there should be no difficulty in following the line of discussion taken up by the author.

B

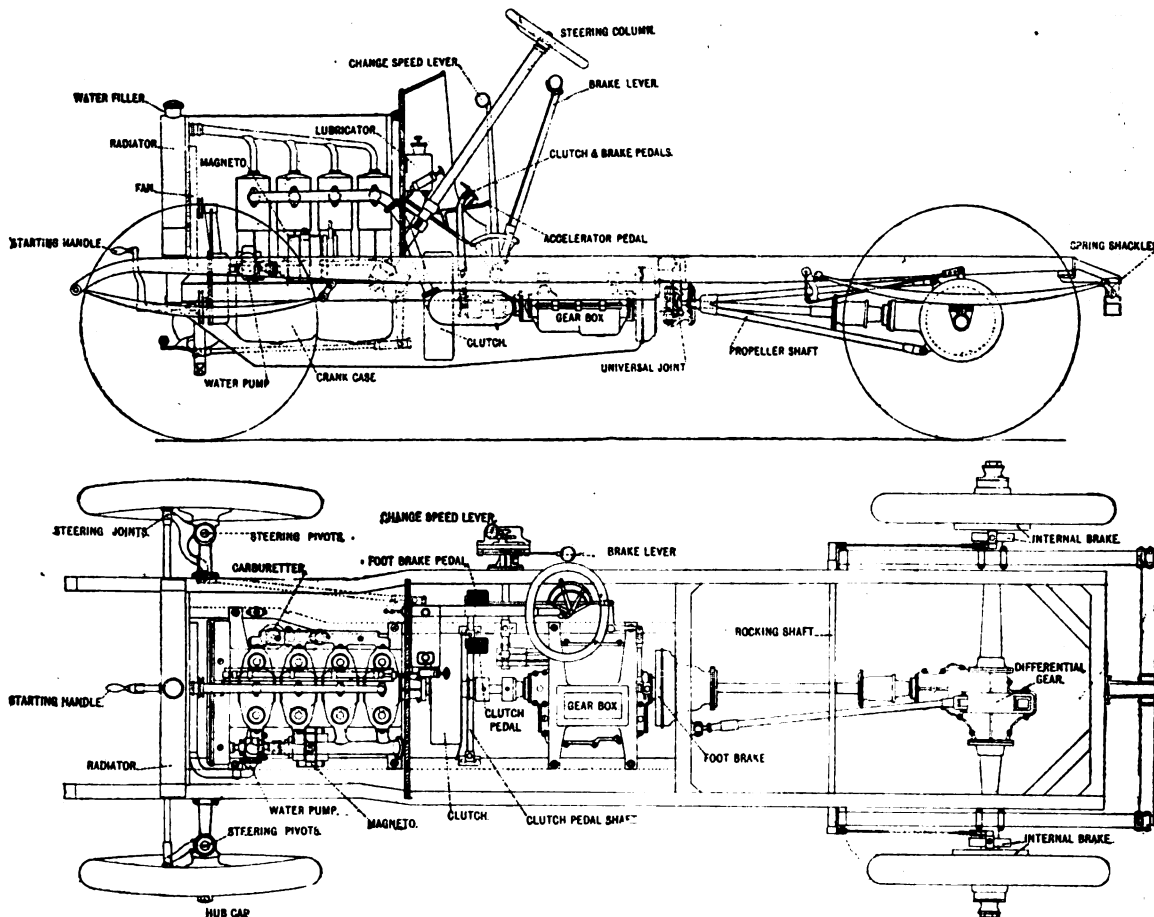
SOME USEFUL NOTES.

TYRES should be examined at frequent intervals for cuts. These should be cleaned from any sand or dirt which may have entered, the gash washed out with petrol, and rubber cement inserted. The gash should then be wound with tyre tape until the car is again taken out. If it is a severe one, the cut should be vulcanised at the earliest possible moment.

WHEN a car is to remain idle for several weeks, it is advisable not only to raise the wheels off the ground by means of jacks, but also to partially deflate the tyres, and remove all the strain from the inner walls of the outer covers. If this is done, it will greatly add to the life of the tyres, as they are then bearing only the pressure of the air with which they are inflated, whereas when supporting the weight of the car this is exerting a continual unnecessary strain on the walls of the cover. By

A MOTORIST should at least be able to diagnose the troubles of his car even if he does not make the repairs. A good many do not care to do the dirty work, but intelligent oversight of those who do this work is essential if the annual cost of upkeep is to be kept at its lowest limit.

CORRECT adjustment of the coil tremblers is out of the question after the platinum points become pitted. If badly eaten away, as is apt to be the case after long service, the only remedy is a complete renewal, but if the trouble be still in its earliest stages, trueing up with a very light file will usually suffice. Starting with the points in good condition, it will be found that trouble from this source can be avoided to a very great extent by reversing the direction of the primary current at stated intervals. This arises from the fact that the electrolytic action is always in the direction of current flow, the positive electrode or terminal being disintegrated by the passage



Figs. 1 and 2.—Elevation and Plan of 30-h.p. Beeston-Humber Car (See page 555).

adopting this course it is estimated that the life of the tyres will be increased by at least half the time the car stands idle.

Few motorists realise the many complications that arise if the interior of a cylinder, particularly the combustion chamber and piston head, are not kept free from carbon deposits. The intense heat developed by the rapid explosions burns up the cylinder oil, which forms as a hard deposit in the explosion chamber. The effect of this is to cause the motor to knock and often to fire from self-ignition. When this condition exists the cylinders should be well flushed out with paraffin, which thus frees the piston rings and allows them to spring tightly against the cylinder, producing a gas-tight joint, besides softening the carbon deposits so that the cylinder may be easily scraped out. If every automobilist would take the trouble to flush his motor with paraffin at least once a week, he would do more to keep his engine in perfect condition than perhaps in any other way.

of the current and a perceptible amount of the fused metal in a very finely divided state being deposited on the other terminal. It will, therefore, be evident that a reversal of the current flow will reverse this action, and to a large extent prevent the trouble that otherwise will arise from it sooner or later.

No part of an engine requires better care than the ignition system with which it is fitted. Cleanliness is one of the most important factors necessary to continuous satisfactory operation. Especially is this true in relation to the contact-maker and sparking plugs. Rust should be prevented at all times, and no foreign matter allowed to collect either on the contact-maker or on the coil or coils where the tremblers are located. If the single coil and distributor system is used cleanliness is still more important, and moisture must be prevented, if possible, from settling on the high-tension distributor parts; the secondary current will frequently short-circuit under such conditions.

THE 30-H.P. BEESTON-HUMBER CAR.

AMONG the most popular of the British-built cars at present on the market are the Humber vehicles, which are being turned out in large quantities, both at the Beeston and Coventry works of Messrs. Humber, Ltd. Three models are being made—10-12-h.p., 15-h.p., and 30-h.p.—all fitted with four-cylinder engines. The leading features of each

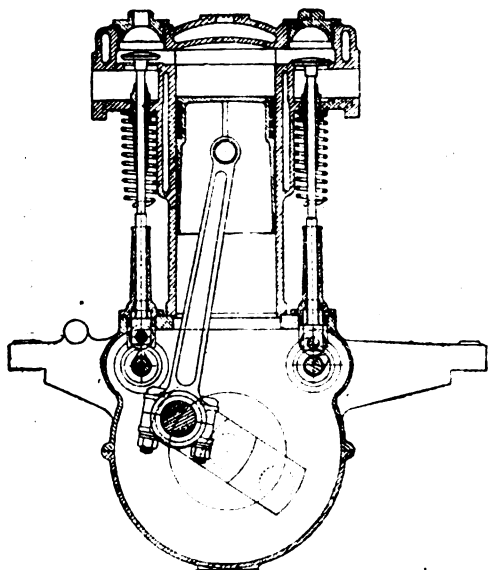


Fig. 3.—Transverse Section through Engine.

of these have already been given in the *M.C.J.*, but the more complete description of the larger model which we are now able to publish will, no doubt, prove of interest, especially in view of the success of a somewhat similar car in this year's Heavy Touring Car Race. The engine comprises four separate cylinders, 110 mm. bore by 130 mm. stroke, with the mechanically-operated valves arranged on opposite sides. The carburettor, which is gravity fed and located on the right hand of the motor, is of the

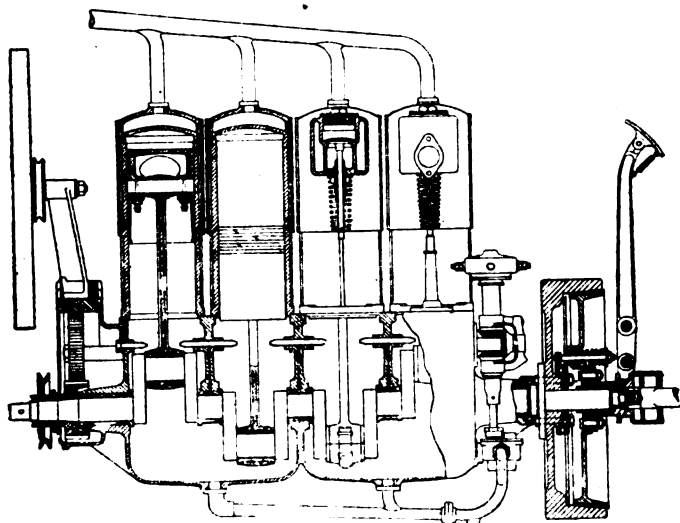


Fig. 4.—Sectional Elevation of Four-cylinder Engine and Clutch.

usual float-feed type, fitted with both automatic and hand-controlled extra air inlets. The ignition is by high-tension magneto, with accumulators and synchronised coil fitted as a reserve. The contact-maker and high-tension distributor is located on the upper end of a vertical spindle driven by bevel gear off one of the half-time shafts; it passes up through the floor-board near the dash, so that it is in full view of the driver. The water circulation is maintained by

a gear-driven rotary pump and honeycomb radiator; the latter, which is of a distinctive shape, is provided with an air-inducing fan driven by a belt direct off the crank shaft.

The pump is supported on the engine base chamber, and is so arranged that it can be readily dismantled. The ignition and throttle levers are conveniently placed horizontally across the steering wheel; a foot accelerator working in conjunction with the hand lever, but independently of it, is also provided. The control of the speed of the engine is not by a throttle valve in the usual way, but by a variable lift to the inlet valves, this being obtained by means of a sliding cam shaft, to which

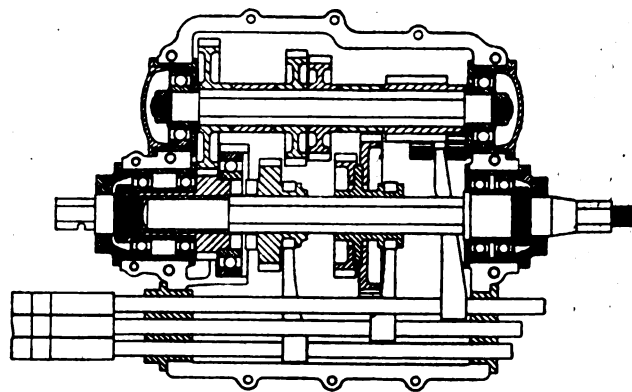


Fig. 5.—Sectional View of Gear-box.

the hand and foot levers are connected. The lubrication of the motor is effected by a small rotary pump located, as will be seen from Fig. 4, at the rear of the engine, and driven by bevel gear off the exhaust cam shaft, thus ensuring uniform and automatic lubrication of the five main bearings and the big ends of the connecting rods. A foot pump is fitted on the dashboard for forcing oil into the crank case to replenish wastage, while there is also a continual drip feed from the lubricator on the dash to the crank case, which latter is provided with a central partition, so that a full supply of oil is furnished to each cylinder. The petrol tank, which is located under the driver's seat, has a

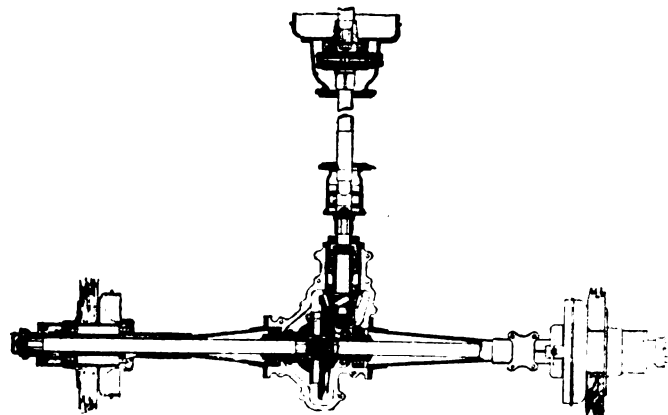


Fig. 6.—Part Sectional Plan of Cardan Shaft and Live Axle.

capacity of 10 gallons; a tap is provided inside the frame near the change-speed lever quadrant, by means of which the supply can be readily cut off when the car is left.

Passing to the transmission, this is through a large diameter leather-faced cone clutch and jointed shaft to the gear-box, which, like the engine, is supported on a subsidiary frame. A sectional plan view of the change-speed gear is given in Fig. 5; it is designed to give four speeds forward and a reverse, with direct drive on top speed. The gear, which is controlled by a single lever working in a gate, is arranged so that the changes from one speed to another can be made without meshing the

intermediate gear wheels. For example, a change can be made from the top to the lowest speed without interfering with either the second or third speed pinions. Both shafts run on ball bearings, the main shaft being fitted with an auxiliary ball bearing to prevent torsion. From the gear-box the power is transmitted through a cardan shaft and bevel gear to the rear live axle. The universal joints are made with hardened steel centres and pins of large diameter. They are enclosed in aluminium casings, thus preventing all dust and grit getting to the joints, which are lubricated by means of a special flexible pipe and grease cap from an accessible position on the cardan shaft. The differential case on the back axle is split horizontally for the convenience of inspecting the bevel gear. The road wheels run on ball bearings of large diameter, and there are ball-thrust bearings to take the side-thrust on the road wheels, which are mounted on the axle sleeve, which prevents any side strains on the live shafts or differential. The driving and bevel pinion shafts are also mounted on ball bearings, and ball-thrust bearings are fitted on either side of the bevel wheel and behind the pinion, thus ensuring perfectly smooth and silent running. A double torque rod extends from the differential casing to a cross member of the frame, where it is carried in a spring box.

Ample brake power is provided, a pedal actuating one working on a wide drum at the rear of the gear-box, and a hand lever compensated internal-expanding metal-to-metal brake working in drums connected with the hubs of the rear road

NEXT YEAR'S TRIALS.

THE special report which has been prepared by the Trials and Competitions Committee of the Scottish Automobile Club with regard to the proposed 2,000 miles Reliability Trial of the R.A.C. has been presented to a special meeting of the General Committee of the Scottish Club, by which it has been adopted. The report was prepared after many consultations with members of the motor trade north of the Tweed, as well as the Technical and Industrial Committees of the Scottish Automobile Club, and may be taken to comprehend the view of motorists generally, so far as Scotland is concerned. It is pointed out that such a lengthy trial would be an undue tax, both as regards time and expense. Moreover, it could not be satisfactorily conducted under the existing conditions, by which the vehicles are untouched, except for replenishing and lubricating, from start to finish. Having regard to these considerations and to the very strong feeling of Scottish agents, the Club is firmly against any concurrence with the proposal in its present form. As an alternative which has the advantage of not clashing in any way with the policy of the R.A.C., it is suggested that the Scottish Trials as carried out this year might be made the first part of a larger trial. In such an event separate entries would be required for the Scottish Trial, and its records would be made available to the R.A.C. to be embodied in this longer trial, as regards these vehicles whose

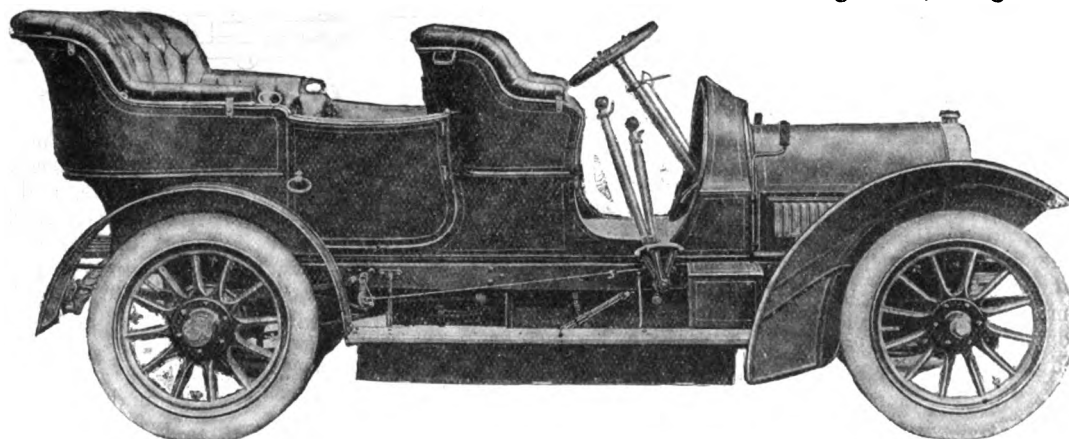


Fig. 7.—General View of 30-h.p. Beeston-Humber Side-Entrance Double Phaeton.

wheels. The steering gear is of the worm and segment type, all the joints on the steering levers being adjustable. The steering arms are carried on ball bearings, and also have ball-thrust bearings to carry the weight, thus ensuring easy steering. The front axle has been redesigned, one of "H" section steel being now employed. As will be seen from Figs. 1 and 2, in which the various parts of the chassis are clearly named, the frame of the vehicle is constructed of pressed steel narrowed at the front to increase the lock of the steering wheels. Special attention has been devoted to the suspension of the car, the usual longitudinal springs being supplemented by a transverse one at the rear. The road wheels are all of equal size, 880 mm. diameter, and shod with 120 mm. Dunlop heavy tyres. The vehicle has a wheel base of 9 ft. 3 in., enabling a roomy body of either the closed or open variety to be fitted to the chassis. Fig. 7 depicts the standard side-entrance double phaeton. The car is not only speedy on the level, but is an excellent hill climber, while its silent running qualities have earned for it an enviable reputation in motoring circles.

RECENT purchasers of Argyll cars include Lord Wenlock and Major Ponsonby.

MISS TAYLOR, of Chipchase Castle, Wark-on-Tyne, has recently returned from a long tour on her 28-h.p. Mors. During the trip she covered several thousand miles, half of which was run on some of the worst roads in Ireland.

makers desire to compete therein. This arrangement would maintain the prestige of the Scottish Trial as a separate event, and at the same time enable the Club in London to carry out its proposal for the longer test.

With regard to the system of marking proposed to be adopted in the 2,000 mile Trial, and which we outlined in our issue of the 10th inst., the Trials and Competition Committee deprecate the allocation of marks over the whole test on the basis of any performance at Brooklands, and also the suggestion that accessibility should be made a special point in the Trial. They appear to be satisfied that, as regards the test in their own area, the essential conditions and arrangements of the successful trial in June last must form the basis of any future ones. While they are adverse to a Trial of such an extended length as that which now forms the subject of discussion, it is not impossible that the Scottish event in 1908 may comprise a longer distance than before, and under conditions of even greater severity than the last. In fact, those who have followed the course of this Trial since its inauguration will note how the organising committee has gained experience on each occasion, and has thus been able to secure more thorough tests year by year.

THE British Consul in Bolivia says that a service of motor-vehicles for the conveyance of goods could be established between Oruro and Cochabamba, and allowed to run for a term not exceeding ten years without competition.

A MOTORIST'S CAUSERIE.

THE coming of the bicycle did much to spread a knowledge of the use of small tools among people who formerly hardly knew the difference between a gimlet and a screwdriver. The motor movement is, however, increasing the mechanical knowledge of a large section of the public so rapidly that it looks as if we shall soon be in a fair way of becoming a nation of engineers. All this is prefatory to announcing my mastery of a job I had not previously been called upon to perform, that of removing an exhaust valve stem, the head of which, after nearly three years' running, had broken off. Needless to say it had taken some little time to discover the cause of the engine stopping, especially as the noise it made when the starting handle was turned was one to which I was entirely unaccustomed. That by the way, however; when the broken exhaust valve was found, the thing which puzzled me was how to remove the broken stem, seeing that none of the many devices on the market intended to facilitate the task found a place in my tool box. *Nil desperandum!* and, after much cogitation, a heavy piece of timber was obtained, by means of which, with the aid of a youth hanging on to the end of the same, we managed to lift the spring sufficiently to remove the cotter pin. The trouble was not at an end, however, for, after three years' battering by the tappet, the end of the valve stem had burred over slightly, so preventing it from passing through the spring retaining cup. But with a little patience the task was successfully got through, and I felt very proud of the performance when, with the new valve in position, the engine started off merrily at the first turn of the handle.

MUCH has been written with regard to the care and attention that must be given to ignition accumulators if they are to be kept *au point*, but I am afraid that, like many others, I have paid little regard to these useful warnings. The result is that the usual penalty has had to be paid, for two of my accumulators have lately gone wrong, and they have to go to the makers to be put right, at a not insignificant cost. In future I mean to follow the instructions with regard to the charging of the accumulators at regular intervals much more attentively than hitherto. *Experientia docet.*

IN the course of a recent conversation with Mr. E. Watson, of the Argyll Company, he informed me that one of the parts which requires lubrication, and which is often missed on Argyll cars, is the universal joint between the clutch and the gear-box. This joint has only a very small movement, and on this account many drivers consider it not deserving of attention. This is a great mistake, however, and the sweet running of the car, to some extent at least, depends on this part receiving a few drops of oil at frequent intervals. On the least sign of noise from the joint lubrication should be applied.

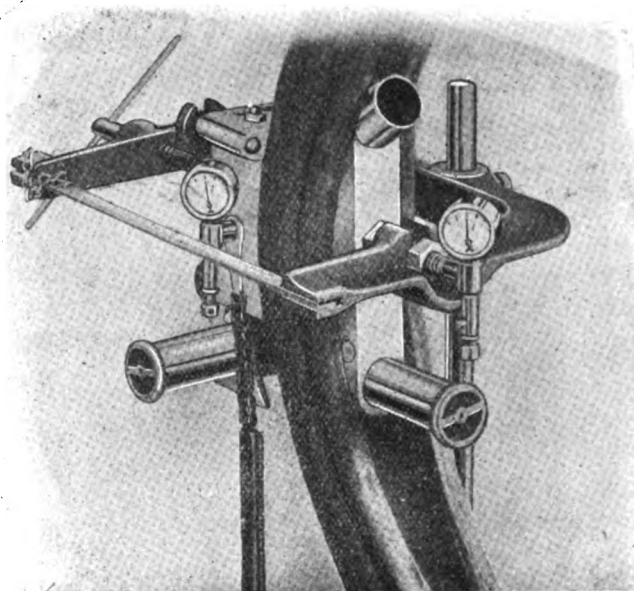
I DARESAY that many motorists besides myself have found from experience that the engine pulls much better after it has "warmed up." There is undoubtedly such a thing as running a motor too cool. Sufficiently large radiating surface and a pump of such great activity might conceivably be provided as to maintain the water in the cylinder jackets at all times at so low a temperature as to entail an unreasonable loss of heat through the cylinder, with a consequent diminution in the power developed. The radiator and pump should be so proportioned that the actual temperature of the water in the jackets may be as high as is consistent with the continual maintenance of the inside walls of the cylinders at a temperature just short of that at which there is danger of interference with lubrication—particularly the carbonisation of oil upon the pistons—or of raising any portion of the gas space to a temperature which might cause premature firing of the charge. Apparently the desideratum is that the water in the jackets should never quite reach the boiling point, even when the motor is doing its hardest work.

ARCANUM.

VULCANISING TYRES.

THE vulcanising of tyres has become quite a commonplace among motorists—thanks largely to the educational propaganda undertaken by Messrs. Harvey Frost and Co. during the last few years. Not only have the firm been quick to adapt their appliances to the growing needs of motorists, but by providing facilities for training chauffeurs and others in their use they have secured a steady stream of men well able to put them to the best service. In the Charing Cross Road—under the offices of the M.C.J.—they are giving advice and instruction daily and freely to all interested in the subject of tyres, their maintenance and repair. The H.F. specialities have attained universal repute, and the main principles underlying their work are generally known. The latest introduction is the H.F. garage vulcanising equipment, illustrated in the accompanying sketch, which shows the vulcanisers repairing the inside and outside of the cover at the same time.

The essential value of the equipment when acquired in this complete form is that both exterior and interior repairs can be executed simultaneously if required, and also that the lining and fabric of the tyre can be repaired as occasion demands, thus preserving the cover on both sides. Each appliance is self-con-



tained, and can be independently operated, consequently supplied separately when desired.

This combination will be very serviceable to private car owners. The two appliances are fitted on a stand provided with adjustable clamps for bringing them to any desired angle. The H. F. car vulcaniser, which constitutes part of the equipment, can be used quite independently if desired, and the whole arrangement is designed for convenience in handling as well as for carrying on the car so that it can be readily brought into use in the event of an emergency repair being needed. The "Harvey Frost" process of motor tyre repairing is generally known, but we may mention that it enables new rubber to be introduced to the tyre cover where the original material is missing or impaired, and also the canvas and fabric to be repaired, so that the complete renovation of the tyre throughout is rendered very easy of accomplishment. Practical demonstrations of the value of vulcanising can be seen at Messrs. Harvey Frost and Co.'s headquarters at 39, Great Eastern Street, London, E.C.

OWING to the development of the automobile and the consequent ousting of the horse in many districts of France, there has been a shortage of manure in some of the provinces, with the result that mushrooms are reported to have increased in price.

CONTINENTAL NOTES.

The 1908 A.C.F. Grand Prix Race.

The Automobile Club of France has officially announced that the Grand Prix race will again be run between June 20th and July 5th next year. The regulations will be those adopted at the International Conference at Ostend, viz., a maximum cylinder bore of 155 millimetres and a minimum weight of 1,100 kilos, such weight being without passengers, petrol, water, or spare parts, but with lubricating oil.

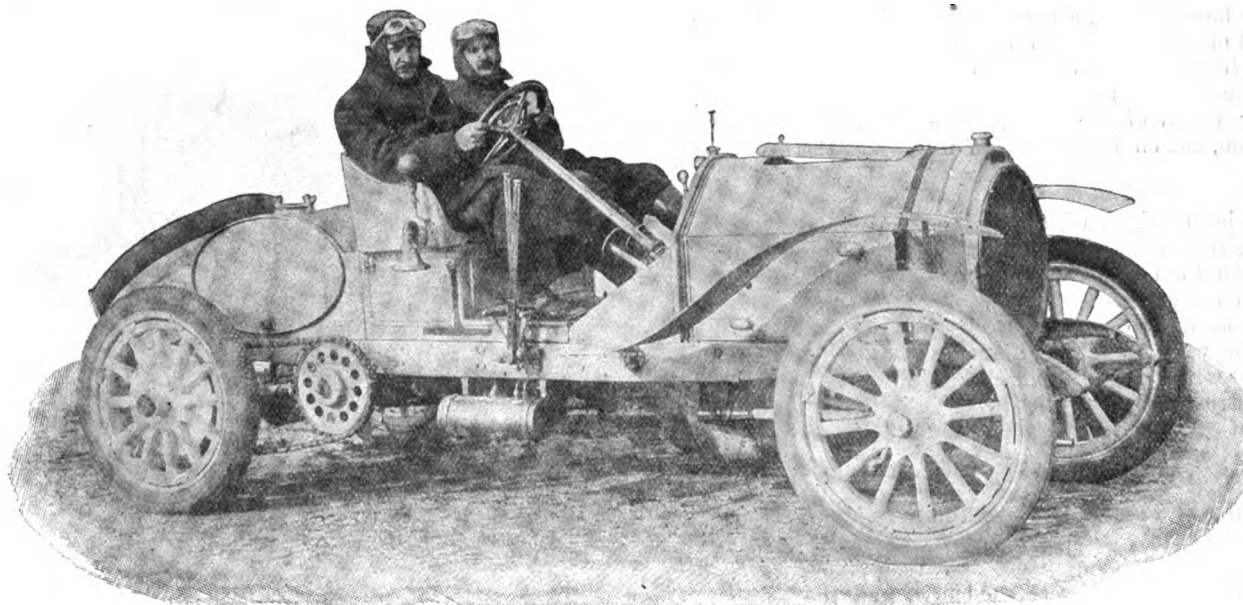
Road Trials in France.

The refusal of the French Government to allow the Rochet-Schneider Cup reliability trial to be held, as the result of the excessive speed and serious accidents in the Criterium de France, is attracting more than passing notice in motoring circles across the Channel. In the course of an interview with M. Hennequin, of the Ministry of the Interior, published in "Les Sports," this gentleman is reported to have stated that no definite decision had been arrived at concerning the authorisation of future contests in France, but it was considered inopportune to allow a competition having almost the same regulations as one that had

On July 25th he covered 247 miles, on the next day 204 miles, and on July 27th 254 miles. Tomsk was reached on July 28th, and after a stay of two hours he continued, travelling the whole night and the whole day and night of July 29th, arriving in Omsk on July 30th at eight o'clock in the morning, thus covering 846 miles in fifty-three hours. Continuing in the same manner, with only four or five hours' stops at night to snatch a short sleep, he arrived in Nijni Novgorod on August 9th, to the astonishment of the French drivers, who had arrived on the previous day. From Omsk the three cars travelled together.

A Congress on Industrial Alcohol.

During the course of the next Paris Salon, the second annual Congress on Industrial Applications of Alcohol will be held, under the auspices of the Automobile Club de France. The meeting will be divided into two sections, the first of which will be devoted to the technical side, and will consider such questions as the manufacture, denaturation and carburation of alcohol; its suitability for use in motors, for lighting and heating and other industrial purposes. The second section will devote



Scholz on the N.A.G. car he drove in the recent Kaiser Prize Race.

caused several deaths. In future such events must take place on a closed and guarded circuit, and on roads the surfaces of which have been treated with a dust-preventing substance.

To Revive the Gordon Bennett Race.

Baron Pierre de Crawhez, the President of the Sporting Committee of the Belgian Automobile Club, has written to Mr. Gordon Bennett asking him if he will offer a new Gordon Bennett Cup, in connection with the annual Circuit des Ardennes race. The Baron, in making his application, remarks that since the Cup contest has been shelved races have lost much of their old interest and international character, and adds that if Mr. Gordon Bennett will accede to the request, he will submit a series of regulations and conditions for the competition which will meet with the approval of all countries, including France.

The Pekin-Paris Run.

The latest news of the Spyker and two De Dion cars is from Warsaw, Poland, which place was reached on Tuesday last. As far as Irkutsk M. Godard, on the Spyker, travelled in company with the two French cars; but near this town his magneto was damaged and nearly a week's delay ensued in Irkutsk to have a new one made. Wishing to make up for lost time, Godard pushed his car to the utmost

its attention to the economic questions of supply and demand, the popularising of its use, its distribution, legislation, and taxation, and the utilisation of denaturised alcohol in the Army and Navy.

Miscellaneous Items.

It is reported that the Renault Company will build a 50-h.p. six-cylinder car next season.—A public motor-car service has just been inaugurated between Castelnau and Lannemezan, France.—A company has just been formed in Elberfeld, Germany, to run a service of motor-cabs in the town.—The Austrian military authorities have lately placed orders with home builders for a number of petrol motor lorries.—M. Van Dam recently drove a 9-h.p. Sizaire-Naudin car from Paris to The Hague, Holland, a distance of 370 miles, in a day.—A motor-bus service is being established between St. Cloud and Chatou, near Paris.—Twenty-seven entries have already been received for the voiturette and light car trials, which are to be held in France in October next.

A FRENCH physician, Dr. A. Mouneyrat, makes the statement that a five days' automobile trip in the country has the same beneficial effects on the human system as life in the open air for fifteen or twenty days.

MR. W. IRVING has opened motor showrooms in English Street, Dumfries, and at the rear of these has a garage and well-equipped repair shop.

A FINE of ten shillings has been inflicted on the driver of a horse drawn vehicle who did not retain proper control of the animals at Walton-on-Thames. Had he been a motorist what would have been the amount of the fine?

THE Local Government Board have now officially assigned the letters "L.B." as the new index mark for cars registered within the area of the administrative county of London.

MESSRS. CLAYTON BEADLE AND STEVENS, analytical and consulting chemists, of 15, Boro', London Bridge, S.E., send us a reprint of a paper entitled "The Examination of Rubber Tyres," they recently contributed to the "Chemical News."

A NEW motor depot has been established at 5, Royal Arcade, Manningham Lane, Bradford, by Mr. C. H. Mitchell, of Huddersfield. A large stock of accessories is being kept and plant put down to enable all classes of repairs to be carried out.

THE team chosen to represent the Aero Club of the United Kingdom in the Gordon Bennett competition at the Jamestown Exhibition this autumn is as follows:—The Hon. C. S. Rolls, Mr. T. C. Moore-Brabazon, Viscount Royston, and Mr. Griffith Brewer.

BETWEEN 4.15 and 6.30 p.m. on a recent Wednesday 67 motor-cars, 13 motor-cycles, 128 cycles, 23 pedestrians, and 13 horse-drawn vehicles passed through Thursley—an item of news intimated to the Guildford County Bench by a policeman in charge of a trap there.

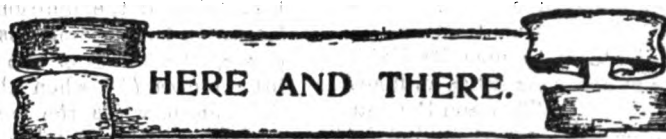
THE exports of motor cars and parts from the United States during June last reached a total of £146,411, as compared with only £107,853 in the corresponding month of 1906. The United Kingdom was responsible for the largest amount, £62,126, Canada being second on the list with £30,984.

THE Daimler Company have received an order from the West Riding County Council, through Mr. A. Farnell, of Bradford, for two Daimler cars, one being of the landaulet type with a wheel base of 9 ft. 6 in., and the other of the Canley open pattern with a wheel base of 10 ft. 6 in. They are both of 30-h.p., and will be painted and upholstered in the county's colours.

PRINCE BORGHESE, the hero of the Pekin-Paris run, met with quite an ovation when he arrived on his Itala car at Milan on Friday last week. The day's functions included a reception by the Italian Touring Club, which presented specially-designed gold medals to the Prince, Signor Barzini, and the chauffeur, Ettore Guizzardi; and a banquet in the evening by the Italian Automobile Club. Turin, where the Itala factory is situated, was reached on Saturday, and here again the travellers' were enthusiastically feted.

BOTH the Prince of Wales and the Princess were subject to delay on Monday, owing to mishaps to their motor-cars while travelling in different parts of the country. The Prince was motoring from Bolton Abbey *en route* for Abbeystead, near Lancaster, when one of the rear tyres was badly punctured, near Clitheroe. The Princess of Wales left Marlborough House for Frogmore by motor-car in the afternoon. When in the neighbourhood of Staines the car broke down, and as the mechanic was unable to effect an immediate repair the Princess engaged a cab, and continued the journey to Frogmore.

ON the occasion of the seventeenth annual cyclists' parade at St. Michael's Church, Folkestone, on Sunday, the vicar (the Rev. E. Husband) severely condemned the modern practice of motoring at excessive speed, which he described as one of the curses of the Twentieth Century. It had now become, he said, a terror to pedestrians and cyclists to pass along their favourite roads, through the fear of being killed by the motors which dashed past them at railway speed. Just as railway trains had their separate tracks, so he suggested that "those manslaughtering motors" should be banished from the highways by Act of Parliament, and be compelled to use separate roads, the cost to be borne by the motorists themselves.



STIRLING has a splendid motor garage at Causewayhead, where the Grampian Engineering and Motor Company, Ltd., have large repair works.

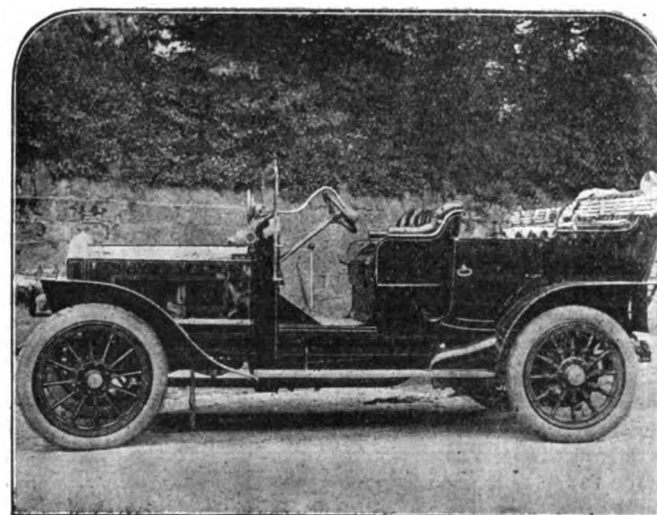
FIAT cars are meeting with increasing popularity in India.

THE Maharajah of Gwalior has just taken delivery of a new state landau, while a six-cylinder 60-h.p. car has been ordered by H.H. the Maharajah of Pudukatoh.

THE first of a periodical series of motor-car auctions at Wolverhampton has been conducted by Messrs. Wilcock and Cartwright at Messrs. Charles Clark and Co.'s garage, Chapel Ash, Wolverhampton.

IT is a bad plan to argue with a taximeter-cabby. While doing so the other day a gentleman "saw the meter jump another twopence." Fortunately the claim was not allowed when brought before Mr. Plowden at a Metropolitan police court.

CONGRATULATIONS to Mr. Staplee Firth upon his marriage on Tuesday last to the daughter of the late Isaac Gregory, of Richmond (Yorks). We wish bride and bridegroom all happiness. The latter is well known to motorists and magistrates—being regarded in a different light by each set of men.



The 35-h.p. Daimler Car lately supplied to Sir John O. S. Thursby. The coach work, painted dark blue with white lines picked out with black, is of the Rugby type, and is fitted with a Cape cart hood and wind screen.

THE Duke of Portland has ordered a second car from the Daimler Company. It is of 28-h.p., Rugby type, with a wheel base of 8 ft. 6 in.

AT Dorchester, Messrs. Tilley and Sons have a well-fitted garage, a feature of which is the accommodation for investigating cars. In place of the ordinary pits facilities are given for this being done in a good light and under convenient conditions.

AT four o'clock on Tuesday last the six-cylinder Hotchkiss car terminated its trial of 21,250 miles, the longest trial on record, being 6,250 miles distance further than has been attempted by any other car. The trial commenced in France, where 6,250 miles was accomplished, the vehicle visiting all the important towns, and finishing the trial to schedule time at the French Automobile Club in Paris. Afterwards the vehicle was sent over to England by road, and on April 29th it started again on a further trial of 15,000 miles under the official observation of the Royal Automobile Club. Of this distance, 10,474 miles was accomplished without a single involuntary stop. During the course of the trial the car was entered in the Irish Reliability Trials and was awarded a silver medal. The car is now in the hands of the Technical Committee of the R.A.C. undergoing their expert examination, for which purpose it has been entirely dismantled.

LORD BURTON left England last week for a motor tour in Germany.

A MOTOR-CAR has been seen on the towpath opposite Halliford towing a sailing boat at the rate of about six miles an hour.

We illustrate herewith in Fig. 1 the new Thomson-Bennett contact breaker which has recently been put on the market by Messrs. Thomson-Bennett, Ltd., of the Arden Works, Heneage Street, Birmingham. As will be seen, it is of the internal wipe type with revolving roller, the latter being specially arranged to prevent the contact pieces, which are let into the insulated ring,

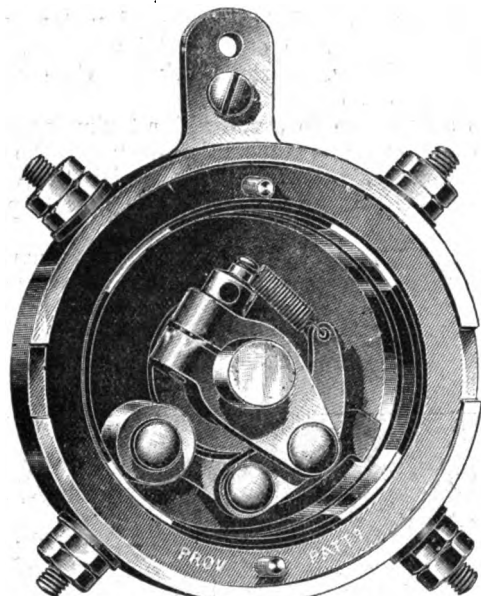


Fig 1.

from being burnt away at the edges, which causes uneven running of the roller and consequent irregular firing. In the new device the roller, instead of being fitted in the usual manner, is fixed at one end of an arm, the other end of which is in the form of a slipper piece to act as a trailer. This arm is in turn pivoted at the centre to a revolving arm fitted into the cam. A metal earth ring is fitted parallel to the insulated ring; it is so arranged that the revolving roller presses on the insulated ring, while the slipper piece trails behind it and presses against the earth ring, the roller being, of course, not in line with the

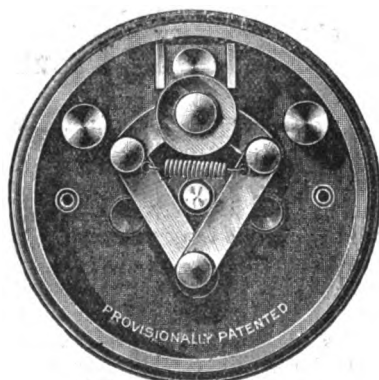


Fig. 2.

trailing slipper. It is claimed that by this construction, however much the contact pieces may burn, or the insulated ring become worn in course of time, it is impossible for uneven running and consequent mis-firing to take place, owing to the steadying effect of the trailing slipper on the roller, which prevents the latter from leaving the ring and jumping the contact pieces. Other distinctive features are a continuous earth, connection being made direct through the roller and the slipper to the earth ring; the contacts let into the insulated ring are not formed by screwing a pin into the metal, but are made entirely in one piece.

Fig. 2 depicts the ignition switch of the same company. The feature of the apparatus is that there are no loose parts to fall to pieces, the whole of the moving portion being arranged to be lifted out *en bloc* when the cover is removed, as shown in the illustration, while the contacts are positive and unaffected by vibration. The switches are made in a variety of patterns—single, two-way, and dual, the latter being for use on cars provided with both accumulator and magneto ignition. Messrs. Thomson-Bennett are also devoting attention to the manufacture and repair of ignition coils.

MR. EUSTACE H. WATSON, managing director of Argylls (London), Ltd., has been appointed managing director of the parent company, Argyll Motors, Ltd., and Mr. T. Byrom, who has been Mr. Watson's lieutenant since the inception of the London company, has been appointed manager of the London depot. Whilst Mr. Watson's new appointment will necessitate his residence in Scotland, he will continue to superintend the London business.

MUNICIPAL corporations are becoming quite commercial in their methods of seeking revenue both for themselves and their ratepayers. The issue of guide books and attractive souvenirs is now recognised as part of the legitimate work of the town authorities, and even such an industrial place as Wolverhampton has its official handbook. This has almost a romantic title, "The Heart of the Midlands," and extends its interests to what Elihu Burritt termed "the green borderland of the Black Country."

FROM Messrs. Sampson Low, Marston and Co., Ltd., comes a copy of the "Ought-to-go," which the publishers intimate will be "quite useless to motorists," which, while literally true, suggests its humorous aspect. Interspersed with letterpress that more or less closely follows the style of several well-known motorists, are a series of advertisement pages parodying the public announcements of many of the leading firms in the trade. Now that the evenings are growing longer the little volume will do something to dispel the gloom associated with the smoke rooms of many hotels at holiday resorts.

THE issue of the fifth edition of Meceedy's Road Book of Ireland will be welcomed by motorists. The new edition has been greatly enlarged, and the excellent sketch maps have been entirely re-drawn. The present volume deals with the South of Ireland. A further improvement is the incorporation in it of a sketch map giving references to all the routes in the book. With the aid of the sketch map the finding of any desired route becomes a matter of the greatest ease. Each route is numbered on the map, and the numbers refer to the printed description of the route that appears in the body of the book. Under each town is given the names of the hotels and the local repairers of motor-cars, and in addition is shown places where motor spirit can be obtained, accumulators charged, tyres vulcanised, &c.

A NEW catalogue has been issued in connection with the Cowey speed indicators, which can be seen at 1, Albemarle Street, Piccadilly, W. In this device the principle adopted may be briefly described as being composed of three fundamental parts, viz., a heavy balance wheel, a spring, and a propelling device. The spring is connected up to the balance wheel by means of a small chain in such a manner that it tends continuously to draw the balance wheel in one direction, while the propelling device gives a series of intermittent impulses to the wheel which tends to draw it in the opposite direction. The faster the vehicle travels the more numerous will be the impulses given to the balance wheel by the propelling device, and the spring, having more work to do in overcoming the effect of these impulses, will be deflected and allow the balance wheel to be angularly displaced to a greater or less extent. The balance wheel in its turn operates the indicating pointer and moves it into a position which represents the speed at which the vehicle is travelling. It is claimed that this system secures that the Cowey Indicator performs its duties effectively under the worst conditions of vibration, and is equally steady on good or bad surfaces. As a reliable instrument the Cowey indicator has won high praise from users.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE MEDICAL EXAMINATION OF MOTOR DRIVERS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—If you will allow this letter the publicity of your columns, it will, I venture to think, be to public advantage in judging the attitude we should adopt regarding the proposal of the London County Council to have its tram drivers medically examined.

My plea for asking for space is my personal experience derived in similar work for motor-cab companies, in which every man has to undergo medical examination for fitness before he is allowed charge of a cab. In the course of testing large numbers of men for this work, I have come upon instances, not only of heart disease, but of applicants suffering from the earlier stages of such a grave malady, for example, as general paralysis, or bearing signs, slight as a rule, of real physical degeneracy and unfitness. As such early indications would not be apparent to a layman, it is obvious what an additional safeguard the public derives from having such persons excluded from driving a motor vehicle.

Sudden death from heart disease is by no means the only danger we must be protected from, and the possibilities to life and limb should a driver be the unfortunate sufferer from early brain or nerve disorder may be easily surmised. With the increased pace and congestion of

tives of the above firms take place, to discuss the whole matter, with a view of working in harmony. As I have already stated, three Weigel cars can be relied upon, and if any of the firms mentioned above care to communicate with me, with the idea of holding a meeting, I should be extremely obliged. I see no reason why Italy, France and Germany should be permitted to have the benefit of the blue ribbon of the motoring world entirely to themselves.—Yours truly,

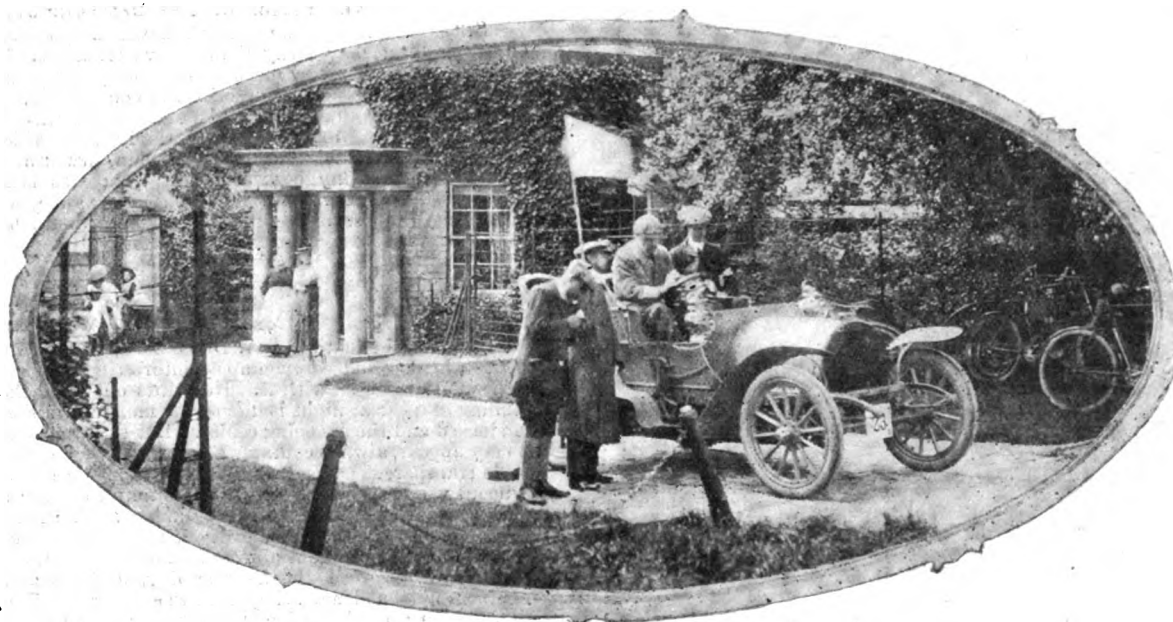
D. M. WEIGEL.

SHOULD LADIES DRIVE MOTOR-CARS?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—If the fact of one or two drivers being involved in accidents deduces general unfitness to drive, why confine that deduction to the feminine sex; why not include the masculine? There are many women unfitted to drive, there are also many men unfitted to drive and liable to lose their heads in a tight place, but why judge all women by the actions of a few, and each man on his own merits? Hardly fair, is it?

Last year thirteen English drivers entered for the Herkomer Trophy, twelve men and one lady. The latter was second in the English team, and eleventh out of the very large number of competitors (I have not the exact figures) of all nationalities who entered. This year three English



The Syston Park Hill Climb.—Sir Hickman Bacon, Bart., the President of the Lincolnshire Automobile Club, starting on his Welsley Car.

traffic in the streets, the problems presented to a driver are more sudden and complicated. Disease or unfitness must not have place in him to paralyse his mind or paralyse his hand at a crucial moment.

Judging from my experience of the immensely enhanced safety the public is provided with by the action of the companies I refer to, there is left no room for doubt that public opinion should back the London County Council in its endeavour to insist upon having the tram drivers medically examined in every case.—Yours truly,

E. DANVERS-ATKINSON.

THE 1908 A.C.F. GRAND PRIX RACE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have received an official letter from the Automobile Club of France containing the rules for the Grand Prix of 1908. The accusation launched at the French authorities so often, and which I have myself commented on, in not giving sufficient time for foreign competitors to manufacture special cars is this year swept away, and there is no excuse, therefore, for any British firm, and, for the matter of that, the manufacturers of any other nation, not "toeing the line" in next year's race.

There are one or two firms in this country who, for the general benefit of the British industry, should see their way clear to enter. Amongst others, I would suggest the Daimler, the Austin, the Rolls-Royce, Napier, and the Argyll companies, and I should be pleased if the gentlemen at the head of these firms would give their views upon the value of the race as a means of presenting British productions to the world at large. I would suggest that a meeting of the representa-

drivers entered—two men, one woman; the latter did best of the three. In the Scottish Trials this year over 100 men entered and only one woman, yet this lady succeeded in gaining one of the nine gold medals awarded.

I think it absurd to generalise from a few cases; but, if it is to be done, it is just as fair to quote the three ladies above mentioned as any others. If I may be allowed a further personal observation, I would say that the really good men drivers are not, as a rule, the ones who object to women driving. I have driven for four years, and have always found the men who really drive much better than I do the most encouraging and helpful; as to some of the others, I will only say they would probably be found among the opponents of women drivers.—Yours truly,

V. 33.

EXHAUST EXPANSION CHAMBERS FOR SINGLE CYLINDER CARS.

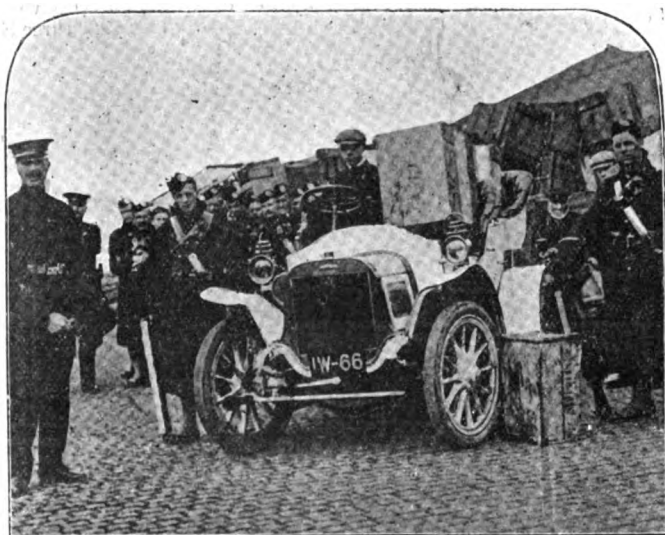
To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I and doubtless many others would be greatly obliged if you, or some of your many readers, would favour us with some practical and useful information how to fit an expansion chamber between the exhaust pipe and silencer of single-cylinder light cars of 6 or 8-h.p. I can get no definite ideas on the subject, and this article does not seem to be on the market. How should they be constructed? Are they plain cylindrical boxes, or have they any baffling arrangements, and what might be their approximate size? Also, where might one procure such a thing? The fitting of such an arrangement seems to be scientifically sound, and ought to meet the requirements of motorists who possess good but noisy light cars which are so sensitive to back pressure that they

cannot do with many of the elaborate silencers advertised. These all claim to have no back pressure. I have tried one—by no means a cheap one either—and, although it silenced the car, it took almost 50 per cent. of the engine power away, and had to be discarded. Hoping to elicit some reliable information on the subject through your kindness.—Yours truly,

M.D.

[Expansion chambers are very excellent arrangements, and are now being fitted to a great number of cars. They may be constructed in various ways; sometimes they are made of sheet metal, riveted or lap seamed so as to form a tube; or they may be a casting, or made out of drawn tube. Any metal worker could easily make one. For a motor of the size specified a convenient size would be about 3 in. diameter and 14 in. in length. There should not be any baffle plates in it. Of course, suitable flanges must be fastened to either end to join up to the exhaust pipe; or nuts and unions may alternatively be employed. As to the remarks about silencers and back pressure, all of course cause same, although some are much greater offenders than others. Those scientifically designed in proportion to the size of the motor should not absorb more than 5 per cent. of the power of the engine at the outside. When "M.D." has the expansion chamber fitted, he may be able to relieve some of the back pressure in his silencer by freeing the baffles in the same, as the preliminary expansion and cooling of the gases in the expansion chamber will help the silencing considerably.]



An Incident of the Belfast Strike.—An escort of Cameron Highlanders guarding an Argyll lorry laden with goods at the quay, for Messrs. J. B. Ferguson, Ltd., the Argyll Agents.

A SUGGESTED PETITION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—On page 546 of the *M.C.J.* is a list of motor cases for exceeding the limit, &c., whilst the daily papers give prominence to a case where a prominent motorist is heavily fined, his licence suspended for two years, and, to crown all, he is sent to prison for a month. It is pleasant to note that an appeal was at once lodged.

Through all these cases it is easy to see that the police get the best of any argument. They themselves know this, as the magistrates support the police at all costs, the evidence of the accused and his witnesses in some cases being entirely ignored. It is generally supposed that when there is a doubt the accused is to have the benefit of it, but how often does a motorist get the benefit of anything? Of course one says, if he has a strong case he will appeal, but what are his chances then? Not much. He can expect little justice, and if he wins his case he will probably find that the police court and Quarter Sessions court expenses, &c., will amount to over £20. This is when he wins—when he proves he has not committed an offence. But if he loses his appeal, then his expenses will quite possibly total up to £60, and this is a nice nest egg to drop for a man who knows himself innocent, but is considered guilty by a few magistrates merely on the evidence of one or more police officers. How many motorists to-day know that it is a matter of impossibility to obtain justice in the police courts, where motorists are summoned for trivial offences, in many cases where absolutely no harm has been done to anyone, and convicted and fined sums out of all proportion to the crime. How long are we to stand this kind of thing? Surely it is time we motorists turned, or did something to remove some of the injustices we have to put up with. We have the Motor Union, the Royal Automobile Club, the Automobile Association, &c., all very powerful bodies. Surely they unitedly could do something towards our welfare. Why not get up a monster petition? It would be signed by not only

motorists but by hundreds of thousands of the public who have been made acquainted with the folly of the twenty mile limit, &c. If a petition were prepared for the abolition of the limit I am sure every motorist would undertake to get 100 signatures to it, and such a monster would have a certain weight with the Government. They would be compelled to take note of it.—Yours truly,

JNO. H. HALL.

DOES A CAR RUN BETTER AT NIGHT THAN DURING THE DAY?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The question of speed in the dark as compared with that in the daylight is indeed a debatable point. As Mr. Duckham says, a factor—and a most important one, the lower temperature of the atmosphere—has to be considered, and this, I venture to think, together with that ever-existing worry, "mixture," was "Arcanum's" trouble.

I have for years observed that, whether one be walking, horse-driving, or motoring, the pace always seems greater in the dark than in the daylight. This, I venture to suggest, is to be explained to some extent by the fact that in the daytime one can see the pace as well as feel it, but in the darkness one can only feel it. To substantiate this theory, I have noticed that when one comes to a town or village well-lighted, the pace, which is really the same as it had been in the dark, seems perceptibly slower.—Yours truly,

H. FRANCIS-WILLIAMS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the paragraph which appeared in your last issue on this subject, may I say that I have tried introducing an excess of moisture with the air by mechanical means, and have always found that the car runs badly, and, as described in your article, in "fits and starts." As soon as this auxiliary supply of moisture was cut off the engine resumed its even running. I think the instance which you give in your note really substantiates my contention, because there is no doubt that during a sunny day, especially in a wet season, there is an unusually large amount of water existing as a gas in the air, and in the ordinary course of events this moisture would be deposited as soon as the atmosphere became cooler.—Yours truly,

A. DUCKHAM.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. A. Duckham's letter in a recent issue of the *M.C.J.*, he does indeed open up an interesting subject, but in my opinion he has not dispensed with it. He points out that the admitted better running of a car at night is due to the moisture in the atmosphere being condensed and the air being cooler. But the atmosphere, however clear it may appear, always contains a quantity of aqueous vapour, an impalpable transparent gas. In 100 parts of air there are only 45 parts of aqueous vapour. Surely this is too minute to make all that difference to the gas being drawn into the cylinders? The remaining 99.55 parts are the other constituents, oxygen, nitrogen, and carbonic acid gas. After sunset the different objects on the earth's surface radiate the heat they have absorbed during the day, and proceed as the evening advances until at length they acquire a lower temperature than the air above them; condensation ensues as the air gets chilled below the point at which it can hold its vapour in suspension, and a deposition of moisture takes place. The vapour, of course, originates by evaporation during the heat of the day. Now I contend that there must be other influences at work. Take, for instance, the land breeze which blows out to sea, and is as easily distinguished as is the sea breeze on land. After sunset the land loses its heat by radiation more rapidly than the sea, the cold air therefore makes its way out to sea, displacing the warmer air there. Thus I endeavour to show that the maximum aqueous vapour condensed is only 45 per cent., but I believe that the trees and verdure, while absorbing this moisture, give off their oxygen and the earth carbonic acid gas, while the air is lighter and cooler, as suited to the motorist's requirements.—Yours truly,

HERBERT J. CHAPMAN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have frequently noticed that my car ran better in the evening. I attributed it to being dark and my own imagination, as I have been told by motorists that one is apt to think that they are travelling quicker in the dark than they really are.—Yours truly,

MODERN JEHU 434.

BENZOL AS FUEL.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am a motorist of five years' standing, and drive a 7-h.p. Star car seven days a week, wet or fine. I have used benzol about eight weeks, and find I get more power, no sooting, and less consumption than with petrol. No alterations of any description were required to the car, the tank simply being filled with benzol and the engine starting at once. I pay 9d. per gallon for benzol and get it from the Whitwood Chemical Works, Normanton, Yorkshire. I have no interest

in its sale, but, apart from its lower price, I am convinced I get better results with it than with petrol.—Yours truly,

G. H. PEARCE.

LOSS OF POWER.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you or any reader tell me how to put an 8-h.p. motor right which shows loss of power? I have fitted a new piston and rings, ground in the valves, and apparently the compression is perfect. The magneto gives a good spark so far as I can see, and the carburettor seems all right. Is the loss of power connected with the carburettor or the magneto?—Yours truly,

R. JOHNSON.

[Our correspondent's trouble is probably due to the ignition being timed too late. If this were so, the engine would appear to be running all right whilst stationary, but would slow down immediately the load was put on. Failing this, the exhaust valve might be carefully examined to see that it is timed to lift at the proper time. This, if not correct, would also cause loss of power.]

A PUMP QUERY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or some reader of the *M.C.J.* would give me some advice as to the best material to use for repacking the stuffing-boxes of water circulating pumps. I use hemp or "spun yarn" with grease having a high melting point, but sometimes it does not seem to last as long as it ought.—Yours truly,

BRIXTONIAN.

[The trouble that many people experience in packing pump glands does not arise so much through the choice of material selected, as because they do not apply it in the right manner. Take, for instance, flax, which is commonly used soaked in Russian tallow. This should not be wound as tightly as possible round the pump spindle, as it is liable to bind so tightly as to turn with it, and so get torn to pieces. The best thing to do is to make a "grummet." This is a washer of the packing material, which may be of flax, hemp, spun yarn, or thin asbestos string, and is made as follows:—A ring of, say, a fine strand of asbestos string is first wound into a coil that is a very easy fit on the spindle to be packed, and around this is wound (in the fashion that a pneumatic tyre cover is wound with canvas strip to protect it), one or more layers of flax, until the required thickness is obtained to enable the "grummet" to be pushed on comfortably. A mixture of tallow and graphite should be melted into it before applying to the spindle. Packings thus made cannot seize on the spindle, but, when tightened home by the stuffing gland, will hold water well, and wear a long time.]

VAPOUR LOCK IN PETROL FEED PIPE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Some time ago I increased the capacity of my petrol tank, and so brought its bottom level below that of the jet in the carburettor and consequently I had to fit a pressure feed. In carrying out these alterations, it was also necessary to alter the position of the petrol feed pipe, and I brought this in a somewhat sharp curve over and close to the exhaust pipe. I immediately found that when the engine was allowed to run slowly, the carburettor gradually emptied, and would not refill, although I had considerable pressure on the tank; but, on the other hand, if I kept the engine constantly racing, I experienced no such difficulty.

It took me some little time to ascertain the cause of this trouble, which finally turned out to be that when the petrol was running quite slowly through the feed pipe a vapour lock formed in the top of the bend over the exhaust pipe, whereas if the engine raced, the more rapid flow of petrol kept it sufficiently cool to prevent this vaporisation. The trouble was immediately got over by taking the feed pipe in a gradual slope below instead of over the exhaust. As I heard from Sir Boverton Redwood the other day of a motorist suffering with this what seemed to me inexplicable trouble, I thought the explanation might be of interest to some of your readers.—Yours truly,

A. DUCKHAM.

IGNITION TROUBLE EXPLAINED.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have lately had an experience that may interest some of the readers of the *M.C.J.* I was driving my four-cylinder car in a storm, and after driving about five miles two of the cylinders commenced to misfire. A brief examination showed all the tremblers working, the sparking plugs clean, the contact maker in good order, and the carburettor in the same condition. After running a few miles on two cylinders the engine stopped entirely, and with all the tremblers still working, disconnecting the terminals from the plugs and holding them near the plug ends, or close to the cylinder heads, would not show anything but a suggestion of a spark, though at times I would receive a shock when handling the high tension wires close to the top of cylinders.

At this time, it being dark and still raining, I left the car at a garage. The next morning I went over the wiring and found that two cylinders were in order, but noted that the plugs of those that were not firing, when laid on the top of the cylinders, each gave a faint spark simultaneously. This being an indication of a short circuit between them, I took one of the units out of the coil and found it wet at the bottom, showing that the rain had penetrated the coil box in some way, causing the two coils to short-circuit by reason of the water forming a contact between them.—Yours truly,

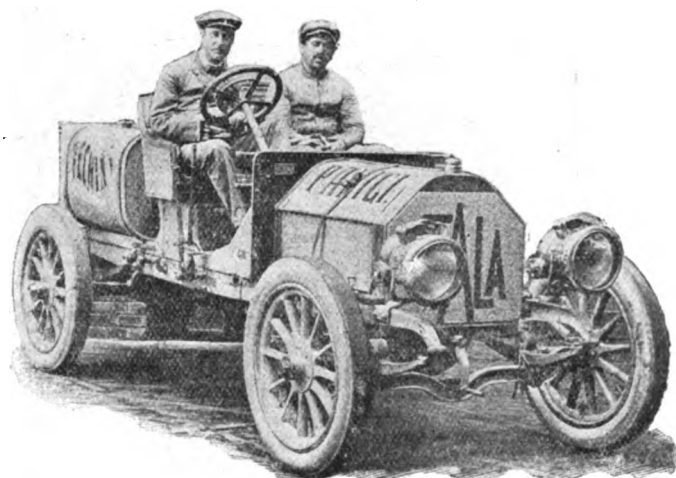
R. J. COOPER.

DIFFICULTY IN STARTING.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—My experience in regard to the difficulty of starting up a hot engine is similar to that narrated by "Thomas" in the issue of July 6th last. I am inclined to think that richness of the mixture is the cause of the trouble, since tickling the carburettor seems to have no effect. There are three ways of overcoming the difficulty, the first two being of use in the case of an involuntary stop, and the third proving efficacious when the stop is voluntary. The first is to lose no time in giving the starting handle a turn as soon as the car stops, leaving the carburettor alone. If this fails the carburettor may be tickled, and if the engine fails, as it probably will, to start, wait a minute or two and try again. This time the motor will start without any difficulty as a rule. The third method is that adopted for starting on the switch, namely, to open up the throttle at the moment of switching off. This ensures a full charge of the proper mixture in one of the cylinders.—Yours truly,

C. W. E. P.



Prince Borghese at the wheel of the Itala Car he successfully drove from Peking to Paris.

THE QUESTION OF TRANSMISSION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—At present it is the custom to decry the use of chains on motor-cars; analysis of the results of the Scottish Reliability Trials is, therefore, very interesting, showing, as it does, that while this year 10 per cent. of the cars starting broke down through gear defects in transmission, in no case did trouble arise from chains. In the trials for 1905, 1906 and 1907, there were altogether twenty-one complete breakdowns in transmission gear, but not one through chains. In the same three trials, chain troubles only caused delays amounting to 29 min., twenty-eight of which were in 1905 and none in 1907; defective gears caused 6 hours 40 min. delay. The analysis does not state how many of the gear troubles arose with gear-driven live-axle cars, but it is safe to assume that some at least are included.

Chain driving has other important advantages besides reliability, which make it specially suitable for motor-car work. I deal only, however, with chain reliability, as this is often questioned, and these severe trials show so conclusively that chains are less liable to failure than gearing.—Yours truly,

CHARLES G. RENOLD.

DR. ATTLEE, of 65, Grosvenor Street, W., picked up a fawn-coloured motor dust-coat, on the road between Helston and the Lizard, on the 15th inst. He left it at the Helston Police Station.

MR. D. M. WEIGEL asks to be permitted, through the medium of our columns, "to thank those hundreds of people, unknown to me and unacquainted with me, who have been good enough to both write and wire their sympathy with me for the sentence I have received at the hands of the Haywards Heath Bench. I, having lodged an appeal, am unable to comment further, but I deeply feel the kindness of utter strangers from all over the world, and the expressions of their sympathy."

CLUBS AND ASSOCIATIONS.

LINCOLNSHIRE A.C.

THE Syston Park Hill Climb, promoted by the Lincolnshire A.C. was favoured with fine weather on Saturday. Sir John Thorold, Bart., had granted the club the use of his park, and the stiff hill along the private road made a capital spot for the trials. The total distance of the hill was about 1,240 yards, with a gradient of 1 in 9.6 at its steepest part. The competition was divided into three classes all for cars of the touring type. The handicapping formula was that adopted by the R.A.C., and Lieut. Chippendale, R.E., as representing that body, attended to check the times, and work out the order of merit. In addition to prizes offered in each event by the club, the President's cup was also competed for. This went to the best amateur performance on the handicap, and will be held by the winning member for one year. Appended are the results:—

CLASS A.—For cars not exceeding 12-h.p.

Name of competitor.	Make of car.	H.-p. as per R.A.C. Rating.	Time Min. sec.	Relative efficiency
*G. E. Sanders ...	De Dion ...	4.5 ...	3 34 3.5 ...	67.8
Sir Hickman Bacon ...	Wolseley ...	8.1 ...	3 38 ...	48
C. Vincent Smith ...	Rover ...	8.1 ...	3 31 4.5 ...	47.3
W. F. Miller ...	Peugeot ...	8.9 ...	4 25 1.5 ...	40.8
G. Garnett ...	M.M.C. ...	6.2 ...	4 51 1.5 ...	40

* Winner of first club prize. Second prize not awarded, there being less than six starters.

Name of competitor.	Make of car.	H.-p. as per R.A.C. Rating.	Time Min. sec.	Relative efficiency
J. A. Cole ...	Humber ...	35.7 ...	1 40 2.5 ...	43
C. Hardy ...	Daimler ...	55.8 ...	1 14 1.5 ...	41.1
C. W. Pennell ...	Siddeley ...	34.4 ...	1 58 ...	40.9
Sir Hickman Bacon...	Wolseley ...	32 ...	1 38 ...	36.6

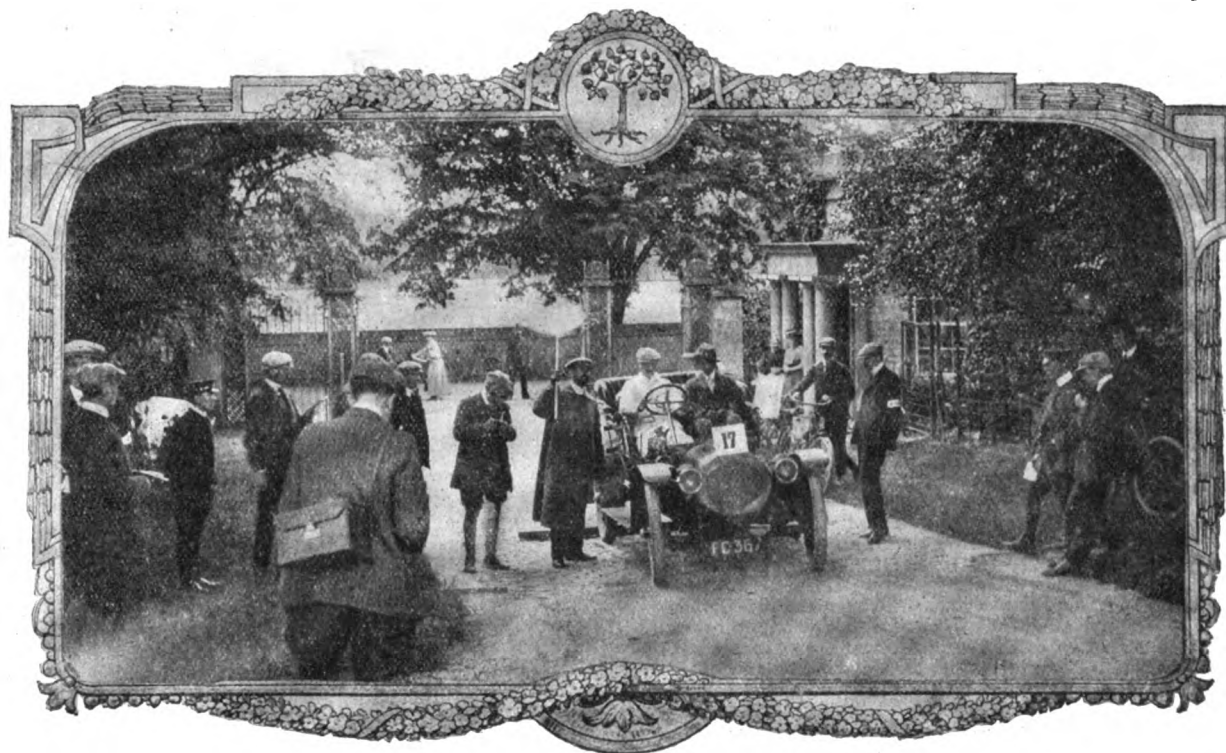
* Winner of first club prize. † Winner of second club prize.

Mr. Massingberd-Mundy was not eligible and competed only for the special prizes.

The admirable manner in which the arrangements were made for the gathering was freely commented upon. The hon. secretary (Dr. Godfrey Lowe) bore the lion's share of the work, the other officials being:— Starter, Mr. A. R. Pennell; timekeepers, Messrs. T. E. Foster and G. W. Robinson, N.C.U.; clerks of the course, Sir Hickman Bacon, Major Cole, Messrs. C. Hardy, A. A. Padley, C. W. Pennell, and Lieut. Chippendale, R.E.; marshal, Capt. Chas. Parker, J.P.; assistant marshals, Capt. Newsum, Dr. W. J. Gilpin, Dr. Miller, and Dr. Mason.

LINCOLNSHIRE M.C.C.

A SUCCESSFUL hill-climb for motor-cycles was held at Casthorpe Hill, Barrowby, near Grantham, on Thursday of last week, and some excellent performances were made. G. P. Sentence, 12-h.p. Enfield, won the small power class, and Alan L. Shaw, 34-h.p. Minerva, that



The Syston Park Hill Climb.—Mr. H. J. Walder starting on the Germain Car on which he won the Second Prize in Class B.

CLASS B.—For cars not exceeding 24 h.p.

aA. L. Black ...	Clement-Talbot ...	17.95 ...	7 10 4.5 ...	71.6
*R. G. Hogarth ...	Clement-Talbot ...	17.95 ...	1 36 1.5 ...	67.6
F. W. Jecock ...	Clement-Talbot ...	15.6 ...	2 34 2.5 ...	57
+H. J. Walder ...	Germain ...	21 ...	1 45 ...	51.2
C. J. Tracey ...	Argyll ...	22.3 ...	2 5 1.5 ...	44
W. A. Tomlinson ...	Humber ...	19.6 ...	2 14 4.5 ...	41.8
P. Sharp ...	Richardson ...	13.7 ...	3 0 3.5 ...	38
W. Hadden Owen ...	Humber ...	19.6 ...	3 1 4.5 ...	38
F. W. Mason ...	Rover ...	22.3 ...	2 19 4.5 ...	29

* Winner of first club prize. † Winner of second club prize.

a Winner of President's cup and special prize open to all members of the club for the best performance in the handicap.

CLASS C. For cars exceeding 24-h.p.

O. F. Massingberd-Mundy...	...	31.2 ...	1 26 3.5 ...	57.8
*F. Richardson ...	Daimler ...	41.9 ...	1 23 1.5 ...	47.3
+H. E. Newsum ...	Daimler ...	55.8 ...	1 6 4.5 ...	46.6

for machines over 76 by 76 mm. Shaw put up a splendid performance, doing 36 sec. for the 700 yards, a speed of thirty-eight miles an hour, beating the twin-cylinder machine. J. A. Mettham, hon. secretary of the Grantham centre, 44-h.p. Minerva, won in the twin-class, with R. M. Wright, 6-h.p. N.S.U., second. Shaw won the prize for best performance on the handicap.

THE MOTOR UNION.

A NUMBER of mis-statements have been put into circulation with reference to the Motor Union Road Scheme, so that it would appear desirable to give some further particulars respecting the objects of the Union in instituting it, and we have been requested by that body to give publicity to the following:—

It has been asserted that the scheme is an imitation of the efforts of an organisation which has placed a number of scouts upon the open roads to warn motorists of police timing arrangements. The opposite is the truth. No Motor Union agents have been placed upon the open road. They have been appointed to act in towns and villages after consultation with the local authorities and the police.

Two of the principal objects of the Motor Union are to protect the considerate driver and to secure the abolition by Parliament of the speed

limit. The Union has carried out a very successful campaign in this direction. It has succeeded in convincing a Royal Commission to recommend, in the interests of the public, the abolition of the general speed limit; it has prevented the multiplication of speed limits of five and ten miles an hour throughout the country; it has secured the reasonable administration of the restrictive clauses of the Motor Car Act in nine out of every ten districts. The success of its work has been imperilled by the inconsiderate action of a small minority of drivers who travel through towns and villages in a manner which appears to the public to be dangerous. As a result applications for ten miles speed limits are being made by nearly every minor local authority in Surrey, and are under consideration by many local authorities in Kent, Sussex, Herts., Essex, and elsewhere. The same condition of affairs is also prejudicing Parliament and the public against acting upon the report of the Royal Commission.

In order, therefore, to prevent the Union's arduous labours of the past four or five years being brought to naught, it has decided to place responsible agents in those districts from which complaints of inconsiderate driving are most frequent, and where reduced speed limits have been proposed. This is the origin of the Motor Union road system. It has been further suggested that before taking this action it should have approached the Automobile Association, a body which had placed scouts upon the road, and should have invited it to undertake this work on behalf of the Union. This course has in fact been taken. A proposal was placed before the Association which would have added many thousands a year to its revenue, in order to enable it to place men in those towns, villages and dangerous places where they are most required. Fortunately, the field of labour is so large that there is room for both organisations. There are upwards of 100,000 miles of open roads in England and Wales. There are also some 10,000 towns and villages. The duty the Motor Union owes to the 19,000 motorists and the 100 affiliated clubs who look to it to protect their interests and secure for them just laws, demands that in certain towns and villages, and at danger spots, men shall be placed to perform the duties indicated above, and also to act as the servants of the membership.

AUTOMOBILE ASSOCIATION.

AMONGST the 400 members who were elected at the last committee meeting of the Automobile Association are to be noticed the names of the Right Hon. Whitelaw Reid, the Right Hon. R. B. Haldane, M.P., the Earl of Kenmare, the Duke of Rutland, Marquis de la Granja de San Saturnino, Viscount Masserene, Lord Edward Spencer Churchill, Lord Michelham, Lord Wandsworth, Countess of Essex, Sir Bache Cunard, Bart., Sir Howard Vincent, M.P., Sir Henry Yorke, K.C.B., the Lady Armstrong, and Major-Gen. Sir W. Knox, K.C.B.

CONFERENCE OF MOTOR-CYCLISTS.

ACTING on the initiative of the Lincolnshire Motor-Cycle Club, a conference of motor-cycling clubs is to be held at Lincoln on Saturday, September 21st, to which every club in the United Kingdom is to be invited to send two delegates, preferably the chairman and hon. secretary. Notice of proposals for discussion are invited. Mr. Robert Todd will preside, and Mr. F. Straight, secretary of the A.C.C., will be secretary of the conference. A meeting of the Council of the Auto-Cycle Club will also be held, and in the evening a public dinner. Mr. G. J. Wilkinson, hon. secretary of the Lincolnshire M.C.C., is carrying out the local arrangements.

EAST LANCASHIRE M.C.C.

A STANDING committee for the rest of the present season has been appointed by the East Lancashire M.C.C., consisting of Messrs. E. Hall, J. H. Scott and W. Crabtree, in addition to Mr. F. H. Wilkinson, the chairman, Mr. T. Robinson, the hon. secretary, and his assistant, Mr. D. Strong. A committee has also been appointed to deal with the proposed gymkhana. This consists of Mr. J. W. Higson (Preston), Mr. J. W. Critchley (Preston), Mr. H. H. Edmondson (Preston), Mr. A. Welden (Preston), Mr. H. Garstang (Blackburn), Mr. Bullen (Blackburn), and Mr. D. Duckworth (Blackburn).

NORTHAMPTONSHIRE.

By the kind invitation of Mr. C. W. Bartholomew, one of the promoters of the club, the members of the Northamptonshire Automobile Club have visited Blakeley Hall. There were twelve cars, each containing about four passengers, the members present including Dr. Simpson (Towcester), Dr. Hope (Byfield), Mr. C. L. Wilson, Mr. Alfred Webb, Mr. C. Wicksteed, Mr. J. H. Nichols, and Mr. Arnold Wicksteed (Kettering), Mr. J. C. Hipwell and Mr. Herbert Mobbs (Olney), Dr. Henshaw, Mr. W. Parker Gray (Northampton), Mr. Henry Hawkins (Everdon Hall), and the hon. secretary, Mr. Sidney F. Harris.

WEST ESSEX.

THE West Essex Automobile Club held a reliability trial recently for a cup. There were twelve competitors. The distance to be covered was from Seven Kings Hotel, Ilford, to the forty-eighth milestone on the London and Colchester road and back. The conditions did not allow the competitors to replenish their stock of petrol, nor to stop unless absolutely compelled to do so by traffic exigencies. The

result was as follows:—1, A. Newman (3½-h.p. Vindec Special) and W. E. Gunnett (3-h.p. Triumph) a tie, both being within five seconds of schedule time; 3, V. Baldwin (3½-h.p. Brown), fifteen seconds over schedule time.

HERTS.

IN connection with the members' hill climb on September 7th, a massive silver challenge cup will be competed for. It has been presented by Mr. James Jay. There will, no doubt, be a fine entry on this occasion, as already a large number of members have intimated their intention of competing for the handsome cup.

HULL AND DISTRICT A.C.

MR. GEORGE H. STRONG, Prudential Buildings, King Edward Street, Hull, has been elected hon. secretary to the Hull and District A.C. in place of Mr. B. Hancock, resigned.

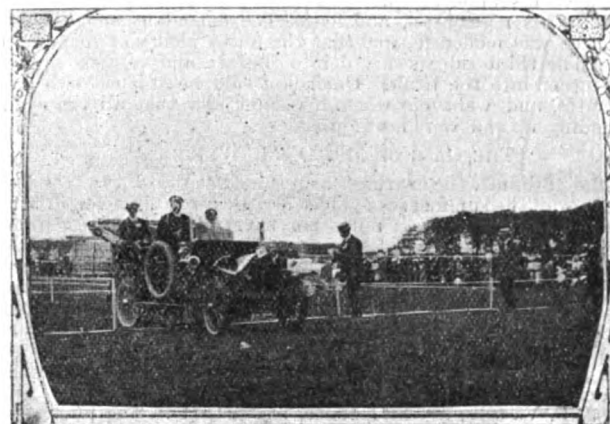
MOTOR-CYCLE UNION OF IRELAND.

ON Saturday afternoon the members of the Dublin centre of the Motor-Cycle Union of Ireland held a hill-climbing contest in Co. Wicklow, on the road leading from Glencree to Sally Gap. The hill selected was a very severe test, but it was an ideal locale for such a competition, as the road runs through a wild and absolutely deserted district. The result will be decided on Professor Callender's formula. The fastest times are appended:—S. Findlater, 8-h.p. Morehampton, 3 min. 20.45 sec., 1; J. G. Drury, 3½-h.p. Triumph, 3 min. 56.25 sec., 2; N. E. Drury, 5-h.p. Vindec Special, 4 min. 13.35 sec., 3; C. B. Franklin, 2½-h.p. J.A.P., 4 min. 27.35 sec., 4.

COLONEL AND MRS. CORNWALLIS WEST have been "at home" at Newlands, their New Forest seat, to the members of the New Forest Automobile Club and the Hants Motor Union. Addressing his visitors, the Colonel deprecated the absence of notice boards in Hampshire.

LYTHAM MOTOR GYMKHANA.

A MOTOR gymkhana was organised by Mr. A. Vincent Robinson, in conjunction with a military tournament, on Friday, the 9th inst., in Lytham Hall Park.



Mr. A. Cayley, of Blackburn, on his Coventry Humber Car.

The officials were as follows:—Judge, Mr. Francis W. Thompson (Heaton); starter, Mr. A. F. Saul (Lytham); clerk of the course, Mr. Harry Williams (Lytham); stewards, Messrs. D. Dugdale, J. Pearson, A. Lees, J. Cooper, C. E. S. Jones, E. Butcher, S. Matthews, J. Thompson, Dr. Douglas Staley, J. Kidney; timekeepers, Messrs. W. Swann, J. Ainscough, R. Coupe, T. Bancroft, and F. Mayor; hon. secretary, Mr. A. Vincent Robinson, Lytham.

For a first year meeting the gathering may be described as a success. The weather was fine, there was a good gate, a large number of entries, and a wide range of cars from 6 to 40-h.p.

In the result the prize-winners were:—

- Potato Race.—1, Mr. J. E. Simpson (Lytham), 6-h.p. Rover; 2, Mr. A. Cayley (Blackburn), Humber.
- Balloon Race.—1, Mr. A. E. Crowdy (Manchester), 18-h.p. Siddeley; 2, Mr. H. W. Cranham (Manchester), 18-h.p. Horbick.
- Obstacle Race.—1, Mr. A. Cayley (Blackburn), Coventry-Humber; 2, Mr. C. C. Paterson (Liverpool), 15-h.p. Ford.
- Motor-Cycle Tortoise Race.—1, Mr. E. Musham (Lytham), 3-h.p. Aster; 2, Mr. J. Hamer (St. Annes), 3½-h.p. Minerva.
- Musical Chairs.—1, Dr. Eason (Lytham), 6-h.p. Rover, with Miss Yates as passenger.

RECENT purchasers of Napier 60-h.p. six-cylinder cars included the Duke of Bedford and Sir Wm. Avery.

CASES UNDER THE MOTOR CAR ACT.

A QUESTION OF NAME AND ADDRESS.

At Hampstead, Captain J. A. Innes, of Roffey Park, Horsham, appeared in answer to two summonses charging him with failing to give warning of the approach of his motor-car, and also with failing to give his name and address after an accident. It appeared that defendant was driving his motor-car, in which he was accompanied by several friends, at Shootup Hill, Cricklewood, when a gentleman alighted from an omnibus a few feet in front, but on the opposite side of the road, and then crossed in front of the car. The defendant tried to avoid him, but the gentleman was knocked down and somewhat seriously hurt. The defendant pulled up a short distance away, and Captain Hargreaves, one of his party, went back to see the injured man and gave the number of the car, but not the name and address of the owner. Mr. W. Taylor-Parkes, contended that as Captain Innes was not personally asked for his name and address he could not be convicted for not giving it. The Bench, after consideration, upheld the point thus raised, and dismissed both summonses.

"SHORT CUTS."

In fining a motor-car driver £5 and £3 3s. costs at Marlborough Street Police Court, for driving dangerously in Hyde Park and knocking down a cyclist, Mr. Denman said it was a pernicious habit of some drivers to take the shortest cut in going round a corner, and nothing was more conducive to accidents.

EXCEEDING LEGAL LIMIT.

Arthur Pickwell, of Lincoln, was summoned before the Huntingdon Bench, on Saturday, for driving a motor-car to the danger of the public at Alconbury. Defendant stated that his employer and his wife, who had only been married a few hours previously, were the occupants of the car, and were on their honeymoon. The speed through the village where the trap was laid was given at over 25 miles an hour. A fine of £5 and 11s. 6d. costs was imposed.

DANGEROUS DRIVING.

At Bath on Saturday, Mr. Stanley Bond, of Wimbledon, was fined £5 for driving to the danger of the public on the Great Bath road between Box and Bath. Three cyclists riding towards Bath were met by the defendant, who, it was said, "went past like a flash." The first rider threw himself off his machine, the second rode into a heap of stones and damaged his lamp, and the third said he was knocked off by the car and hurt his nose, head, and foot. The defendant and his sisters said his pace was moderate, and that there was plenty of room for the cyclists. The third rider swerved into the car, and to avoid him the car was turned into the bank. Defendant said he stopped two and a half minutes, and went on when his sister saw that all the cyclists were standing up and were not injured.

THE CASE OF MR. D. M. WEIGEL.

On the 16th inst. the hearing was resumed at the Haywards Heath Police Court of the summonses against Mr. D. M. Weigel for driving a motor-car at a speed (fifty-six miles per hour) which was dangerous to the public at Handcross on June 9th, and for refusing to stop at the request of a constable in uniform on that occasion. The magistrates present were Colonel Campion, C.B. (in the chair), Mr. T. Bannister, Mr. A. J. Bridge, Mr. G. C. Hawes, and Mr. H. Faure Walker. Particulars of the evidence previously given appeared in the *M.C.J.* of Saturday last. Messrs. A. V. Ebbelwhite and H. J. Swindley having given evidence as to the impossibility of reading the number of a car under the circumstances alleged by the prosecution.

Mr. J. P. Vettes, for the defence, urged that it was preposterous to ask any tribunal to believe that P.C. Edgeler saw the number on defendant's car, "A 4 K K," under the circumstances alleged by him, and that he communicated it directly afterwards to P.S. Waghorn. He submitted that it was a case of reckless speculation on the part of the police, and that there was not a tittle of reliable evidence to justify a conviction. There was an abundance of evidence by the defence contradicting the police story.

The Bench having consulted in private for twenty minutes, the Chairman intimated that there would be a conviction. Colonel Campion added that the magistrates were satisfied that P.C. Edgeler's evidence was correct; that he did see the number and that he reported it to P.S. Waghorn; and that was corroborated by Superintendent Brooman's statement that the number was reported—the whole case seemed to hang on that—on June 10th.

A previous conviction by the Huntingdon justices against defendant for driving a motor-car to the danger of the public in June, 1905, was proved by P.C. Isaac Hook.

In announcing the decision, the Chairman observed that this was a flagrant case of extremely dangerous driving, which might even have caused serious accident. As there was a previous conviction for driving to the danger of the public, the Bench could not deal with the first summons less than by passing sentence of a month's imprisonment, and also by suspending defendant's licence for the unexpired term and disqualifying him from holding a licence for two years. For refusing to stop defendant would be fined £10 and costs £10, the latter amount being probably half the costs of the whole action.

Recognizances were entered into, counsel for the defence intimating that an appeal was contemplated.

HEAVY HAULS.

On the 14th inst. fines amounting to over £80 were inflicted on drivers of motor-cars at Barnet for exceeding the speed limit; twenty-nine motorists going to and returning from the Goodwood races were summoned before the Worthing bench for exceeding the legal limit; fines aggregating £99 16s. were inflicted at the Halesham Petty Sessions; and on the same day seven drivers were fined £38 and costs for similar offences at Chiddingfold.

FRIDAY, the 15th inst., was motor day at the Midhurst Petty Sessions when fourteen motorists were fined £20 and costs. Fines aggregating £50 were imposed on thirteen motorists at Southampton; at Kingston eleven motorists were fined sums ranging from £1 to £5.

SEVENTEEN motorists were haled before the county magistrates at Canterbury during the first three days of this week for driving to the danger of the public at Bridge, Sturry, and Upatreet parishes. Two of the cases have been adjourned, and the penalties imposed in the others amounted to a total of £70.

THE AUTO-CYCLE CLUB'S SIX DAYS' TRIAL.

THE six days' reliability competition of the Auto-cycle Club commenced on Monday, the day's run being from Hatfield to Coventry, a distance of 170½ miles. Two late entries were accepted, but there were two non-starters—viz., W. G. Brooks, 5-h.p. Rex, and W. Bidler, 6-h.p. Leader, so that the number of starters remained at thirty-six. Of these, thirty-one were in the motor-bicycle class and five in the tri-car section, among the latter being a lady driver, Mrs. Hilda B. Hewlett, who was Miss Muriel Hind's passenger in the Land's End to John o' Groat's trial last year. The weather kept fine until some miles past Ely, when rain fell in torrents, and made the roads very hard going. The gradients so far had been easy, but near Weys Milne a severe hill was encountered, and proved trying to lower-powered machines. Afterwards the roads improved, the hills not presenting much difficulty, and the surface being in good condition. B. M. Brice was early in trouble, and experienced delay soon after leaving Hatfield. W. Smith and J. Lingenfelder had to stop on the hill near Weys Milne, and F. Applebee, jun., was held up for ten minutes with water on the magneto, just before Downham Market, the midway halting-place. All the competitors reached Coventry in good time except F. W. Applebee and C. A. Potts.

The second day's run was from Coventry to Llangollen, the distance being 163½ miles. M. Randle and C. Potts did not start. F. W. Applebee got away with the rest, although he did not arrive until eleven o'clock on Monday night, having had to dismantle his engine by the roadside. The conditions at the start were trying. It was raining heavily, and the roads were very greasy. Troubles soon began, Mrs. Hilda B. Hewlett breaking a chain and damaging the gear. J. F. Evans had sparking plug trouble before reaching Matlock, and a little later broke a chain. Several stiff ascents had to be made. F. Applebee, jun., was delayed several times with his magneto, and also by the belt, and S. W. Carter had trouble with his lubricating oil. At 9.30 p.m. the majority of the riders reached Llangollen, the leaders arriving in good time, but it was considered unlikely that some of those in the rear would reach the day's destination that night, as they have been reported over four hours late at the midway halting place.

The cycles represented in the trial are the 5-h.p. Brown, 5-h.p. Vindec Special (six), 5-h.p. Rex (two), 3½-h.p. Rex (two), 6-h.p. N.S.U. (two), 5-h.p. N.S.U., 3½-h.p. N.S.U. (two), 5-h.p. Bat (two), 9-h.p. Bat, 3½-h.p. Triumph (six), 3½-h.p. Hazel, 1½-h.p. Motosacoche, 3½-h.p. Phelon-Moore (two), 4-h.p. Indian, 3½-h.p. Minerva. In the tri-car class are 10-h.p. Lagonda (three), 6-h.p. Rex Lilette and 6-h.p. Addison.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

HAHNITE (1907).—£80,000. To acquire a certain invention for an improved oleaginous mixture for sprinkling on roads and the like, to develop and to turn to account the same, and to adopt an agreement with Captain A. C. Way, D.S.O. Hahnite, Limited, have consented to this registration. 3 and 4, Great Winchester Street, E.C.

H. M. HOBSON.—£40,000. To acquire the business of H. M. Hobson, Limited, of 29, Vauxhall Bridge Road, S.W., to adopt agreements (1) with H. M. Hobson, Limited, and S. W. Hughes, the liquidator thereof, and (2) between H. M. Hobson, E. A. H. de Poorter, G. Cheeseman, T. P. Searight, and P. Ebert, and to carry on the business of manufacturers of and dealers in motor-cars and omnibuses. No initial public issue.

L'ESTRANGE AND HAY.—£10,000. To take over the business of a consulting engineer, electrician, dealer in and repairer of and instructor in the use and management of motors of all kinds, and proprietor of motor garage carried on by Mr. A. H. C. L'Estrange at 7, Arundel Street, Strand, W.C., 21, Bride Lane, E.C., and the mews at 142, Dorset Road, Clapham Road, S.W. No initial public issue. First directors: A. H. C. L'Estrange and Lieutenant the Hon. S. M. A. J. Hay. The Clock House, Arundel Street, Strand, W.C.

ARIEL MOTOR COMPANY, LTD.—The Ariel Motor Company, Ltd., is being voluntarily wound up simply to comply with the Companies Act. The company was absorbed by Ariel Motors (1906) Ltd., upon the reconstruction of the business last year.

AUTOMOBILE ACCIDENTS.

AN accident has occurred in the Edgware Road, W., owing to the wet and greasy state of the road surface. A motor-car was proceeding towards the City when it turned completely round owing to a sideslip, and collided with an electric standard by the roadside. "The body of the car was wrecked," says the imaginative reporter, "fortunately leaving the front seats and their occupants intact."

A TERRIBLE accident was narrowly averted on Saturday on the De La Warr motor track at Bexhill-on-Sea. Two gentlemen in a motor-car had reached the end of the track at the top of Galley Hill, and had backed to make the downward journey, when suddenly the motor burst into flame. With great presence of mind the motorists jumped out just before the car was precipitated over the cliff on to the beach 50 ft. below. The occupants escaped unhurt, but the car was entirely destroyed by the flames, nothing but the metal work remaining. The car belonged to Mr. John Leen, of West Kensington.

ANOTHER motor-car accident has occurred on the Montrose road. The chauffeur to a Cardiff gentleman had left Arbroath to meet his employer, whom he expected to find returning to Arbroath in another car. He missed his road at the top of Barngreen and proceeded on the Brechin road instead of the Montrose road. Discovering his mistake, the chauffeur went along Tarry road to the Montrose road. When turning into the Montrose road the steering gear failed to act, and instead of taking the turn the car crossed the road at a considerable pace, mounted the bank, crossed the ditch, and crashed into the bank and stone dyke on the other side. The driver was bruised about the legs, but suffered most from shock, and although he was able to walk into Arbroath he was subsequently removed to the infirmary, where he remained a few days. The damaged car was removed to the repair works of Mr. Moore, Keptie Street, Arbroath.

IN Tadcaster, on Saturday, a collision occurred between a motor-car belonging to Dr. Macaulay, of Halifax, and a bicycle ridden by Mr. George Popplewell, of Appleton Roebuck. The car was proceeding in the direction of York, and the cyclist, who was going the opposite way, in trying to avoid some dogs which were fighting in the street, rode in front of the car. The car, in order to prevent a collision, was turned on to the kerb, and the cyclist turned as well, with the result that the two collided and Mr. Popplewell fell on to the front of the car. He received cuts on the hand, and was severely shaken, and the bicycle was completely smashed. The car was also damaged. Dr. Macaulay attended to Mr. Popplewell's injuries, and conveyed him to his home in the car.

EARL DE LA WARR met with a slight accident while motoring down Chantry Lane, Bexhill, on Saturday night, his car colliding with a cart proceeding in the same direction which allowed insufficient room for the car to pass. The occupants of the motor-car sustained minor injuries, and were medically attended, but Lord de la Warr was not hurt. One wheel of his car was broken off by contact with the kerb-stone.

A FATAL accident occurred at Twickenham the other morning. Mr. Henry Thomas was cycling to his business at Richmond, proceeding along the Richmond road, when by some means he came to the ground. The Twickenham Urban District Council's motor water van, weighing 11 tons when full of water, happened to be passing in the near vicinity, and before Mr. Thomas had any chance of escaping into safety the rear hind wheel passed over his body and instantly crushed him to death.

A FIREMAN in the employ of the L.C.C., stationed at Euston Road, is in the Great Northern Central Hospital, suffering from severe internal injuries as the result of a fall from a motor fire engine. The engine was being tested on the steep roads of Highgate. When near the junction of Archway Road and Southwood Lane the wheels skidded on the lines of the electric tramway, and White was thrown from his seat.

LORD HUGH GROSVENOR was thrown out of a motor-car on Sunday while going to Reading railway station with other officers of the 1st Life Guards. The car skidded and turned over, and Lord Hugh was pinned to the ground. His right hand was badly lacerated through coming into contact with the broken window. He lost a good deal of blood, and, though he is progressing favourably, will not be able to take any further part in the manoeuvres.

ROAD REPORTS.

DARLINGTON.—In giving judgment against the Darlington Corporation for damages in a case following a collision between a tramcar and a waggon, Judge Templer, at the Darlington County Court, has described the place where the accident occurred as a "regular death trap." Trees line one side of the road, leaving only three inches to spare should an ordinary vehicle and a tramcar pass at this point. "Motor-cars," said the Judge, "go as hard as they can on both sides of the road and tram-cars in the middle. What are other vehicles to do, to say nothing of the poor cyclist?" It was perfectly ridiculous, he added, for the Corporation to allow trees to be there. Possibly they may now remove them.

GODALMING.—A part of the High Street of Godalming, which is on the main Portsmouth road, will be closed to vehicular traffic on and from Sunday, August 25th, during the laying of some experimental lengths of new paving. Through traffic to the South will pass via Queen Street, Croft Road and Holloway Hill, and that for the North via Church

Street, Borough Road and Chalk Road. Mr. J. Herbert Norris, the Borough Surveyor of Godalming, hopes to finish the work in the early days of September.

DITCHLING.—At the north end of Ditchling Common is a gate across the road which is generally closed, and is, at nights, without lights, to prevent cattle straying from the common.

WINCHESTER.—Motor warning boards have been discussed at the quarterly meeting of the County Council. Complaint is being made that the county is much behind others in the matter of caution boards. A special committee is to go into the matter and report.

IRELAND.—The annual report of the Local Government Board for Ireland, just presented to Parliament, deals with the results of the employment of direct labour in the construction and maintenance of roads in Ireland. It would appear that the system of maintaining these roads by direct labour has apparently given general satisfaction in the counties where schemes have been adopted. In Cork the length of roads to be worked by direct labour has been increased from 300 to over 1,000 miles. Similarly in Tipperary 741 miles are to be dealt with. In Clare the County Council are dealing with 569 miles of roads.

EASTBOURNE.—It has been officially notified that under the Motor Car Act, 1903, the L.G.B. has made a regulation restricting the speed of motors to five miles an hour along a portion of the road at Frog Firle, between Eastbourne and Seaford. The regulation comes into force to-day (Saturday).

EAST GRINSTEAD.—Satisfaction is being expressed at East Grinstead at the action of the local Council in having the main roads in the town



Mr. S. T. Robinson at the wheel of the 16-h.p. Talbot Car with which he won the 200-guinea Dunlop Cup for the best performance of all the cars in the open section of the recent Irish Reliability Trials.

tar-washed. Portions of the side streets immediately joining the main roads are now being tar-washed, as it was found that dust was blown from these places on to the principal thoroughfares.

PRESTWICH.—Steps are being taken to widen Bury Old Road, Prestwich. Negotiations are in progress with Lord Wilton's representatives in regard to the proposed improvement scheme affecting Simster Lane.

IFIELD.—The Ifield Council are calling the attention of the R.A.C. to the speed of certain motorists in the habit of passing through the village.

DEVON.—The Barnstaple Rural District Council are recommending the Devon County Council to ask for the Countisbury Hill to be closed to motor traffic. This hill, in the Lynton and Lynmouth district, is well known to motorists, and many of the inhabitants of those places are hoping that the request will not be granted.

SUPPLEMENTING what we published last week with regard to the Argyll Trophy competition being won by Mr. J. H. Crowther, of Huddersfield, we now give the names of some who were honourably mentioned by the judges, including Mr. H. S. Thomas, of Llanelly; Miss Janet MacLachlan, who has driven a 26-30-h.p. Argyll 26,000 miles; Messrs. C. M. Iver, A. Fennings, A. Duncan, C. Luxmore, J. H. Harrison, E. A. Miller, S. B. Almay, F. C. Hudson and Dr. C. J. Marsh, of Yeovil, who used a 12-14-h.p. Argyll 4,000 miles during July for professional purposes and had no single involuntary stop.

FORTHCOMING EVENTS.

AUGUST.

- 24th (S.).—Hertford County A.C. at Lower Aston Hill for a members' driving test.
 North-East Lancashire A.C. gymkhana.
 Berkshire A.C. gymkhana.
 Yorkshire A.C.'s closed hill climb near Pateley Bridge.
 East Surrey A.C. run to Littlehampton.
 Somerset A.C. gymkhana at Weston.
 Sussex County A.C. hill climb.
 West Essex A.C. run to Orsett.
- 25th (Sun.).—West Essex A.C. run to Southend.
 Birmingham Motor-Cycling Club run to Shelsley Walsh.
- 31st (S.).—Cardiff M.C.'s run to Chepstow.
 Coventry M.C.'s reliability trial.
 Lincolnshire Motor-Cycling Club meet at Skegness.
 East Surrey A.C. run to Chobham.

SEPTEMBER.

- 1st (Sun.).—Florio Cup race of the Italian A.C. over the Brescia circuit.
 Southern M.C. picnic.
- 5th (T.).—Vehicles competing in the R.A.C. commercial vehicle trial must be within the gates of the depot of Messrs. J. I. Thornycroft at Chiswick by 12 noon.
 Arachon motor-boat meeting.
- 6th-7th.—Commercial vehicle trial—examination of vehicles.
- 7th (S.).—Auto Cycle Club's hill climb at Birdlip.
 Motor Cycling Club 200 miles reliability trial.
 Bristol and Gloucester A.C. meet at Lyppiat Park, Stroud.
- 9th (M.).—Industrial Vehicle Trials—first day's run.
- 14th (S.).—Motor Union Meet at Leicester.
 Brooklands A.R.C. meet.
- 15th.—"The Industrial Motor Review" for September will contain a pictorial and descriptive report of the Commercial Vehicle Trials of the R.A.C.
- 21st (W.).—Nottinghamshire A.C. hill climb.

OCTOBER.

- 19th.—Gordon Bennett Aeronautical race at St. Louis, Missouri.

MARCH, 1908.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Aug. 24th—8.5	1st—26th—8.0	28th—7.56	30th—7.50
25th—8.2	27th—7.58	29th—7.54	31st—7.49

In Glasgow the lighting-up time to-day (Sat.) is 8.31 p.m., and to ascertain the approximate times on succeeding days 26 min. should be added to the above figures; in Plymouth an addition of about 16 min. is necessary.

CRIPPLED CHILDREN'S OUTINGS.

FORTY-FOUR of the children attending the Chaucer Street school for mentally and physically defective children, at Oldham, had a happy motor-car drive on Wednesday of last week. From Chaucer Street to the Yorkshire moors and back again was the limit of the outing. Motor-cars were used to convey the party, and Messrs. D. Orme, P. S. Stott, J. P., T. R. Marsden, S. Dronsfield, T. Rothwell, J. P., Dr. Robertson, F. Smith, Mellor, Mellodew, Platt Hall, and F. Whitehead had promised their vehicles.

The crippled children of Darwen were favoured with a motor-car trip to Lytham on the same day by members of the North-East Lancashire Automobile Club. Unfortunately the weather was very wet, and consequently the pleasure of the outing was somewhat interfered with.

PUBLIC MOTOR SERVICES.

BOTH the Stretford and Urmston District Councils have granted temporary licences to Mr. W. Stanway, of Old Trafford, to run a motor-bus within their respective areas during the next month.

MOTOR-OMNIBUS companies are conducting a series of experiments with a view to ascertaining the most profitable routes in London. A short time ago the Vanguard Company found a new service in the one they opened from Loughborough to Shepherd's Bush, via Brixton and Clapham. Twenty vehicles have now been put on the road between Tufnell Park and Brixton, running via Regent's Park, Westminster Bridge, and Kennington.

THREE OFFENCES—AND THREE FINES.

At the Matlock Petty Sessions, Henry Butler, of London Road, Derby, had to pay 18s. for leaving his motor-car on the highway at Matlock Bath for twenty-five minutes on the 7th inst.—Inspector Robinson, R.S.P.C.A., summoned Lawrence Hodgkinson, a Matlock cabdriver, for cruelty to a horse at Matlock on August Bank Holiday. Fined 10s. 6d.—Arthur Crutchley, a Matlock cabdriver, was fined 5s. and 7s.

costs for being drunk in charge of a horse and landau at Matlock Bath on Bank Holiday. Compared with the punishment inflicted on the motorist the more cruel and the more drunken the offender the less the fine.

POLICE TRAPS.

CLAPHAM ROAD, London, is now the scene of a police trap, frequently in operation.

ON race days in the South of England police "controls" are now established on all the main highways, and many of the lesser important thoroughfares leading to such courses.

AT Uppingham, on the road from Kettering to Oakham, is a steep descent on which motorists are frequently being timed.

SEVERAL traps are reported from the Kentish district, and are frequently in operation, notably at Herne Bay, Canterbury, and Margate.

AT Dirlerton, Haddingtonshire, the police have a measured distance within one of the ten mile speed limit areas.

THE trap at Fenstanton is again in active operation, and a batch of half a dozen victims has just been led to the St. Ives Petty Sessions.

IN Wellington Place, Nuneaton, the police now delight in trapping. ON the Esher Road, Thames Ditton, the police are watching and timing motorists.

BRIGHTON ROAD, COULSDON, is now a recognised danger spot to motorists.

IN the Lea Bridge Road, Leyton, the police have apparatus for timing motor-buses, motor-cars, &c.

THERE is a police trap at Woodford (Essex), starting from the Catholic Church and finishing 100 yards past Green's Motor Works—a distance of 220 yards, all down hill.

BUSINESS NEWS.

WE understand that the Right. Hon. Lord Castlemaine, of Hoydun Castle, Athlone, has just taken delivery of a 24-h.p. Deasy car.

THE Maudslay Motor Company, Ltd., have written to the Coventry Chain Company, Ltd., stating the Coventry chains used on the 20-30-h.p. Maudslay car which made a non-stop run in the Scottish Reliability trials gave the utmost satisfaction, the chains being only adjusted once during the trials.

THE Sirdar Rubber Company, Ltd., have received an order to convert the wheels of the demonstration car of the Royal Navy at Devonport to Royal Sirdar tyres.

MR. J. A. A. PICKARD, of Sorton, Manchester, writes:—"Having now been close upon 3,000 miles on a Humber 10-12-h.p. doctor's car I can only say that it is an ideal two-seater. One day I ran from Manchester to Oxford via Worcester and back, 300 miles, with never a hitch, and on Saturday last I ran to London and back in the day entirely successfully. The distance was 380½ miles; up journey eight and half hours, return ten hours. I left at dawn and was back at 11 p.m. and stopped nearly two hours in London."

THE controversy as to whether ladies can successfully drive motor-cars has been conclusively proved by the splendid performance put up by Mrs. Ed. A. Riley in the Scottish reliability trial. In spite of the fact that she was pitted against the pick of the trade and professional drivers, she drove her 20-h.p. Belsize, shod with Continental tyres, throughout the trials, winning the gold medal in Class III. against all competitors.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

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“THE INDUSTRIAL MOTOR REVIEW.”

“THE INDUSTRIAL MOTOR REVIEW,” which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

“The Industrial Motor Review” is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



POLICE methods vary in various places. In Surrey and Sussex the guardians of the law and the inciters of disorder among motorists love to trap the unwary user of the road by short distance “controls,” preferably down hill; in Hertfordshire and some other places the longer trap is in vogue; in places where common sense prevails the police have long ago abandoned such devices, and trust to ordinary means for the detection of illegalities. We commend the example of Capt. J. G. Mayne, the Chief Constable of

East Suffolk, to the police authorities elsewhere as worthy of imitation in preference to the system of laying devices and watching behind hedges. He sends us a copy of a notice for which he desires publicity among motorists. “Complaints have been received of the excessive speed—having regard to the circumstances of the locality—at which motor-cars are driven on that section of the Ipswich-Felixstowe road which passes through the parishes of Trimley and Walton, and the reasonableness of such complaints having been tested by police observation, drivers of motor-cars are consequently cautioned and their attention drawn to the Motor Car Act, 1903, Section 1, which deals with reckless driving.” We gladly publish this official intimation, confident that motorists will appreciate the spirit in which Captain Mayne has approached the matter. Probably there are other chief constables who will recognise that such a notice may prove far more effective in lessening the number of cases of too speedy travel than would the orthodox Surrey or Sussex plan of allowing the law to be broken—and then pouncing, like a Waghorn, Jarrett, or Marks, upon their luckless victims.

Resignation from the Motor Union.

SIR ARCHIBALD MACDONALD., Bart., feels so strongly upon the subject of the appropriation of the Automobile Association's scouting system that he has felt it necessary to sever his connection with the Motor Union, and incidentally with the Royal Automobile Club. On August 14th he wrote to Mr. Julian Orde, the secretary of the latter body, asking whether it was possible to resign the one without the other; and on August 16th Mr. Orde replied that, under the existing agreement with the Motor Union, there was no possibility of such a thing. Thereupon Sir Archibald Macdonald wrote immediately resigning his membership of both bodies as a protest,—as will be seen from our correspondence columns.

The Commercial Vehicle Trials.

A GLANCE over the itinerary of the Commercial Vehicle Trials, which, commencing on the 9th prox., will continue for a month, indicates how well this has been planned to impress the leading industrial centres with the merits of the commercial vehicle. From Reading they will journey through an agricultural country to Bristol, and then, by way of Birmingham, will go through the Potteries on to Manchester, Liverpool, and the chief centres of Yorkshire, returning by way of Nottingham, Leicester, and Northampton to town. One of the great difficulties of the organisers has been to secure suitable storage places, and for this purpose a variety of buildings has been requisitioned. The market places will be utilised at Mansfield, Manchester, Stafford, Newcastle-under-Lyme, Chippenham, and Hungerford; tram depots at Gloucester, Leeds, Nottingham, and Leicester; fair grounds at Bedford, Northampton, Sheffield, and Huddersfield; while the hay market will be utilised at Liverpool and, “most unkindest cut of all,” the horse market at Worcester. The number of vehicles on the road will be between fifty and sixty.

The Traders' Marks.

THOSE engaged in the commercial side of automobilism must be careful with regard to the use of the traders' mark, and should also take care that the record of cars bearing such an index is carefully kept. The L.G.B. regulation on this point is Article XII., to the effect that “on every occasion on which the general identification mark is used on a motor-car the manufacturer or dealer shall keep a record of the distinguishing number placed on or annexed to the identification plates on that occasion, and of the name and address of the person driving the motor-car on that occasion.” We have italicised two words that are frequently neglected and which have been held to be of great importance by both police and magistrates. Therefore the trade should insist that every entry of a name should also include the address. Recently at Bolton a London firm has been summoned for neglect of this and also for running a motor vehicle on more than one “trial” trip fully loaded. The authorities, apparently, are exercising vigilance; motor traders must be equally on the alert.

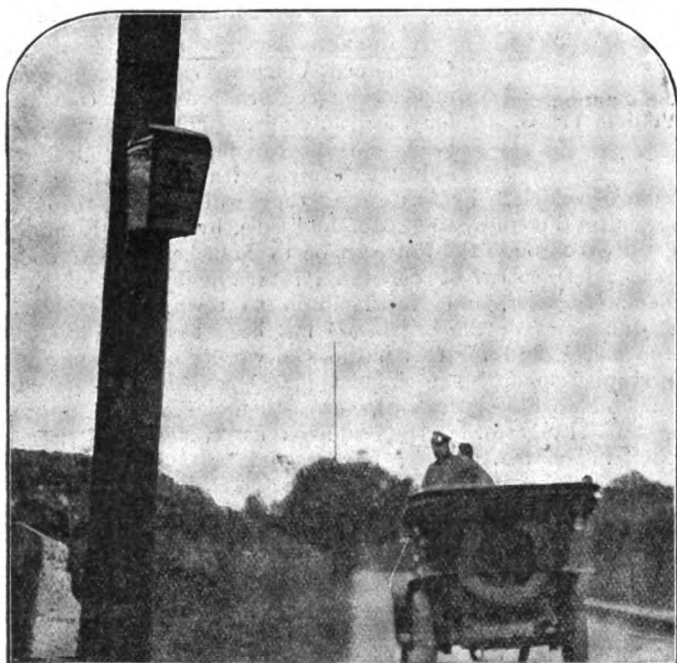
Cross-Channel Motor Traffic.

THAT motoring has developed the international spirit has often been urged by its advocates, and evidence can be found in the returns of cross-channel traffic between English and French ports. Last season's figures show that a total of 1,460 cars were landed at the four English harbours from France, while 1,195 were received from this country at the same number of French ports, which would also indicate that rather more

motorists come from France to England than go across the Channel from this country. The exact figures were as follow:— From Dover to Calais 17, *vice versa* 35; Folkestone to Boulogne 517, *vice versa* 701; Newhaven to Dieppe 171, *vice versa* 322; Southampton to Havre 490, *vice versa* 402. This exchange of visits is only just beginning; it will mean much for both countries ere another decade has gone.

"Safe" and "Unsafe" Courses.

THE Duke of Rutland, who is president of the Buxton Horse Show Society, and also an owner of motor-cars, made some interesting remarks at Buxton on Saturday. He stated that "one of the funniest things he had heard was that an old member of the Jockey Club had been engaged to start motors in a race from the gate." Then he went on in a more serious vein, and urged that in the legislation which will have to be revised ere long some commonsense notions will have to prevail enabling people to go faster in places which are safe, and compelling them to go at a limited speed in districts where fast driving was unsafe. This differentiation between safe and



A.A. Enterprise.

In view of the trouble experienced at night by motorists and other users of the road, the Automobile Association have improved upon the useful scheme initiated by them last year, of mounting name plates in conspicuous places at the entrance to villages. The latest enterprise is the placing of lamps which will be kept alight throughout the night under the supervision of their agents in various places. Many villages having no light whatever after, say, 11 o'clock, this introduction will be of service to every user of the road and particularly to A.A. members, as it serves the double purpose of guide and indicates the whereabouts of A.A. agents.

unsafe courses is a plea which will be respected by every motorist who has given real thought to the subject. We have never contended for unreasonable freedom in passing through villages and places where the population is likely to be found on the roadway; but unfortunately the opponents of the motor movement have not been equally generous in their view as to the rights of motorists on these great stretches of the highway where there are neither turnings nor houses, from which people are likely to come on the roads as motorists are passing by.

Two, Four, or More.

A CURIOUS anomaly with regard to the new taximeter cabs now plying their way in London is that whilst they are only licensed to carry two persons they have sitting accommodation for four passengers inside and one outside. These vehicles have been accepted by the authorities and duly licensed by them, and yet when the driver of such a cab secured

fares to occupy all the seats he was summoned at the City of London Summons Court for carrying an excess of passengers. When the case was heard the solicitor for the defence pointed out that there was a plate on the vehicle on which it was stated that for each extra person above two a charge of 6d. was made. Such permission was accorded by the Scotland Yard authorities, and ultimately it seemed to be agreed in court that the practice of the police was to take no notice of four persons being in a taximeter cab, but only to proceed against the owner when they found another seated alongside the driver. The point is an interesting one as another illustration of the pliability of rules and regulations, and also of the absurdity of the present system of licensing motor-cabs. Surely it would be just as easy to license these for four persons, and so save drivers the worry or risk of summons whenever they conformed to the unwritten law as allowed by Scotland Yard itself.

The Observation Car.

THE enterprise of the Great Western Railway Company in running a motor char-à-banc through London for the delight of provincial people anxious to see the sights of the Metropolis, deserves financial success as well as mere popularity. It indicates, too, that railway companies, instead of deploring the inroads of other forms of traffic into their revenue returns, should settle the matter for themselves by retaining their passengers in their own vehicles. Excursionists from the West of England to Paddington are shown around London in a Motor char-à-banc, from which they never escape to swell the volume of other people's business. Tram, tube, bus, and cab are all defeated of their prey, the G.W.R. retaining the interest of their passengers by the adoption of a system of inclusive fares for rail and road.

Motoring in the Parks.

ALTHOUGH cases of exceeding the Regulation limit in the Royal Parks have most frequently occurred in connection with Richmond and Hyde Parks, the same regulations are enforced in all the open spaces under the jurisdiction of the Commissioners of Works. Briefly summarised, they insist that the driver of a car shall stop when required by a park keeper or police constable, and that it shall not be driven at more than ten miles an hour or to the inconvenience of any person using the park. Plying for hire is prohibited as well as the use in the parks of automobiles for the purpose of instruction. These rules are in operation in St. James's Park, the Green Park, Hampton Court and Richmond Parks, and Kensington Gardens, as well as Holyrood Park, Edinburgh. With regard to special regulations, cars are prohibited on certain roads within those open spaces, and generally we would enjoin upon motorists the advisability of acting strictly within the letter of the law in all such places. For fines are no lighter, even where the danger is slightest.

The Mechanism of the Motor Car.

THE fact that the work on "Motor Car Mechanism and Management" by Mr. W. Poynter Adams has already got into a second edition testifies to the general interest with which the petrol motor is regarded. The new edition of this useful book, published by Messrs. C. Griffin and Co., Ltd., contains an additional chapter on the management of cars and also an appendix, giving diagrams of important parts of the motor which will help to familiarise the reader with the general principles of construction. There is also an excellent glossary of terms used in connection with the automobile. The various chapters on the engine, accessories, electrical ignition, multiple-cylinder engines, chassis, &c., are written with an avoidance of extreme technicalities that will be useful to the motorist in his early days. Some general conclusions with regard to conduct on the road in passing vehicles and avoiding obstacles are also included, and if these could be instilled into the minds of all who

handle cars the possibility of accidents would be minimised to a considerable extent.

Motor Ambulances.

It is satisfactory to learn that the motor ambulance service, the inauguration of which by the City of London Corporation we chronicled three months ago, has been entirely successful. During that period 258 calls were answered, these being limited to two-thirds of the area of the City of London. In five cases out of six the time occupied from the arrival of a constable at the scene of an accident, when the motor ambulance was employed, was exactly half that when the ordinary hand vehicle was used. From the reliability point of view, too, the ambulance has distinguished itself in never having broken down or been in an accident itself—in fact, the record up to date is such as to justify the extension of the experiment,

than 100 miles 200 motor-cars were passed, "we only met some two or three motorists who were inconsiderate in the matter of dust, and two who were evidently unfit to be trusted with a car." Alas! those two may cause whole columns of vituperative correspondence in the general Press.

A Dubious Point.

A CURIOUS point has arisen in Had-dingtonshire. The driver of a motor-car has been summoned for driving at a speed of seventeen miles an hour in Dunbar, where there is a ten miles an hour restriction on the speed of motor-cars. It appears that about one-eighth of the measured distance was within the boundary of the borough, where the speed limit does not prevail, so that although the motorist was exceeding the speed allowed over a portion of the trap, he was well under the authorised legal limit at the other end. We do not



Motoring in Sumatra.—An Up-Country Garage.

[De Auto.]

especially in suburbs and places where comparative freedom from traffic would give the motor ambulance a greater opportunity for distinguishing itself. That it should have saved time in the crowded area of the City of London is indeed justification of its adoption, and should be an encouragement to Sheffield, which has just adopted an Argyll motor ambulance.

The Good Conduct of Horses.

It is reassuring to motorists to find their experiences with regard to equine behaviour on the roads confirmed by an investigator of our contemporary the "Field." He has lately been driving horses on the main roads of Surrey and Sussex for four days, and has come to the conclusion that, despite the presence of motor-cars thereon, drivers of horses have not much to fear now. He was on each of the three principal highways from London to Brighton, and although in a journey of more

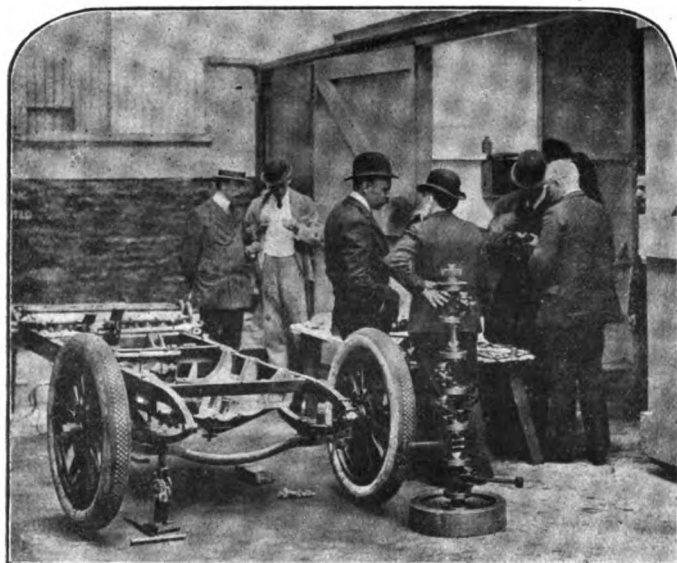
remember the point having been raised before, and the Sheriff was evidently impressed by the contention on the part of the defendants' solicitor, who urged that under the circumstances no conviction could reasonably take place. In the end judgment was postponed, his lordship agreeing that the point required careful consideration. In giving his decision his lordship declared that the trap was entirely within the speed limit—so that the opportunity for solving an interesting conundrum comes to nought.

ACCORDING to the United States Consul General in Colombia, there are only six automobiles there, and he has gravely reported to his Government that "on account of the altitude of Bogota, 8,500 ft. above sea level, at least 25 per cent. of the power of the machines is lost owing to diminished atmospheric pressure"—a suggestion that indicates the value of many consular reports.

B

THE LONG DISTANCE TRIAL OF THE HOTCHKISS SIX-CYLINDER CAR.

AS was briefly recorded in the last issue of the *M.C.J.*, the Hotchkiss six-cylinder car concluded on Tuesday last week its 15,116½ mile trial under the observation of the Royal Automobile Club, of which no less than 10,590½ miles were covered without an involuntary stop. The record is the more noteworthy inasmuch as the identical car had previously made a 6,250 mile tour of France, the total run in the two countries thus amounting to over 21,250 miles, being the longest trial on record. Immediately on the conclusion of the test the vehicle was completely dismantled, to enable the Technical Committee of the R.A.C. to minutely examine and report on the condition of the various components, and to officially seal the same. We have also had an opportunity, at the depot of the London and Parisian Motor Company, Ltd., the British agents, of inspecting the parts, and can only say that the way they have come through the long and arduous test is a striking testimony to the high-class material employed in the construction of the Hotchkiss cars. One of the features of the motor is that the crank shaft runs on ball bearings, which, like the big end and gudgeon pin bearings, show only the slightest sign of wear, and are good for many thousands of miles, while the valves bear no signs of pitting, notwithstanding that they



The Technical Committee of the R.A.C. inspecting the parts of the Hotchkiss six-cylinder car which has recently completed a trial, under the observation of the Royal Automobile Club, of 15,116½ miles, out of which 10,590½ miles were done without an involuntary stop.

have not been ground in for 15,000 miles. The clutch is of the leather cone type, and, judging by the condition of the leather, it is safe to say that the day when this well-tried pattern will be superseded is not yet. The teeth of the pinions in the change-speed gear-box are in excellent condition; those of the sliding wheels show a slight burr on the edges, but not such as to need renewal, while the dog clutches for the top speed direct drive have stood up to their work in a wonderful way. We were specially interested in the behaviour of the bevel gear drive to the rear live axle, the Hotchkiss Company having from the first adhered to this form of transmission, an adherence which, judging from the results obtained, is well founded. Taking the car throughout, the only parts which would appear to have worn to such an extent as to need renewal are the composite brass and fibre wheels which operate the inlet and exhaust valve cam shafts. Apart from these, the way the components of the chassis have withstood the long trial, which, it may be pointed out, is equal to about three years' ordinary running, is a striking tribute to the designers and constructors of the Hotchkiss cars.

SPEED PROGRESS.

IN connection with Nazzaro's remarkable performance in the recent A.C.F. Grand Prix race it is interesting to note the wonderful increase that has taken place in the leading speed contests on the road. As will be seen from the subjoined table, the average rate just attained is almost double that recorded in 1900.

Event.	Driver and car.	Average speed. m.p.h.
1900. Gordon Bennett ...	Charron, on Panhard ...	38.6
1901. Gordon Bennett ...	Girardot, on Panhard ...	37.2
1902. Gordon Bennett ...	Edge, on Napier ...	34.3
1903. Gordon Bennett ...	Jenatzy, on Mercedes ...	55.7
1904. Gordon Bennett ...	Thery, on Brasier ...	60.0
1905. Gordon Bennett ...	Thery, on Brasier ...	49.0
1906. Circuit de Brescia ...	Raggio, on Itala ...	65.7
1906. A.C.F. Grand Prix ...	Szisz, on Renault ...	63.2
1906. Circuit des Ardennes ...	Duray, on De Dietrich ...	66.1
1907. A.C.F. Grand Prix ...	Nazzaro, on Fiat ...	70.7

A NOVEL HILL CLIMB.

THE Automobile Club de Spa is organising a somewhat novel hill-climbing competition for September 15th. The event is to be held on the Malchamps Hill, near Spa, Belgium; the ascent, which measures 5 kilometres, has to be made four times without the engine stopping, the vehicles making their way back after passing the timekeepers by a roundabout route to the starting point. The competition is open to all types of petrol cars, those fitted with two-seated bodies having to carry 150 kilogs. of ballast; the entries will be ranged in the order of the power of the engines in accordance with the following formula, the largest being first and the smallest last:—

$$D^2 L^3 N,$$

when D is the cylinder diameter, L the piston stroke, and N the number of cylinders. The total time for the four ascents will be recorded against each competitor's name, and it is on the results obtained that the separation of the vehicles into categories will be based. Thus, the first class will be established by the car which makes the best time of the day, and in it will be placed those vehicles of an equal or greater cylinder capacity in accordance with the formula. Other categories will be formed in the same way. To illustrate the method which is being adopted, let it be imagined that twenty entries are received and are arranged in the order of the cylinder capacity. Further, supposing that the best time was made by the sixth car, this would be the winner of Class 1, in which the preceding five vehicles would fall. Category 2 will be formed by taking the car showing the best time out of the remaining fourteen. If this were the tenth in the complete list, cars No. 7, 8, 9, and 10 would fall into the second section, the same plan being adopted for the remaining vehicles. Medals will be presented to the two fastest cars in each category. The awards as to regularity will also be made on a somewhat novel plan. In this section only the winners of the different sections in the speed classification will be taken into account. The average time for the hill climb will be found by dividing the gross time for the different ascents by four. The difference between the average and the actual times recorded will then be worked out, the prize—the Pilette cup, which has to be won twice in succession to become the winner's own property—going to the vehicle which shows the smallest fluctuation.

THE British Fire Prevention Committee, though primarily concerned with tests in connection with modern methods of building construction, has been recently undertaking a series of tests with various appliances, intended to prevent outbreaks of fire, or to extinguish them at the earliest possible moment. Under this series of trials they have just issued Report No. 122, dealing with petrol tanks fitted with safety devices, a perusal of which can be recommended to motor-car agents and others who are interested in the safe storage of petroleum spirit.

Under Cader Idris and Snowdon to Chester.

BY JOHN LL. WARDEN PAGE.

IN a former paper I gave some account of the road through Mid-Wales to Aberystwyth.* In the present I propose to conduct the reader out of the Principality by one of the three principal routes that traverse the whole breadth of the country. The shortest—and it is fairly good—is by way of Dolgelley, Bala, and Llangollen. The next—and some of it is pretty bad—runs from Dolgelley to Festiniog and Bettws-y-Coed on the Holyhead road. The third is through the town under Cader Idris and hence to Beddgelert, Carnarvon, and Conway, and so home, as old Pepys would have said, *via* St. Asaph and Chester. For variety this is the best. It is also the longest. But this need not concern us. Time was made for slaves—and people that do not motor.

Whichever route be taken the car must be no toy, for there are stiffish hills in North Wales, and though, with one or two

from the woods, not to speak of the mountains which soar above them.

Perched high on a spur stands the village of Corris, overlooked by the tall Celtic cross erected to the memory of good Dr. Hughes, who organised the Welsh Hospital in the South African War. It stands by the roadside marking a sharp turn, so is a useful mark, especially to those descending. Corris is famous for its slate quarries, and the road is fringed on both sides with enormous quantities of refuse. The mass of discarded slate to the left looks particularly dangerous, as if at any moment it might topple over on to the head of the wayfarer. And now the road becomes steeper, and slowly we climb to Upper Corris, a grim, grey village high among the hills. A little beyond we reach the top of this long ascent, and with brakes well on commence the steep descent to Minfordd, a

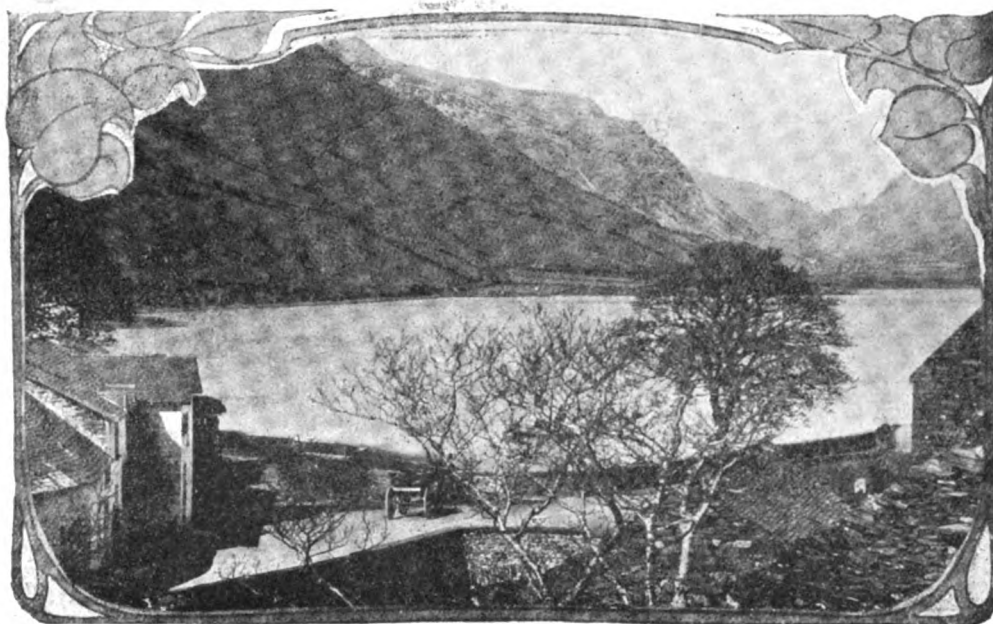


Photo by

Tallyllyn and the back of Cader Idris.

[Gyde, Aberystwyth.]

exceptions, there is nothing that need be labelled "dangerous," yet gradients of one in ten are not uncommon. We experience this at the very start, the direct road to Machynlleth climbing a hill with a slope of one in nine before we have left Aberystwyth. Three-quarters of a mile further on there is another little "pinch" of one in ten, and so on. Luckily, by adding a matter of two miles or so to the distance, and taking the road through Llanbadarn, we can avoid these trifles. The run along the valley of the Ystwyth is pretty, and Llanbadarn has an ancient church which is worth a visit. Then there is an ascent into the good, but at times steep, road to Machynlleth. During the latter part of the run the scenery is very fine; for below us to the left spreads the Dyfi estuary, backed by wooded foothills, with the great ranges stretching up to Cader Idris towering behind.

Machynlleth, round which name no Englishman can get his tongue, is a prettily situated town with tree-shaded streets and a decent hotel, the Wynnstay. But there is nothing sufficiently interesting about it to demand a halt; so we betake ourselves to the road for Dolgelley. This follows the lovely glen of the Dulas to Corris. It is practically all uphill, but the gradient is of the easiest, rising but four hundred and fifty feet in five miles and a half. The surface, too, is good, and there is plenty of shade

farmhouse at the head of Tallyllyn, a lake lying dark beneath the precipices of Cader Idris. The views of lake and mountain as we descend are splendid, but the man at the wheel has little chance of enjoying the same. For again we have reached a drop of one in ten and the road is narrow and, of course, winding as well. However, the surface on the whole is passable.

There is no inn at this end of the lake, but the Penybont Hotel at the other extremity is reached in a few minutes. And, though off our route, it is well to diverge so far, for the road along Tallyllyn faces some of the grandest scenery in Wales. For those, however, who are satisfied with a halt at this end, I may mention that a cup of tea and an egg may be got at a cottage by the roadside at Minfordd. Possibly, though, you may have to search for the good woman among her fowls or waken the echoes of Cader with your lungs—as we did. But we got our tea.

From the very door of this cottage the road starts on its climb up the From Pass—seen in the background of our illustration. It is two miles long, and begins with a gradient of one in twelve. But it soon becomes easier and is not very steep. Above tower the mountains. On the one hand Cader heaves up his great buttresses, on the other tremendous slopes with dark crags impend. From time to time these—or the loose screes of the "wash-outs," find their way across the road in the

* Motor Car Journal, September 8th and 16th, 1906, "Under the Brecon Beacons and Through Mid-Wales."

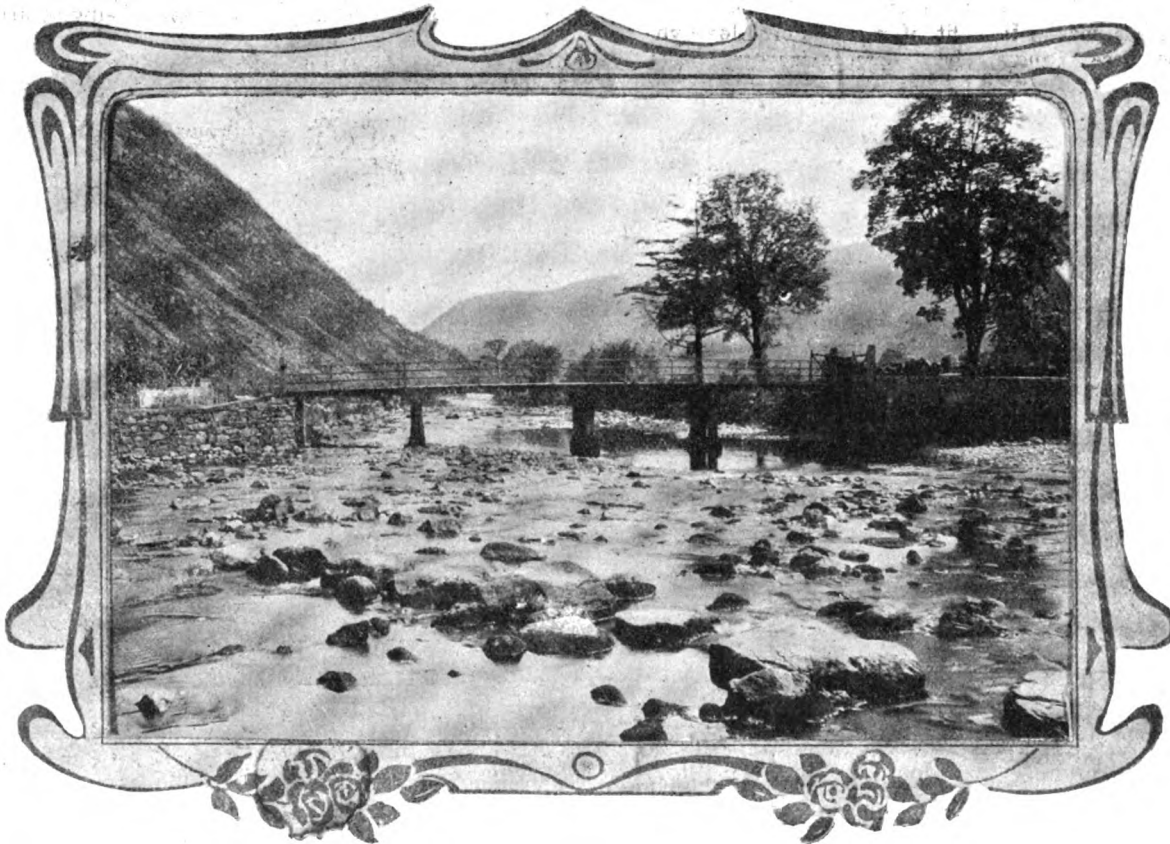
form of an avalanche, and we shall notice many a bit of new masonry where a breach has been made in the wall separating us from the gorge below. Down this the little stream that feeds Talyllyn rushes merrily: high above the white thread of a waterfall gleams against Cader's flank.

Passing a tarn we reach the summit, 938 feet above the sea, and immediately commence the fine run (barring a little roughness at first) of over five miles down to Dolgelley. On the way we came upon the lonely and oddly-named inn of the Cross Foxes. But why the *cross foxes*? Now, one of the ascents of Cader is up a scree called the Foxes' Path, a path which no fox in his senses would take. It has been suggested that this inn was the meeting place of two very irate Reynards cross with the toils of the ascent! I have been up the Foxes' Path myself and can understand their feelings.

The beautifully-wooded country reached after passing the Cross Foxes is a welcome change from the barrenness of the last few miles. But the descent becomes steeper as Dolgelley is approached, and, though by no means dangerous, requires care,

times, rather bumpy stretches to a moorland district high and exposed to every wind that blows. At the end of this comes Trawsfynydd, a large, cold-looking village 800 feet above the sea. And henceforward we, for awhile, drive warily. There is a steep and dangerous corner leaving the village, the first of a series of short, sharp hills that for the next mile or two turn the road into a veritable switchback. Then we reach the hamlet of Maentwrog Ucha, at the top of the long, twisting descent to the Vale of Festiniog. This is one of the worst hills in Wales and should be taken with great care. It drops 400 feet in a mile and a half and in places must have a gradient of one in eight or less.

At the bottom lies the village of Maentwrog, beautifully situated in the green, wooded strath through which the waters of the Dwyryd wind to the sea, now close at hand. High on a hill top in the background appears the little town of Festiniog, and further away the town of Blaenau Festiniog—they seem hard up for names hereabouts—with its extensive slate quarries, dark precipices and noble group of mountains. Maentwrog means stone of Twrog, whoever he may have been. But there,



The river Glaslyn.

for there are one or two sharp curves. The town itself is a clean little place on the Wnion, a mountain stream coming down the valley from Aran Mawdd, a hill loftier even than Cader Idris, though not so fine to look at.

There are two routes from Dolgelley northwards. The first and longer is by way of Barmouth and Harlech; the other through Trawsfynydd. We have been over both, and must admit that the Barmouth route is the better. However, as it has been described elsewhere, we will give the one last named. It begins well enough, the road, a decent one, running up the valley of the Mawddach, past the pretty village of Llanelltyd, and the ruins of Cymmer Abbey, which lie on the eastern bank of the river. Tyn-y-Groes Inn, set in a wooded nook of the mountain, comes next, a pleasant place to halt for lunch. For from its doors we can look up the valley very nearly to the gold mines started by Mr. Pritchard Morgan some years ago, and which at the time caused quite a sensation, though little has been heard of them since. Soon after leaving Tyn-y-Groes the road leaves the Mawddach and ascends by long and, at

beside the church, stands the stone right enough, a Celtic menhir of hoar antiquity with 'T W R O G' graven more or less plainly thereon.

Crossing the river we enter Carnarvonshire, and passing beneath the charming hillaide domain of Tan-y-Bwlch, run down the estuary over a good road to the dull little seaport of Penrhyn Deuddraeth. There is a steep ascent through the town, and we have hardly surmounted it when we have to pull up for a moment at a level crossing. For a train is due down the little mountain railway that brings slates (and passengers) from Blaenau to Penrhyn. It rumbles past, and we note the queer-looking but very powerful locomotive, which is for all the world like two engines run into one with a funnel at each end. It vanishes round the curve; the gates swing open, and we descend to the Traeth, e.g. Strand, a great green plain once under the sea, but now reclaimed and an expanse of pasture land. On a dead level the road skirts the Traeth and then again takes to winding round crags and through woodland, with the sharp peak of Cnicht towering above on the right and Moel Hebog away

across the valley. And here a word of warning which applies not only to this road but to all other mountain roads in Wales. "Keep your eye lifting," as sailors say, for cattle. Never take it for granted that there is nothing irresponsible round the corner. I, who write unto you, know. I nearly ran into a heifer here myself, and, only the other day, a car travelling further "up along" came suddenly upon a flock of sheep—and several became untimely mutton. Wherefore, where fences do not exist, go cannily round corners.

Suddenly we come, not upon a sheep, but upon Pont Aberglaslyn, the grey arch spanning the torrent that comes down at the foot of tremendous cliffs from the valley beneath Snowdon. This pass of Aberglaslyn is, I suppose, the finest bit of scenery of its kind in Wales, and you can see it all from the road, and best of all from the bridge. A short ascent round the wooded spurs of Moel Hebog and lo! there comes into view the green amphitheatre where, girt about by mountains, is the village of Beddgelert. As we approach it we notice beneath a tree in the meadow to our right one or two upright stones. These mark, or are supposed to mark, the grave of Gelert, the hound of Prince Llewelyn, slain by his master in a fit of rage. For Llewelyn, returning from the chase, found the baby's cradle overturned, the baby missing and Gelert covered with blood. Jumping to conclusions, he slew poor Gelert with his javelin, only to discover a few minutes later the baby sound asleep behind the cradle and a wolf, sound asleep, too, behind the baby. But the wolf's sleep was the sleep of death. Gelert had killed it and saved the child. The name of the village perpetuates the poor beast's memory. For Beddgelert means Gelert's Grave.

Beddgelert is quite a tourist centre. There are two good hotels, and quite a number of boarding houses. It is a pleasant place withal, and one is tempted to linger—as a matter of fact I have lingered here more than once or twice. But we ought, I suppose, to get on to Carnarvon, for as yet we have come no great distance, and Carnarvon is a livelier place for the night than Beddgelert, if less romantic. The road starts up an interminable hill, and we have something like three miles of climbing before emerging upon the moorlands at the very foot of Snowdon, whose great hollows and precipices are a fine sight further on. On the left, by the very roadside, is the rock called (and duly labelled) Pitt's Head, in profile a grotesque likeness of the eminent statesman. Hereabouts starts the "Beddgelert route" up Snowdon—after that from Llanberis the easiest. But it is not meant for motor-cars, and no pneumatic or any other tyres will ever cross Bwlch-y-maen, though, as all the world knows, they have climbed the mountain from Llanberis. But then Du Cros and Letts had a railway track to go upon, and I am sure that they would not have negotiated Snowdon by the path. Even as it was the latter gentleman went perilously near the edge of a precipice.

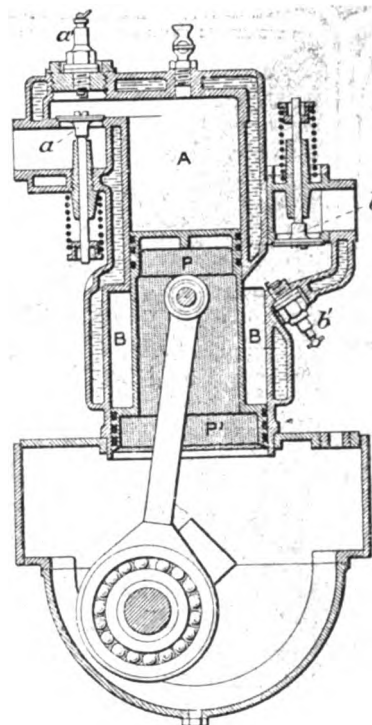
The road drops through the village of Pont Rhyd-ddu to Llyn Cuellyn, following the margin of the lake its entire length. This is a sweet spot—rendered all the more sweet, perhaps, to the average mortal, by the presence of a hotel. This is a great place for anglers, who, if guests thereat, may fish in the lake free of charge. Here another route starts up Snowdon (the hotel, by the way, is called the Snowdon Ranger) and there is mountaineering galore. Climbers who are satisfied with minor peaks may try the Elephant mountain or Mynydd Mawr, which rears its great bulk over the lower end of the lake. Between it and Snowdon the road enters the pass of Nant Garmon and winds down a romantic valley to the hamlet of Bettws Garmon, beloved of artists. A little beyond it we leave the pass—the easiest in Wales—and, getting into a country more open, descend swiftly to Carnarvon.

(To be concluded.)

At the Old Street (London) Police Court, on Tuesday, a man said his occupation—that of a horsekeeper—had gone owing to the introduction of motor-cars. The magistrate (Mr. Cluer) replied that the motor vehicles and electric trams had given employment to a greater number of men than their coming had displaced, though it was no doubt true individuals suffered.

A NOVEL PETROL MOTOR.

A SOMEWHAT novel form of single-cylinder petrol motor, in which an impulse is given to the crank shaft at each revolution, has lately been devised by M. Boudreaux, of Paris. In the ordinary single-cylinder engine there is, of course, only one explosion per two revolutions, this resulting in a very uneven torque and necessitating the use of a relatively large flywheel. It was to overcome these drawbacks that the motor, illustrated in section herewith, has been introduced. It will be seen that the cylinder is not only longer than usual, but has two diameters, A being the normal and B the larger one. The piston is also of a special shape, one end P being of a diameter to fit within the portion A, and the other P' corresponds to the enlarged part of the cylinder. Both A and B are provided with valve pockets, in which are located separate sparking plugs and valves, the exhaust valves, not seen in the drawing, being apparently located at the side of the inlets. The engine acts on the ordinary Otto cycle of suction, compression, impulse, and exhaust strokes, the timing of the valves being so arranged that



when the small piston P is on the compression stroke, the larger one P' is on exhaust. One of these novel motors has been fitted to a boat, and is stated by M. Baudry de Saunier, in "Omnia," to be giving very satisfactory results.

CONTINENTAL tyre manufacturers are not only vying with each other in the production of motor tyres, but are apparently sparing no efforts to produce guide books of a most complete kind for the use of touring motorists. From the Continental Tyre Company we have received a copy of the 1907 edition of the Guide Routier Continental, which deals with France, Algeria and Tunis. The book is assuming bulky dimensions, the latest having incorporated within it twenty-eight itineraries in the three countries named. Not only so, but two detailed maps of Paris and suburbs have been added to facilitate the selection of the best way out of the French capital to the desired point. The list of hotels recommended has been revised; in fact, nothing has been spared to make the work indispensable to motorists, who may be well recommended to procure a copy of the same, especially in view of the fact that only a small charge is made to cover the cost of postage.

CONTINENTAL NOTES.

The Brescia Race Meeting.

Arrangements are well in hand for the Brescia race meeting on Sunday and Monday next, September 1st and 2nd. The first day's race—the Florio Cup—is open to cars having engines of a maximum cylinder capacity of eight litres and a minimum car weight of 1,175 kilograms. The event will be held on a 60.79 kilometre course, which, starting and finishing at Brescia, takes in Castiglione and Lonato. Eight laps are to be run, giving a total distance of 485.9 kilometres (303½ miles). Thirty-nine entries have been received, these comprising three each Spa, Itala, Isotta-Fraschini, Bianchi, De Luca and Daimler, Rapid, Benz, Brixia-Zust, Sueddeutsche Fabrik, Wolsit, Junior, two Rochet-Schneider, two Darracq, an Eisenach and an Aries. The race on September 2nd is known as the Coppa della Velocita. This is open for all types of petrol cars, irrespective of weight or power, and will be

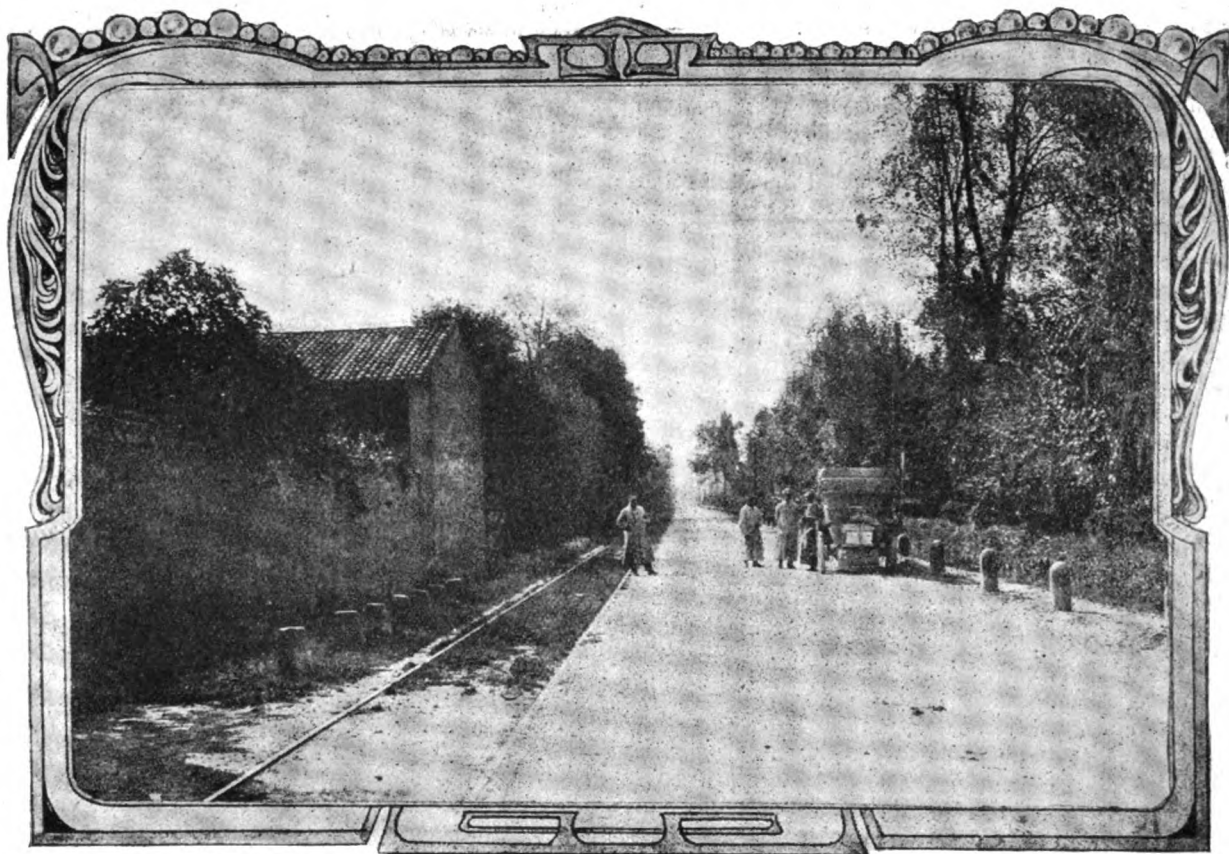
operations between Lille, Roubaix and Tourcoing being already in an advanced condition.

A Hospital for Motorists.

The foundation-stone of a new annexe to the hospital at Lisieux, France, was laid on Friday last week in the presence of the relatives of the late Mr. Stillman, of New York, who was injured in a motor-car accident a year ago, and who died some weeks afterwards in the hospital. The annexe is to be erected to his memory, and is to be specially used for persons who have been injured in motor-car accidents.

The Pekin-Paris Run.

M. Godard on the Spyker car and Messrs. Cormier and Collignon on the De Dions arrived in Berlin on Friday last week,



The Brescia Race Meeting.—A view on the Course near Castenedolo.

run on a petrol allowance basis, viz., 30 litres per 100 kilograms. The distance is the same as for the Florio Cup, and seventeen cars are expected to face the starter—three each Bayard-Clement, Brasier, Itala, Spa, and Lorraine-Dietrich, a Darracq, and a Diatto-Clement.

The 1908 A.C.F. Grand Prix Race.

The rumour that the 1908 A.C.F. Grand Prix race would again be held on the Dieppe circuit is apparently without foundation, as the Sporting Commission of the A.C.F. is seeking information as to suitable circuits in other parts of France of a length not exceeding 100 kilometres. The event is to be held between June 20th and July 5th.

A Road for Motorists.

King Leopold's plan for attracting motorists to Ostend by means of a magnificent motoring boulevard between Lille and that town is now being put into execution. Both on the French and Belgian territory the work is being actively pushed forward,

and are expected to reach Paris on Friday, the 30th inst. The Spyker will then return to Amsterdam by road, after which it will be sent to London for exhibition purposes.

Miscellaneous Items.

Workmen are now engaged on the erection of a monument at the entrance to the Bois de Boulogne, Paris, in memory of the late M. E. Levassor, one of the pioneers of the motor movement in France.—The German Motor Volunteer Corps is to play an active part in the forthcoming military manoeuvres in Germany, forty-two cars having already been promised.—Herr H. Bussing, of Brunswick, Germany, is building three 24-30-h.p. single-deck 'buses for service in Vienna.—An automobile club is being formed at Ostend.—Thirty-six entries have so far been received for the voiturette and light car trials which are to be held in France in October next.—An interesting report has just been issued in connection with the traffic problem in Paris, in which it is recommended that the present horse-drawn 'buses shall be superseded by motor-'buses.

AT Bingley, on the main road from London to Glasgow, Messrs. Ferrand and Sutcliffe have a garage. It is located in Main Street.

By providing a motor-car for the use of the water engineer the Dundee people hope to save £50 per annum. Arrangements are being made for the sale of the horses and vehicles now in the possession of the Dundee Water Committee.

THE Bishop of Ely has recently acquired an 18-h.p. Siddeley car; it is fitted with a single landaulet body built by Messrs. W. and F. Thorn, of Great Portland Street, London, W.

A 20-30-h.p. Delaunay-Belleville chassis has just been acquired by Mr. C. D. Rose, M.P., the chairman of the Royal Automobile Club. It has been fitted with a side-entrance doublephaeton body and hood.

IN Queen Street, Newton Abbot, Messrs. Balls Bros. have a commodious garage and facilities for the repair of motor vehicles.

THE Fiat Company have recently supplied cars to the Duke of Rutland, Lord Villiers, Lord Binning, Lord Monson and Sir George Abercrombie.

THE appeal by Mr. D. M. Weigel against the sentence of a month's imprisonment for driving his motor-car at a speed of fifty-six miles an hour at Handcross will be heard at the East Sussex Quarter Sessions, at Lewes, on October 15th.

A SCHOONER stranded on Gunfleet sand early on Monday morning. The Walton-on-Naze motor lifeboat, James Stevens, helped to pull the vessel off the sand at high water. This is the third service rendered by this motor-lifeboat in a month.

A MOTOR gymkhana was held in Heathfield Park (Sussex) the other day, when among the prize winners were Dr. Lovell-Keays, Mr. W. C. Alexander, and Dr. W. J. Webster. A similar gathering has taken place at Middleton (Norfolk), where thirteen cars took part in the competitions.

A DAIMLER car will shortly be on exhibition in the garage of the Automobile Club of Spain, at Biarritz, and the Daimler Company have entered into an arrangement with the manager, whereby motorists passing through Biarritz can purchase small parts for Daimler cars at the club's garage.

ALTHOUGH primarily intended for those who take their pleasures on foot, the new edition of "Across the Derbyshire Moors," by Mr. John Derry, which has just been issued from the "Sheffield Daily Independent" offices, will be of interest and of value to motorists who seek the pleasures of travel in the hilly district of the Peak. The twelve rambles here described, and each illustrated by a sketch map which shows the roads and their junctions with admirable clearness, will indicate to our readers how they can best see the pleasant district around Sheffield, including Hathersage, Grindleford, Edale, Kinderscout, and other famous resorts.

HERE AND THERE.



Touring in France.—A Motor Car at the Old City Gate of Carcassonne.

A NEW wind screen known as the Invincible is being introduced by the Nottingham Motor Company, of Bradford Chambers, Nottingham.

RUGELEY is becoming a favourite place with Midland motorists. It is the centre of an interesting district, Ingestre Hall, the seat of the Earl of Shrewsbury, and many another lordly mansion, being within easy reach.

MR. OLIVER STANTON, the well-known motor expert, has just acquired a 40-h.p. Weigel chassis, which is now being fitted with a limousine body by Messrs. Sayers and Co.

MR. B. J. F. BENTLEY and Mr. Wells, who left Djibuti at the beginning of the month on an 18-h.p. Siddeley in an attempt

to reach Khartum, via Adis Abeba, the capital of Abyssinia, reached Zeila on Friday, last week. The journey has been one of immense difficulty owing both to the sand of the desert and to the mountainous district traversed.

THE secretary to the Devon and Somerset Stag-hounds has issued an appeal to members of the Hunt not to allow their motor-cars to be moved about the roads while a hunt is in progress. When the hunted stags have entered the beautiful valley of the Exe to try and shake off their pursuers by a turn in the water, the field have more than once found their movements impeded by motor-cars.

THE "Auto," of Paris, ever on the search for novel competitions, is about to organise one to test the knowledge of motor-car drivers in case of breakdowns on the road. A number of cars are to be purposely placed *en panne* from the same derangement; the competitors, who will be unaware of the cause of the stoppage, will then be allotted one vehicle, and the one who gets his machine going first will be adjudged the winner.

IN a few days a new motor school will be opened at 10 and 12, Heddons Street, Regent Street, London, W., by Motor Schools, Ltd., of which Mr. Turberville Smith is managing director, with Mr. Llewelyn Morgan as general manager. A permanent staff of instructors has been appointed, and arrange-

ments will be made for instruction in motor boating at Richmond, as well as motor-car driving at the school.

NORTH SILVER STREET, Aberdeen, has a garage owned by Mr. J. Jackson, and capable of accommodating about a score of motor-cars.

AT the annual sports at Pitlochry—made familiar to motorists in the Scottish trial—a motor gymkhana has been held, with the following results:—Serpentine Driving Competition: 1, Dr. Anderson, Pitlochry; 2, Capt. Wentworth, of Dal; 3, Alister Macdonald, Atholl Hydropathic. Lemon Cutting and Cleaving the Turk's Head: 1, Dr. Anderson; 2, Alister Macdonald; 3, Capt. Wentworth. Best Decorated Car: 1, A. Macdonald; 2, D. M. Stuart, Pitlochry.

MR. R. T. LANG has been joined by Mr. R. C. Warren in his business of advertisement adviser.

THE Motor Union of Western India is putting up the Motor Union signs near a school at Bombay.

A NEAT device for electrically igniting acetylene headlights has recently been placed on the market by the No-Match Electric Manufacturing Company, 141, Milk Street, Boston, U.S.A. The arrangement is somewhat similar to an electric gas lighter, and is shown in the accompanying illustrations. A four terminal trembler coil is placed under the front or rear seat or on the dashboard, and the push button for making the contact can be located at any convenient point near the driver's seat. The primary side of the coil is connected with the push button

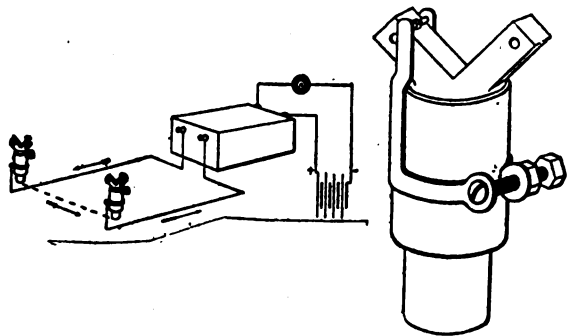


Fig. 1.—Diagram of Wiring. Fig. 2.—The No-Match Electro-Burner.

and both terminals of the ordinary ignition accumulator. Each burner is then connected with one terminal of the secondary circuit of the coil, care being taken that no contact is made with any metal part of the burner except at the place where the wire is fastened. The wires can be run up through the small air circulation holes which are found in the base of all lamps. A good grade of insulated wire should be used, and this can be run along the under side of the frame or in any other way covered from view, care being taken, of course, to keep clear of the exhaust pipe or other heated parts. When properly installed in this way with any standard coil it is claimed that both burners will light simultaneously without fail the instant contact is made by the push button; and where the generator is placed on the running board, or gas tanks are used, the lamps can be lighted by a touch of the button while the car is in motion.

MR. J. B. SANDBACH is responsible for a new volume just published by Messrs. J. E. Cornish, Ltd., of Manchester, on the "Law of Motor Cars." In compiling this the author has had the advantage of the suggestive advice of Mr. T. W. Grace, of Manchester, and has also been guided by the many cases decided under the Act—assistance not available to the authors of the earlier text-books.

MESSRS. TILLEY AND SON, motor-car agents, of Dorchester, have lately completed the erection of a large new garage on a plot of land in Victoria and Hardwicke Streets, Weymouth. The building is substantially constructed, and practically covers the whole site of 100 ft. by 88 ft. It is within 65 yards of the sea front road and rather over 200 yards from the railway station. There are three entrances to the garage, the floor space of which is capable of accommodating over forty cars. The repair shop is also included in the premises; this measures 40½ ft. by 37½ ft., one-half being on a 3 ft. lower level, reached by steps running the whole length of the building. From the top of these steps the cars are run on to trestle stages erected over the low-level portion of the floor, and thus they are brought into a convenient position for repairs. Adjacent to the repairing shop is a washing yard, where two or three cars can be treated simultaneously, water and hose-pipe being conveniently attached. At the extreme end of the garage are four private lock-up motor-houses; these are fitted with iron revolving shutters. The building, which has been constructed to the designs of Mr. Alfred J. Bennett, C.E., architect and surveyor, Weymouth, is lighted by electricity. Altogether, motorists will find the new garage one of the best equipped in Dorsetshire.

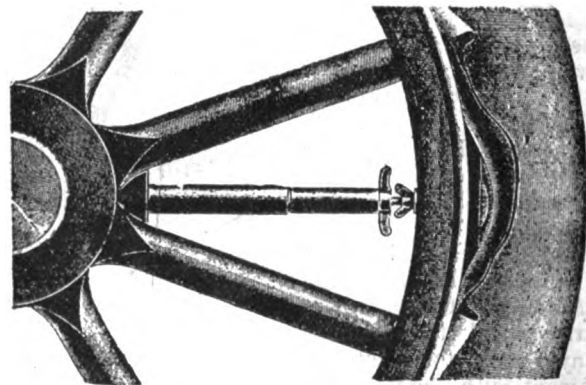
SIR WM. G. D. GOFF, Bart., has just acquired a 30-h.p. Beeston-Humber car.

THE Hon. Walter Guinness, the new M.P. for Bury St. Edmunds, is a motorist.

AFTER having heard repeated *ad nauseam* for many years that only the United States can turn out machine tools, it is refreshing to read that European machinery for motor-car manufacture is finding its way into America. For example, Mr. J. Joyce, the general manager of the American Locomotive Automobile Company, of Providence, R.I., is quoted as saying, "It is a mistake to think that we use machinery a great deal more than the foreigners do. One of the later inventions in tool work is a machine for grinding cylinders. This is peculiarly an American development. On the other hand, we have in our factory, at Providence, a gear hobbing machine, which cuts gears by a screw-like movement that is infinitesimally precise. This we imported, and there is nothing else like it in this country. We have also at Providence a remarkable milling machine for turning out camshafts, and this is of English design and build."

A RESONANT motor-alarm actuated by the exhaust is that known as the Gabriel horn—a simple appliance consisting of a single tube divided into three chambers, each of which produces a separate and distinct note. The exhaust gases are received into an expansion reservoir in the horn, and are equally distributed to the three chambers under a steady pressure. At all times the volume of sound is under the control of the operator, who, recognising that there are no complicated parts to get out of order, has no worry as to his alarm. Messrs. Brown Bros., Ltd., who are placing the horn before British motorists, advise that it should be located against the side of the car, with the open end forward, although it may be fitted in any desired position. It is manipulated by means of a pedal from the floor of the car—a wire cord operates a special valve, which opens the pipe of the horn, and at the same time closes the muffler exit, thereby directing the whole exhaust through the horn. Now that the horn has often ceased to enervise the lumbering carter, the Gabriel horn is offered as an effective variant likely to achieve the purpose of such a signal.

WE illustrate herewith a little device which will be found useful in connection with tyre troubles, and which has lately been introduced by M. C. Durand, of 178, Boulevard Pereire, Paris. One of the most frequent annoyances in fixing a tyre is the danger of nipping the inner tube, with, as a result, the bursting of the air chamber before the car has travelled any



great distance. When mounting the tyre one hand is usually engaged in holding up the security bolt, while the other pushes the beaded edge of the cover into position. By means of the new device, which is known as the Leve-Papillon Automatique "Biguet," the security bolt is automatically held up, leaving both hands free for working on the cover.

ON a motorist being fined at Southampton Police Court for exceeding the legal limit in that town, he informed the Bench that he should stop his subscription to the Southampton Hospital by way of compensation. The chairman, who is president of the hospital, expressed his regret, and also his intention of increasing his own subscription by £5, the amount threatened to be withdrawn by the motorist.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE MOTOR UNION CONTROVERSY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be much obliged if you will kindly publish the enclosed correspondence, and also this letter. I have resigned my membership of both the Royal Automobile Club and the Motor Union, as a public protest against the antagonistic and underhand policy adopted by the Motor Union towards the Automobile Association.

In future I intend to transfer to the Automobile Association the subscription which I formerly paid to the other two institutions conjointly, and would express the hope that if other motorists take the first step, which I have taken, they will also follow me in the same procedure.—Yours truly,

A. J. MACDONALD.

(Vice-Chairman, Automobile Association)

The correspondence enclosed is as follows:—

14th August 1907.

Dear Orde,—Will you kindly let me know whether I can resign my membership of the Motor Union without at the same time adopting a similar course with reference to my membership of the Royal Automobile Club, which I should like to continue if possible under these circumstances.—Yours sincerely,

A. J. MACDONALD.

Royal Automobile Club, 119, Piccadilly, W.,
16th August, 1907.

Dear Macdonald,—I regret very much to inform you that under our existing agreement with the Motor Union there is no possibility of your resigning membership of that body, and I hope sincerely that you will not consider it necessary, in order not to have any association with it, to resign your membership of the Club.—Yours sincerely,

J. W. ORDE.

Dear Orde,—I thank you for your kind letter in answer to my enquiry of the 14th, which I received with regret.

As no other course is open to me than to resign my membership of the Royal Automobile Club, in order to enable me to sever my connection with the Motor Union, I must therefore take that step, and ask you to consider this letter as my formal withdrawal from the membership of the Royal Automobile Club.

Will you please express to your committee my sincere regret at finding myself compelled to withdraw from the Club, as, under the circumstances of the attitude adopted by the Motor Union towards the Automobile Association, it is impossible for me to do otherwise than absolutely to sever my connection with the Motor Union.—Yours sincerely,

A. J. MACDONALD.

To the Secretary
Motor Union.

Woolmer, Liphook,
August 19th, 1907.

Sir,—Be so good as to remove my name from the list of members of the Motor Union forthwith.

I have resigned my membership of the Royal Automobile Club to enable me to effect an absolute severance between myself and the Motor Union, in consequence of the attitude which that body have adopted towards the Automobile Association, of which I have the honour to be vice-chairman.—Yours truly,

A. J. MACDONALD.

THE 1908 A.C.F. GRAND PRIX RACE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to Mr. D. M. Weigel's letter re the 1908 Grand Prix Race, in which he asks for the views of several of the leading English makers upon the value of such races as a means of representing British productions to the world, it seems to me that every make of car I come across has done something, and won gold medals, cups, and what not. Also every maker is pushing the sale of his particular vehicle upon the strength and merit of what it has done in hill climbs, long distance, reliability, and non-stop runs. Now, can the views of manufacturers then really be solicited, when everyone knows that the more successfully a firm is represented in some big event, the more business that firm will do? If Mr. Weigel and others would state their opinions as to what are the qualifications, &c., of the drivers of these representative cars, upon whom rests so much, I am sure it would interest many besides myself. Will someone tell me how these men get their posts? Are their berths purchased, as I am informed? Of course I realise that firms will not place £1,500 worth (approximately) of machinery in the hands of anyone. And I recognise that born instinct, keen judgment, and resource form a large part of what is required personally. I possess these qualifications and my ambition is racing. I am by many influential men acknowledged a driver, and I am a master engineer. But to make my debut on the track with only £200 at the back of me is a puzzle

which some kindly-disposed person might elucidate through the columns of the *M.C.J.* Or will they advise me, as some have done, to give it up.—Yours truly,

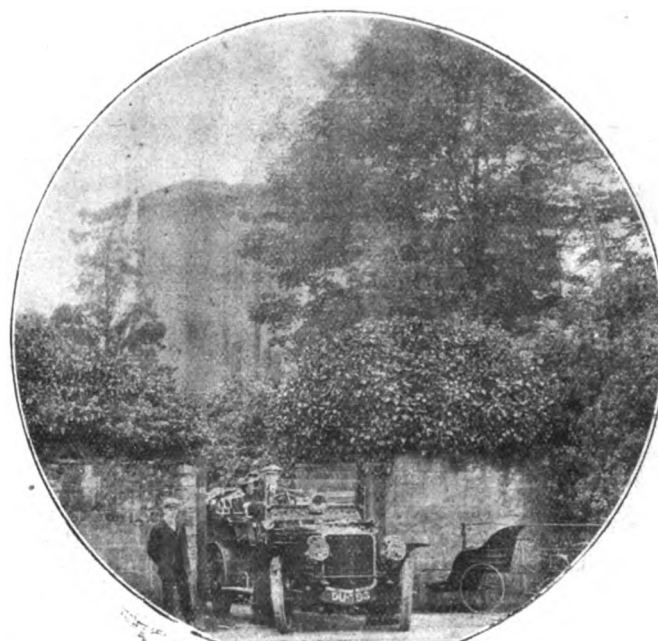
H. J. CHAPMAN.

EXHAUST EXPANSION CHAMBER.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to "M. D.'s" letter on the above subject in the last issue of the *M.C.J.*, a good expansion chamber can be constructed by having a plain cylindrical box, divided into several compartments by perforated plates, the perforations commencing large and decreasing in size toward the outlet. The size, of course, will depend entirely upon that of the engine, but the larger the expansion chamber in reason the better. Care should also be taken to have the metal of sufficient thickness to properly deaden the noise of the explosion—at least $\frac{1}{4}$ in. thick. This type of chamber should prove very effective, without any back pressure.—Yours truly,

H. J.



Kenilworth Castle, which is during the summer months visited by thousands of Americans, was dismantled by Cromwell during the Civil War, and has since been abandoned to decay. The above illustration depicts a Daimler car leaving the grounds of the Castle.

TON MILEAGE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Is there not something radically wrong with the method adopted by the Scottish and Irish Automobile Clubs in calculating petrol consumption per ton mileage?

When it comes to real economy in running an automobile, what has the chassis weight to do with petrol consumption? I have been looking carefully at the lately published results of the Scottish and Irish reliability trials, and, as a result of some rough calculations, have come to conclusion that a Milnes Daimler 'bus would certainly have won the Scottish and Goff cups had one competed.

It would seem from a common sense and practical point of view that the elimination rather than the accumulation of weight in the construction of an automobile should be rewarded.

Under present conditions I may have a car weighing 20 cwt. doing twenty miles per gallon, whilst the other fellow may have a similar car as regards carrying capacity weighing 25 cwt. and only doing eighteen miles to the gallon petrol consumption; but, although my car is running further on a gallon of petrol and is also necessarily more economical on tyres because of less weight, it is the other fellow who gets the reward for economy in petrol consumption.

Surely an automobile ought to be as light as possible provided it is sufficiently strong, and personally I fail to see what the weight of a chassis has to do with petrol economy. The point which our competition authorities ought to make clear is, which is the car which will run

the most miles carrying the biggest load with the least petrol consumption; the load, of course, being the actual number of persons, luggage or extras carried upon the car, quite apart from the weight of the necessary chassis and body.

I have no doubt there is a great deal to be said on this question, but the present moment appears to be an opportune one to endeavour to open a discussion, and it will be interesting to hear the views of others upon this question.—Yours truly,

PERCIVAL L. D. PERRY.

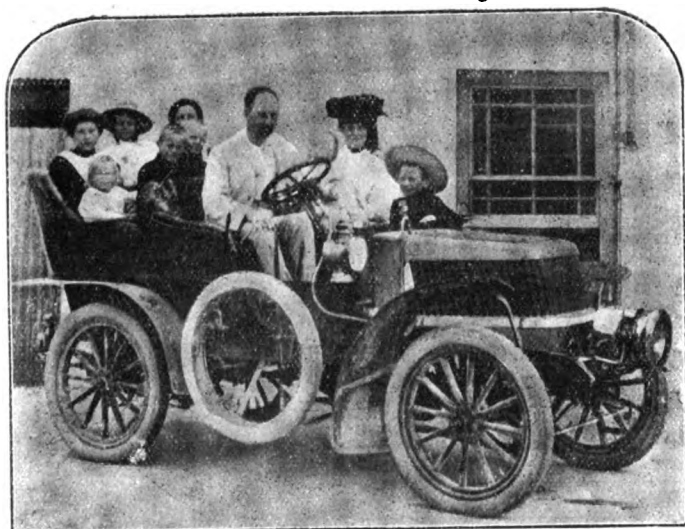
ANDOVER POLICE ACTIVITY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In view of the encouragement given by the magistrates to the police at Andover to prosecute, or shall I say persecute, motorists, it would be better for the town's welfare if the magistrates encouraged them to be as active at night-time in looking after the security of the town as they are in the daytime in setting traps.

When motoring from Cornwall I arrived at Andover at two o'clock in the morning, and there being no signpost, I was in doubt as to which was the London road. I stopped, and my friend stayed with the car while I walked through the principal streets for a quarter of an hour looking for a policeman or pedestrian to direct me. I presume that the police were all on duty during the daytime, and could not, therefore, be on both day and night work, for the fact remains that my engine (which was a single-cylinder engine) was making noise enough to awaken those who had a right to be in bed, and yet did not attract the attention of the guardians (*sic*) of the town. Eventually I had to leave by the road which I thought might lead me to London.—Yours truly,

J. L. VIVIAN MILLETT.



Mr. Hubert S. Thomas, of Llanelly, and his family on their four-year-old Argyl car. The vehicle was the winner of a non-stop certificate in the recent Welsh Reliability Run.

FINDING OWNERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If the County Councils take the interest in the proper regulation of motor traffic which they profess, they might materially help to attain their object by making it more easy to discover the names and addresses of the owners of cars corresponding to any given numbers.

I lately wanted to complain to the owner of the irresponsible manner in which his car was driven by his driver. I applied to the County Council where his car was registered, and was officially informed that I must send in my complaint for its reasonableness to be judged, and, that being allowed, must then pay 1s. for a copy of the register.

In short, there is a barrier of trouble, humiliation and expense to be overcome before we can have the privilege of helping the County Councils to control the "motor hog."

If the Motor Union can get this absurd regulation modified, its members will be encouraged to do much more than at present to expose inconsiderate and dangerous driving.—Yours truly,

D. W. SAMWAYS, M.D., D.Sc., &c.

THE MEDICAL EXAMINATION OF DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in the *M.C.J.* a letter from one of your correspondents on the subject of medical examination of motor drivers. So far back as November last, when my Motor Drivers' Employment Agency was started, I put it strongly in front of employers in the pro-

spectus issued, and, quoting the new Compensation Act, which came into force last July, I there said that it would be perhaps as well for employers of motor drivers to guard against the liability necessarily contingent on an Act of this sort, by insisting on medical examination of the driver chosen for employment, as it is well known to the medical profession that, unless sound in mind and body, a driver is a source of danger to the general public, and of grave responsibility to his employer.

Although we had made arrangements with a fully qualified practitioner, not one of the employers who have been supplied drivers by us have availed themselves of it; and neither can I gather, during the course of conversation, that they even think of it; and I must say that some of the drivers I have interviewed, wishing to place their names on the books, were suffering from what your correspondent aptly calls "really physical degeneracy and unfitness."—Yours truly,

CHARLES H. E. RUSH.

THE CONTROL OF THE ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The road agent scheme is yet another attempt at a bad copy of the excellent work of the Automobile Association by the Motor Union.

We have heard so much of the Union just lately that it is necessary to point out that this title is misleading. The Union is a place where hard work is done under proper supervision. It is not a place where other people's work is copied in a leisurely and inefficient manner. Again, their designation of road agents is wrong. "Relieving officers" is the correct term to use in conjunction with the Union.

It is needless to say more, but how long will it be before the relieving officer replaces the relieving officer of their new road scheme, and the staff of the Union enter the real union, where they will be taught to work independently and efficiently?—Yours truly,

A. A.

THE QUESTION OF TRANSMISSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is rather curious that different people draw such very different conclusions from the same event. I notice that Mr. S. F. Edge, in writing about the results of the Scottish Trials, draws from these results the conclusion that a modern motor-car must have a live axle. On the other hand, Mr. Charles Renold, in reviewing the results of the Scottish Trials, points out that during the trials of 1903, 1906, and 1907, transmission gear (presumably live axles) caused twenty-one complete breakdowns, while chains did not cause any.

I do not think that the most interested partisan of the live axle can bring forward anything against the chain except its nakedness, and from the date of the introduction by the Sunbeam Company of efficient protection for the chains, the chain case movement has steadily gone forward, and I venture to predict that at the coming Show there will be quite a number of firms, both British and Continental, who have copied this important development.—Yours truly,

FREDERIC EASTMEAD.

SPEED COMPETITIONS AND HILL-CLIMBING RULES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the letter in your issue of the 3rd inst. from Vauxhall Motors, Ltd., I do not think these gentlemen disagree with me. At any rate, I quite agree with their letter. They suggest that "if these hill-climbs are to be turned into racing, . . ." I believe they will agree that these hill-climbs are races, and are advertised as such, and that is their sole object. Being races, the object of my letter was to see if there could not be a method by which all clubs in this country could be forced to use one formula only. I believe that the Vauxhall Company will accept that such a proposition would be to the benefit of all concerned.

I have also suggested that trade cars be run as chassis. I believe that they, as well as other heads of motor-car firms, will agree that it would be a great saving in expense for motor-car manufacturers, and would have the same result in proving which was the better car, if these races ever do prove such a thing.—Yours truly,

D. M. WEIGEL.

SHOULD LADIES DRIVE MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A somewhat interesting discussion has lately arisen in your paper in regard to the question of cars being driven by ladies. Undoubtedly there are certain conditions prevailing which make it inadvisable for a woman to handle a car, particularly in traffic. A woman is more easily unnerved than a man by sudden complications which call for instantaneous action, and when it is necessary for her to take her hands from the steering wheel and push forward or backward a change-speed lever, she almost invariably does the wrong thing. What one really wants is a car which can be handled by constantly keeping the hands on the steering wheel, and where the change-speed and application of brakes is done entirely by the feet.

There are other reasons why this state of affairs is desirable. A

woman cannot be claimed to have a graceful appearance when endeavouring to push into position a change-speed lever which may be placed at any awkward angle on the side of the car, and certainly a woman's ambition should be to look as dignified as possible under all circumstances, and I cannot honestly say that most of my lady friends whom I see driving cars look at all graceful in the process. I must make one exception to this statement, however. I do not remember the name of the car, but I know that the whole of the changing of speed is carried out by means of pedals, and I should be very glad if some one of your readers who may be familiar with the car in question would recount his or her experience of the efficiency of this method of changing speed.—Yours truly,

MARGARET DEWELL.

MOTORING IN THE NEW FOREST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is quite likely that, in consequence of the fast and apparently reckless driving of some cars, new police methods may be instituted in the New Forest and the neighbourhood. There is much complaint, and unless drivers of their own accord mitigate their speed and behaviour something of the kind is to be feared.

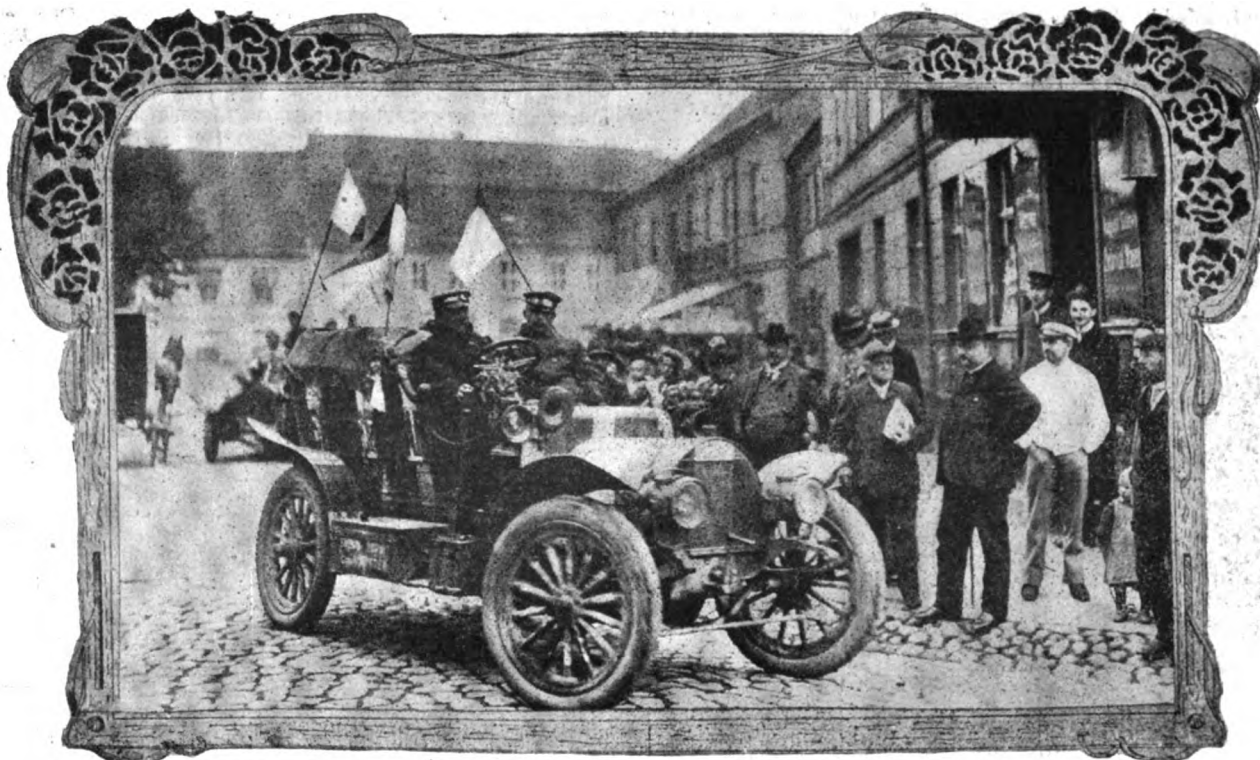
This is not due to the local drivers but mostly to chauffeur-driven cars bearing the letters "A," "L.C.," and "L.N." The peculiar conditions which rule in the Forest and on its confines, the narrow, twisty

are just putting on the market, we have radically departed from the accepted form of pneumatic tyre in favour of a series of pneumatic studs staggered round the circumference of the wheel, and projecting from a flat base through a perforated steel rim. This does not in any case decrease its resiliency, and, from lengthy experiments at high speeds on very powerful and heavy cars, we find that we can guarantee a minimum life of 5,000 miles; that our tyre is an excellent non-skid, and that it cannot puncture or burst, whilst it has the great merit, from the point of view of other road users, of raising very little dust indeed. We fully agree with Mr. Cook that if the subject of wheels and tyres can be opened up much good should result, but we firmly believe that the desired results cannot be obtained except by entirely new methods of construction. In view of the demands upon the purse of the long-suffering motorist, the tyre question becomes of vital importance, and we therefore venture to invite your valuable co-operation in giving publicity to these facts.—Yours truly,

THE K.T. SYNDICATE, LTD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR—I was greatly interested in Mr. O. Cook's letter on the above subject, as I am most thoroughly in agreement with him as to the unsuitability of the pneumatic tyre for motor-cars. To me the idea of transmitting the power of an engine even as low as 10-h.p. through a piece of rubber and canvas is absurd, and I think that every-



The Pekin-Paris Run.—The arrival of M. Godard on the Spyker at Berlin.

roads, make fast driving a danger to users of the cars not less than to the other users of the roads. Apart from the dangers mentioned, there is the unpleasant fact that the motorists who are instrumental in bringing police tactics into play are in the district for only perhaps one day. They fit through at full speed and are seen no more, while less ambitious drivers are caught in the net which was not spread for them.

I am sure no one wishes the New Forest police to emulate their neighbours in Christchurch, so I hope all readers who may come to the district will drive as gentlemen and not raise opprobrium.—Yours truly,

A NEW FOREST MOTORIST.

WHEELS FOR MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of the 10th inst. we notice a letter from Mr. O. Cook referring to the extract from Dr. Hele-Shaw's paper on "Road locomotion in relation to public health," in which letter your correspondent says "that the pneumatic tyre is no more suitable for a motor than slippers are to go pawning with, and therefore only possible for the wealthy." There is no doubt whatever that the present form of pneumatic tyre has the great merit of resiliency, but at the same time, owing to its shape and lack of grip upon the road, a certain amount of "skidding round" takes place at high speeds even in dry weather. This rapidly decreases the life of the tyre, and at the same time is responsible for a great deal of the dust nuisance. This is a defect inherent in all ring-shaped tyres, owing to their lack of grip. In the K.T. tyre we

one must in time come to the same opinion. To see the number of cars hung up on the roads any day with tyre troubles, and also to observe the quantity of costly spares carried on many cars, should make any thinking person come to the conclusion that the system is all wrong.

For myself I would rather give up motoring altogether than put up with the worry and expense of pneumatic tyres. I increased the diameter of my wheels and use solids, and I find this quite satisfactory for moderate speeds up to about thirty miles an hour, besides raising very little dust. There is no doubt that the tyre question is the greatest factor in preventing the motor-car becoming a really popular vehicle. Apart from tyres, the motor-car is the cheapest known form of locomotion, while, plus tyre cost, the most expensive, and, until the general public can be convinced that a car may be quite satisfactory without employing pneumatic tyres, the man of moderate means will rightly hesitate before becoming the owner of a motor.

I hope Mr. Cook will tell us what wheels his car is fitted with, as I feel sure this will interest a great many of your readers as well as—Yours truly,

J. BRYANT.

RUSHMORE LAMPS, LTD., ask to be permitted to point out that every Rushmore headlight and generator is indelibly marked with the name of the manufacturers, Rushmore Dynamo Works, Plainfield, N.J.

FROM the Automobile Association we have received a communication in reply to the statement of the Motor Union saying that they do not propose to make a full reply until the official views of the Motor Union representatives have been received.

CLUBS AND ASSOCIATIONS.

THE AUTOMOBILE ASSOCIATION.

ANOTHER important increase in the Automobile Association's sphere of usefulness is to be noted, and, in support of the patrol organization now being rapidly deployed in Lancashire, Yorkshire, Cheshire, Cumberland and Scotland, offices have been opened at 30, Cross Street, Manchester.

Every part of the A. A. work, including the appointment and control of patrols, erection of signs at dangerous spots, names of villages, &c., will be dealt with at the Manchester offices, and members' requirements in the shape of legal advice, insurance, touring, road information, badges, &c., will be fully supplied by the local staff and Mr. D. N. Mackay, the manager.

THE INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

THE Institution of Automobile Engineers has been incorporated and its official title is now the Incorporated Institution of Automobile Engineers.

The certificate of incorporation is dated the 17th day of July, and the licence of the Board of Trade has been obtained for the omission of the word "Limited." The memorandum and articles of association are signed by Colonel R. E. Crompton, C.B., Dr. H. S. Hele-Shaw, and Messrs. Dugald Clark, M.Inst.C.E., W. Worby Beaumont, M.Inst.C.E.,



The Glidden Tour.—A Peerless Car ploughing through an American road.

Mervyn O'Gorman, M.Inst.C.E., F.C.A. Coventry, and T. B. Browne.

The memorandum and articles, together with a list of members, are now being printed, and can be obtained, together with forms of application for membership, from the secretary of the Institution, Mr. Rees Jeffreys, 1, Albemarle Street, Piccadilly, W.

BERKSHIRE.

SIR GILBERT and Lady Clayton-East were at home to members of the Berkshire Automobile Club, at Hall Place, near Maidenhead, on Saturday.

Four of the events in a motor gymkhana, which was the principal part of the afternoon's programme, resulted as under:—

Tilting at the Ring.—Winner, Major E. R. Portal (16-h.p. Fiat); second, Mr. A. C. Clarke (10-h.p. Siddeley); third, Captain W. Waring (25-h.p. Brasier).

Potato Race.—Winner, Mr. A. C. Clarke; second, Major Portal; third, Mrs. Portal (10-h.p. De Dion).

Blindfold Driving.—Winner, Miss Muriel Thompson (25-h.p. Austin); second, Major Portal; third, Dr. Norman H. Joy (6-h.p. Siddeley).

This latter test of skill gave rise to much amusement. Each competitor was started alone, at a distance of 75 yards from the finishing flag, with the back of the car towards that flag, and the results were most ludicrous in some cases. Nearly every competitor lost the sense of direction or length, some driving entirely off the gymkhana ground, and others stopping before they had gone 20 yards, in the belief they

were at the finish. Miss Thompson came to rest at a point only 39ft. from the post in 25 sec. Ladies took the prizes in nearly all cases, as these were awarded to passengers wherever practicable, and it was required by the rules that ladies should tilt, throw the potatoes, and run for the chairs. The aggregate scores proved that Major Portal had won the Motor Union medal.

NORTHAMPTONSHIRE.

THE hill climbing competition arranged by the Northamptonshire A.C. took place on Saturday, the 24th inst., near Newnham; the hill chosen was over three-quarters of a mile long with gradients in some parts of one in seven, the average being about one in eleven. The following were the competitors:—The Rev. W. Seggins Pratt, 6-h.p. Rover, driven by Dr. Lewis; Rev. W. S. Pratt, 16-24-h.p. Fiat, driven by Mr. H. Mobbs; Mr. J. C. Hannah, 24-h.p. Minerva; Mr. A. Wickstead, 10-12-h.p. Humber; Mr. C. Wickstead, 30-h.p. Humber; Mr. J. C. Hipwell, 14-16-h.p. Fiat, driven by Mr. H. Mobbs; Col. Foster, 18-24-h.p. Fiat, driven by Mr. H. Mobbs; Mr. H. Nichols, 24-h.p. Darracq; Mr. H. R. Greening, 24-h.p. Minerva; Dr. W. L. Dryland, 7-h.p. Panhard; Mr. C. L. Wilson, 10-12-h.p. Humber.

There was an exceedingly good muster of members and their friends and the weather was all that could be desired. The details of the hill climb were left to a sub-committee, comprising the chairman, Major P. E. T. Hibbert, Dr. O'Rafferty, Colonel Mulliner, Mr. Sidney Harris, and Dr. A. A. Hope, who acted as hon. secretary, and the great success of the meeting was owing, in a very large extent, to the very able manner in which he carried out his onerous duties. The arrangements made by the police, under Inspector Harris, to protect the public were all that could be desired, everything passing off without the slightest inconvenience or risk of danger to anyone. Sir Chas. Knightley, Bart., acted as judge, Mr. A. Noel Mobbs as timekeeper, Dr. A. A. Hope as starter, and Mr. Sidney Harris as clerk of the course. The results were worked out on the following formula by Dr. Hope

Time \times R.A.C. h.p.

Weight

and Mr. Noel Mobbs, whilst the members and their friends were refreshing themselves with tea at the Wheat Sheaf Hotel, Daventry. After tea they were made known, and the winner of the prize, Mr. H. R. Greening, was heartily congratulated on his success, all who witnessed his clever performance thinking he thoroughly deserved first place.

Below are given particulars of the five best performances.

Name of Car.	H.P.	Owner.	Driver.	Time m. s. formula.	Place on
Minerva	24	H. R. Greening...	Owner	1 22 ... 1	1
Minerva	24	D. P. Taylor	J. C. Hannah	1 39 ... 2	2
Argyll	16	Dr. Henshaw	Owner	2 3 ... 3	3
Minerva	24	J. C. Hannah	Owner	1 37 ... 4	4
Fiat	14-16	J. C. Hipwell	Mr. H. Mobbs	2 9 ... 5	5

MANCHESTER MOTOR CLUB.

THE annual reliability trial for motor-cycles, fore-cars, &c., of the Manchester Motor Club was successfully carried out on Saturday and Sunday last. The route lay from a point near Bowdon to the Snowdon district of North Wales. The distance of each day's trial was approximately 100 miles. A start was made about nine on Saturday morning. The number of competitors was twenty-four. Of this total nineteen went the course on the first day without a single tyre trouble, and nine of them without losing a single point. The aggregate result was very satisfactory, as fourteen machines completed the two days' trial, and all but two qualify for club standard medals. Two dead heats took place for first and second positions, and in the case of the first will necessitate another trial before the holder of the Triumph Vase can be found. Messrs. Gross and Tyler both went through the complete trial without the loss of a single point, and Messrs. Davies and Butler only failed by one point each. The result is as follows:—J. Tyler and O. Gross 100 points, J. S. Davies and P. H. T. Butler 99, J. E. Rees 98, H. Hurst 97, H. H. Madin 91, H. Reed 89, W. Andrews 85, W. Heaton 85, C. E. Kettle 84, and A. Moorhouse 82. O. Gross drove a motor-tricycle and H. Hurst a tri-car carrying a passenger.

YORKSHIRE A.C.

ON Saturday the members of the Yorkshire Automobile Club held a hill-climbing competition over seven furlongs on Greenhow Hill, at Pateley Bridge, near Harrogate. The road was in excellent trim. The gradient averages one in twelve, but in two places it is as stiff as one in six. Thirty-one cars competed.

The competition was divided into three sections, the first being for cars whose horse-power, rating by the R.A.C. formula, did not exceed 10. In this class A. Towler, of Ilkley, who drove an 8-h.p. De Dion, was first, and A. Farnell, of Bradford, was second on a 6-h.p. Rover. In the section for cars not exceeding 24-h.p. T. H. Woollen, of London, whose 15-h.p. Clement-Talbot was driven by J. W. Edge, was the winner, and T. H. Hall, Leeds, with a 10-12-h.p. Argyll, driven by T. A. Hall, was second. In the class for more than 24-h.p. there was a dead heat for the first place between T. H. S. Atkinson, Leeds, whose car, a 15-20-h.p.

Clement-Talbot, was driven by F. Blake, and A. Farnell, of Bradford, who drove a 30-h.p. Daimler. J. T. Hemmingway, Leeds, whose car, a 30-40-h.p. Daimler, was driven by T. Walker, was second. The best times were done by Cecil Edge, London, who covered the distance on a 60-h.p. Napier in 1 min. 29 sec., and F. A. Bolton, of Osmotherley, on a 45-h.p. Daimler in 1 min. 34 + 5 sec.

NORTH-EAST LANCASHIRE.

THE annual gymkhana in connection with the North-east Lancashire Automobile Club was held on Saturday at Stanley Grange, Hoghton, near Preston. There were thirty-one entries for the eight events. Results:—Starting and stopping competition: 1, R. Birtwistle; 2, P. J. Broadley. Musical chairs: 1, Mrs. E. A. Riley; 2, Miss Huck. Motor-house—Men: 1, J. Robinson; 2, A. E. Crowley. Women: 1, Mrs. E. A. Riley; 2, Miss Kitty Crook. Academy stakes: 1, A. Birtwistle and Mrs. Walker; 2, R. Crossley and Mrs. Whittaker. See-saw competition: 1, R. Crossley; 2, A. E. Crowley. Bending race: 1, A. E. Crowley; 2, Dr. Stephenson. Doll dressing: 1, Mrs. Riley; 2, Dr. Stephenson.

HERTFORDSHIRE.

THE Members' Driving Test, arranged for to-day, has been postponed until the 21st prox., when it will take the place of the meet at Hatfield.

The Members' Hill Climb will take place on September 7th, at Aston Hill, and not at Aldbury Hall, as formerly announced.

MOTOR-CYCLE UNION OF IRELAND.

THE members of the Dublin centre of the Motor Cycle Union of Ireland held their concluding series of speed trials at Portmarnock on Saturday, when two events were run off. The course was not in as good condition as usual, nevertheless interesting sport was furnished by the two races. The results were as follows:—Two Miles Members' Handicap.—Final Heat—J. G. Drury, 34-h.p. Triumph, 25 sec.; 1; R. Hewison, 22-h.p. F.N., 50 sec.; 2; W. Ladley, 34-h.p. Morehampton, 28 sec.; 3.—Twenty Miles Members' Handicap (for the Kavanagh Cup).—C. B. Franklin, 24-h.p. J.A.P., 4 min.; 1; J. G. Drury, 34-h.p. Triumph, 3 min.; 2; R. Hourson, 24-h.p. F.N., 8 min. 30 sec.; 3; R. Walshe, 22-h.p. F.N., 7 min.; 4; P. Hurse, 24-h.p. Morehampton, 8½ min.; 5.

THE British Empire Motor Trades Alliance has now been absorbed by the Society of Motor Manufacturers and Traders, Ltd.

THE Sheffield A.C. will hold a pace judging run over a 22 mile course, from the Town Hall, on Saturday, the 7th prox., commencing at 2.30 p.m.

AUTOMOBILE ACCIDENTS.

THE Rev. Theodore Berger, rector of Wiveton, Norfolk, was driving in a trap through Kelling to Weybourne, when he met a motor-car, which his horse refused to pass. It bolted, but Mr. Berger got it under control, and was returning to the Weybourne road when he met another motor. The horse again bolted, and the wheel of the trap colliding with a post, Mr. Berger was thrown out on his head. The motorists at once started off in search of a doctor. Mr. Berger, however, never recovered consciousness, and died within an hour.

THERE has been a serious collision on the road from Angmering to Arundel between a motor-car and a pony and van. The collision occurred near the Poling cross roads.

A FATAL motor-car accident occurred at Cromer on Saturday. Miss Bertha Birch, of Wymondham, who had been staying at a convalescent home, stood outside the gates, and, after a bus had passed, stepped into the roadway. The driver of a motor-car, the approach of which Miss Birch failed to notice, endeavoured to avoid her, but she was carried a short distance and the car ran up a bank and turned over, the four occupants being thrown out. Miss Birch was so seriously injured that she succumbed in the hospital a few hours later.

A MOTOR-CAR, driven by Mr. Frank Shearman, of Penarth, who was accompanied by his wife and child and chauffeur, ran into the balustrade of the English Bridge at Shrewsbury. The stonework of the bridge was partially dislodged and the car badly damaged.

A SINGULAR accident occurred at Limerick Floating Docks on Saturday. A motor-car plunged over the quay into 24 ft. of water. Observing his danger the driver jumped from the car before it went over the quay into the basin of the dock.

ON Sunday a motor char-a-banc owned by Messrs. Joseph Tomlinson and Sons was travelling along the Manchester road in the direction of Sheffield with twenty-nine passengers when a sad accident occurred. On the long ascent to Moscar a horse drawn carriage passed the conveyance. Arrived at the crest of the hill, and with the gradient favourable, a speed of some six or seven miles an hour was attained. The carriage however, was overtaken, and the driver thought he could pass it. The vehicle was accordingly steered over to the wrong side of the road and brought alongside the lighter vehicle. Then the disaster happened. The vehicle had to pass a telegraph pole, and it appeared as though this would be safely done. The front wheels of the char-a-banc and the first seats passed safely, and then the third seat was swung against the pole, and the heads of a male passenger and of a young boy he was hold-

ing up in his arms were literally smashed in by the force of the blow. Other seats caught against the pole and caused the car to swerve and skid along the greasy road. For some ten yards it tore along and then it crashed into the wall immediately below Mr. E. Bramley's residence. The passengers shot forward, and those on the right-hand side of the char-a-banc were thrown to the ground. As a result three were killed and ten were injured.

A CAR hired by Mr. A. Graham, of Lyson Hall, Long Melford, collided with a wagon on the Newmarket road at Bury St. Edmunds, the other day, and was damaged, while one of the passengers was seriously hurt. The car was towed to Mr. T. Nice's garage in the town for repair.

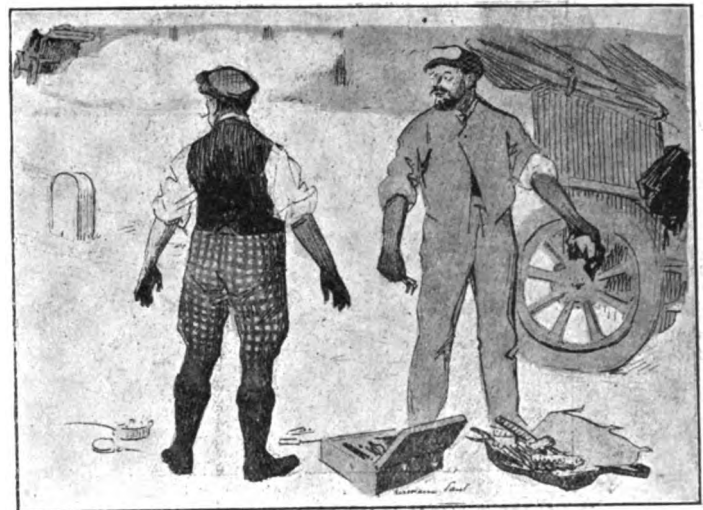
COMPANY NEWS.

NEW COMPANIES REGISTERED.

TRALEE MOTOR GARAGE COMPANY, LTD.—Capital, £3,000. To acquire the business of motor-car agent, dealer in and hirer of motor-cars, cycles, and accessories carried on by Mr. T. J. Goodlake at Edward Street, Tralee, co. Kerry. The first directors are Capt. T. J. Goodlake, 4th Battalion Royal Munster Fusiliers, and Mr. J. E. J. Julian, Killybeg, co. Kerry, barrister-at-law.

WAYTE BROTHERS, LIMITED.—Capital, £18,000. To acquire and carry on the business of Messrs. Wayte Brothers, 11 and 12, Lemon Street, Dublin, dealers in cycles, motor-cars, &c., and hirers of motor-cars. Directors: Messrs. A. R. Wayte, J. B. Wayte, W. C. Roberts, and Major Wellesley. Registered office: 36, College Green, Dublin.

HAYWARD AND SLADE.—£1,005. To take over the business of motor engineers, &c., carried on by Messrs. J. Cornish-Bowen and A. G. Slade at Hyde Street, and 82, Parchment Street, Winchester, as Hayward and Slade. 76, Hyde Street, Winchester.



A Case of Sour Grapes.
Motorist (whose car has broken down) to his chauffeur: "Those fellows are going too fast."
L'Omnia.

SOUTH-EASTERN MOTOR SUPPLY COMPANY.—First directors, Messrs. C. A. Lloyd, F. Wyatt Ediss, J. W. H. Dew, and R. S. Currie. King's House, King Street, E.C.

NILMELIOR (ENGLAND), LTD.—This company was registered with a capital of £5,000, to acquire the sole agency for the British Empire for the sale of accumulators, magnetos, contact coils and other articles for the ignition of explosive engines and accessories thereto, and other goods manufactured by Société d'Electricité "Nilmelior" (formerly Bassee et Michel), of Paris, and to carry on the business of dealers in electrical goods and appliances of all kinds.

INTERNATIONAL AUTOMOBILE CO-OPERATIVE ASSOCIATION.—£2,000. To indemnify the Automobile Co-operative Association, Ltd., against all losses it may incur in carrying on in Italy or other places outside the United Kingdom the business of manufacturers, sellers, and buyers of automobiles and their accessories, &c.

NEW ENGINE (MOTOR) COMPANY.—£50,000. To adopt an agreement with J. C. Mort and G. F. Mort, and to carry on the business of manufacturers of and dealers in motor-cars and machinery, parts, fittings, and accessories, &c. No initial public issue. First directors: Messrs. J. C. Mort and G. F. Mort. Acton Hill Works, Acton, W.

LA SOCIETE METALLURGIQUE DE MONTBARD-AULNOYE, of Montbard (Cote d'Or), France, which is making a speciality of forged steel pistons for petrol motors, send us a list illustrating and describing the same. The steel pistons are claimed to possess many advantages over those of cast iron, not the least of which is their relative lightness, which enables a higher piston speed to be attained, so increasing the power developed by the motor.

CASES UNDER THE MOTOR CAR ACT.

APPEALS.

The Motor Union has decided to support two appeals by motorists against convictions by the Godalming Bench of Magistrates for driving to the public danger. In the first case it was alleged that the motorist covered the measured distance of 220 yards at the rate of eighteen miles an hour, and that the second travelled at over twenty miles an hour. The defendants maintained that no one was endangered and that the speed was exaggerated. The constables in both prosecutions admitted in cross-examination that the cars appeared to be under perfect control. The evidence having been thoroughly investigated by the Legal Cases Committee, the Union has decided to make a financial contribution towards the costs of each of the appeals.

ON THE FOOTPATH.

At Slough, on the 14th inst., Frederick H. Lincoln, The Grange, Old Windsor, was fined £2 and £1 0s. 6d. costs, for driving a motor-car on the footpath at Eton. Leave to appeal against the conviction was asked, and granted.

EXCEEDING LEGAL LIMIT.

Fined at Bradford for exceeding the legal limit, a motor-cyclist has pleaded in extenuation of the circumstance that he had been used to driving in the London parks.

Lord Kenyon was charged at Crewe, on Monday, with driving his motor-car at an excessive speed. Superintendent Pearson stated that on July 28th. his lordship's car was timed between Crewe Station and Wistaston, and the speed was thirty miles an hour. Lord Kenyon did not dispute the police evidence as to the speed his car was going, but he was not aware he was travelling so fast. The Bench fined his lordship £5 and costs.

HEAVY HAULS.

At Kingston, on the 22nd, D. Resta was fined £3 for exceeding the ten mile limit in Richmond Park. Two others were similarly fined for similar "offences." Four motorists were fined sums of from £3 to £10 for going beyond the twenty mile limit.

At the Leeds City Court three motorists have been fined £9 and costs at one sitting.

On Tuesday five motorists were fined sums aggregating £33 10s. in addition to costs at Arundel.

Fines of £5 and costs have been imposed on each of four motorists at Selby for exceeding the legal limit at Haddesley. At Tenbridge on Monday, five motorists were summoned, and, strange to relate, one case was dismissed, the fines in the others totalling £8.

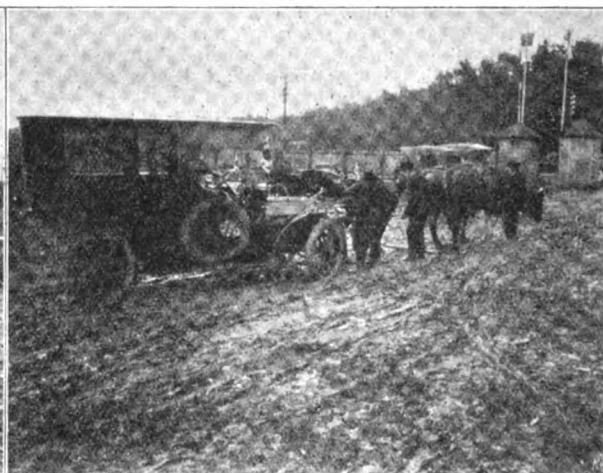
At Tonbridge on Tuesday six motorists were fined £39 and costs for exceeding the legal limit at Southborough.

Fines amounting to £28 were imposed at Atherstone on Tuesday.

Eight motorists were caught in a police trap at Chawton and fined sums amounting to over £25 at Alton Petty Sessions on Tuesday.

A LICENSING MATTER.

Mr. H. Van Cutsem was summoned at Godalming, on Monday, for having employed Wallace Molesworth, an unlicensed person, to drive a motor-car at Godalming on June 29th. P.c. Galloway said when he stopped Molesworth an occupant of the car said his name was Van Cutsem, and that he was the owner of the car. Molesworth was subsequently convicted for driving without a licence. The motor-car registered at the offices of the L.C.C. showed that the registered owner of the car was Harry Harcourt Van Cutsem, of Norfolk Street, Park Lane, W. Mr. Triggs Turner, solicitor for the defence, maintained that the onus rested upon the police to prove that defendant knew Molesworth was not licensed. The magistrates held that the onus rested upon the employer to see that his driver was properly licensed. Defendant was fined £3 3s. and costs. Notice of appeal was given.



A Reminiscence of the Kaiser's Prize Race.—Spectators' cars being drawn out of the swamp, near the Grand Stand, by cattle.

[Allgemeine Automobil Zeitung.]

Earl Poulett was showing a new motor-car to a friend in St. James's Park when he, not thoroughly understanding the car, altered the gear so that the car covered a measured distance at a speed equal to twenty-three miles an hour. "His lordship is a very careful driver, and has never been fined before," said counsel at Bow Street on Monday, but the magistrate imposed a fine of £3 and costs.

DANGEROUS DRIVING.

In fining C. P. Parker, of Bridgwater, £5, and J. Billings, chauffeur, of Burslem, £10, on Monday, for driving motor-cars to the public danger, the stipendiary magistrate at Hanley said the accident was due to the desire of Billings to get in front of Parker and escape his dust. He had not considered the public a bit. Staffordshire was the county above all others for motorists who were gentlemen at the wheel and who considered others. If a man could see a mile, or part of a mile, ahead on a clear road, there was not the slightest danger if he went twenty, thirty, or forty miles an hour, but, on the other hand, it might be dangerous to go ten or six.

At the Hove Borough Bench, on Monday, Sidney Gibson was summoned for driving a motor-car in a manner dangerous to the public at Hove on August 2nd. After a long hearing the magistrates dismissed the case.

NO LICENCE.

John Hilton was summoned as the owner of a motor tri-car at Esher for failing to produce his licence when requested by a constable in uniform on August 5th. P.a. Stringer said the defendant drew up at the Coburg Arms, and witness pointed out the absence of an identification plate, and defendant could not show his licence.—Defendant, who now produced a licence which was taken out on August 6th, was fined 10s. and 10s. 6d. costs.

THE AUTO CYCLE CLUB'S SIX-DAY TRIAL.

LAST week we recorded some of the earlier experiences in the six days' reliability trial of the Auto Cycle Club. During the event two hill climbs were held, one on Broadway Hill, Worcester, on Friday of last week, and the other on Saturday, the 24th, on Birdlip Hill.

The trial concluded at Staines on the evening of Saturday, the first arrival being at 5.15 p.m. and the others following in rapid succession, until twenty had arrived.

Those who completed the trial were F. Cozens (10-h.p. Lagonda tri-car), A. J. Sproston (5-h.p. Vindec Special), W. G. McMinnies (5-h.p. Vindec Special), D. G. Gilmour (9-h.p. Bat), A. S. Phillips (5-h.p. Vindec Special), W. H. Wells (5-h.p. Vindec Special), T. H. Hastings (4-h.p. Indian), W. G. Pople (3½-h.p. Triumph), F. C. Dee (5-h.p. Vindec Special), J. H. Slaughter (3½-h.p. Triumph), T. Woodman (3½-h.p. Vindec Special), M. Geiger (6-h.p. N.S.U.), J. Marshall (3½-h.p. Triumph), B. M. White (3½-h.p. Hazel), W. Smith (1½-h.p. Motoasocche), R. Moore (3½-h.p. Phelon and Moore), E. S. Myers (3½-h.p. Triumph), J. D. Hamilton (3½-h.p. N.S.U.) S. W. Carty (3½-h.p. N.S.U.) and F. C. Mustard (3½-h.p. Triumph).

Mr. T. H. Hastings, who rode the Indian motor-cycle, is a member of the Crescent Athletic Club, of Brooklyn, and a prominent motor-cyclist of the United States.

CAPTAIN NEAVES, of the Royal Albert, Southsea, has written to Ariel Motors Ltd., stating that he has run his Ariel car for 35,118 miles now, and, with the exception of a new third speed gear, this is the first time the car has been laid up for repairs of any sort. Those now necessary simply consist of a new piston ring.

BRITISH EXPORTS OF MOTOR-CARS AND PARTS.

In the monthly figures issued by the Board of Trade regarding the exports of motor-cars and parts from this country only the gross totals are given, no indication being afforded as to the destination of the same, nor of the quantities taken by the different countries. The more detailed return of the export trade of 1906 has just been issued, and, although somewhat late, the following tables, which deal with the shipments of automobiles, may not be without interest:—

EXPORTS OF MOTOR-CARS OF BRITISH MANUFACTURE.

	1906.		1905.	
	No.	Value. £	No.	Value. £
Netherlands	24	9,994	8	3,863
Belgium	7	3,420	4	2,303
France	23	15,081	29	15,920
Italy	34	20,686	11	6,905
Egypt	25	8,433	18	5,669
United States of America	49	36,507	73	60,795
Argentina	40	22,534	21	11,916
Other Foreign Countries	125	45,490	81	27,975
Cape of Good Hope	59	17,310	59	20,332
Natal	30	14,183	89	26,773
Bombay and Karachi	150	59,683	204	62,822
Madras	30	7,198	30	6,543
Bengal	111	30,653	87	24,607
Eastern Bengal and Assam	3	379	—	—
Burmah	22	8,273	25	5,745
Australia	274	89,281	132	42,532
New Zealand	217	62,453	97	20,720
Other British Possessions	156	43,931	110	30,810
Total Exports of Cars	1,379	£495,399	1,078	£376,230

EXPORTS OF MOTOR-CAR PARTS OF BRITISH MANUFACTURE.

Exported to	1906.		1905.	
		£		£
Germany	3,711	...	1,340
Belgium	12,958	...	3,429
France	179,839	...	60,172
Egypt	1,275	...	119
United States of America	8,605	...	5,157
Other Foreign Countries	21,368	...	8,889
Cape of Good Hope	11,591	...	5,385
Natal	12,930	...	5,933
British India	32,912	...	14,221
Australia	12,058	...	13,858
Other British Possessions	26,150	...	6,069
Total Parts Exported	...	£323,395	...	£125,572

THE COMMERCIAL VEHICLE TRIALS.

THE list of competitors has been slightly reduced by the withdrawal of a Darracq-Serpellet 30-40-h.p. char-a-banc from Class D, and a Darracq-Serpellet 30-40-h.p. omnibus from Class E. The total number of entries in all classes is sixty. The following alterations have to be recorded in the list of entries:—Class B, No. 3, the entry of the Albion Motor-Car Company, Ltd., has been transferred to the Lacre Motor-Car Company, Ltd., and the vehicle is a 16-h.p. 24 cwt. Lacre lorry; Class D, No. 9, Messrs. Durham, Churchill and Company, 2-ton lorry, in place of the Churchill char-a-banc; Class E, No. 20, Messrs. T. C. Aveling and Company, Ltd., have entered a Brown and Wade paraffin wagon.

A form of guarantee has been sent to entrants by which the manufacturers or dealers will undertake to list and sell vehicles or chassis, including tyres, conforming in every respect to the vehicle or chassis entered, for a period of six months from the date of the beginning of the trials at the price stated on the Club's specification form.

Of the vehicles entered, forty-seven will use petrol as fuel, five paraffin, one paraffin and petrol, three coal, three coal or coke, and one coke.

Forty, or two-thirds of the total, are of British origin, eleven of French, seven of German, and two of Italian origin.

Several makes of tyres will be employed, viz., the Bergougnon, Continental, Danlop, De Nevers, Polack, Palmer Cord, Peter Union, Sirdar, Shrewsbury and Challiner, and Turner.

With regard to the frames of the vehicles in Classes A, B, C, D, E, and F, thirty-two are of channel steel, twenty-one of pressed steel, two of stamped steel, one of reinforced channel, and one armoured wood.

THE Nizam of Hyderabad, who already owns a Daimler limousine, has placed a further order, through the Bombay Motor Company, for a Daimler 28-h.p. chassis. The India Office have also just ordered a 30-h.p. Daimler limousine of the Milverton type and an open Canley type vehicle of similar horse power and wheel base.

ROAD REPORTS.

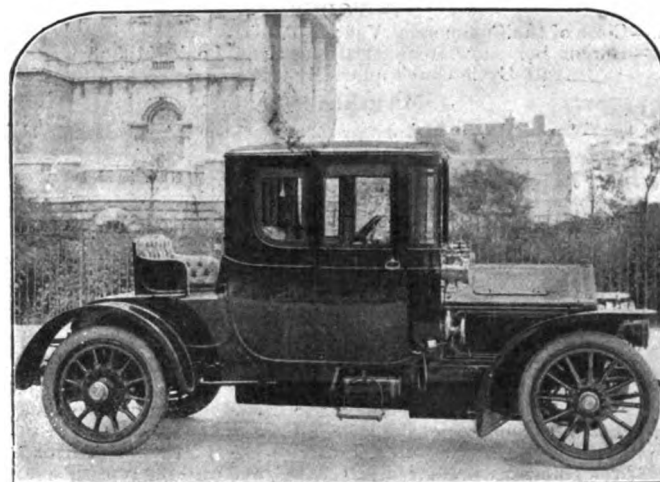
KENT.—At Kent County Council meeting, the Bridges and Roads Committee reported that the attention of the County Councils' Association had been drawn to the damage done to roads by steel-studded bands on motor-car driving wheels. The county surveyor reported that nothing but tarred macadam sufficed to keep the material on the roads tight. The cost of this, and of tar painting to abate dust, fell entirely on the ratepayers of the districts affected. A recommendation was adopted that the county councils of Buckinghamshire, Essex, Hertfordshire, Surrey, and Sussex be invited to join in calling the attention of the Local Government Board to the importance of road authorities being protected against the heavy additional expense caused by motor vehicle traffic.

WANDSWORTH.—The Borough Council have made a trial of "Ermenite." A length of half a mile of Windmill Road was satisfactorily treated with the substance, which was applied from one of the Council's watering vans. The effect was to darken the road surface to a chocolate colour, and for the present, at least, entirely to abolish the dust.

TAR SPREADING.—The Thwaite tar road surfacing patent machines are being used in Derbyshire, Lincolnshire (it was applied to the processional roads to the Royal Show at Lincoln), Berkshire and Surrey.

AYRESHIRE.—The Secretary for Scotland has declined to accede to local representation for the restriction of the speed of motor-cars passing through High Fenwick. The road board meeting at Ayr has decided to remit the matter to the Standing Committee of the Council to see if anything further can be done in the matter.

EGHAM.—At a meeting of the Egham Urban Council complaint has been made of the excessive speed of cars through the main street, which in places is less than 30 ft. in width. It was decided to work in conjunction with the Chertsey Council to secure regulations as to slower speed through the two towns. Police action against motorists who exceed the limit may shortly be expected.



The 30-40-h.p. Crossley car just supplied by Messrs. Jarrott and Letts to the Duke of Sutherland, President of the Royal Automobile Club, for his personal use at Dunrobin Castle.

The idea is that the driver is comfortably enclosed and protected from the weather, the car having all the advantages of the ordinary limousine. The back seat is hinged and folds up out of sight when not required. The body was designed by Mr. Jarrott, and the work carried out by Messrs. Salmon, of Newport Pagnell.

OXFORDSHIRE.—Oxfordshire is traversed by several important roads, which are split up into varying lengths in different districts, under different authorities, and maintained by methods which lack uniformity. The road from Banbury to Henley, via Oxford, is repaired by nine different bodies. The future cost of road maintenance, whether direct or by contract, cannot, Mr. S. Stallard, the county surveyor, thinks, fail to increase, and he anticipates that the expenditure in his county will rise considerably for some years in order to cope with the extra demands of modern traffic.

TARLITHIC is the name of a preparation for dustless roads which the Tilbury Contracting and Dredging Company (1906), Ltd., claim to be the only granite adaptable to tarred macadam and paving.

WOKING.—At the entrance to Woking, at the junction of Goldsworth Road and High Street, on the main road from Guildford to Chertsey, the Urban District Council has erected a girder bridge spanning a forty feet roadway in place of the old tunnel, which had become a kind of death trap to users of the highway.

DEVON.—The Barnstaple Rural District Council have rescinded their resolution to apply for the closing of Countisbury Hill to motor-cars.

KENT.—In his report to the Kent County Council, Mr. H. B. Maybury says that last year about £4,000 was expended upon work in connection with the laying of dust and the erection of motor-car signals.

A COMPANY has just been formed at Dover, Del., U.S.A., to manufacture Stepany spare wheels for the American market.

FORTHCOMING EVENTS.

AUGUST.

- 31st (S.).—Cardiff M.C.'s run to Chepstow.
Lincolnshire Motor-Cycling Club meet at Skegness.
East Surrey A.C. run to Chobham.
Coventry M.C.'s 100 mile reliability trial.
Motor Cycling Club's variable speed contest on Sharpenhoe Hill.
Garden party of the Somerset A.C. at Holford Rectory.

SEPTEMBER.

- 1st (Sun.).—Florio Cup race of the Italian A.C. over the Brescia circuit.
Southern M.C. picnic.
5th (T.).—Vehicles competing in the R.A.C. commercial vehicle trial must be within the gates of the depot of Messrs. J. I. Thornycroft at Chiswick by 12 noon.
Arachon motor-boat meeting.
6th-7th.—Commercial vehicle trial—examination of vehicles.
7th (S.).—Auto Cycle Club's hill climb at Birdlip.
Motor Cycling Club 200 miles reliability trial.
Bristol and Gloucester A.C. meet at Lyppiat Park, Stroud.
East Surrey A.C. run to Paddock Wood.
Southend M.C. run to Gloucester.
9th (M.).—Industrial Vehicle Trials—first day's run.
14th (S.).—Motor Union Meet at Leicester.
Brooklands A.R.C. meet.
15th.—"The Industrial Motor Review" for September will contain a pictorial and descriptive report of the Commercial Vehicle Trials of the R.A.C.
21st (W.).—Nottinghamshire A.C. hill climb.
Southern M.C. Hill Climb.

OCTOBER.

- 12th.—Close of the Commercial Vehicle Trials.
19th.—Gordon Bennett Aeronautical race at St. Louis, Missouri.
Auto-Cycle Club's quarterly trial.

MARCH, 1908.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Aug. 31st—7.51	Sept. 2nd—7.45	4th—7.41	6th—7.37
Sept. 1st—7.48	3rd—7.43	5th—7.39	7th—7.34

In Glasgow the lighting-up time to-day (Sat.) is 8.21 p.m., and to ascertain the approximate times on succeeding days 30 min. should be added to the above figures; in Manchester an addition of about 16 min. is necessary.

THE IRISH TRIAL.

WE are asked by the Secretary of the Irish A.C. to announce that the Competitions Committee of the Irish A.C. have had under consideration the protest lodged by Mr. Mills, owner of the 12-16-h.p. Talbot car, against the Humber car entered in Class C, and also the protest entered by Messrs. Booth Bros., who had a 12-14-h.p. Singer in Class B, against the 14-16-h.p. Argyll in the same class, and on hearing the evidence adduced by the objectors and that of the entrants of the cars objected to, have decided that the protests must be upheld, and accordingly the Humber car in Class C must be disqualified on the ground that it was not in the committee's opinion a standard touring car, and that in Class B the Argyll car must also be disqualified as—having regard to the catalogue price—being wrongly entered in the class referred to. As a result of these disqualifications, the Talbot car entered by Mr. Mills becomes the winner in Class C and accordingly its performance has had to be considered for the purpose of deciding the winner of the cup presented by the Humber Company, with the result that on the formula its marks show it to be the winner of that cup, which has accordingly been awarded to the car referred to.

PUBLIC MOTOR SERVICES.

THE Tramway Company in Cape Town is reported to be in negotiation with the Harbour Board with a view to running a motor-bus service through the docks.

A MOTOR-BUS broke down in Fleet Street, E.C., and remained in that thoroughfare from 12.15 a.m. to 2 p.m., one day last week.

A MOTOR-COACH has started running between Blairgowrie and Kirkmichael, making two trips daily.

WITH a nominal capital of £5,000 the Coventry Motor Omnibus Company, Ltd., has been formed to establish a motor-bus service in the City of Spire.

MOTOR-CARS are running in public services between Redmarley and Gloucester and Cheltenham, on certain days of the week, and between Stampton and Malvern on another.

A NEW air compressor for mechanically inflating the tyres of motor-vehicles is being introduced by Mr. M. Scott Robinson, of 24, Norfolk House Road, Streatham, S.W.

SCOTTISH RELIABILITY TRIAL.

It would appear that, through an error in the office of the Scottish Motor Trade Association in furnishing to the Scottish A.C. the names of the members of that Association for the award of the special prize which had been offered by that association to the member thereof who made the lowest petrol consumption per ton mile over the whole trial, they included that of the Kennedy Motor Company, Ltd., Glasgow, who had some time ago ceased to be members. The mistake was only discovered some time after the public announcement that the prize had been gained by the 14-h.p. Thornycroft entered by the Kennedy Motor Company, Ltd. As the result of this the award of the prize is now made to Mr. Thomas Shaw, Dundee, in respect of his 35-45-h.p. Ariel-Simplex with a consumption of 03507 gallons per ton mile, equal to 28.51 ton miles per gallon of fuel.

MOTOR-CYCLE RECORDS.

AT Canning Town, on Saturday, C. E. Bennett beat the motor-cycle records for seven and eight miles. He made a good start, and got inside record at seven miles, doing 7 min. 53.4-5 sec., against his own previous best of 7 min. 56.2-5 sec. He covered eight miles in 9 min., or 5.4-5 sec. inside record, but in another half-mile his back tyre burst, and he was thrown to the ground, fortunately without being much hurt.

POLICE TRAPS.

CARLYLE'S village of Ecclefechan has now its police trap.
ANDOVER continues to demonstrate its antipathy to those who journey by automobile.

GRETNA GREEN has now its police trap, and care should be taken throughout the district generally.

AT Barugh, near Barnsley, a quarter of a mile trap has been established, in which three or four motorists have lately been caught.

SWANLEY JUNCTION is the scene of a motor trap.

ALCONBURY WESTON is now the possessor of a police trap for motorists, from whence they are led to the Huntingdon Petty Sessions.

THE Spaniards Road at Hampstead has its police trap.

THE Brighton road at Purley is the frequent centre of police operations in that district.

BUSINESS NEWS.

THE Vacuum Company's Mobiloil was used on the Itala car driven by Prince Borghese on the run from Pekin to Paris.

THE MOTOR HOUSE have decided to hold a special auction sale on the 12th prox., when the catalogue will consist almost entirely of Daimlers and Napiers of all types and with various bodies.

THE Sirdar Rubber Company, as hinted at lately, have, owing to the increase of business in their pneumatic tyre department, further reduced their cost of production, and are now giving 20 per cent. cash discount to users, and a substantial wholesale discount to the trade.

MESSRS. SMITH, PARFREY AND COMPANY, LTD., are agents for the sale and mounting of the A.P.S. shock absorber for motor vehicles, and also for the "Rapeasy" tyre lever, introduced to the trade at the Cordingley Motor Show in April last.

FROM MESSRS. C. A. VANDERVELL AND COMPANY, of the Warple Way, Acton Vale, W., comes a copy of the new catalogue they have just issued. The list gives full particulars of the C.A.V. accumulators, which are made in a variety of sizes and capacities, voltmeters, induction coils, switches, &c., made by the firm, while considerable space is devoted to electric lamps, which are meeting with increased use on motor vehicles. Primary batteries, as well as small dynamos with switch boards for charging batteries, also find a place in the catalogue.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

THE Motor-Car Journal.

VOL. IX]

LONDON, SATURDAY, SEPTEMBER 7, 1907.

[No. 444.]

Published Weekly by CORDINGLEY & CO., 27-33, Charing Cross Road, London, W.C.

"THE INDUSTRIAL MOTOR REVIEW."

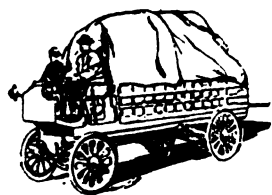
"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8½d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



BY the time these lines appear in print the sixty vehicles that are to take part in the Trials next week will have been officially received at Chiswick, and their examination will be in progress. Following the precedent of the Scottish Trial, a meeting of the committee, judges, competitors, and observers will be held on Friday. On Saturday a dinner will be held, at which Mr. C. D. Rose, M.P., will preside, and then at 7.30 a.m. on Monday the long journey will be commenced, the first stage being to Reading, where the vehicles are expected to arrive any time after 2.30 p.m. Considerable interest is being taken in the event, and relays of judges will accompany the procession each day. In order to anticipate any inconvenience that may be caused to competitors by non-competing vehicles following the Trials for the purpose of publicity and advertisement, the executive committee of the Trials have, therefore, decided, in fairness to the competitors, that should these commercial vehicles attend the Trials in this way, the firms owning them shall be dealt with under the terms of the following Competition rule:—"Any owner, manufacturer, dealer, agent or driver taking part in, or being directly connected with, any trial or competition otherwise than under regulations made by the Club, and obtaining extensive advertisement therefrom, shall be deemed to be guilty of a breach of these rules." This is an act of justice to the competitors.

The Motor Union at Leicester.

THE Motor Union has accepted the invitation of the Leicestershire Automobile Club to visit Leicester on Saturday next, the 14th inst. This will be the last provincial meeting of the Union this season, and a large gathering of members and representatives of the one hundred clubs included in the membership of the Union is expected. The general committee of the Union, under the chairmanship of Mr. C. D. Rose, M.P., will hold its usual meeting in the morning at the Council Chamber, Leicester, by the invitation of the Mayor and Corporation, and the committee will be officially welcomed by the Mayor (Alderman Sir Edward Wood, J.P.). In the afternoon a gymkhana will be held at the Freeman's Meadows, Aylestone Road, the proceeds of which will be given to the fund for the building of the new Guild Hall for the cripples of Leicester. In the evening the ninth provincial dinner of the Motor Union will be held at the Grand Hotel, and motorists who desire to

take part in this function should apply to Mr. Rees Jeffreys, the secretary.

On Surrey Roads.

THE Surrey Roads Rights Conservancy is now being formed, with a view to do something to prevent the excessive speed of motorists along the roads of that county. No subscriptions will be required from members, the Conservancy being, it is understood, established by some influential residents of the county, who intend to appoint representatives in each district, who will record their experiences to the central authorities with a view of taking action against motorists who are proceeding at an illegal pace. It is the intention of those responsible for the new organisation to do what they can against the recommendation of the Royal Commission with regard to the abolition of the speed limit, and to make the speed question a test problem at future elections. Verily, the way of the motorist passing through Surrey will soon be slow indeed. What with the A.A. scouts on the open road, the M.U. agents in villages, the police almost ubiquitous, and the Surrey Roads Rights Conservancy people everywhere, it will be difficult indeed for motorists to go beyond a walking pace.

By their Signs ye shall Know Them.

At a recent meeting of the Society of Motor Manufacturers and Traders, Mr. Manville, the chairman, called attention to various cases which had been brought to his notice of reckless driving by drivers of cars bearing trade numbers, and it was resolved that if any further case was reported to the Society they would endeavour to deal with it. This, we think, is a move in the right direction, and we should like the Society to go still further and endeavour, if possible, to compile a list of traders' numbers and letters. All motorists have long been aware that the most reckless and inconsiderate drivers on the road have been those on cars bearing traders' signs, and we feel that if it is known that a powerful society is going to deal with the matter, it will have a beneficent effect on irresponsible and harebrained hooligans, whose only desire is apparently to show off and render other users of the road as uncomfortable as possible.

When out touring it is not always our desire to travel at top speed and scurry over the ground to reach our destination in the quickest of time, but rather to enjoy the beauties of the country and discuss with our passengers the many and varied charms of nature and scenery which unfold as on a panorama while the car speeds on its way. About a fortnight ago we were travelling steadily along on the Bath road, and a car with a red

sign came up behind. In response to the sound of the horn we drew aside and allowed the driver to pass. This did not, apparently, suit the "gentleman," and he just kept a little in front of us, so that we had the benefit of the car's dust. We slowed down, as also did the fellow in front; and this continued for several miles, until the ladies—who were three in number—complained they could not put up with the inconvenience any longer. Therefore, perforce, we had to put on speed and pass the nuisance, and that was the last we saw of him. What the man's object was we do not know; but he certainly acted the part of an unmitigated cad, and should have been reported. In future we shall do so, as we—who motor, perhaps, as much as anyone in the United Kingdom—have suffered very much in times gone by, and have had to travel faster than we desired to escape such unwelcome attentions. We trust the heads of the firms employing such men will make severe examples of them.



The New Badge of the Royal Automobile Club.

A Manual of Petrol Motors and Motor-Cars.

Chas. Griffin and Co., Ltd., London. The author deals very exhaustively with the design and construction of the various parts and types of petrol motors, no less than 150 pages being devoted to this section. After discussing the general arrangement of motors, the question of ignition, carburettors, cylinder pistons and valves, crank-shafts and cams, pumps, fly-wheels, and pipe arrangements, &c., are exhaustively treated in separate chapters. The author apparently shares the opinion of many motor engineers that the four-cylinder engine, if properly made, gives a turning moment sufficiently even for all ordinary purposes, the advantages of an increased number of cylinders being, in his opinion, obtained at the expense of considerably increased complication. We do not altogether agree with his remark that in modern cars the throttle control is usually worked by a governor, for, as a matter of fact, the tendency is nowadays in the direction of abolishing centrifugal governors and relying entirely on foot or hand levers, or both, and in some cases by so connecting up the clutch to a throttle that as the former is disengaged, the speed of the engine is automatically cut down. In connection with his remarks on ignition, too, we notice that Mr. Strickland falls into the common error of terming the contact-

maker a commutator. Apart from this his remarks on ignition will be found both interesting and instructive. Following the motor the author deals equally lucidly with the other important components of a petrol-car chassis—frame, steering gear, clutches, change-speed gear, &c., specially drawn illustrations being freely made use of to amplify the text. The work concludes with a series of tables giving a record of the results of the more important motor-car trials that have so far been held in this country, going back as far as 1899, and concluding with the Scottish Reliability Trials of 1906. In this short notice we have only been able to give but a brief indication of the contents of the work, which bears evidence of very careful preparation, and, while we may not agree with all the author's criticisms, the book is one which can be strongly recommended to all engaged in motor-car design and construction.

Diplomatists and the Car.

SOCIETY long ago set its seal of approval upon the motor-car, and the smart equipages that, dispensing with horses, now traverse the West End, are visible evidences of the position attained. Equally significant, though of a somewhat different character, is the proof to be found in some of the showrooms and salerooms of fashionable coachbuilders. For the depreciation in the value of such vehicles is even greater than that of motor-cars that have seen their best day. Official circles are perhaps the hardest to penetrate, and even the King—ardent motorist that he is—has not ventured to introduce the motor-car into a Royal procession. But it is steadily asserting itself in Ambassadorial ranks. The Austrian and Spanish Ambassadors and the Portuguese and Belgian Ministers have used automobiles when paying calls for some time past, and now the Swedish Minister at the British Court has followed suit. French, German, Russian, and Turkish representatives have yet to be converted.

Motor-Cars and Railways.

THE Traffic Superintendent of the Natal Government Railways suggests that motor-cars might be adopted in some districts in that colony. He has just written his annual report for the last twelve months, and in this points out that the provision of such a service is likely to foster traffic which might ultimately be developed to such an extent as to require the institution of a light railway. Improved postal facilities to outlying districts might also be gained by the adoption of motor-cars, and in many districts of Natal the farmers would be put into direct touch with the railways by this means. Mr. D. B. Downie, the superintendent in question, briefly tabulates the specific advantages of road-motor vehicles as (a) Reduced capital outlay involved as compared with the establishment of rail service. (b) Reduced working cost. (c) Elasticity of service, i.e., the motor-vehicles not dependent on rails; should they prove unremunerative in one district can be transferred to another.

A Judicial Warning.

AT Chester Assizes the Lord Chief Justice has been uttering words of warning to motorists who disregard the ordinary courtesies of the road, pointing the moral to the advice by sending a motor-car driver to a term of imprisonment for manslaughter. Without entering into the merits of the particular case that called forth the censure, we must accept the judge's statement as a fair presentation of the matter. Motorists must not forget—nor do the majority do so—that the lives and property of other people on the road must be respected. Accidents happen without intention, but through careless or negligent driving on the part of somebody, or possibly want of familiarity with the particular road. There is no criminal intention, but those who drive must be prepared to take the risks of their own conduct, and, often, that of other people as well. This is where much of the danger of the road is associated, and

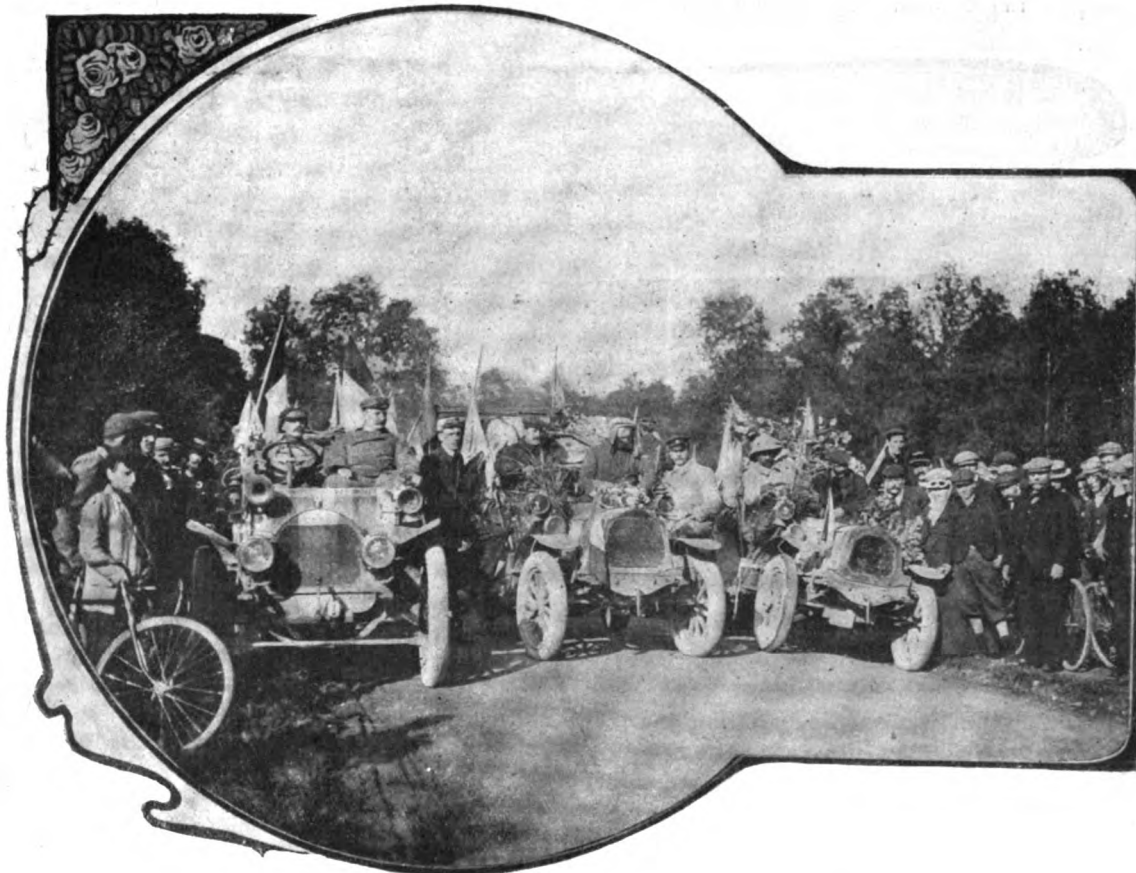
even the most careful drivers are too frequently at the mercy of the careless. To these such salutary lessons as that just administered at Chester should prove a warning.

Hotel Methods.

DESPITE the number of people who have this year been visiting the Lake District, hotel proprietors there do not seem to be quite happy with regard to the position. Whilst motoring has taken a largely increasing number of people to see the mountains and lakes, hotel proprietors complain that it has utterly spoilt the old-fashioned method of business, which was probably extremely lucrative. They contend that those who now go in a motor-car formerly arrived in a carriage or a four-horsed coach, hired a team for most of the days, and stayed for a week or longer at the same establishment. Now, however, the motorist is able to go from place to place with comfort and celerity, and the old days of long stays are no more

The Trams at Kingston.

ONE of the organisations that have been identified with road questions might very profitably compile a list of the places in various towns where trams would be unsuitable and even dangerous. Such a category would enable the Motor Union or any other body to object to applications for tram lines being laid where it could be shown that they would prove a menace to other traffic on the roadways of the country. This certainly would be a better plan than looking supinely on the laying of such lines and then going to sleep until an accident occurred. Motorists should be on the aggressive in matters of this kind, and not merely on the defensive. We are led to such a reflection by news of the disastrous collision between an electric tramcar and a coach and four at Kingston the other day. A heavy responsibility must weigh on the heads of those who passed the plans for what we consider the most dangerous tram lines in Great Britain. To



The Pekin-Paris Run.—The Arrival of the Spyker and De Dion Cars at Compiègne, near Paris.

—to the consequent disheartenment of those managers who have not yet got out of the Nineteenth Century ways.

Naming Towns.

AMONG the curiosities of legislation in America—where every one of the United States seems to have its own notions as to the way to regard the automobile industry—is the plan adopted in Massachusetts, which may well be imitated in this country. It is there enacted that every city and town “shall erect and maintain guide posts on the ways therein or at such places as are convenient for the direction of travellers and at such forks and intersections of ways which lead to adjoining cities and towns.” These signposts have to indicate the name of the place to which the road leads, with the distance thereto, and are being generally put up as a result of recent legislation. In Britain there is a hazy sort of idea that the Post Office is responsible for seeing to this.

regulate the single lines and curves a number of men have to be employed the whole time the trams are running to wave flag signals to assure the drivers it is safe for them to proceed. The rails are watered, the macadam at the sides is generally muddy and greasy, and there is scarcely room for another vehicle to pass. The Motor Union, to whom we look for protection, should not have waited till the rails were laid, and the local authorities had secured a restriction of the speed of motor-cars to ten miles an hour—an impossible speed at any time in Kingston Town—but should have entirely opposed the laying of the trams in the streets where they are now laid. It is, alas! to be feared that nothing further can now be done in the matter unless the authorities can be persuaded to compel the tramway company to lay wood paving each side of the lines and so save, perhaps, possible injuries by “side-slips.”

THE Stepney Spare Motor Wheel, Ltd., of Lillnely, have sent us a copy of the new catalogue of the well-known Stepney spare wheel they have just issued.

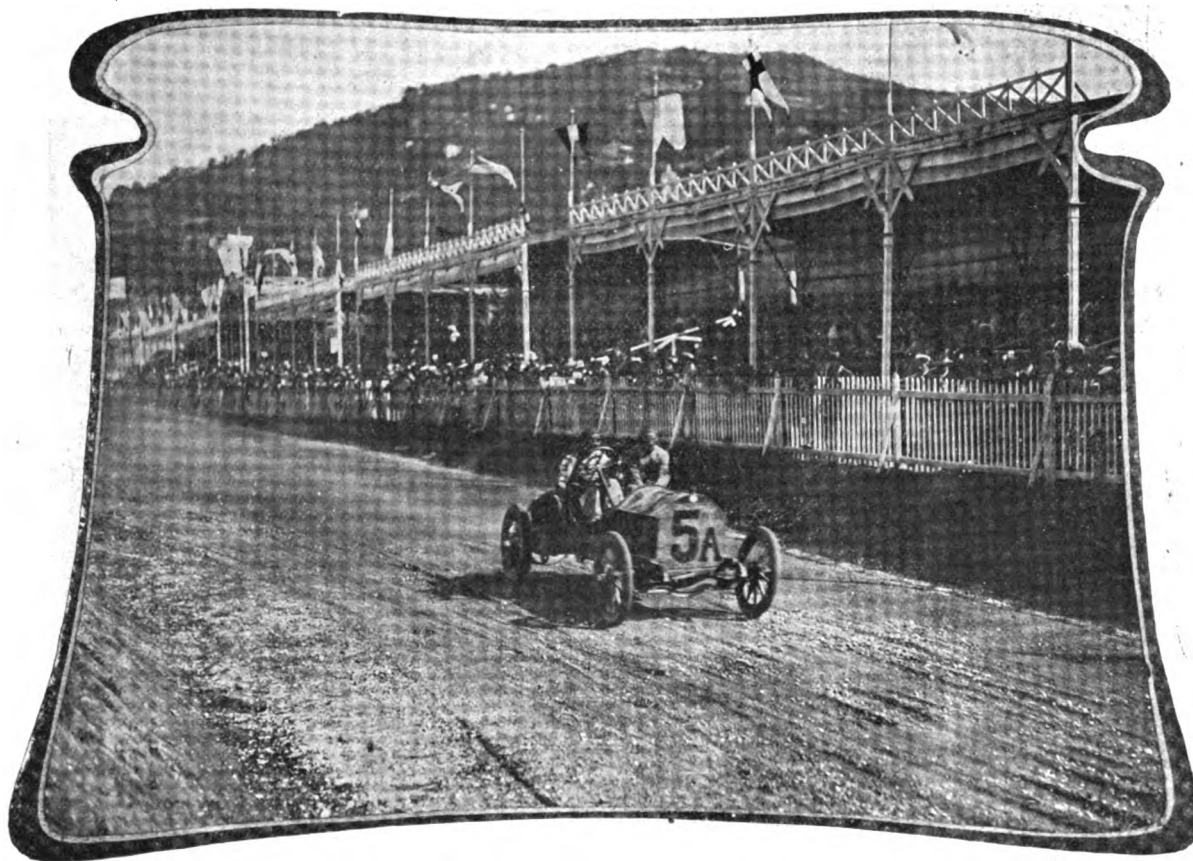
The Brescia Race Meeting.



THE first of the two races—the Coppa Florio—organised by the Automobile Club of Milan was run off on Sunday last. The event was held on a 60.79 kilometre course, which, starting and finishing at Brescia, took in Castiglione and Lonato. Eight laps had to be run, giving a total distance of 485.9 kilometres (303½ miles). The conditions were the same as prevailed in the Kaiser's Prize race, the contest being open to vehicles having engines of a maximum cylinder capacity of 8 litres, and the minimum weight of the car, including racing body, tyres, mudguards, &c., was fixed at 1,175 kilogs. Other conditions with regard to wheelbase wheel track, distance behind the dashboard, road clearance, &c., were also provided for in the rules, which further require the use of artillery wood wheels, to

No.	Car.	Driver.	No.	Car.	Driver.
32.	Wolsit ...	George.	37.	Brixia-Zust ...	De Martino
33.	Isotta-Fraschini	Sorel.	38.	Gaggenau ...	Comi.
34.	Itala ...	Fournier.	40.	Junior ...	Brun.
36.	Bianchi ...	Anderloni.	42.	Benz ...	Erla.

The speedy qualities of the Isotta-Fraschini, which were to secure the honours of the day, were quickly demonstrated, for Minoia made the best time in the first lap, 34 min. 4 sec., Trucco, on a similar vehicle, being only 27 sec. behind. Twenty-nine completed the premier round, the five that fell out being Tomaselli (Bianchi), Maggioni and Conti both on Brixia-Zusts, Primavesi (Rapid) and Sorel (Isotta-Fraschini). Minoia again led at the end of the second circuit, which proved the fastest of the day—33 min. 34 sec. Trucco, however, had trouble, and fell



The Florio Cup Race at Brescia.—Trucco on an Isotta-Fraschini Car passing the Grand Stand.

which detachable tyre rims could be fitted. Forty-two entries were received, and of these thirty-four faced the starter, the absentees being Count Florio's Panormitan, a Rapid, three Aries, and three De Luca-Daimlers. The competitors were despatched in the following order at intervals of half a minute, the first man being away at 5.31 a.m., and the last at 5.51½ a.m.

No.	Car.	Driver.	No.	Car.	Driver.
1.	S.P.A. ...	Ceirano.	17.	S.P.A. ...	Venezia.
2.	Darracq ...	Demogeot.	18.	Darracq ...	Airoldi.
3.	Wolsit ...	Durlacher.	19.	Wolsit ...	Wilde.
4.	Rochet-Schneider	Thieulin.	20.	Rochet-Schneider	Viton.
5.	Isotta-Fraschini	Trucco.	21.	Isotta-Fraschini	Minoia.
6.	Itala ...	Cagno.	22.	Itala ...	Fabry.
8.	Bianchi ...	Tomaselli.	24.	Bianchi ...	Maserati.
10.	Brixia-Zust ...	Maggioni.	25.	Brixia-Zust ...	Conti.
11.	Gaggenau ...	Hieronymous.	26.	Gaggenau ...	Piccoli.
12.	Rapid ...	Gallina.	27.	Rapid ...	Primavesi.
13.	Junior ...	Tamagni.	28.	Junior ...	Piccioni.
15.	Eisenach ...	Schmidt.	30.	Benz ...	Hanriot.
16.	Benz ...	Hemery.	31.	S.P.A. ...	Appendino.

back considerably, Airoldi (Darracq) being now second, and Cagno (Itala) third. The lap proved disastrous to Durlacher (Wolsit), who failed to take the turning at the bridge at Lonato and was seriously hurt, Hieronymous, Fournier (Itala) and the Comte De Martino (Brixia-Zust). Unfortunately the latter's accident had fatal results. According to one account the steering gear of his car broke, while another report is to the effect that a tyre burst. Whatever the cause, the result was that the vehicle fell into a ditch, injuring the mechanic and killing the Count, who was pinned by the steering rod, which pierced his chest. It is also stated that his head struck against a tree. Baron de Martino was thirty years of age, and belonged to an old family of Turin, and took part in the race purely for sport.

Minoia put in another fast round, thus retaining the position as the leader at the end of the third circuit. Viton (Rochet-Schneider) was now second and Hemery (Benz) third. Only two drivers retired—Cagno (Itala) and George (Wolsit)—leaving twenty-three to enter on the fourth circuit, which saw no change

in the first two places, Demogeot (Darracq), however, displacing Hemery for the third position. There were three retirals in this lap—Schmidt (Gaggenau), Fabry (Itala), and Anderloni (Bianchi). In the fifth round two more drivers fell out—Tamagni (Junior) and Comi (Gaggenau). Minoia still led easily, with Hemery (Benz) second, the position being unchanged at the end of the sixth circuit, which saw the elimination of Brun (Junior), Ceirano, and Appendino, both of the latter being on S.P.A. cars. Hanriot (Benz) ran into the third place, this order being maintained during the seventh and final laps, which was finished by fourteen competitors, the last to fall out being Venezia (S.P.A.).

THE RESULT OF THE RACE.

Order.	Driver.	Car.	Time.		
			H.	M.	S.
1.	Minoia ...	Isotta-Fraschini ...	4	39	53
2.	Hemery ...	Benz ...	4	49	49
3.	Hanriot ...	Benz ...	4	57	47
4.	Trucco ...	Isotta-Fraschini ...	5	5	56
5.	Viton ...	Rochet-Schneider ...	5	6	55
6.	Thieulin ...	Rochet-Schneider ...	5	7	25
7.	Demogeot ...	Darracq ...	5	10	43
8.	Airolti ...	Darracq ...	5	13	12
9.	Maserati ...	Bianchi ...	5	17	11
10.	Erle ...	Benz ...	5	48	17
11.	Piccoli ...	Gaggenau ...	5	51	19
12.	Piccioni ...	Junior ...	5	52	37
13.	Wilde ...	Wolsit ...	5	54	23
14.	Gallina ...	Rapid ...	5	57	0

Minoia's average speed works out at 65.8 miles per hour, which compares with Nazzaro's 70.7 m.p.h. in the A.C.F. Grand Prix and 53 m.p.h. in the Kaiser Prize contest, which latter was run under the same conditions as the Florio cup event. The Isotta-Fraschini Company thus secure the cup presented by the King of Italy, and will also hold for a year the Florio challenge cup, which has to be competed for seven times, the trophy eventually becoming the property of the firm winning it the largest number of times. It was previously held by the Itala Company, who won it in 1905, no contest having been held last year.

The Salemi challenge cup, for the team of three cars which completes the race in the shortest time, was won by the Benz Company. In each of the first six rounds the fastest time was made by Minoia; he was delayed, however, about four minutes in the last two, in which the honours went to Hemery. Of the cars which started, twenty-three were of Italian construction, seven German, and four French, the number of those of each country which finished being respectively six, four, and four. Thus, although they failed to win the race, all the French cars which competed succeeded in covering the eight rounds.

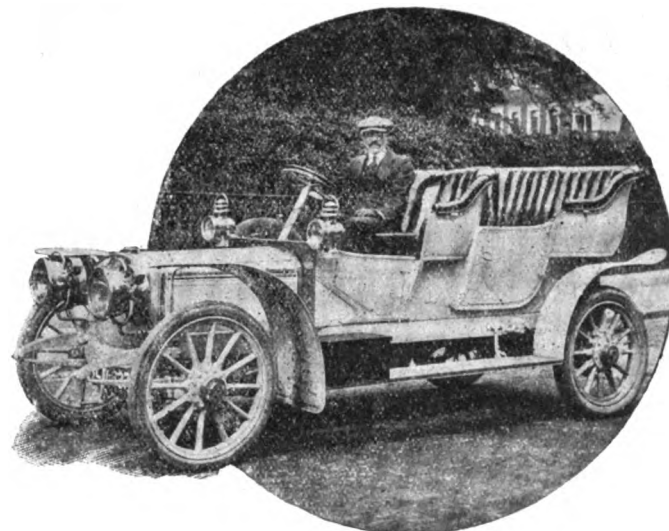
In connection with the oft-discussed question of transmission, we note that of the thirty-four cars which started twenty had live axles while fourteen were provided with side-chains. Of the former only six finished the race, as against eight chain-driven cars, the proportions being:—Live axles, 30 per cent.; and chains, 58 per cent.

The second of the races—the Coppa della Velocita—was held over the same course and distance, on Monday, the event being open to all types of petrol cars, irrespective of weight or power, and run on a petrol allowance basis, viz., 30 litres per 100 kilometres. Seventeen entries were received, but only the following fourteen started, being despatched at minute intervals:—

No.	Car.	Driver.	No.	Car.	Driver.
1.	Lorraine-Dietrich	Duray.	8.	Itala	Fabry.
2.	Diatto-Clement	Buzio.	9.	Bayard-Clement	Alezy.
3.	Itala	Cagno.	10.	S.P.A.	Raggio.
4.	Bayard-Clement	Garcet.	11.	Lorraine-Dietrich	Rougier.
5.	Darracq	Demogeot.	12.	Itala	Fournier.
6.	S.P.A.	M. Ceirano.	13.	Bayard-Clement	Shepard.
7.	Lorraine-Dietrich	Gabriel.	14.	S.P.A.	E. Ceirano.

All the fourteen vehicles finished two laps, at the end of which Fabry (Itala) was leading, with Shepard (Bayard-Clement) second, and Duray (Lorraine-Dietrich) third. In the third round M. Ceirano and Raggio, both driving S.P.A. vehicles, retired, the former owing to hot bearings and the latter to a damaged cylinder. Fabry still held the lead, followed by Duray and Shepard in the order named. Cagno (Itala) was, however,

travelling at a rapid pace, and in three circuits had improved his position from eleventh to seventh, his time for the third lap, 31 m. 31 sec., being the fastest of the day. Fabry fell back to third place in the final round, Duray taking up the running, with Shepard close on his heels. Halfway through the race rain fell heavily, and most of the competitors stopped and fitted non-skids to the wheels of their vehicles. The fifth circuit saw the disappearance of Buzio (Diatto-Clement), Fournier (Itala), E. Ceirano on the third S.P.A., and Shepard (Bayard-Clement). The latter is stated to have skidded and run off the road down a steep bank. The car was smashed, and Shepard sustained a broken collar-bone and severe injuries to his back. The chauffeur got off with slight wounds. Although Duray was still first, Cagno was now second, being only five minutes behind, and Demogeot (Darracq) third. Duray skidded in the sixth lap near the bridge at Lonato, and is said to have deranged his steering-gear. His luck was out, however, for although he struggled on his car burst into flames on the next round, forcing him to retire. Fabry also gave up owing to engine troubles. Cagno had now run into the first position, which he held to the end, the race being a battle royal between him and Demogeot. The former, however, held his own well, and finished the winner by just over three minutes.



Mr. J. Toulmin at the wheel of the Straker-Squire C.S.B. Car.

Mr. Toulmin has recently accepted the position of manager of Messrs. Straker-Squire, Ltd. Curiously enough Mr. Toulmin bought his car a few days previously to his being offered and accepting the position of manager of the car department.

The appended table shows the order and times of the six cars which completed the contest:—

RESULT OF COPPA DELLA VELOCITA RACE.

Order.	Driver.	Car.	Time.		
			H.	M.	S.
1.	Cagno ...	Itala ...	4	37	36
2.	Demogeot ...	Darracq ...	4	40	43
3.	Rougier ...	Lorraine-Dietrich ...	4	45	31
4.	Gabriel ...	Lorraine-Dietrich ...	4	50	35
5.	Alezy ...	Bayard-Clement ...	4	53	58
6.	Garcet ...	Bayard-Clement ...	4	59	22

Cagno, whose average speed works out at 65.7 miles per hour, practically the same as that of Minoia on the Isotta-Fraschini on the previous day, thus secures the first prize, which consists of the Coppa della Velocita, valued at £1,000.

As has already been mentioned, the race was run on a fuel limit basis, 145.8 litres being served out to each competitor. Rougier only used 114.75 litres, Garcet 118.7 litres, while Cagno consumed 137.86 litres, and Demogeot 139.47 litres. The gold medal offered by the French Automobile Club for the lowest petrol consumption thus falls to the Lorraine-Dietrich Company. While victory remained with Italy, the record for reliability again went to our neighbours across the Channel, who had five cars finish out of seven entered, while of the seven Italian vehicles only one—the winner—finished.

CONTINENTAL NOTES.

A Strike of Parisian Motor-Cab Drivers.

The number of motor-cabs in Paris has been increasing by leaps and bounds during the past few months, and there are stated to be now over a thousand plying for hire, against only 300 a year ago. Whether this increased number has reduced the daily takings of the drivers is not known, but the discontent which has been prevailing resulted in a strike on Friday last week, when 450 cabs belonging to the Compagnie Francaise des Automobiles de Place did not leave the garage, the chauffeurs refusing to take them out unless the company restored the old rate of 15 per cent. on the takings, which had been reduced to 12 per cent. The strikers claim that their demands are justified by the rise in the price of petrol, which falls on them, as they have to provide their own fuel. This increased price, they say, means a daily loss of 2s. to them. Another grievance is the rule enforced by the company whereby a driver who runs over a pedestrian has to pay a fine of 60 fr. if it is his first accident, and double that amount if the misfortune befall him a second time, while a third offence results in dismissal. The directors of the company decline to do away with these fines, which they

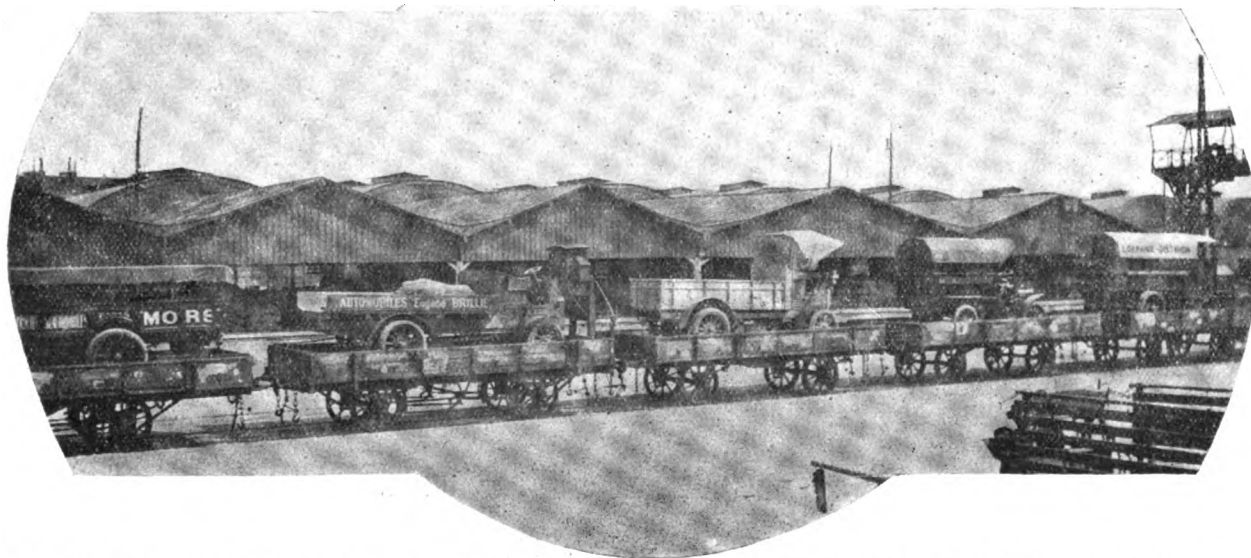
conditions as this year's race, it is reported that manufacturers are to be encouraged to use alcohol as fuel in place of petrol.

A Private Road for Motor-car Racing.

The latest proposal of the Marquis de Dion, which has been taken up by the Competitions Committee of the A.C.F., is that a private circuit, at least twenty-five miles round, should be secured, on which to hold trials of cars. The projected course will not take the form of a special racing track, but will be an ordinary road, preferably in a hilly district.

Belgian Motor-car Imports and Exports.

To the end of July last the imports of foreign motor-cars and parts into Belgium this year had attained a value of £113,584, as contrasted with only £97,484 in the first seven months of 1906. During the same period the exports of motor-cars and parts from Belgium increased from £235,464 to £260,188.



Some of the Motor Vehicles being despatched by train from Paris for use in connection with the French Military Manœuvres in the Bordeaux district.

consider a wholesome safeguard, while they attribute the drivers' diminished receipts to the general slackness of this time of the year.

The Pekin-Paris Run.

The remaining three vehicles—the Spyker and two De Dions—which took part in the Pekin-Paris run safely arrived in the French capital on Friday of last week. The travellers were met by a large party of motorists at Enghien, from whence the journey was continued in a sort of triumphal procession, the route being thickly lined by interested spectators. The party met with a further ovation at the offices of the “Matin,” while in the evening a banquet was held at the A.C.F.

Motor Vehicle Trials in France in 1908.

At the meeting of the Competitions Committee of the French Automobile Club last week, it was decided to recommend that a reliability trial of industrial vehicles should be held by the A.C.F. at the end of April next, and that the contest known as the Coupe de la Presse should again take place. While the last-named event will probably be run under the same con-

Miscellaneous Items.

An Automobile Club has just been formed at Trieste, Austria.—A new dust-laying preparation, known as Apokonin, and introduced by the C. F. Weber Gesellschaft, of Plagwitz, near Leipzig, is being experimentally tried in various parts of Germany.—The Fiat Company have lately taken out a patent in respect of a petrol motor, the direction of running of which can be reversed at will.—The Automobile Club du Rhone, of Lyons, is organising a hill-climbing competition for the 22nd inst. It is to be held on a five-mile course, from the village of Valla to the Croix de Chaubouret.—A series of one and five-kilometre speed trials is to be held on the Salon-Arles road on Sunday next, by the Automobile Club du Provence.—Reports from various centres show that the number of motorists, especially Americans, who have this year been touring on the Continent is unprecedented.—A motor-cab service is being started in Prague, Bohemia. The vehicles are of the Laurin-Klement 12-14-h.p. two-cylinder type.—A 24-h.p. Lorraine Dietrich has just successfully climbed Mount Prarion (Switzerland). The mountain, which is 1,860 metres high and is opposite Mont Blanc, has hitherto been considered impossible for automobiles.

Under Cader Idris and Snowdon to Chester.

BY JOHN LL. WARDEN PAGE.

(Continued from page 575.)

THERE is plenty to see in Carnarvon, which is quite a large town for North Wales. There are the well-preserved ruins of a castle, the finest south of the Border, and, for all I know, north of it, there are bits of the Roman walls of an older Carnarvon that called itself Segontium, and a good deal of the later ones built by Edward the First, who commenced the castle. A pleasant after-dinner stroll may be enjoyed by the Menai Straits or in the semi-wild public gardens. Last, but not least, there are good hotels.

You will be told in Carnarvon that the Eagle Tower (the one with the three turrets) was the birthplace of the first Prince of Wales. Don't believe it. He was born in the town and actually built the tower. The Castle has had a chequered history. That famous Welsh rebel Owen Glendwr attacked it, as he did most other castles in these parts, but failed. In the Wars of the Roses it was in the hands of both Yorkist and Lancastrian. The Roundhead took it from the Royalist and the Royalist from the Roundhead. Ultimately the latter prevailed, and an order went forth for its demolition. Luckily the order was not carried out and the magnificent ruin still towers over the little harbour.

From Carnarvon we turn eastward and follow the Menai Straits past Port Dinorwic, near which the Romans are said to have crossed into Anglesey, where they pretty well exterminated the Druids who lined the opposite shore. Beyond Port Dinorwic the road passes away from the straits, and Vaynol Park shuts out Stephenson's great tubular bridge that carries the railway. The road goes on to Bangor, but we may get back to the straits, and at their prettiest spot, by turning to the left and dipping down to the Holyhead road at Menai Bridge.

This Menai Bridge, over which the famous old Holyhead road is carried into Anglesey, is, as all the world knows, a suspension, and spans the rushing tide at a height of a hundred feet. An old writer tells one or two amusing stories about its construction. After the first chain had been carried across it appears that three workmen had the temerity to traverse the same, which, as the curve was one of nearly 600 ft., was sufficiently foolish. However, even this did not satisfy one of the trio, who, seating himself upon the chain, made and finished a pair of shoes. Over this very risky job he took two hours, and sold his work for a sovereign, "being led to suppose," finishes our author, "that the shoes were purchased for public exhibition in the British Museum!"

The scenery about the bridge is beautiful. On the one hand the wooded hillsides of Carnarvonshire drop steep to the water's edge; on the other rise the more gentle slopes of Anglesey, with the long village of Menai Bridge trailing away along the Beaumaris road. The narrow channel is gay with yachts and pleasure craft and a tramp steamer struggles slowly against the tide westward. Beyond her we see the stern lines of the tubular bridge, which to a great extent has nowadays deprived the suspension bridge of its occupation. For, before the railway

came, all travellers for Ireland *via* Holyhead had to cross by the latter.

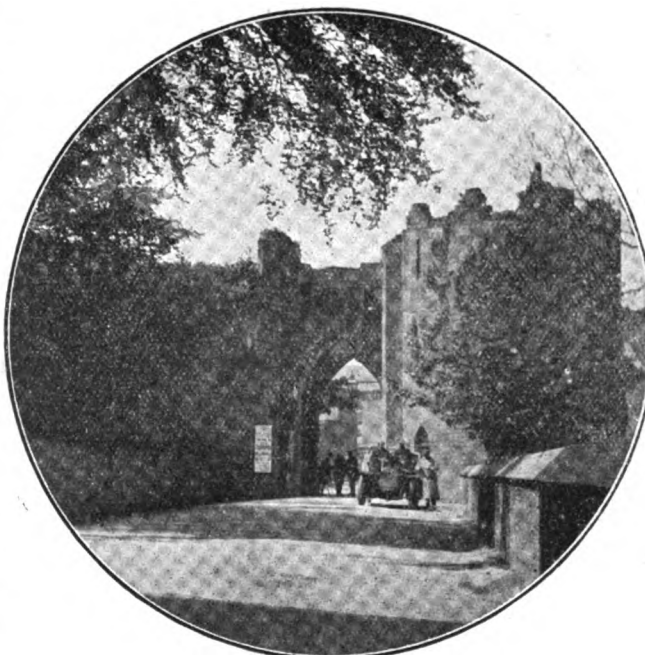
Bangor lies in a deep valley at the back of the hill, and sees little enough of the straits except from its suburb of Port Penrhyn, where the slates are shipped that come down from the great quarries of Bethesda. There is nothing much to see there—Bangor I mean—except the cathedral, and this is little more than a large parish church. Wherefore, away once more, steering carefully down the narrow, winding street, for there is a good deal of traffic, and out again into the fine open country past the modern Norman castle of Lord Penrhyn and his pretty model village of Llandegai. Here the good Holyhead road swings sharp to the right for Shrewsbury and London town. We have had but a few miles of it, worse luck! for it is one of the best

highroads in the kingdom. But beware of it on a Bank Holiday. I once emerged upon it on a Whit Monday evening, coming from Festiniog way. I had quite lost sight of this popular festival: Bank Holidays do not greatly disturb the mountain recesses of Cambria, but I soon had cause to remember. Car after car rushed by, and as there had been no rain for about two months, for many miles I breathed dust by the bushel.

That Whit Monday, by the way, was a bad day for motorists. I dined that evening with three men who were held up for putting on speed to escape the very storm that had delivered me from the dust nuisance. As I surveyed the world from the hotel steps another motorist was being handed over to the police by an irate driver whose signal to stop he had disregarded, while earlier in the day a car drove into the Workhouse milk van with the result that in about two minutes

the streets of the little town were flowing with milk—though whether the speech of the man in charge flowed with honey is another matter.

From Llandegai onwards our course lies over the Chester road, and a good road it is. As far as Conway, fifteen miles from Bangor, it runs gloriously between the mountains and the sea. On it or near it there is a good deal to interest anyone but a record breaker. Near Aber village, for instance, are Aber Falls, though the upper part of the glen is not to be negotiated by motor-car. Still the fine sheets of falling water are worth a little walking. Just beyond is Llanfairfechan, a seaside resort with a lovely country at the back, and good quarters at the Castle Hotel. Then comes Penmaenmawr, another watering-place, which is reached by a sudden and sharp rise over the great sea slope of the mountain from which it takes its name. We look right down upon the waves, two hundred feet below, and have a splendid view of the bay stretching from the Great Orme's Head to Anglesey. At Penmaenmawr the Fairy Glen and Sychnant Pass are both worth a visit, and both can be reached by car. The remaining four miles into Conway, at the very feet of the mountains and on the very edge of the sea, are delightful, but there are more cliff cuttings and one or two gradients are rather sharp.

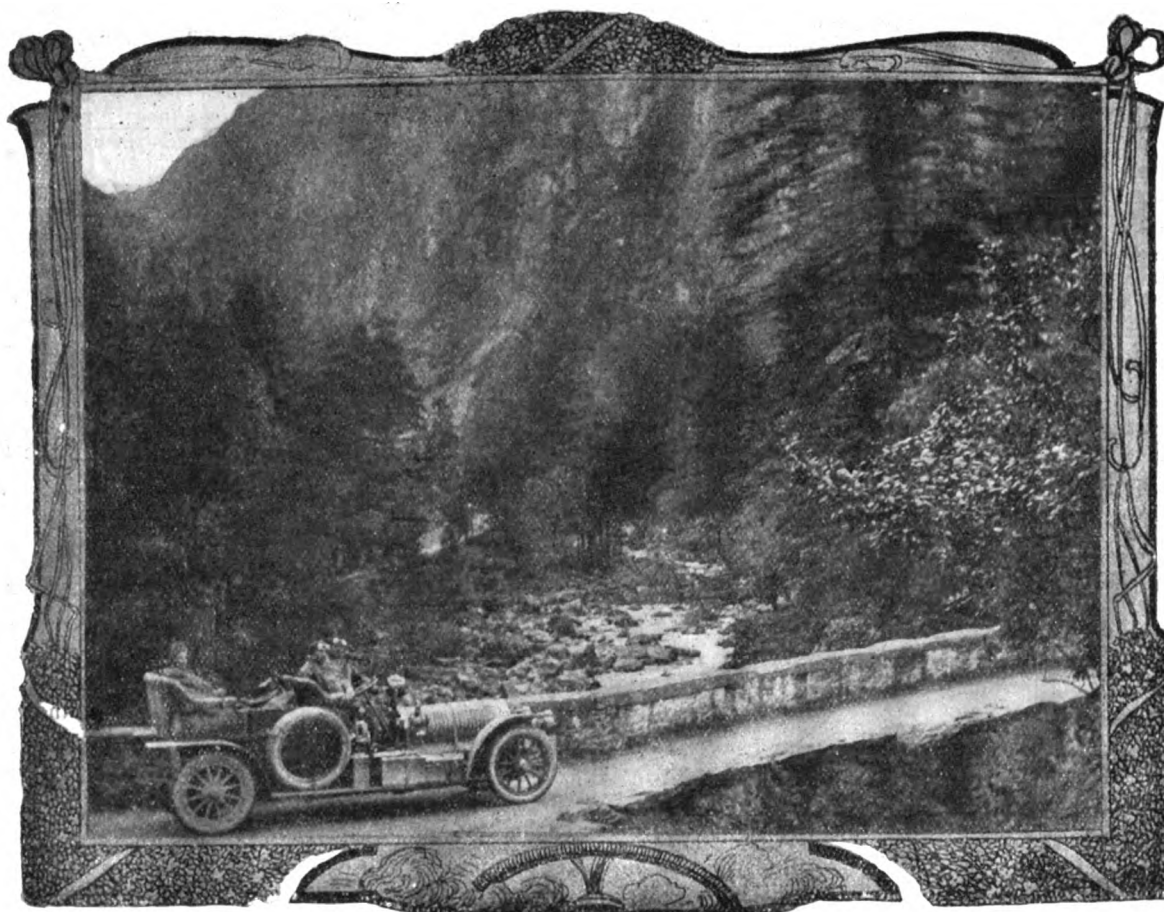


At the Gates of Conway Castle.

Who shall describe Conway? The old place sits upon a sunny eastern slope surrounded by its mediæval walls, while the tide flows to and fro beneath the towers of a castle that for beauty has no equal in Wales. Like Carnarvon, Conway Castle was built by Edward I.: unlike Carnarvon, Conway began by bringing the King bad luck. For while he was himself in it the Welsh lay siege to the place and, only just in time, did a fleet sail up the estuary to save him from starvation or surrender. In fact, the Royal family of that period seem to have had a bad time hereabouts. For at Deganwy Castle, across the river (of which only fragments remain) Edward's father, Henry, was also beleaguered and even in worse case than his son. "We faste for want of meate," writes one of the garrison, "for a halfpennie loaf is worth three pence: we starve for colde, wanting our winter garments, having no more thanne a thin linen cloath betwixte us and the winde." So quotes the "Gossip Guide," and a better gossip you cannot have.

MOTOR VEHICLES IN THE FRENCH MILITARY MANŒUVRES.

SOME important trials in the way of employing motor-wagons in the commissariat department of the 18th Army Corps are being made in connection with the French military manœuvres in the Bordeaux, Angoulême and Limoges districts, which commenced on the 4th inst., and will extend to the 14th inst. It was estimated that forty lorries capable of carrying a load of three tons would be required, and manufacturers of such vehicles were invited to submit suitable vehicles on certain terms, the principal item of which is an allowance of 86 centimes per horse-power per day, the War Department supplying the fuel, lubricating oil and grease. Two men were to be supplied with each wagon; they are being paid two and a half francs per day, and the time they



Motoring in Wales.—A Six-Cylinder Hotchkiss Car at the Bridge of Aberglaslyn.

We cross the river by the Suspension Bridge and hie us to Llandudno, which, being only a few minutes off the main road, of course no motorist will pass by on the other side. And Llandudno is, believe me, a very good place at which to put in a night. There are first-rate hotels and always something in the way of entertainment. The run round the Great Orme, too, is one of the finest marine drives in the Kingdom. It is private property, but the toll is not excessive.

(To be concluded.)

MESSRS. S. F. EDGE, LTD., have just issued a neat illustrated catalogue of the motor-car accessories they recommend for use in connection with Napier vehicles. The list includes lamps and headlights, electric motor horns, lubricating oil, the Jones speedometer, spare tyre cases, tyre inflators, jacks, Castle induction coils, the Napier combined footstool and tool box, &c.

are on duty is being reckoned as part of their military service. In response to the invitation no less than thirty-two vehicles were placed at the disposal of the authorities, viz.:—Three De Dion-Bouton, one Auto-Commerciales, one Empress, one Mors, one Panhard, two Darracq-Serpollet, one Turgan, one Peugeot, three Cohendet, two Brillié, two Lorraine-Diétrich, one Aries, one U.D.P.X., six Berliet, one Delaugere-Clayette, one Pantz, and four Purrey. Eight other vehicles belonging to the War authorities—two each Darracq Serpollet and Gillet-Forest, and one each De Dion, Mors, Delahaye and Turgan—are also being employed—so that no less than forty motor lorries are being used in connection with transport work in the manœuvres. In order to obviate the long journey by road from Paris to Bordeaux, the vehicles, noteworthy among which are two six-wheel wagons—a Brillié, and a De Dietrich, were by order of the War Office conveyed to the scene of operations by a special train from Ivry on Sunday last.

THE MORS 15-20-H.P. LIVE AXLE CAR.

ONE of the Mors Company's productions of the current year, which has attracted considerable attention, is the new 15-20-h.p. model, owing to it being the first live axle vehicle this old-established concern has turned out. We are this week able to present some illustrations of the new machine,

by high-tension magneto located on the same side of the motor as the valves; it is gear driven and arranged so that it can, by unscrewing a single nut, be readily removed. The sparking plugs are located directly over the inlet valves. The water circulation is maintained by a novel design of pump driven by a

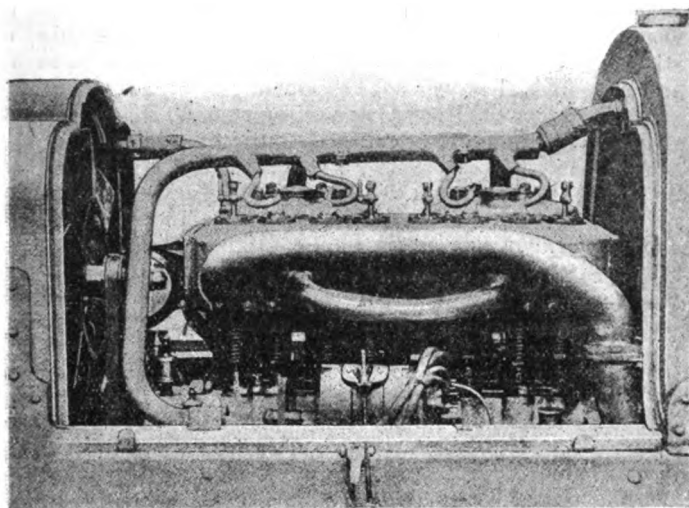


Fig. 1.—View of Valve Side of Mors 15-20-h.p. Engine.

an examination of which will reveal that great care has been taken in its design.

The frame is of pressed steel, and is curved upwards at the rear so as to allow of free movement of the back axle. It is narrowed in two places—at the front seat, and again just forward of the dashboard so as to permit of a large lock—rendering the car suitable for town use. A feature of the engine (Fig. 1) is that all four cylinders are in one casting; the bore is 90 mm. and the stroke 100 mm.; 15-h.p. is developed at a speed of 1,000 revs. per minute. The valves, which are interchangeable, are all mechanically operated off a single cam shaft. Two large inspection plates are fitted to the under side of the crank case, so that the working parts of the motor can be easily examined and, if necessary, adjusted, without dismantling being necessary. A special feature of the car is the carburettor, which is provided with two separate jets and mixing chambers. The small jet is

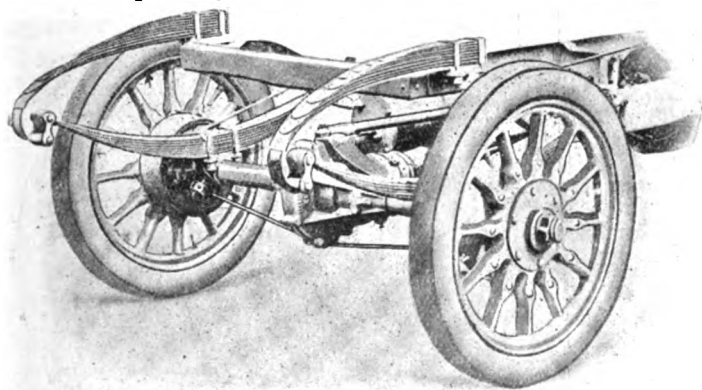


Fig. 2.—View of rear portion of chassis of Mors 15-20-h.p. car, showing the three-quarter Elliptic Springs, the strong back axle casing, and the system of bolting the springs to the axle.

only used when starting up the engine or when the latter is running light—that is, with the throttle nearly closed. On opening the throttle for more power the small jet is cut off and the larger one brought into operation, the reverse operation taking place when the speed of the engine is cut down. The ignition is

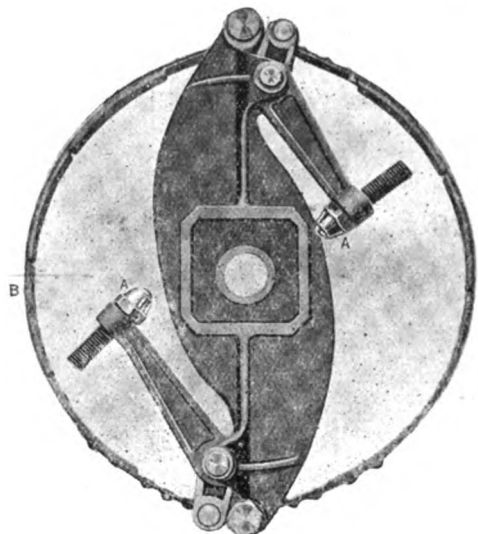


Fig. 3.—The Contracting Band of the Mors metal-to-metal Clutch.

cross-shaft set in front of the crank case, a coupling being provided to admit of easy detachment. The radiator, behind which an air-inducing fan is provided, is of the ribbed tube type; a supplementary water tank is placed inside the bonnet on the dashboard. The throttle is controlled by both hand and foot levers, while, in addition, the clutch is so connected up with it

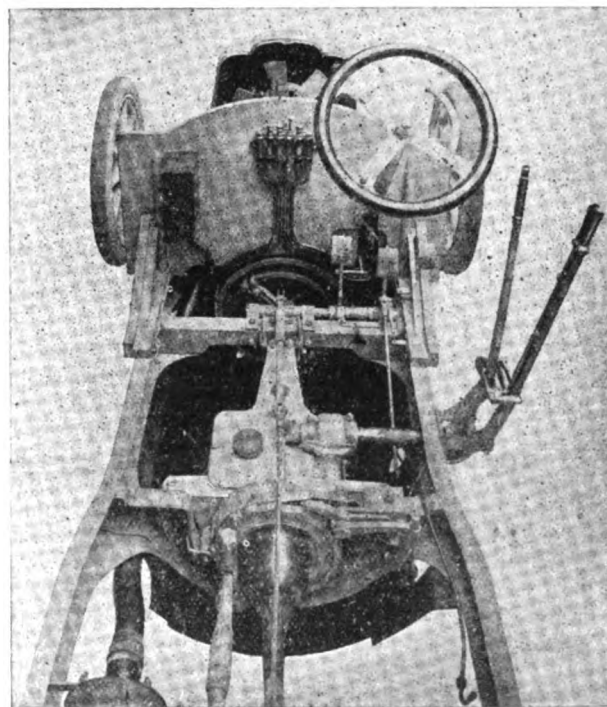


Fig. 4.—Bird's-eye view of chassis of Mors 15-20-h.p. car from rear.

that as the latter is disengaged the motor is automatically slowed down. With a view of allowing the burnt gases to steadily expand, the exhaust pipe increases in diameter as it approaches the silencer. The lubrication is effected by means of a pump driven off the cam shaft and located below a sump in the base

chamber. The pump draws the oil from the latter and delivers it to the sight feed lubricator on the dash, when it is distributed to the various bearings.

The clutch (Fig. 3), which is very simple in design, is of the metal-to-metal type. Under the action of a clutch spring, a steel cone is pushed forward between two ball-pointed bolts A, carried on levers, which tighten two steel bands, lined with cast iron segments, on to a steel drum bolted to the flywheel. No end

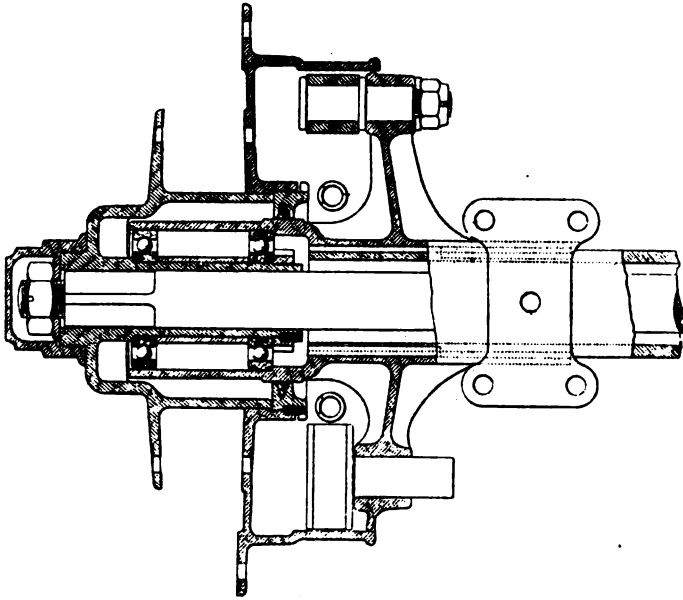
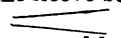


Fig. 5.—Sectional View in plan through one of the Rear Wheel Hubs of Mors 15-20-h.p. Car.

thrust is imposed on the crank-shaft, and provision for instant adjustment is provided. A short universally-jointed shaft connects the clutch with the gear-box. The latter, which is suspended at three points, is adapted to give three speeds forward and a reverse, controlled by a single lever working in a "gate." The pinions are extra wide, and the sliding members for the first, second, and reverse speeds are of the multi-feather type, and cut from the solid. The final transmission is by a cardan shaft and bevel gear to a rear live axle. The cardan shaft is provided with universal joints at both ends, that at the rear being also free to slide in the sleeve bearing of the short bevel driving shaft. A torque rod of  pattern is used, the double end being coupled to the top and bottom of the differential casing. The fore end is fixed to the transverse member, supporting the rear of the gear-box through a special thrust bracket. The live axle has only the driving effort to withstand, the weight of the car being carried by the axle casing.

As regards the brakes, a hand lever controls metal-to-metal expanding brakes working within drums connected to the hubs of the rear wheels, the clutch being automatically taken out when the hand brakes are applied. A pedal on the right-hand side of the steering pillar actuates a contracting brake on the forward end of the cardan shaft, where a ratchet sprag is also provided. Ball bearings are fitted to all parts of the transmission, as well as to the steering pivots. The front axle is of H-section steel, and the steering gear is of the worm-and-sector type arranged to give a large lock. The springs, which are very long, to give easy riding, are, at the front, of the semi-elliptic type, while, as will be seen from Fig. 2, three-quarter elliptics are fitted at the rear. The chassis is adapted to receive any type of open or closed side-entrance body.

At the London Guildhall on Monday a case was reported of an alleged lunatic chauffeur who was detained in an infirmary too ill to make an appearance.

A CONFERENCE of local authorities in New Zealand has passed a resolution calling upon the Government of the colony to revise the present regulations with regard to motor-cars.

SOME USEFUL NOTES.

THERE are always a great many things to be gone over in putting a car into commission for another season's use after it has been laid up for some time. If it is possible to give all of them the proper attention, so much the better, but there are some that should never be overlooked on such an occasion, and among these an overhauling of the lubricating system easily heads the list. This is more particularly the case where it is characterised by the use of a number of small bore tubes constituting the separate feeds. It is almost impossible to so place the latter that they will not have some part of their length horizontal, and any tendency of the oil to gum in the tubes or any sediment deposited will be concentrated at such points. Even though the tube be otherwise free, the film of oil that coats its interior surface when the feed stops may have hardened, thus reducing its bore considerably. The leads should be dismantled and, if possible, live steam blown through them. Where not available, plugging one end of the tube and filling it with petrol which is allowed to stand in it some time, will serve as an excellent cleanser. It should be supplemented in either case by pushing a piece of wire through the tubes to make certain that they are clear throughout their length. Similar attention should be paid to the interior of the lubricator and the sight feeds, while the crank-case should be drained and flushed with paraffin to clear out all traces of the old oil, the same process being applied to the cylinders, thus insuring a start at the beginning of the season with an absolutely clean lubricating system throughout.

WIRE cables operating the brakes and the driving belts of the radiator fan and lubricator on a new car stretch rapidly at first, and may require an adjustment after a short period of use. When this has been done a long period of service may elapse before another tightening is required.

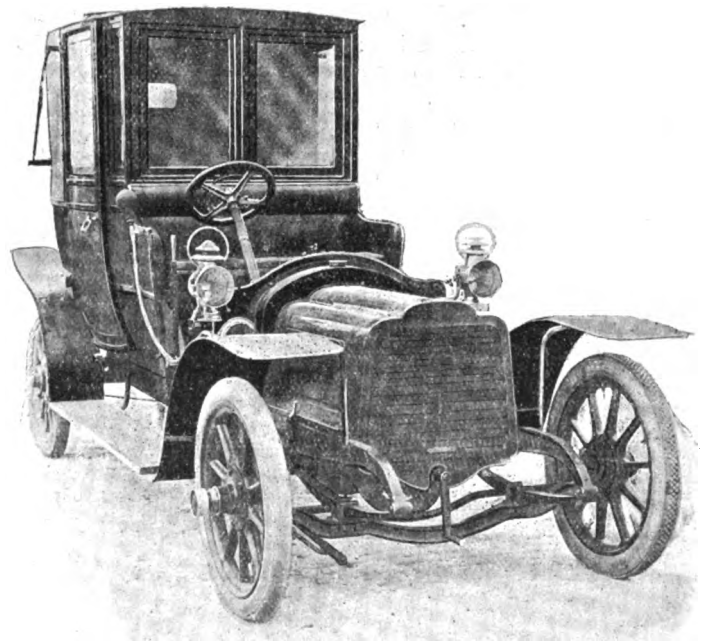


Fig. 6.—A Mors 15-20-h.p. car with landaulet body.

THE motoring beginner will do well to start his driving by selecting for his place of practice an unfrequented and wide road, so that he has plenty of room, should he make a mistake, to correct any error without damage. With plenty of space in which to navigate, one can readily learn the exact effect of applying the levers and pedals and of manipulating the steering wheel.

THE George and Railway Mews, Ltd., of Winchester, have motor-cars for hire, and at the George Hotel garage, stock petrol, tyres, &c.

At the Manchester County Police Court the chairman of the Bench told a motorist on Monday that he and his fellow-magistrates had always held that twelve miles an hour was fast enough for motor-cars in Manchester and the suburbs.

MOTORISTS calling at the offices of the M.C.J. in Charing Cross Road, W.C., with their cars are informed that one side of the road is "up" for the wood-paving relaying.

ALTHOUGH the Motor Car Act has been in operation since 1903, it was not until last week that the first charge against a motorist for furious driving in Spalding was heard at the local Petty Sessions.

MOTORISTS passing through Lichfield will find Messrs. Jones' garage a first-class up-to-date establishment, where experienced men are kept on the premises night and day. Accessories of every description are carried in stock.

MESSRS. EYRE, of St. Leonards-on-Sea, have lately supplied a set of their Eyre anti-skids to Mr. J. H. Exshaw, of Arcachon, France, for his 40-h.p. Berliet. The firm are shortly placing on the market an improved type of loop made from tarred wire-bound hemp cable.

HERE AND THERE.

At Durban, South Africa, Mr. M. Webster, who has been in the Scottish motor trade, has opened a motor garage. It is located in Field Street.

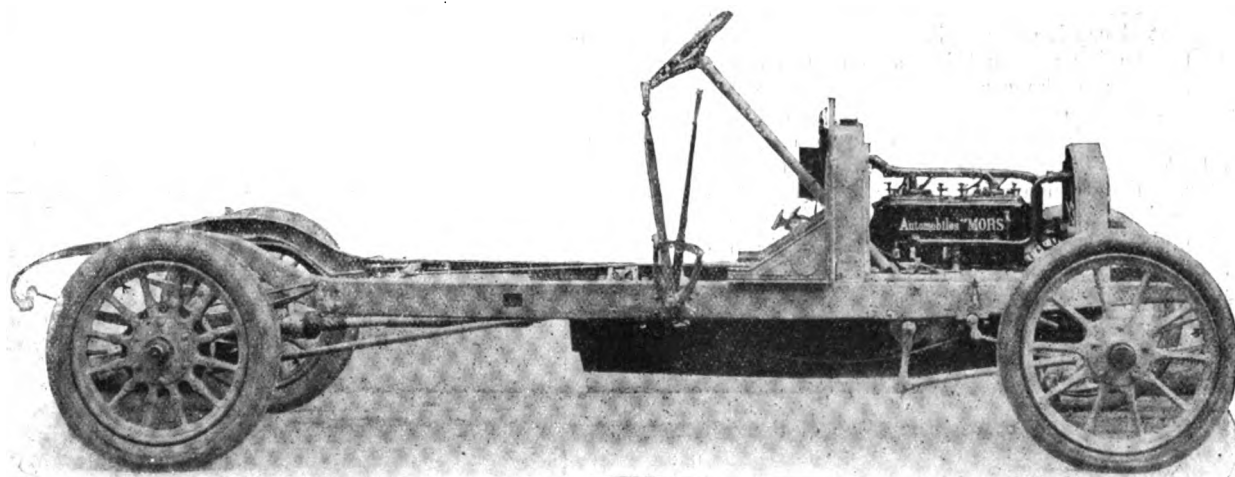
THE Rajah of Mudhol has ordered, through the Bombay Motor Company, a 35-h.p. Daimler car with a wheel base of 10½ ft.; it is to be fitted with a seven-seated phaeton body.

SIR MAURICE LEVY, Mr. T. R. Ferens, Mr. J. E. Sears, Mr. Vincent Kennedy, and Sir H. Kimber are among the legislators making motor-car tours during the Parliamentary recess.

MOTOR UNION signs notifying concealed turnings are being erected at Shirburn, Blankney, and Battle, and others indicating the need for special caution at Great Alfriston, Uxbridge, Highhurstwood, Welwyn, Great Missenden, and Holywood, co. Down.

Two garages in turnings from the Byars Road, Glasgow, add to the facilities possessed by the Scottish city for the convenience of motorists. One belonging to the Kelvinside Motor Company, Ltd., is in the Ashton Lane, the other is in Vinicombe Street, in the possession of the Botanic Gardens Motor Garage.

MR. ERIC BARTON, late of Messrs. Sir W. G. Armstrong, Whitworth and Co., is opening a motor works and garage in Shepperton. The premises are opposite the station, and close to the main London road. All kinds of vulcanising work will be undertaken and a large stock of motor accessories kept on hand.



Elevation of chassis of Mors 15-20-h.p. live axle car. (See page 595).

SEVERAL Irish motorists have registered their cars in English counties—in order, it is said, to possibly avoid the payment of the £2 2s. carriage duty, which might be required if an Irish number revealed the country of registration. Such a tax is not imposed in the Emerald Isle.

THE Sirdar Rubber Company are organising a competition for users of their tyres, commencing as from the 21st ult., and terminating January 31st, 1908. Six prizes are offered, including ten free outer covers and twelve free inner tubes, for the best records compiled by users of these increasingly popular tyres.

MESSRS. C. ALLEN AND SONS, of Taunton, send a card of motor routes from their town, which will be of value to motorists spending a few days within easy distance of that pleasant place. The firm gives free garage to members of automobile clubs, and have a breakdown gang with a car always ready for emergencies.

IN response to the numerous enquiries for the "Continental" Handbook for Automobilists, 1906, we are asked to announce that the entire edition of this popular Guide Book has been completely exhausted. The Continental Tyre Company, however, with their customary enterprise, are preparing a fresh edition for the coming year, which will embrace an even wider field of useful and necessary information for the tourist than the last book contained.

REFERRING to the paragraph in our last issue re machine tools in the United States, Messrs. Webster and Bennett, Ltd., Coventry, inform us that the machine mentioned for milling motor cam shafts is one supplied to the company in question by them. Messrs. Webster and Bennett have also recently shipped another of these machines and one of their automobile cam-shaft grinding machines to the Lozier Motor Company, Plattsburg, New York. In addition, they have supplied numbers of both types to the leading French, German, and Italian motor-car builders.

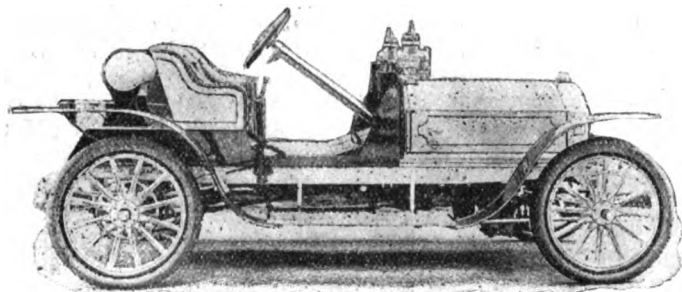
No doubt as a result of the opening of the Brooklands Track in this country, a large number of men have recently been engaged in rendering the Morris Park racecourse, near New York, suitable for motor track racing. The track is being cut down to a total of a mile and a quarter and is being banked, so that fast times may be expected. The surface is also being treated with a dust-laying preparation. The new track has been established by a concern known as the Morris Park Motordrome Club, of which Mr. J. G. Robbin, head of the Riverside Bank, is the president, while Mr. Walter Allen, of the De Dietrich Import Company, is the secretary. The racing details will be in charge of a committee composed of well-known automobilists, having as its chairman Mr. Alfred Reeves, manager of the American Motor-car Manufacturers' Association. The first meeting has been fixed for Friday, the 6th inst., when a 24-hour race is to be held.

THE City Garage in Worcester Street, Gloucester, is open by night as well as day.

A new depot is to be established in Northgate, Chester, by the Chester Motor Garage Company.

A new showroom and garage for the sale of all makes of motor-cars has been opened at 19-21, York Street, Belfast, under the title of William Lea (Belfast), Ltd.

THE other day we had an opportunity of inspecting a somewhat novel design of two-seated vehicle which has lately been completed by Messrs. R. Reynold Jackson and Co. The chassis has a wheel base of 8 ft. 6 in., and, being low built, with a long engine bonnet, sharply-raked steering, the two seats located well to the rear, and a circular petrol tank at the back,



the vehicle has all the appearance of a racer. The long bonnet is to some extent deceptive, for it is employed not merely to give access to the engine as usual, but also to the clutch and gear-box. The power, in the car we inspected, is furnished by one of the latest 8-h.p. De Dion single-cylinder engines with mechanically-actuated inlet valve, but the chassis is, however, so designed that it can readily be fitted with a two or four-cylinder motor. The transmission is through a leather cone clutch, three speed and reverse gear-box, cardan shaft and bevel gear to a strongly-designed live axle. Painted in a silver-grey colour, the little car has quite a racy look, and, notwithstanding its relatively low power, should be capable of attaining a very satisfactory turn of speed. We understand that Messrs. Jackson have already secured orders for several of the new vehicles from New Zealand.

THE New Engine (Motor) Co., Ltd., of Acton, W., recently delivered to Sir Thomas Brooke-Hitching one of their N.E.C. 30-h.p. cars, fitted with Alexandra body. He has been using this for touring purposes in various parts of the country, and is so satisfied with the vehicle that he has now ordered an N.E.C. 40-h.p. limousine.

AN inquest has been held at Carnforth on Samuel Everard, chauffeur to Mr. Charles Garnett, of Silverdale, who died from internal injuries caused by a collision with a landau. A verdict of accidental death was returned, the jury adding a rider requesting the owner of the land where the accident occurred to remove the hedges obstructing the road.

UNDER the Motor Car Act, 1903, the County Council of Hertford have made application to the Local Government Board for a regulation to be made to limit the speed of motor-cars to ten miles an hour on several roads and parts of roads within the urban district of Watford. Objections to the making of any such regulation may be sent in writing to the L.G.B. at their office at Whitehall, London, on or before September 12th.

It has been known for some time past that Messrs. S. Smith and Sons, Ltd., were at work on the production of a reliable taximeter of British construction for use on motor and other cabs. The instrument, which has been named the "Perfect," is now ready for the market, and we understand that already several large contracts have been secured. The device, which weighs only about 20 lbs., works on the horo-metric system, i.e., actuated by time or distance; the dial is provided with two indicators, one showing the fare to be paid in shillings and pence, and the other the extras. The operating mechanism is of simple construction, so reducing the chance of failure to a minimum, while the workmanship is of the same high grade quality as has rendered the firm's motor clocks and speed indicators so popular.

SUGGESTED new names for some English villages are Prattley Parva and Shelton-on-the-Vacuum.

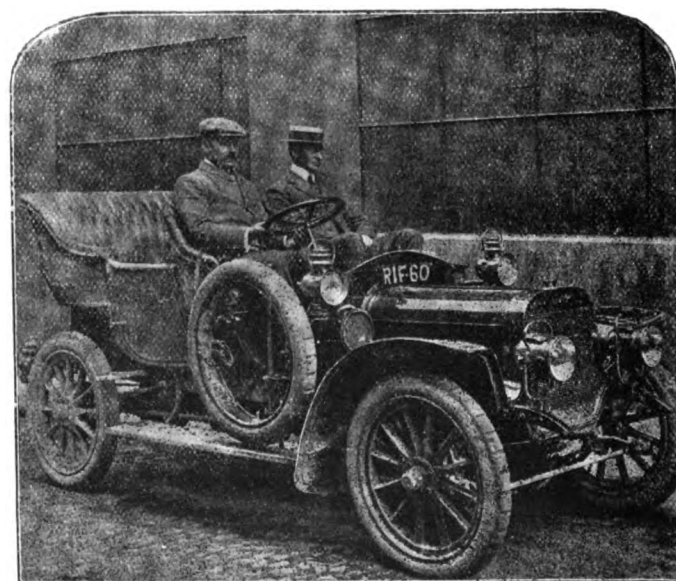
AN examination of military candidates will shortly be held at the Ordnance College, Woolwich, by the R.A.C.

IT is easier for a camel to go through the eye of a needle than for a motorist to enter Brighton without being trapped.

LADY STANLEY of Alderley has placed an order with Messrs. S. F. Edge, Ltd., for a Napier 40-h.p. six-cylinder limousine.

THE Prince of Wales' little motor-car breakdown at Bolton Abbey recently reminds us that both his Royal Highness and the Princess are now enthusiastic motorists, whose only regret is that they did not take to the sport until 1902, when motoring had long been an established fashion. In the following year he had a powerful petrol automobile built to his special requirements, and from the moment of its acquisition he became a motor enthusiast. The Prince became Vice-president of the Automobile Club in 1904, and he had with him in India a complete stud of motor-cars, while the Princess took her Daimler, thus setting an example to Anglo and other Indians to patronise home products. The Prince, unlike the King, has his cars numbered. He had his 22-h.p. Daimler, with which he has carried out many tours in England, registered with the London County Council, believing that it would be less conspicuous with a number plate than if he claimed the exemption to which he is entitled.

MR. W. R. McTAGGART, of Argylls Ireland, Ltd., has just established a new motor record on an end-to-end Ireland run. He started on his 14-16-h.p. Argyll car at Mizen Head and finished at Ballycastle, doing the journey of 388 miles in 15 h. 21 min. The engine was never stopped during the whole journey. Mr. L. B. Oswald Sealy acted as observer and time-



Mr. W. R. McTaggart at the wheel of the Argyll Car on which he last week made a new End to End of Ireland Record.

keeper. The previous record made recently was 19 h. 2 min., so that Mr. McTaggart's run is a distinct improvement on earlier efforts. The roads throughout the entire journey were exceedingly rough and bad, with many culverts to negotiate. The car, as well as making this record, completed a 1,000 miles non-stop run, and the accompanying photograph was taken when the 1,000 miles were finished.

PRICE'S Patent Candle Company, Ltd., supply Motorine B, which is almost the thickest oil sold for water-cooled petrol motor-engines. This was used throughout one of the recent 15,000 miles trials. Although the lubrication was most adequate, special attention is drawn to the fact that the carbonaceous deposit was practically nil, a proof of the excellent lubricating property combined with freedom from deposit.

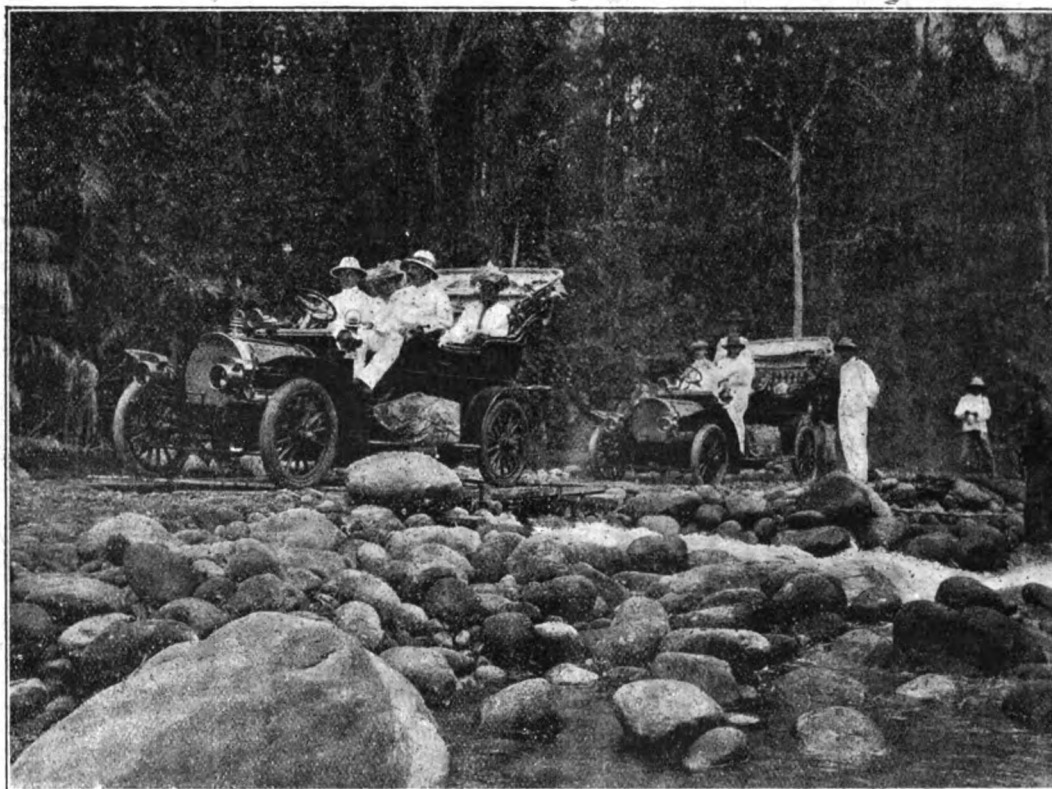
A MOTORIST'S CAUSERIE.

To obviate accidents from backfiring when starting a petrol engine a French writer recommends that the starting handle should be taken hold of in a special way. He places the thumb against the index finger and takes the handle between the four fingers and the palm of the hand. Should a back kick occur the hand opens readily and no injuries are received by the motorist.

In the course of a conversation with the manager of a large motor-car factory in the Midlands recently, he expressed the opinion that the majority of motor-car accidents take place at cross roads, and that if motorists generally would only exercise more care in driving there would be considerably fewer disasters to record. Only last week what might have proved a fatal accident occurred at the meeting of the four roads at the foot of the bridge at Arundel, Sussex, where two cars dashed into each other. Fortunately no one was seriously injured, although one

is supplying benzol suitable for use on motor-cars is the South Metropolitan Gas Company, of East Greenwich. If any motorists in the metropolitan district have given this a trial, perhaps they will follow Mr. Pearce's example and make known the results of their experiments.

Now that the days are perceptibly shortening the condition of the lamps, if one does much driving at night, becomes a matter of paramount importance. Apart from the tail light, which is frequently a source of worry from the fear of it jolting out, and a consequent endorsement on one's licence, paraffin lamps usually give one little trouble, and require attention only in the way of replenishment with oil and an occasional cleaning of the burner or renewal of the wick. On the other hand, acetylene lamps are frequently a source of worry as well as of illumination. It is often found that some solid particles will pass with the gas to the burner, resulting in clogging it. To obviate this, a small piece of sponge placed at the outlet of the reservoir where the gas emerges will be found useful; this soaks



Motoring in Sumatra.—Crossing the Betimees River.

[De Auto.

lady was thrown out and much shaken. In view of the large number of cars now in use, and the fact that they are met in the most unexpected places, motorists should beware of driving rapidly at cross roads, but should slow down, and have their vehicles well in hand, so as to be ready for a quick pull-up in case of emergency. There is one district I have particularly in mind where cross roads are numerous, and where extreme caution is necessary. It is that which lies between Twickenham and Staines; and, although so far no serious accident has been reported, there have been many close shaves.

THE letter from Mr. G. H. Pearce in the *M.C.J.* of the 24th ult., with regard to the use of benzol in place of petrol, was very interesting to me, as no doubt it must have been to other motorists who find their fuel bill increased almost double to what it was a few years ago. Perhaps Mr. Pearce would kindly say in what quantities he obtains his new spirit, whether it is being stored by any motor-car agents, and also, if he has it direct from the makers, what the railway charges are. Another concern which

up the moisture and likewise acts as a purifier, with most beneficial results, as only dry gas can then pass to the burner. The latter should be carefully cleared with a pricker kept for the purpose, or a piece of the finest brass wire, and then be given a good scavenging by means of a tyre pump. If much night riding is indulged in, acetylene head-lights become a necessity, and to get good results from them they must be kept clean and regularly attended to after each time of use.

THE old saying that troubles never come singly applies, I find, as a result of recent experiences, equally as well to motoring as to other things. After a series of delays due to tyre punctures and bursts the tail lamp of my car has recommenced its old tendency to go out on the slightest provocation. So troublesome has it been that I feel inclined to "scrap" my present lamp and invest in a new one, but before doing so should like to have the advice of those motorists who have experienced the same annoyance and found a successful solution of the difficulty.

ARCANUM.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

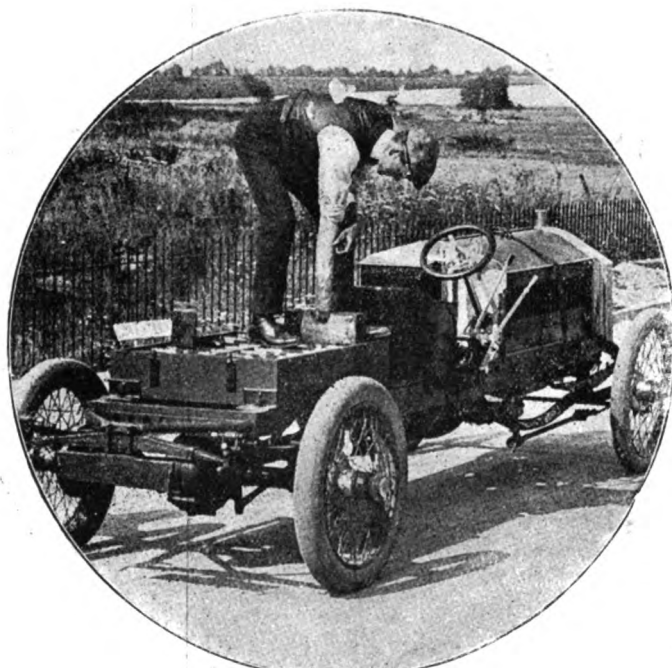
THE EFFECT OF WIND RESISTANCE AND WEIGHT ON SPEED.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In continuation of the recent wind resistance tests at Brooklands on a six-cylinder Napier, I had some further tests made on Wednesday last week, the car being gradually loaded to the extent of 1,036 lbs., but in this case the wind resistance was constant, the only variation being additional weight. The timing was undertaken by Messrs. F. Straight and H. H. Griffin, official timekeepers of the R.A.C. The car was designed so that the minimum of wind resistance was introduced into the tests, weights being added to the extent of 148 lbs. for each individual test.

Three tests were first made with the car stripped of all weights. The times for a flying quarter mile were as follows:—

1	...	11 1.5	seconds, equal to	80.35	miles per hour.
2	...	10 3.5	" " "	84.90	" " "
3	...	10 4.5	" " "	83.33	" " "



Loading the Napier Car for the Trial.

The full extra weight was then added, 1,036 lbs., and three more tests for a flying quarter mile were undertaken as follows:—

1	...	11	seconds, equal to	81.81	miles per hour.
2	...	10 4.5	" " "	83.33	" " "
3	...	11 1.5	" " "	80.35	" " "

The three tests with the car unladen gave an average speed of 82.865 miles per hour; the three tests with the car laden gave an average speed of 81.836 miles per hour; thus only showing a difference in speed of a little over one mile per hour, although carrying nearly half a ton more weight. The next tests over the same distance were to see the effect of weight in starting from rest, and here the addition of weight very clearly proves what a handicap it is for hill-climbing, stopping, or starting, in fact, anywhere where weight has to be set in motion or stopped.

No.	Weight of Car.	Time. Sec.	
1	...	3,084 lb.	20 4.5 sec. equal to 43.28 m.p.h.
2	...	3,232 lb.	21 4.5 sec. " " 41.28 "
3	...	3,380 lb.	23 1.5 sec. " " 38.79 "
4	...	3,528 lb.	24 sec. " " 37.5 "
5	...	3,676 lb.	24 1.5 sec. " " 37.19 "
6	...	3,824 lb.	25 2.5 sec. " " 35.43 "
7	...	3,972 lb.	26 2.5 sec. " " 34.09 "
8	...	4,120 lb.	26 2.5 sec. " " 34.09 "

The net results of the separate tests of wind resistance and effect of weight on motor-cars seems to me as follows:—For a fairly high rate of speed on the level wind resistance is the all-important factor, and the question of a few cwt. more or less makes practically no difference to

the speed of the car. For hill-climbing wind resistance is unimportant, but weight is of great importance, and every pound not only a very serious handicap to the speed of the car but represents an increased consumption of petrol.—Yours truly,

S. F. EDGE.

ANDOVER POLICE ACTIVITY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—All motorists are well advised to give the little town of Andover as wide a berth as possible, as was suggested in a letter in last week's *M.C.J.* The county police are on the war-path once more, and having high jinks, the county magistrates enjoying themselves almost to satiation. On Friday last there was quite a field day, and several unfortunates went as cheerfully as possible to their inevitable doom. The principal case was that against Mr. F. R. Davis, of Shawford, Winchester, who was charged by the police with having driven a car at a speed dangerous to the public. The defendant was driving to Andover from Shawford, and when within a few miles from Andover was unfortunate enough to come into collision with a light four-wheeled pony trap which was driven out rapidly from a right-angled bye road. The right fork of the right hand lamp bracket struck the rear wheel of the vehicle, which was overturned, the groom coming in for somewhat severe injuries. Mr. Davis and the occupants of the car did all they could for the man, and took him to the doctor at Stockbridge. Much of the evidence for the prosecution was very contradictory, and no notice taken of the fact that the car was only doing five miles an hour at the time of the accident. One valuable witness was a labourer who "worked hard for his living," and who said that at the time he was in front of his cottage smoking his pipe at 4.30 in the afternoon! The usual plea of not hearing the horn was, of course, trotted out, although sufficient evidence was forthcoming that the hooter was extensively used. Even the hardy son of the soil was so deeply engrossed in contemplation of the iniquitous new-fangled methods of locomotion as not to hear the warning note. Mr. St. Gerrans appeared for the defence, but his persuasive forensic eloquence produced no impression on the local Bumbles, and a fine of £10 and £3 10s. 6d. costs was inflicted. Notice of appeal was given, and I shall watch with interest the result.—Yours truly,

A HAMPSHIRE MOTORIST.

FINDING OWNERS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in your valued paper of August 31st that a correspondent, Dr. Samways, complains somewhat bitterly of a regulation of the County Council which does not allow of the whole army of prejudiced persons interfering with motorists by supplying names and addresses of owners. He must be aware that with the large percentage of the police actively engaged in trapping motorists instead of attending to their ordinary duties, there is little chance of a driver piloting a car in an irresponsible manner for very long. He does not say whether he was personally endangered or even inconvenienced by the circumstances to which he calls attention, but I have not the slightest doubt that he could have brought this "dangerous criminal" to justice, and surely, if it costs him a shilling, it would have been worth his while.

It would be a preposterous thing if anyone was able to go indiscriminately to the authorities and get the names and addresses without any questions being asked. If this were the case we should not only be harassed by any interfering pedestrians who fancied a motorist was driving to the possible danger of anything on the road, but I can imagine our letter-boxes crammed with circulars and advertisements from firms able to make use of the motor-car registry.—Yours truly,

TOURIST.

[On this question we would point out that the County Council has no right to supply anyone with entries from its register of motor-cars without payment. The regulation of the Local Government Board on this point is as follows:—The Council shall also supply to any other person applying for a copy of the entries relating to any specified motor-car, a copy of those entries on payment of a fee of one shilling, if he shows that he has a reasonable cause for requiring such a copy.]

INCOMPETENT REPAIRERS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Recently I had an experience of repair work which, for the welfare of the motoring community, should be shown up, and an attempt made to rectify in the near future. Having occasion to have a petrol tank brazed owing to a small leakage, I took it to a firm of so-called motor and cycle engineers, in a small town in the West Country. Upon my calling for the tank in two hours' time, I found no brazing done, but a large quantity of spelter left untidily, and three inches from

the place it required brazing. Asking what it meant, I was told it had been spilt. On examining it, I found a hole two inches wide had been burnt through the end of the tank, and that I was able to push a piece of wire through in three places. This untidy spelter was meant to cover the hole that had been burnt by them, thinking I should not detect it.

The result is that an entire new end has had to be fitted to the tank, causing a lot of unnecessary expense and delay. I find that no member of the firm has had any experience of motor or cycle engineering. Is it not time that some examination was made compulsory to prevent this class of repairers from setting perfect death traps to motorists upon the road?—Yours truly,

A VICTIM.

WHEELS FOR MOTOR-CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the last issue of your interesting journal a letter appears from the K.T. Syndicate. My reply is, where there is an air cushion on the edge of the wheel, there must be a tendency to roll, which is an important factor in sideslips, besides the ever-present danger of rupturing the inner tube. For many years manufacturers, backed with unlimited capital, have been trying to produce an unpuncturable tyre, but to-day it is as uncertain and more costly than it was fifteen years ago. What is wanted is a new sort of tyre, which will combine as many of the following advantages as possible:—Reasonable cost; non-skid—without being destructive to our roads; not so fragile as to necessitate carrying a lot of spares. When such a tyre is adopted, the motor industry will go forward by leaps and bounds, for without a doubt the tyre question is, as J. Bryant says, the greatest drawback to the general adoption of motor-cars. Even the fuel question is involved, because the more generally motors are used the sooner chemists and the Government will settle the alcohol question, which would go a long way towards remedying the agricultural depression and give us a never-failing supply of fuel instead of being at the mercy of a few monopolists. Solid tyres do not solve the question; we must accept the pneumatic as the standard of resiliency. Anything that will beat it as well as eliminate the troubles I have mentioned should command attention.—Yours truly,

O. COOK.

CRAWLEY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that the A.A. are doing such good work on either side of Crawley, scouring the roads and preventing motorists falling into the hands of the police, they (the police) are doing their utmost towards trapping them in Crawley High Street, through which they have two measured quarter of a mile traps and one of a furlong, and as the local people here are agitating for a speed limit through the town, motorists will do well to be on the alert, otherwise they may fall into their hands, as they hide in people's yards or doorways wherever they can secrete themselves.

Trusting this may be a little help towards preventing motorists getting caught both at Crawley and the Handcross to Crawley district, where the noteworthy Wagborne has been during the last few days.—Yours truly,

FAIR PLAY.

A ROVER CAR QUERY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you would advise me over the following difficulty. I have an 8-h.p. Rover; the big end fell to pieces when I was bringing it home and did a certain amount of damage. I have been very careful since, as I have not had it thoroughly overhauled by the makers, they being so far away. One day I noticed a squeak and could not locate it. The motor was running badly, when hot it at times lost compression. When out on one occasion, finding it had lost compression, I put in a new exhaust valve, as I had been over all other possible causes. On starting the engine up it kept on exploding through inlet pipe—it was on half compression—the valve was adjusted all right. The trouble suddenly stopped but came back in a day or so. I came to the conclusion that the cam was in some way opening at the same time as the exhaust. On taking out the cam I found it worn like a blister on extreme corner; the exhaust part, too, had not been wearing on the centre. Would this account for the trouble? The rod that carries the arm which actuates the varying compression seems in its place and free; the arm is just flush with the inner edge of the hole for the exhaust tappet in engine casing. Do you think a new cam will put it right, and was the damage caused by the smashing up of the big end; the rod was bent and the bolts twisted up?—Yours truly,

W. D. BLANCHARD.

[Such an accident to a motor as the smashing up of the big end, involving the bending of the connecting rod and the twisting of the bolts, is almost sure to cause other trouble, and we think our correspondent would have been wise to have packed the engine and sent it straight away to the makers, for the carriage by goods train would not be much, and the firm who made the motor are the best people to tackle

such a job. From what we can gather we think it is probable that something is strained in connection with the cam-shaft, perhaps even the cam-shaft itself has got bent, or the fork that controls the sliding of the taper cams. It is not quite clear what the querist means by "wearing like a blister," but in any case a new cam will be advisable if the contour is in any way worn, or raised at the corner or elsewhere. It will be best to have the engine overhauled carefully and the cam-gear examined to see whether any part is bent, as we believe must be the case. The original cause of the trouble was undoubtedly want of sufficient oil in the crank-chamber.]

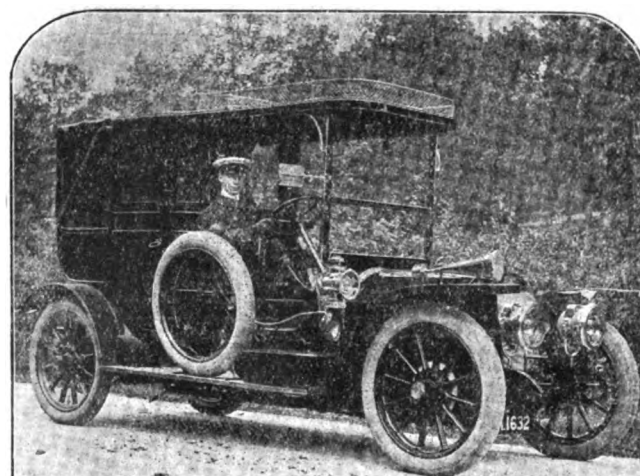
WATER CIRCULATION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you would kindly tell me if it is wise to fill the radiator of my car with cold water when the engine is very hot? If my tank and engine are very hot after a forty miles run, I should otherwise find it necessary to wait a considerable time for the water to cool naturally. By adding cold water my engines, &c., become cool very quickly.—Yours truly,

NOVICE.

[In answer to our correspondent's query re putting cold water in the tank when the engine is hot, there is no danger whatever in doing this, providing the water is constantly above the cylinder head. If the water be allowed to get below, and the cylinder became over-heated, there would be the danger of cracking the cylinder, but if care be taken to give a plentiful supply, there is no danger of this, as by putting in cold water the heat gradually diminishes.]



The 30-40-h.p. Peugeot Landaulet recently supplied to Mr. C. E. B. Long, Down End, Fareham, by Messrs. Wadham Bros., of Waterloo, Hants.

SELF-STARTING DEVICES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of August 10th there is an enquiry re "self starting devices" for motor-cars, and in reply to same I venture to give a few particulars which may be useful to your correspondent. In December, 1905, the Automobile Club of France (A.C.F.) held a competition of above-named devices, details of which were duly published in the *M.C.J.* on December 30th of that year. Briefly, there were seventeen entries, of which eleven actually competed, and these were all of foreign make, the idea having apparently been left seriously alone by English inventors. Various methods were adopted to bring about the desired results, and so far the most successful devices were as follows:—M. Isnard's Cinogene and the Mors Co.'s apparatus, these sharing the first prize of £120; next (or third place) came the device of M. Lemale; while honourable mention was accorded that of M. A. Saurer and M. Pellorce.

It is, of course, impossible to describe in detail the principles of the self-starting devices referred to, but no doubt particulars can either be obtained from the manufacturers direct, or from representatives on this side of the Channel. I may mention that Messrs. W. Lecoq McBride and Co., of 67A, Shaftesbury Avenue, London, W.C., hold the British agency for the Cinogene apparatus. Fiat Motors, Ltd., of Long Acre, London, W.C., fit a self-starter to their cars, but whether it is a device of their own, or one of those already referred to, I am unable to state.

Regarding self-starters, I believe most of them are fitted to high-powered cars, but "Montacute's" letter throws no light upon what type of car he uses, or contemplates using. There are some good small cars on the market that hardly require a self-starter, and if your correspondent in-

spects the Swift, Starling, Rover, Clyde, and a few others, I feel sure he will obtain a car which will require very little exertion to start, unless it is absolutely necessary for him that a self-starter be fitted irrespective of horse-power.—Yours truly,

FRANK STONE.

OVERHEATING TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Perhaps some of your readers can help me to overcome the overheating troubles I have lately experienced. The pump throws a stream of water over 10 ft., but, nevertheless, after travelling about three miles at fast speed the engine invariably stops from overheating, though the water in the tank never boils. I have tried the following unsuccessfully:—(1) Complete repairs to pump; (2) new coil; (3) new piston-rings; (4) new joints throughout the circulation. I begin to think that the defect must be due to "furring" of the cylinder jacket, though only a thin coating of rust is visible.—Yours truly,

L. THOMPSON.

[Our correspondent's trouble from overheating is most probably due to the "furring" of the water jacket, or, failing this, a stoppage in the return pipe from the radiator to the tank. This would cause steam to generate in the head of the jacket, and so in turn cause enough pressure to prevent the pump from keeping up the water supply. We should advise our correspondent, in the first place, to take off the cylinder, remove all the plugs, and scrape away all possible signs of furring, more especially around the valve chamber. In the event of this failing, the inside of the water tank may be found "furred" or choked around the return pipe from the radiator.]



The 30-h.p. Siddlelev 24-seated Sightseeing Vehicle which is being run in London by the Motor Jobmasters, Ltd., in conjunction with the Great Western Railway. (See page 570 last issue.)

THE CONTROL OF THE ROADS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent "A.A." is evidently not a motorist. Motorists have been for years past, and are now living under the benefits secured for them by the work of the Motor Union. That body, in conjunction with the "R.A.C.," has secured against strong opposing forces the limited liberties and tolerance motorists now enjoyed. The "A.A." is a young organisation and has attempted something beyond its powers. Its system of road control is inefficient, as witness the recent unsuccessful attempt to patrol even the Brighton road on the occasion of the "A.A." run. In whatever way the "A.A." may be intending to improve there is no sufficient reason for the Motor Union to lie upon its oars and leave its own membership unprotected. As a member of all three bodies I welcome the work of the Motor Union in extending the system of road scouts, or agents, or whatever they may be termed. So long as the Motor Union increases the facilities for a motorist when using the highways, we as motorists have only to be thankful.—Yours truly,

JOHN WALLACE.

AN ENGINE QUERY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am at present boring out a pair of water-cooled cylinders and fitting new pistons, and it is desired to bring the compression up to approximately modern practice. The bore is 3 3/16 in. and the stroke 3 in.; therefore the volume swept by piston is 23.94 cubic in. I should like to arrive at the cubic space of the combustion chamber. Of course various makers have their own ideas as to this, but I should like to strike an average. Perhaps some of your readers would give their idea as to the correct ratio between the cubic contents swept by the piston

and the corresponding cubic space of combustion chamber to suit any given volume swept by the piston.—Yours truly,

CYCLE MECHANIC.

[The average compression used in petrol motors is about 75 lbs. to the square inch, although, as our correspondent remarks, it varies according to the ideas of the makers. The tendency in modern design is to increase the pressure as much as one dare, without the risk of pre-ignition, as, of course, high compression is conducive to efficiency. The maximum limit is over 90 lbs. to the square inch, although this depends largely on the design of the engine, especially as regards the careful jacketing of the combustion head to ensure proper cooling, whilst other considerations are the piston speed, proportions of flywheel, and number of cylinders. The constant torque of a six-cylinder engine, for example, will allow of a very high compression being employed, if the water cooling is nicely proportioned. As it is difficult, owing to the shape of the crown and the pockets in a combustion head, to calculate the exact capacity of them without considerable trouble, a good way of arriving at the same is to fill up with water, and measure the quantity of this up to a certain height, when the cylinder is inverted. When this is known, and the desired compression settled on, it is an easy matter to find out how high the piston must travel to obtain it. As a gas at atmospheric pressure equals about 15 lbs. to square inch, if compressed to half its bulk will register 30 lbs., if to a quarter 60 lbs., and so on. But an allowance must be made for heat, which augments the pressure. If the engine is an old one, "Cycle Mechanic" will do well not to exceed 70 lbs.]

COIL TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—My Bassée-Michel trembler coil on a two-cylinder Panhard car Centaure engine, has been giving a lot of trouble owing to the points pitting, and hence frequent adjustments, and, as this is the second coil of the same make which has gone wrong, I intend to try another maker. Will you kindly tell me which coil you recommend? I have heard Carpentier's well spoken of. Where can I get these in London, or what other make should I try? Also can I fit, without altering ignition, a coil which does not have tremblers, so as to save the frequent adjustments? Any suggestions you or your readers can make will be appreciated.—Yours truly,

T. BEVERLEY.

[Excellent coils of English manufacture can be obtained from any of the leading accessory dealers and coil makers. Our correspondent cannot use a non-trembler coil without altering the contact breaker, substituting a trembler blade contact breaker in its place, but we should advise him to obtain a good trembler coil of English make, and no doubt he will find that he obtains satisfactory result. The name Carpentier refers to the definite type of trembler, which is fitted to many types of coils, both British and foreign. If an engine is run at a very high speed it would enable the trembler to be dispensed with, but this is not practicable for our correspondent's purpose. A new coil can be fitted without altering any of the existing arrangements on the ignition circuit.]

SOME SUGGESTED SMALL IMPROVEMENTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that the general lines of motor-cars have reached a point when any radical alteration is unlikely, the time seems *apropos* to mention a few small details to the improvement of which the attention of manufacturers may usefully be directed. For a long time—practically since the establishment of the industry—it has been possible for a cyclist to purchase a machine suited to his stature. In the case of motor-cars, however, this period has not yet been reached, the vehicles nearly all being turned out, as regards the steering and controlling mechanism, to one standard, as if drivers were all of the same build.

Apart from the fact that no two persons are naturally inclined to do the same thing in exactly the same fashion, many cars are so contrived as to make the operation of driving inconvenient, if not dangerous at times, to some motorists. The length of leg, the length of arm, the height of the shoulders above the seat, and even the size of hand, all are more or less involved in the ease with which a driver may accustom himself to a certain car, not to mention habitual posture when sitting. Indeed, it is quite likely that the slouching attitude which many drivers frequently affect is due more to circumstances than to any lack of self-respect, or to laziness.

In regard to the possibilities of adjustment of the steering and controlling mechanism to suit individual requirements there are, I venture to assert, certain possibilities which have not as yet been thoroughly exhausted. For instance, numerous arrangements have been made for adjusting the position of the steering wheel longitudinally of the car, while a vehicle is made in America in which it is possible to adjust the height of the wheel above the footboard. This latter appears to be a step in the right direction and evidently can be accomplished with less risk to the mechanism than the older method of swinging the entire steering column, besides furnishing a means of adjustment in another and more necessary way.

As regards the clutch and brake pedals, these too might be made adjustable, at least as to height above the floor. I further consider that

none of the controlling devices which are requisite to ordinary running operations should be mounted on the dashboard. There are, no doubt, many other motorists who have suffered inconvenience owing to this inability to alter the position of the steering wheel, pedals, &c., who, now that the question has been raised, might express their views on the subject.—Yours truly,

T. R. HARRISON.

CORROSION OF ACCUMULATOR TERMINALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—For some time past I have had a great deal of trouble in keeping the positive terminal of the ignition accumulator on my car free from corrosion; it very rapidly assumes a green colour, and on the inside a crystal formation is seen. I should be obliged if you could give me any hints how to prevent the corrosion.—Yours truly,

R. H. FLOOD.

[Corrosion of the terminals is caused by one of two actions. It may be the result of the action of acid upon the metal of the terminal, or it may be caused by electrolytic action from the passage of a very small current of electricity between the two terminals. If caused by the first action, it can be prevented by carefully cleaning the terminal with a weak solution of ammonia and water, and then with pure water. When quite clean cover the terminal with vaseline. If the corrosion arises from the second action, it requires more care to entirely remove the trouble, and as our correspondent says that his positive terminal is the one giving trouble, electrolytic action is probably the cause. To prevent this, first clean the terminal in the same manner with ammonia and water, and cover it with vaseline. Also make a groove round the stem of the lead pillar on which the terminal is mounted, and fill this groove with vaseline. Then make certain that no passage of electric current is allowed to cross from one terminal to another by thoroughly drying the space between the two, and when quite dry put a dressing of vaseline on the surface between the terminals. To ensure success the old corrosive deposit should be entirely removed, clean very thoroughly with water after the ammonia, and anoint every part that is exposed with vaseline except the surface on which the wires make contact.]

A SLOW CAR ON HILLS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a Germain 8-h.p. chain driven car which is rather slow up hills. When going up the last portion of a rise I have to drop on to the low gear. The wheels are 910 by 99 mm. Do you think this the cause of the vehicle being so slow? The engine holds compression well and the timing is all right. I should be pleased if you or your readers could explain the trouble.—Yours truly,

J. H. T.

[If our correspondent had given some particulars of his gearing ratio, it would have been easier to form an opinion as to the cause of his car being slow on hills. Wheels 910 mm. (36 in.) are certainly large in diameter for an 8-10-h.p. car, but it does not follow that the car is over-gear. J. H. T. says nothing as to the speed on the level, which is most important data, as, if the engine pulls well and fast on the top gear on flat roads, he will only be "robbing Peter to pay Paul" if he puts smaller sprockets on to lower the gear for hills. He must therefore judge if he can afford to sacrifice lowering his top speed. Of course if the engine never reaches its maximum number of revolutions on the high gear, it will be advantageous to try a pair of sprockets with, say, one tooth less than at present. Anyway, it is not an expensive experiment. To alter the ratio of the bottom gear only would be very costly. As he seems to think the engine is in proper order, it is hardly any good suggesting anything in that direction; although, as probably the extra power required to make the car take hills better is only slight, it is quite likely that a good engine tester could tune it up to give the extra amount wanted.]

A LUBRICATING OIL QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall feel obliged if you can tell me the best lubricant for a 24-h.p. Fiat car. I have tried several but cannot get an oil that gives entire satisfaction.—Yours truly,

S. C. STILES.

[The Fiat Company have an oil which is specially made for them, and which has been in use by owners of Fiat cars for the past four years with entire satisfaction. It can be supplied from stock in one gallon tins.]

MISFIRING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be greatly obliged if you or any of your many readers will assist me in the following trouble. I am having difficulty with the rear cylinder of my four-cylinder car, which is fitted with the usual high-tension accumulator ignition. When the engine is running slowly this cylinder fires just when it thinks it will, which is very seldom, yet

it will repeatedly start up on it, but when this is accomplished it then remains inactive for many revolutions. When the throttle is opened, and the ignition lever in any position, it fires regularly; but as the car is very sluggish and will not climb on its top speed anything like it used to do, and also gets very hot, I attribute the loss of power to this cylinder.—Yours truly,

R. SINCLAIR.

[Our correspondent's trouble seems to point very strongly to a faulty coil; probably the condenser has broken down, or there is a bad contact on the primary. Trouble of this kind is sometimes caused by the burnt oil getting foul of the point of sparking plug, and although when tried out of the cylinder proves all right, short circuits inside when replaced. This appears to be the only suggestion, if the coil, sparking plug, &c., are correct.]

A TEST FOR WATER IN PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I hope you will find space for the following, as one who is always ready to assist his fellow-motorists in difficulties. I was stopped by a driver near Seacroft, late on a recent Sunday; he had run out of petrol and had purchased a bottle of whisky, believing it to be all right, as alcohol is advocated as a substitute for spirit. I beg to warn motorists, however, not to repeat the same unless it has been tested by a densimeter, spg. 700. In connection with this, may I mention a simple test which I used on this occasion in place of the densimeter, by putting a few drops of the whisky or petrol on a coin; if it evaporates and leaves the coin dry, it is all right. If any water has been added to it, it will remain on the coin. For a long time the engine refused to start; I tried the usual methods of testing accumulators, sparking plugs and carburettor, and pulled at the starting handle till I was tired and weary, but all in vain. The car was stopped on an incline about 1 in 14; we ran off all the petrol and secured a tin of fresh petrol, wiped out the carburettor, put a little spirit in each cylinder, and the engine started, enabling us to get the car on the level and then to a descent, when the motor again stopped and all the usual methods as before failed. I applied my rule, and it revealed the fact that there was water in the petrol. It struck me, when the car was on the incline, that when we ran the petrol off there would be some liquid left in the rear of the tank owing to the inclined position of the car. When the vehicle was on the level this mixture of whisky, water and petrol came to the front of the tank; on the next descent, which was about half a mile long, the rear wheels were at a higher level than the front ones and by the law of gravity the denser bodies were at the bottom of the tank. I disconnected the petrol feed pipe from the carburettor, raised the needle valve and made sure that all was run off, then connected up and flooded the carburettor; the motor started straight away and my fellow-motorist went on his way more than pleased.—Yours truly,

S. PICKLES.

CATALOGUE WANTED.—Mr. A. C. Clark, 4 and 5, George Street, Ryde, I. W., writes:—"Will any reader of the *M.C.J.* oblige with a list of the Leader 8-10-h.p. four-cylinder, two-seated car? It is, I find, impossible to obtain the same from makers, and the owner's car is delayed on the Russian frontier, admission being refused unless such printed maker's specification be produced."

THE MOTOR UNION AND THE AUTOMOBILE ASSOCIATION.

IMPORTANT negotiations have recently taken place between a sub-committee of the Motor Union and representatives of the Automobile Association for the purpose of discovering a scheme which would enable the two bodies to work together in close co-operation for the benefit of the automobile movement. In spite of all efforts, however, no mutually satisfactory scheme of co-operation has been devised.

The history of the negotiations is recorded in a lengthy correspondence, copies of which have been sent us by both parties. Representatives of the Motor Union have twice met the Automobile Association in conference. At the meeting of July 9th the representatives of the Association asked the Motor Union to submit a proposal for a working arrangement. The outlines of a proposal were accordingly laid before them, and the offer finally rejected on the 8th ult.

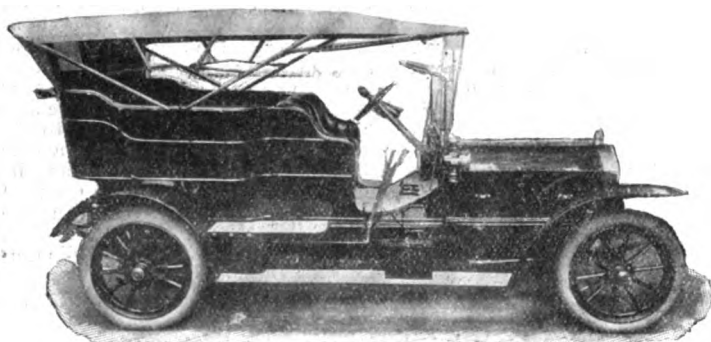
Mr. Walter Gibbons, referring to the letter from Mr. C. D. Rose, M.P., Chairman of the Motor Union, in which he states that the road agents of the Motor Union are stationed entirely in towns and villages wherein, so far as his knowledge extends, no police traps exist, asks how can he, Mr. Rose, account for the fact that these road agents or scouts are supplied with a code of signals enabling them to signal, 1, to stop; 2, to proceed cautiously; 3, all is clear. "Upon which only one construction can, Mr. Gibbons adds, be placed, that of warning motorists against police traps. If, therefore, it is not the intention of these scouts to discover police traps and give warning of their locality, why are they empowered to signal 'all is clear'?" Is it to aid motorists to dash through villages at fifty miles an hour?"

We have received from Mr. Walter Gibbons a copy of a letter he has addressed to the R.A.C. resigning his membership from the Club as a protest against the "unnecessary interference" of the Motor Union with the work of the Automobile Association.

THE MISTRAL OF PROvence.

"IT was September, and it was Provence," are the opening words of Daudet's "Port Tarascon"; but not every writer was so kind to the wonderful country, and Madame de Sevigne's exaggerated pictures of the "perfumed idleness of the Provençaux" and of the "mistral," that dread north wind of the Rhone Valley, are answered by Mr. Miltoun, who thus brings meteorology up to date in his "Rambles in Provence":—

The "terrible mistral" is not always so terrible as it has been pictured. It does not always blow, nor, when it does come, does it blow for a long period, not even for the proverbial three, six, or nine days, but it is, nevertheless, pretty general along the whole south coast of France. It is the complete reverse of the sirocco of the African coast, the wind which blows hot from the African desert and makes the coast cities of Oran, Alger, and Constantine, and even Biskra, farther inland, the delightful winter resorts that they are. In summer the "mistral," when it blows, makes the coast towns and cities of the mouth of the Rhone, and even farther to the east and west, cool and delightful even in the hottest summer months, and it always has a great purifying and healthful influence. Ordinarily the "mistral" is faithful to tradition, but for long months in the winter of 1905-06 it only appeared at Marseilles, and then only to disappear again immediately. The Provençal used to pray to be preserved from Æolus, son of Jupiter, but this particular season the god had forsaken all Provence. From August 31st to September 4th it blew with all its wonted vigour, with a violence which lifted roof tiles and blew all before it, but until the first of the following March it made only fitful attempts, many of which expired before they were born. There were occasions when it rose from its torpor and ruffled the waves of the blue Mediterranean into



One of the latest Star Six-Cylinder Cars fitted up as a special Shooting Car to carry ten people.

The vehicle is fitted with a six-cylinder engine, 4½ in. bore by 5 in. stroke, with magneto ignition and also synchronised high-tension coil and accumulator. The car illustrated has just been despatched by the Star Engineering Company to South Africa.

the white horses of the poets, but it immediately retired as if shorn of its former strength. "C'est humiliant," said the observer at the meteorological bureau at Marseilles, as he shut up shop and went out for his Apéritif. All Provence was marvelling at the strange anomaly, and really seemed to regret the absence of the "mistral," though they always cursed it loudly when it was present—all but the fisherfolk of the Etang de Berre and the old men who sheltered themselves on the sunny side of a wall and made the best use possible of the "cheminée du Roi René," as the old pipe smokers call the glorious sun of the south, which never seems so bright and never gives out so much warmth as when the "mistral" blows its hardest. A Martignaux or a Marseillais would rather have the "mistral" than the damp, humid winds from the east or north-east, which, curiously enough, brought fog with them on this abnormal occasion. The café gossips predicted that Marseilles, their beloved Marseilles, with its Cannebiere and its Prado, was degenerating into a fog-bound city like London, Paris and Lyons. At Martignes the old sailors, those who had been toilers on the deep sea in their earlier years, told weird tales of the "pea soup" fogs of London—only they called them *purées*. One thing, however, all were certain. The "mistral" was sure to drive all this moisture-laden atmosphere away. In the words of the song they chanted, "On n'sait quand y' r'viendra." "Va-t-il prendre enfin?" "Je ne sais pas," and so the fishermen of Martignes, and elsewhere on the Mediterranean coast, pulled their boats up on the shore and huddled around the café stoves and talked of the *mauvais temps* which was always with them. What was the use of combating against the elements? The fish would not rise in what is thought elsewhere to be fishermen's weather. They required the "mistral," and plenty of it.

MR. W. RODDAM DRINKWATER, recently with the technical department of the R.A.C., has been appointed sales manager to the British Motobloc Syndicate, Ltd., 12, Regent Street, London, S.W.

A 50-MILE RUN FROM BRIGHTON.

MR. HENRY MOORE, of Brighton, continues his suggestions for lane wanderings in Sussex. His latest advice is for the motorist to turn up from the sea at the Grand Avenue, and get to the Upper Shoreham Road, keeping on to Old Shoreham—six miles. The journey is continued round the serpentine turn at the Rising Sun Inn. Then through Beeding, Bramber, and Steyning care should be taken when rounding the sharp corner at the bottom of the hill in the latter village. The way should then be continued till the sign-post pointing to Thakeham is reached and the main Worthing and London road is crossed. Mounting the rising ground straight ahead, turn to the left at the first fork roads, and in a few yards there is a road cut through a fir forest. At the next fork road turn to the right, and again to the right half a mile further on. The road direct to Pulborough is to the left within a few yards. Straight on towards Thakeham is through one of the most fascinating little pieces of scenery anywhere, for the steep winding road has been cut through a ridge of rock, and rugged, verdure-clad, rocky sides stand twenty feet above the road, and are surmounted by trees, which, meeting, form an avenue of great beauty. At the bottom of the short hill beyond a glimpse of water adds still further charm. About a mile from this, at the fork roads, go to the left, and again sharp to the left at the next turn, which is another mile on, for West Chiltington, which, after a mile and a half of narrow winding lane, is approached by ascending a corkscrew bend up a very steep rise, which should be driven with care, in case a reckless driver is coming in the opposite direction. Then bend to the left on leaving the village, and keep straight on to Storrington, say four miles, where, turning to the left, the Worthing and London road is struck at Washington; at the pond go straight on to Worthing, and to Brighton along the coast.

ROAD REPORTS.

MINEHEAD.—The Urban District Council this year tarred the principal roads in the town to prevent dust, and the experiment has been so successful that it has been decided to considerably extend the system next year.

BRENTFORD.—The text of the petition which is to be presented to the King, begging for a widening of Brentford High Street, has now been finally approved, and is being sent round for the signatures of those regularly using the road.

FARNHAM.—The Farnham Rural District Council has considered a letter from Mr. P. J. Henriques, of Normandy Park, Guildford, asking for motor danger-signals to be erected in the vicinity of a cross-road near his lodge. Mr. Bryan Hook stated that he was a motorist, and he never took the slightest notice of danger signals. The signals were put up very recklessly, and were not erected where they were really wanted. They should be taken down and redistributed. It was decided to reply that in their opinion the signals were not required.

KINGSTON BRIDGE.—At an inquest concerning the death of a cyclist who slipped under a wagon on Kingston Bridge, the opinion was expressed in evidence that the wooden paved tramway track at the foot of the bridge was a danger to motorists when watered, and had caused many accidents. The jury added a rider to their verdict that the Kingston Town Council should be requested to clear the tramway track of mud at the spot before watering it.

KENT.—The Chairman of the Dartford Petty Sessions regards the corner of the road leading from Crockenhill as one of the most dangerous corners in the county.

ANSTRUTHER.—The Clerk to the West Anstruther Town Council has been instructed to write the Scottish A.C. to provide warning boards to place at the Buckie House corner, at which there has been some serious motor-car accidents.

SUTTON COLDFIELD.—The Borough Surveyor of Sutton Coldfield says that specially made roads of a dustless character would cost £1,200 per mile, a figure which he has arrived at in connection with the recent reconstruction of the Manor Road in that district. In the experiment under notice, a 2 in. layer of ashes was spread upon the scarified and lightly-rolled road surface. Next a layer of fine asphalt 1 in. in thickness was placed on the ashes, the asphalt being then covered with 3 in. of best hard granite. For two days the new metal was rolled, till finally the asphalt could be observed working up through the granite. The whole surface was then dressed with tarred chippings and well rolled.

FOLKESTONE.—The road from London to Folkestone is reported in capital order.

THE RULE OF THE ROAD.

A CORRESPONDENT recalls Lord Erskine's lines on this much-discussed subject:—

"The rule of the road is a paradox quite,
In riding or driving along,
If you keep to the left you're sure to be right,
If you keep to the right you'll be wrong.

"But in walking a different custom applies,
And just the reverse is the rule,
If you keep to the right you'll be safe, right, and wise,
If you keep to the left you're a fool."

CLUBS AND ASSOCIATIONS.

NORTH BERKSHIRE AUTOMOBILE CLUB.

By invitation of Captain and Mrs. Loder Symonds, the North Berkshire A.C. carried out a most successful meet on Saturday, the 31st ult. at Hinton Manor. The programme commenced with a hill climb on Duxford Hill. The results were decided on the formula which was used at the Aston Hill Climb.

Place.	Car.	Owner.	Marks.
1	12-16-h.p. Peugeot...	Mrs. Viner Ellis ...	302
2	40-h.p. Mercedes ...	Mr. Ivor Truman ...	352
3	10-h.p. Peugeot ...	Captain Loder Symonds	402
	15-h.p. Humber ...	Mr. H. Barrett ...	408
	9-h.p. Jackson ...	Mr. Darwin Hey ...	413
	9-h.p. De Dion ...	Mr. H. Woodward ...	439
	8-h.p. Cadillac ...	Mr. Hayward ...	501
	28-h.p. Ariel ...	Mr. E. Bond ...	522
	8-h.p. Cadillac ...	Mr. W. O. Rooper ...	648

After enjoying the hospitality of Captain and Mrs. Loder Symonds, a concours d'adresse was held in the charming grounds. This event was highly popular, as it enabled everyone to take part. It provided a driving test whilst carrying three lady passengers, whose separate duties were to carry a glass of water without spilling it, throw potatoes into baskets, and tilt at the ring. This as well as the hill climb was voted a huge success, and was won by Mr. H. Woodward with Lady Betty Bertie, Miss May Loder Symonds and Miss Hippisley.

Amongst those present were the Countess of Abingdon, Lady Betty Bertie, the Hon. Ethel Dormer, hon. treas., Mr. and Mrs. Barrett, Mr. and Mrs. Bond, Mr. and Mrs. Darwin Hey, Mr. Ivor Truman, Captain Loder Symonds, Mr. P. Fletcher, and Miss Constance Fletcher, hon. secretary.

NORTH-EASTERN AUTOMOBILE ASSOCIATION.

On Saturday, the 31st ult., the members of the above association and their friends were invited by Lord and Lady Barnard to an "At Home" at Raby Castle. This historic seat is one of the "show" places in the North of England, and about 600 acceptances of the invitation were received. The weather proved propitious. During the afternoon about 100 motor-cars, besides a large number of motor-bicycles, arrived in the park, and were arranged in rows, forming a very imposing spectacle. The whole of the castle, the gardens, and the park were thrown open to the visitors, and Lord Barnard had engaged the band of the 1st V.B.D.L.I., which played during the afternoon in the gardens.

Afternoon tea was served in the Baron's Hall, after which the prizes in connection with the Ragpath Side Hill Climbing Competition on June 15th last were presented by Lady Barnard. These included the following:—The "Barnard" challenge cup, presented by Lord Barnard for annual competition. The committee had decided this year to award it to the winner of the handicap for members' cars, and it was won by Mr. Edw. W. Leather on his 40-h.p. Berliet. A second cup was presented by the association for the fastest time made on the hill by any standard touring car, the property of the member. This was won by Mr. W. E. Galloway on his 25-h.p. Stanley steam car. Other prizes included silver medals to Mr. E. W. Leather, who won the "closed" handicap, Mr. S. F. Edge, who won the "open" handicap, Mr. E. J. Tiffen, who won the Motor-Cycle "closed" handicap, and Mr. A. Stewart, who won the Newcastle-Edinburgh reliability run on June 27th last, this competition being organised by the Newcastle Motor Club.

After the ceremony Capt. H. S. Streatfeild, chairman of the association, tendered the thanks of the association to Lord Barnard for his hospitality. To this Lord Barnard replied, stating that he himself used his car for business and pleasure rather than for sport. Mr. J. E. Hodgkin, hon. sec. of the association, then thanked Lady Barnard on behalf of the members for presenting the prizes, and the proceedings terminated.

Mr. W. Rees Jeffreys, secretary of the Motor Union, was present during the afternoon, but was unfortunately delayed in his arrival owing to some slight trouble with his car, and was therefore not able to be there in time for any conference with the members of the committee on questions affecting motorists in the north of England.

This is the first social event of this nature which has been organised by the North-Eastern Automobile Association, and, in view of the great satisfaction given to the members, it is hoped that it may be repeated in future years. The arrangements at Raby Castle, which were very complete and well organised, were in the hands of Mr. C. Fogg-Elliott, Lord Barnard's estate agent, to whom the thanks of the association are specially due.

THE AUTO-CYCLE CLUB.

THE Auto-Cycle Club have issued the marks lost on running time for the six days' trial, which was held from August 19th to 24th. The following lost no marks:—W. H. Wells, 5-h.p. Vindec; T. Woodman, 3½-h.p. Vindec; M. Gieger, 6-h.p. N.S.U.; J. H. Slaughter, 3½-h.p. Triumph; E. S. Myers, 3½-h.p. Triumph; J. Marshall, 3½-h.p. Triumph; R. M. White, 3½-h.p. Hazel; R. Moore, 3½-h.p. Phelon-Moore; T. K. Hastings, 4-h.p. Indian; W. G. Pople, 3½-h.p. Triumph; J. D. Hamilton, 3½-h.p. N.S.U.; S. W. Carter, 3½-h.p. N.S.U.; F. C. Mustard, 3½-h.p.

Triumph; D. G. Gilmour, 9-h.p. Bat; and A. J. Sprosten, 5-h.p. Vindec.

Marks were lost by W. G. McMinnies, 5-h.p. Vindec, 11; F. C. Dee, 5-h.p. Vindec, 17; J. B. Hart-Davies, 3½-h.p. Triumph, 32; F. Cozens, 10-h.p. Lagonda tri-car, 53; W. Smith, 1½-h.p. Motosacoche, 67; and A. Stanley Phillips, 5-h.p. Vindec, 112.

The following retired:—R. M. Brice, 5-h.p. Brown; J. C. Lingenfelder, 4-h.p. N.S.U.; O. C. Godfrey, 5-h.p. Rex; Eli Clark, 3½-h.p. Rex; F. W. Applebee, 3½-h.p. Rex; T. H. Tessier, 6-h.p. Bat; E. Nelson, 5-h.p. Rex; C. A. Potts, 6-h.p. Bat; W. Milnes, 3½-h.p. Phelon-Moore; W. Riddle, 6-h.p. N.S.U.; H. G. Potts, 3½-h.p. Minerva; F. Applebee, jun., 6-h.p. Rex Litette tri-car; J. V. Evans, 6-h.p. Addison tri-car; Mrs. Hewlett, 10-h.p. Lagonda tri-car; and M. W. Randle, 10-h.p. Lagonda tri-car.

SOUTHERN MOTOR CLUB.

THE Club's 100 miles Reliability Trial for Motor-cycles took place on Saturday, 31st ult., on a circular course starting from Godstone to Purley Corner, Red Hill and back to Godstone, four times round, eighteen entries being received. Six faced the starter at Godstone, viz., C. H. Pugh (4½-h.p. Stevens), T. E. Goodley (3½-h.p. Triumph), G. M. Beecroft (5-6-h.p. Vindec Special), C. Jones (6-h.p. Antoine), W. Pratt (3½-h.p. Griffon), and G. Aldington (5-h.p. Twin Kerry). The winner proved to be Mr. C. Jones, who had only two minutes' difference in comparative running on each circuit, and he took the gold medal and certificate. Mr. G. M. Beecroft was second and was awarded a certificate.



The Churchill Char-a-banc as it appeared on the occasion of the Outing given to the children of the Bradford Poor Children's Mission. The vehicle was kindly lent by Messrs. Durham, Churchill and Co.'s Bradford Agent, Mr. Walter Jackson.

WEST ESSEX.

THE result of the non-stop competition for the Gamage cup has been decided by the committee as follows:—1, V. Baldwin (3½-h.p. Brown); 2, J. C. Brown (3½-h.p. Brown); 3, C. D. Makepeace (7-h.p. Phoenix Quadcar). The next competition will be held on the 8th inst., and will take the form of a 100 Miles Petrol Consumption and Reliability Trial, from the Cock Hotel, Epping, through Harlow, Sawbridgeworth, Ugley, and Newport to the fortieth milestone on the Cambridge Road and back, a distance of fifty miles, this course to be covered twice. Minimum time two and a half hours, maximum three hours for each section of fifty miles. The start will take place at 10 a.m.

CRYSTAL PALACE.

MR. HENRY HOLLANDS has found himself compelled, through ill-health, to give up the hon. secretaryship of the Crystal Palace A.C., and Mr. F. W. Baily has been elected to the post.

The committee of the club, whilst accepting with regret Mr. Hollands' resignation as secretary, have co-opted him to be a member of that body.

SOMERSET.

At the invitation of some dozen Weston-super-Mare motorists the members of the Somerset Automobile Club have been entertained at a gymkhana and garden party given in the Recreation Grounds at that resort. There was a representative attendance, including Dr. C. J. Talbot, Messrs. H. and T. Blake, H. Spiers Houston (12-14-h.p. Achilles), Captain W. Vaughan-Jenkins, Colonel Stuart, Colonel Sherston, Messrs. C. F. Haywood (8-h.p. Rover), F. Bailey, M. B. Castle

(9-11-h.p. Clement-Talbot), S. Austin, W. Yatman, F. B. Beauchamp (30-40-h.p. Daimler), S. B. Alway (14-16-h.p. Argyll), A. W. Metcalfe, F. Clark (10-12-h.p. Clement-Talbot), H. Hipplesey, A. Armitage, F. Wills, A. E. Johnson (14-16-h.p. Argyll), F. J. Tucker (28-h.p. Daimler), H. J. Blackmore, Rev. W. R. Pearson Strange, Messrs. W. P. Paddon, R. B. Graves-Knyfton, hon. secretary of the association (14-16 h.p. Argyll), F. Blackmore (9-10-h.p. Swift).

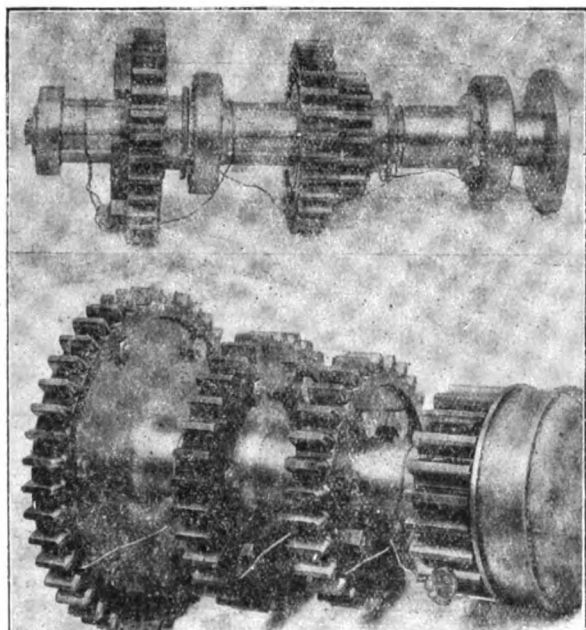
COVENTRY.

ON Saturday last twenty-one machines participated in the Reliability Trial organised by the Coventry Motor Club for the private owners of motor-bicycles. The test included a hundred miles run with a surprise hill-climbing test. The course of the trial was from Daventry to Towcester, Brackley, Chipping Warden, Badby, and Daventry, which was covered twice. The start was made from the garage of Mr. H. Reynolds, and the run was remarkable for the even behaviour of the machines. In the end Mr. C. S. Burney (3½-h.p. De Havilland) won the Schulte cup, Mr. J. S. Harwood (3½-h.p. Triumph) the Rex gold medal, and Mr. A. B. Jenson (3½-h.p. Triumph) the club silver medal.

DERBY AND DISTRICT.

THE committee of the Derby and District A.C. have decided to hold a hill-climbing competition at Rangemore next year, when we understand an active policy with regard to competitions for members will be inaugurated.

Mr. Robert Knowles has withdrawn his recent resignation and



The above illustration depicts the change-speed gear pinions which were taken from the six-cylinder Hotchkiss Car after the recent trial of 21,250 miles. It will be seen that the wheels and shafts, which bear the seal of the Royal Automobile Club, show little, if any, signs of wear.

expresses the hope that the club will do more to look after the proper repair of the highways by the local authorities.

THE South Devon Automobile club is holding a meet at Ashburton on Saturday, the 14th inst., the headquarters being at the Golden Lion Hotel.

A MOTOR-CYCLE club for Crewe is being formed with Mr. A. R. Tatham, 39, Derrington Avenue, as hon. sec.

THE Hull Auto-cycle Club has appointed Captain J. A. Foster as chairman and Mr. T. H. Straker, 12, Percy Street, Hull, as hon. sec.

THE Daimler Company have made arrangements with Messrs. Dalgetty and Company, Ltd., Burke Street, Melbourne, who will shortly be opening garages at both Melbourne and Sydney for the sale of Daimler cars in Australia. Messrs. Dalgetty will have two demonstration cars, and also six stock vehicles, together with a large assortment of spare parts, for the convenience of the increasing number of Daimler owners in the colony.

FROM the Electric Ignition Company, Ltd., Birmingham, comes a copy of the new showcard and catalogue of E.I.C. ignitivities they have just issued. The former is of a novel and bold design and will be of interest to agents. The new list gives full particulars of the E.I.C. sparking plugs, coils, accumulators, switches, contact makers, high-tension distributors and other ignition accessories, among the new features being an improved double ignition switch.

CASES UNDER THE MOTOR CAR ACT.

A BROTHER OFFICER'S MOTOR-CAR.

At Bradford, Dr. S. Lodge was summoned for driving a motor-car without giving audible and sufficient warning of the approach of his car. The Chief Constable stated that on August 6th Dr. Lodge was driving a car near Manningham Park Gates. Colonel Sichel, who was standing near the causeway, complained that sufficient warning was not given of the approach of the car. The informant, however, was now desirous of withdrawing from the case. Colonel Sichel explained that when he laid the information he was unaware that Dr. Lodge (who is surgeon-lieutenant in the Bradford Rifles) was a friend and brother officer. The summons was withdrawn on payment of costs.

HEAVY HAULS.

At Highgate, on the 28th ult., four motorists caught in a trap at Whetstone were fined £17 and costs. A batch of six motorists have since been fined sums of £1, 18s., £4, and 4s. 10d. for passing too quickly over a police trap. The Basingstoke bench imposed fines of £24 and costs on motorists at a recent sitting. At Kingston, on the 29th ult., five motorists were fined £3 each for exceeding the ten-mile limit in Richmond Park. Six motor-car drivers have been fined in Kilnarnock court. Fines of £3 each have been inflicted on eight motorists by the Alton bench.

EXCEEDING LEGAL LIMIT.

Robert Moore, of Harrogate, was fined 40s. and costs, at Bangor, for driving his motor-bicycle during the recent motor-bicycle reliability trials in North Wales at the rate of thirty to forty miles an hour. He was reported by the local secretary of the trials.

At Stirling the authorities have obtained authority for the imposition of a ten mile limit, and the sheriff has decided that heavier fines shall be inflicted on victims in future.

A fine of £5 and costs was inflicted on the 30th ult. by the Southampton county magistrates on Mr. S. F. Edge, for driving a motor-car at a speed of slightly over thirty miles an hour at Bassett. The police evidence was not disputed, but the defendant's counsel said the road was clear at the time, and with the car in such experienced hands there was practically no danger.

Five motorists have been fined at Greenwich sums ranging from £2 2s. to £4 2s. for exceeding the speed limit. Mr. Hutton said that if these cases increased the penalties must be more severe.

OBSCURE IDENTIFICATION MARK.

Herbert B. Fitzherbert, of London, was, at Rowley, Staffordshire, fined £10 and costs for a breach of the Motor Car Act, by travelling from London to Tividale in a motor-car the identity mark and figures of which were obscured. Defendant pleaded that he left London hurriedly and a workman carelessly attached a card to the vehicle.

DANGEROUS DRIVING.

At Horsham Petty Sessions on Saturday, Percy George Gibbs, of 3, Clarendon Mews, St. Alban's Road, Kensington, was fined £5, costs £2 13s., for driving to the danger of the public at Crawley on July 28th. P.C. Scott, of Bow Street, proved a like conviction last February, and also a conviction at Kingston-on-Thames last month.

At the Llandrindod Wells (Radnorshire) Police Court, Thomas Hampson, Madley Manor, Staffordshire, was fined £3, including costs, for driving a motor-car in a manner dangerous to the public at Llandrindod on August 4th. Defendant is the chauffeur to the Earl of Huntingdon, and stated that he was driving at not more than twelve miles an hour. The statement was confirmed by the Hon. Reginald Coventry, who was in the car in company with the Countess of Huntingdon and the Earl.

Mr. Archibald Rosling, motor-car manufacturer, was charged at Thorpe (Essex) with having driven a motor-car to the public danger. Mr. Ogle, barrister, said the defendant was going at only sixteen miles an hour, but by a majority of five to four the Bench fined the defendant £2.

At Norman Cross, on Tuesday, H. B. Cresswell, of Arlington Street, London, W., pleaded guilty to driving a motor-car to the common danger at Stilton on August 3rd. He admitted two previous convictions and was fined £25 and costs. His present licence was suspended until its expiration, and he was declared disqualified from obtaining another licence for two years.

WHAT IS A SIGNAL?

What is an intelligible signal to a chauffeur was the point which the Newcastle magistrates have been called upon to decide in a case in which Walter Sanderson, the driver of a car, was charged under the Motor Car Act. Robert Ord, a farmer, was riding a hunter along the Ponteland road, when he saw the car rounding a curve a hundred yards away. He waved his hat as a signal to Sanderson to stop, but he did not. The horse began to rear and plunge, and finally bumped itself against the fence. The driver slowed down, and passed at about ten miles an hour. It was contested for the defence that the waving of a hat was a signal that no chauffeur would understand, and that Ord ought to have held up his hand, but the magistrates thought otherwise, and imposed a fine of 40s. and costs.

LACK OF KNOWLEDGE.

Paul Webb, a visitor to Malvern, who was summoned at the Petty Sessions for neglecting to stop a motor-car when requested at Malvern Wells, was ordered to pay the costs, as he was an American citizen and ignorant of English regulations.

A QUARTETTE OF SUMMONSES.

Fines to a total of £12 and costs have been imposed, at Manchester, upon Alec Stewart Fraser, manager for the Darracq Motor-car Company, 241, Deansgate, Manchester. He appeared in answer to four summonses, which charged him with driving to the danger of the public, refusing to give name or address, failing to produce a driver's licence when requested to do so, and for using a motor-car without being registered. A constable gave evidence that on July 31st, at Urmston, Fraser was driving the car, which contained three persons, at a speed of twenty or twenty-five miles an hour. When called on to stop he took no notice; he would not give his address nor show his licence. The defendant explained that he resented the manner in which the plain clothes officer demanded his name. Mr. Armitage, the presiding magistrate, ordered Fraser's licence to be endorsed, and told him it would be forfeited if he were again convicted.

NO LIGHTS.

W. H. Bolton was charged with driving a motor-car at 12.45 a.m., on July 10th, without proper lights, in Marlow. At the previous petty sessions he failed to appear in answer to his summons, to take any notice, and a warrant was issued. On his promise to attend, the London police did not arrest him. On the case being called on at the present court, defendant was not present, and the chairman said he thought he ought to have been arrested under the warrant. Later on defendant arrived, and was censured for his conduct. P.C. Young repeated the evidence given at the previous hearing, and P.C. Pheasant corroborated the same. The Bench fined him £2 and 14s. 6d. costs, and endorsed his licence. Defendant challenged the right to endorse his licence for the offence, but was promptly informed differently. Defendant said he had not the money to pay. The Chairman said he would be detained until it was paid.

AUTOMOBILE ACCIDENTS.

As the outcome of a motoring mishap, Mr. J. A. Pyne, who was mayor of Deptford last year, is lying in a critical condition at the Cottage Hospital at Colwyn Bay. Mr. Pyne, who was on a visit to the Welsh watering place, and a friend, who was driving, were riding in a motor-car along the main road of the town at a moderate speed, when a lady cyclist, who had lost control of her machine and was on the wrong side of the road, approached. To avert a collision the car was turned sharply round a hedge. Mr. Pyne was thrown forward, and his forehead came into violent contact with an angle of the wooden post, his frontal bone being smashed. He was at once conveyed to the hospital, where an operation was performed.

On Saturday afternoon an Eastbourne motor char-a-banc, owned by Mr. Ray, was being driven towards Willingdon village, three miles distant, when, at a narrow part of the road, a motor-car came down the incline. By some mischance a collision occurred, with the result that the motor char-a-banc was driven up the bank and overturned. Two lady passengers were thrown across the road and severely shaken.

An inquest was held at Croydon on Saturday concerning the death of John Osborn, of Gosport, who, while cycling on August 6th, near Purley, was thrown from his machine by colliding with a motor-car. The car was being tried for the Queen. On the chauffeur's behalf Mr. Parkes appeared, at the instance of Sir Henry White, private solicitor to the King. The jury returned a verdict of accidental death.

The Birmingham coroner has held an inquiry touching the death of Howard Millington, who sustained fatal injuries as the result of a collision with a motor-car. He was cycling behind a motor-car travelling towards Birmingham, and when it slowed down at a curve he turned into the road and collided with a car coming in the opposite direction. The owner of the car took him to a hospital, but he died on the way. A verdict of accidental death was returned, and the coroner was requested to ask the Automobile Club to erect a danger board at the curve where the accident happened.

The East Sussex police are engaged in trying to trace a motor-car which on Monday was the cause of a general smash-up on the road between Newhaven and Lewes. The motor-car, containing a lady and gentleman, encountered a wagonette and a market trap, being driven one behind the other. It passed the wagonette, but collided with the trap, knocking it over. The horse bolted, smashing the trap and cutting itself severely. One of the wagonette horses bolted and narrowly escaped a collision with some cyclists. The car continued its journey.

A MOST successful motor-cycle competitor attributes his wins very largely to the constant use of the puncture-proof band made by the Peter Union Tyre Company. This is an endless band of red rubber of fine quality, feather-edged, so that it can be inserted and remain snugly between the tube and cover, in tyres of any manufacture.

News has just been received from Natal that at the competitions held by the Natal Automobile Club at Durban recently two first prizes were won by the Napier car belonging to Mr. W. R. Poynton, one of the first motorists in Natal.

The Hotchkiss car which has lately completed a reliability run of over 21,000 miles was fitted with D.W.M. ball bearings, for which Messrs. Ludw. Loewe and Company are sole agents for the British Empire. During the long trial the bearings required no adjustment whatever.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

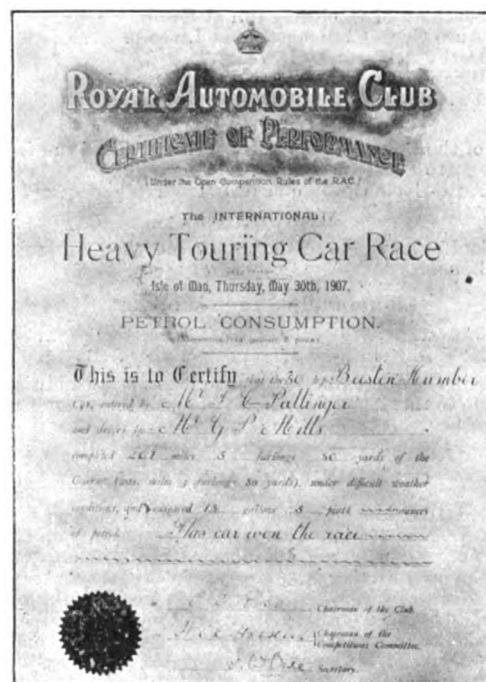
NORTON MANUFACTURING COMPANY.—This company has just been registered with a capital of £2,000, to take over the business carried on at Deritend Bridge, Floodgate Street, Birmingham, as the Norton Manufacturing Company, to enter into an agreement with Mr. J. L. Norton, and to carry on the business of makers of motor-cars, components and accessories.

IMPERIAL MOTOR INDUSTRIES.—£3,000. Agreement with Messrs. H. K. Nathanson and H. Petty. No initial public issue. 15, Castle Street East, W.

OPTIMA TYRES.—£1,000. To acquire English letters patent held by Messrs. Fortier, Beaulieu Jeune, of Roannes, to manufacture and sell in the United Kingdom and British Colonies articles made under such letters patent, to acquire the agency for the United Kingdom and British colonies and dependencies for the sale of motor tyres, bands, and covers. First directors: Messrs. W. H. Ellis and H. R. Wilding, both permanent, 119, Regent Street, W.

YARMOUTH MOTORS.—£2,000. No initial public issue. First directors: T. S. Robinson and E. Lewis.

QUICK CAB COMPANY.—£14,000. To acquire the sole agency for the United Kingdom and British colonies and dependencies for the sale and hire of cars built by the Societe Automobile "Ours." No initial public issue. First directors: Le Comte de Bellissen, Messrs. A. C. Dunlop, H. Michael, and W. L. McBride. 67A, Shaftesbury Avenue, W.



As will be remembered, the Heavy Touring Car race this year was won by a Humber Car. We reproduce above the certificate which has been awarded by the Royal Automobile Club to Mr. T. C. Pullinger, who entered the vehicle.

THE COMMERCIAL VEHICLE TRIALS.

ON Thursday, the 5th inst., the vehicles competing in the R.A.C. Trials were due at Church Wharf, Chiswick. That day was mainly spent in getting them sorted into their respective classes, and weighing at the North and South Western Junction Railway will begin on the Friday. While the vehicles are in this depot the judges will make an examination in order to award marks for the following points:—Accessibility, adequacy of platform area and convenience for loading, ease of manipulation, finish and workmanship, general appearance, and manoeuvring.

In order to encourage punctuality in starting, each morning of the trials, which commence on Monday next, the Club has decided to offer £5 in money and a silver medal in each class to be given to the drivers for punctuality. The judges will also take punctuality (both as regards starting in the morning and running to schedule time) into consideration in making the awards.

The Club has not been notified of any further withdrawals, so that it is expected and hoped that the full number of vehicles, namely sixty, will be presented for trial.

MAJOR A. LESLIE RENTON, M.P., who served with distinction in the South African war and was present at the relief of Ladysmith, has placed an order for a 35-h.p. Iris seven-seated limousine.

FORTHCOMING EVENTS.

SEPTEMBER.

- 7th (S.).—Motor Cycling Club 200 miles reliability trial.
Bristol and Gloucester A.C. meet at Lyppatt Park, Stroud.
East Surrey A.C. run to Paddock Wood.
Southend M.C. run to Gloucester.
Herts County A.C. hill climb at Aldbury Hill.
Scottish A.C. motor-car driving competition at Hamilton Palace.
Southern M.C.'s gymkhana at Battersea Rise House, Clapham Common.
Dinner in connection with the R.A.C. Commercial Vehicle Trials, at the Trocadero, London.
- 9th (M.).—Auto Cycle Club's hill climb at Birdlip.
Industrial Vehicle Trials—first day's run to Reading.
- 11th (W.).—Cardiff M.C. open hill climb at Caerphilly.
- 13th (F.).—Exhibition in connection with Commercial Vehicle Trials at Bristol.
- 14th (S.).—Motor Union Meet at Leicester.
Brooklands A.R.C. meet.
East Surrey A.C. run to Cranleigh.
Essex M.C. 200 miles non-stop run.
Harrogate M.C.C. hill climb.
- 15th.—"The Industrial Motor Review" for September will contain a pictorial and descriptive report of the Commercial Vehicle Trials of the R.A.C.
- 21st (S.).—Nottinghamshire A.C. hill climb.
Southern M.C. closing run at Ewell.
Auto Cycle Club meeting at Lincoln.
Derby A.C. run to Dovedale.
Blackheath A.C. run to Westerham.
- 28th (S.).—Ipswich and East Suffolk A.C. petrol consumption trial.

OCTOBER.

- 12th.—Close of the Commercial Vehicle Trials. Final run from Baldock to Dalston, London, N.
Auto-Cycle Club's quarterly trial.

MARCH, 1908.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Sept. 7th—7.34	...	9th—7.30	...	11th—7.25	...	13th—7.20
" 8th—7.32	...	10th—7.27	...	12th—7.22	...	14th—7.18

To ascertain the approximate times in Glasgow an addition of 20 min. should be made to the above figures; in Manchester an addition of about 7 min. is necessary.

OBSTRUCTING A MOTORIST.

AT Bedford Divisional Sessions, a local carman was summoned for unlawfully preventing George Tompkins from passing on the highway at Bromham on August 2nd, and pleaded not guilty. Complainant stated that he was driving a motor-car on August 2nd, at Bromham, and was travelling towards Bedford. When nearing Bromham he saw the defendant driving a van in front of him, with three other men. The van was on the wrong side of the road, and when about fifty yards away witness sounded his hooter several times, but they did not take the slightest notice. He continually sounded his hooter, and the van completely obstructed him from passing by pulling close in. Defendant said the obstruction was done accidentally and not intentionally. He was fined 5s. and costs 10s. 6d.

PUBLIC MOTOR SERVICES.

WORTHING.—Excursions by motor-bus or char-a-banc now extend from Worthing to Brighton, Newhaven, and Seaford on the east, Littlehampton, Arundel and Bognor on the west, and to Storrington and Pulborough on the north.

THE Town Council of Eastbourne have been memorialised against the running of motor-omnibuses on the sea-front.

THE Pateley Bridge Rural District Council are up in arms against the motor char-a-bancs running on the country roads to Brimham Rocks.

POLICE TRAPS.

NEAR the Castle Howard (York) reformatory, a measured quarter of a mile has been set by the police.

JUST outside Alton, on the Winchester road, is a police trap. Another will generally be found at Lymington Bottom, Medstead.

OWING to confusion with other establishments with a similar name, the directors of the Motor Academy, Boundary Road, Notting Hill, W., have determined to change their name to that of the National Motor Academy, under which title it will in future be known.

BUSINESS NEWS.

THE New Zealand Farmers' Motor Company, Ltd., have been appointed sole agents for New Zealand for Weigel cars. Mr. Ernest Short, the managing director of the company, who has been on a visit to this country, fixed up the agency through Messrs. Tozer, Kemsley and Fisher, Ltd.

INCLUDED in the recent Godiva Procession in Coventry was the Humber Company's Silver Prize Band, the twenty-seven performers of which were accommodated on a single 15-h.p. Coventry-Humber car. They were, in fact, paraded through the streets on a platform mounted on a chassis, similar in every respect to that which the company supply for their touring cars.

A COMPANY has just been formed with the title Nilmeliol (England), Ltd., for the purpose of selling the products of La Société d'Electricité Nilmeliol, lately known as Messrs. Basée-Michel and Company, in this country. Premises have been secured at 36 and 37, Alfred Place, Tottenham Court Road, London, W., where a complete stock of Nilmeliol coils, magnetos, &c., will be carried.

THE ELECTRIC IGNITION COMPANY, LTD., have received a letter from a motorist who has been using the E.I.C. plugs in connection with a high tension magneto. The plugs are of the firm's 4 B type, and, although they are not intended for magneto work, have run the car for 4,000 miles, and the cost of fitting new points, thoroughly overhauling the plugs, and making them capable for at least a further 5,000 miles, only amounts to a few shillings.

MESSRS. HENRY ROYSTON AND COMPANY, St. James's Street, Manchester, have sent us a sample of the cloth they sell largely, made up into covers for motor-cars to protect them from dust when they are in the stable or on exhibition. The covers are usually made 160 in. wide by 200 in. in length, but any size can be supplied.

THE largest motor yet shipped to China has recently left the works of the Ailsa Craig Motor Co., at Chiswick. The engine, which is destined for a boat built at Hong-Kong, is rated at 100-h.p.; it is of the diagonal type with twelve cylinders. Magneto as well as coil and accumulator ignition is fitted; all the cylinders exhaust into a long iron tube 6 in. in diameter placed between the two rows of cylinders, and from this the gases pass into two funnels containing silencers. Along the centre of the iron tube runs a perforated pipe spraying fine jets of water, which are instantly converted into steam, thus effectively cooling and silencing the exhaust.

IN connection with the question of motor vehicles being able to turn in ordinary thoroughfares, Messrs. Mors (England), Limited, claim that their 10-14-h.p. or 15-20-h.p. vehicles (both four-cylinder and live axle) can turn round in their own length and describe the figure 8 in a roadway of usual width without approaching the kerb. Both these types can have a carriage fitted to carry four persons comfortably.

AFTER a lengthy test with Elastex-filled tyres fitted to an 18-h.p. Siddeley, the Bickford Motor Company, of Camborne, Cornwall, report that there appears to be nothing to choose between Elastex and pneumatic tyres for resiliency, and only a trivial loss in fuel consumption and speed, whilst the total absence of punctures greatly increases the general reliability of the car. "As to economy generally, we are not yet prepared to speak definitely, as this will depend on the number of covers which one filling will wear out, liability to accidental damage, &c. Even should there be no actual money saving, however, the increased reliability and total absence of tyre worry render this substance very well worthy of attention."

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, SEPTEMBER 14, 1907.

[No. 445.

Published Weekly by CORDINGLEY & CO., 27-33, Charing Cross Road, London, W.C.

“THE INDUSTRIAL MOTOR REVIEW.”


“THE INDUSTRIAL MOTOR REVIEW,” which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

“The Industrial Motor Review” is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



THE horse has not yet disappeared from the streets of London, and had he had the advantage of an elementary school education would probably take comfort in the speech of Sir John Pount to the shareholders of the London General Omnibus Company, Ltd., the other day. The company has been put to enormous expense in complying with the stringent requirements of the Commissioner of Police with regard to motor vehicles. The competition of the various companies had resulted

in the reduction of the omnibus-miles, with serious loss to the revenue of most of the concerns. According to Sir John it is a matter of calculation with regard to certain motor-omnibus companies now running at a loss how long their financial arrangements would permit their continuing as going concerns. Some horse-omnibus companies and proprietors had already withdrawn their motor vehicles. The stud of horses belonging to the London General Omnibus Company is maintained at 14,000, the average lives of the animals being five years and four months. The concern has no more motor-buses on the road than was the case a year ago; and having regard to the serious aspect of things with regard to traffic in London it would appear that the horse has not yet entirely lost his position.

The Effect of Dust on Health.

IN his annual report to the County Council Dr. F. E. Fremantle, the Medical Officer of Health for Hertfordshire, refers to the development of motor traffic bringing a new problem to the front. He says that the effect of ground dust upon health was first discovered in the South African war, and experiments have shown that infection may and does take place through this channel. The effect of a dusty atmosphere on the respiratory organs has long been known and guarded against in factories and mines, where “miners’ consumption,” as a result of the rock-drill, is still a common danger, despite modern inventions to avoid it. Road-dust is a danger which must similarly be avoided. It is an especial danger in the Home Counties, where the quality of roads and scenery, its situation as regards through traffic, and the number of residents who work in London, are considerable factors in swelling an already exceptional motor traffic. To abate this danger to health less dust must be made, and such as is made must be less disturbed and

scattered. For this purpose new methods may be introduced for road-paving, as has been done at Rickmansworth, where dust-laying compositions appear to have been effectual, and the New Road, tarred once last summer, still shows an improvement over others. This problem is of greater importance on urban than on rural roads; and experiments in road-surface for towns may well be encouraged by medical officers on health.

Scenes in Surrey.

THE wayside Rambler rarely writes books nowadays; hence Mr. John Murray’s re-issue of “Field Paths and Green Lanes in Surrey and Sussex,” by Mr. L. J. Jennings, comes as a refreshing reminder of the pleasures that are no longer generally enjoyed. Mr. Jennings journeyed by train and on foot, chatting with wayfarers, sextons, beggars, and others who crossed his path. All these get out of the way of the motor-car; and the old time conversations have been curtailed. Still the book is of interest to those who travel through the two counties, telling them of much they have missed by keeping to the high road and leaving the bye paths to be overgrown with grass. The author’s feeling when he first saw Hindhead is worth quotation. “It is with surprise,” he says, “that in this lonely waste one sees between the Devil’s Punch Bowl and the top of the hill a fine, broad, and well-kept road; nor is that surprise diminished when you come upon it and find that it is as hard and smooth as any road in a private park could possibly be. There are very few marks of wheels to be found upon it, but abundant traces of sheep.” He looked upon the scene and wondered, “Will the tide of English summer travel ever again turn toward England itself.” We fancy the residents of that part of Surrey would answer in the affirmative.

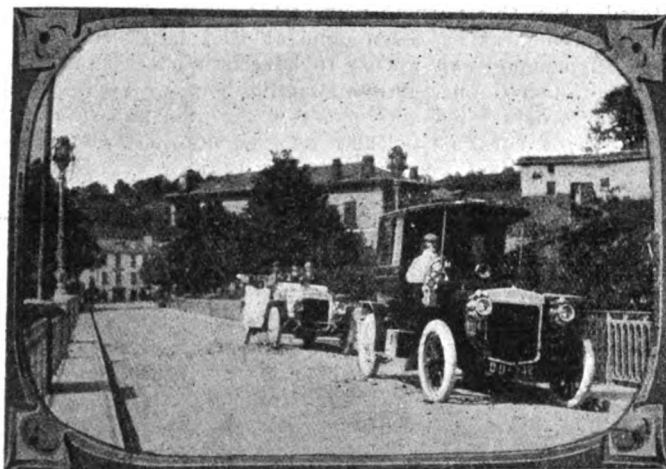
Round Town.

MR. C. G. HARPER has obtained considerable reputation in connection with his books on various roads of the country, and his latest, entitled “Rural Nooks Round London” (chiefly in Middlesex and Surrey), is a good example of the historical phase of much of his work. Here we have a compendious history of many of the suburbs to the south-west of the city. From personal recollections Mr. Harper is able to demonstrate that London has been going westward during the last quarter of a century, and how districts like Acton were almost silent villages back in the centuries, whereas now they have become great roads of bricks and mortar. Until 1863 Londoners possessed no means of being carried from one distant

point to another across the great city other than those afforded by cabs. The cost was 9d. from Notting Hill to Charing Cross, and the pace was not exhilarating. What the tube railway has done in that direction, the motor-bus is now doing in many others. Mr. Harper's book is illustrated with a plentitude of photographs, is published by Messrs. Chapman and Hall, Ltd., and will be of interest to many of our readers.

Sunday Motoring.

ONE of the most strange suggestions we have lately heard with regard to the restriction of motorists is that they should be prohibited from travelling during church hours on Sundays. "In some places," says a Whitby journal, "quiet worship is impossible by reason of the noise of motor-cars, and the sooner the Government puts a stop to the practice, except in the case of doctors, the better." This is about as silly as the trapping of drivers on unfrequented country roads. In many places notices are now shown indicating the proximity of a church, and the motorists going by are generally careful to avoid the blowing of their horns. This is surely all that can be expected, and the only effect of such a suggestion will be to raise a smile.



Touring in Spain and France.—Two Daimler Cars near San Sebastian. The front vehicle is in Spain and the rear one in France, a post on the left side of the bridge indicating the frontier boundary.

Proposals for Speed Limits.

APPLICATIONS for speed limits are coming along, and from Kendal in the north to Egham and Chertsey in the south local authorities are considering applications to the Local Government Board. The places named have gone further; they have decided to request their County Councils to take the necessary steps to secure the official restrictions. If this sort of thing is successful some of the anti-motorists may be emboldened into a plea for prohibition. These pin-pricks from various parts of the country are not only harassing the amateur, they are thwarting the activity of the trade.

Accuracy in Taximeters.

Now that the taximeter is being recognised as an essential part of the equipment of the motor-cab, we would lay stress on the necessity of perfect accuracy being ensured in its use, otherwise it will become a snare for the unwary and a dishonest harvest for the cabby who has acquired anything of the nature of the old-time driver of the horsed vehicle. Several cases have been before the courts where doubts arose which were not dispelled even by expert evidence. Our own experience has confirmed the uncertainty that is felt by frequent use of the taximeter-cab, and altogether there is, at

present, a dubious feeling with regard to the device that calls for the serious attention of all concerned in the development of the new form of traffic. Electric meters have to undergo official test, gas-meters are similarly subject to authoritative survey, and the cash registers are equally well overhauled and officially attested as correct. To tamper with any of these things is a criminal offence leading to the police court and branding the offender as one of the wicked. We would urge that the same stringent methods should be applied to the taximeter; that they should be subject to official examination and verification, and that anyone found robbing the public by tampering with the mechanism should be liable to all the pains and penalties visited upon those who prefer gas or electricity. Otherwise the last stage of those who patronise the London cabby will be worse than the first.

Carriage Builders and Motor Cars.

AT the twentieth autumnal meeting of British Carriage Manufacturers, which opened at Chester on Tuesday, Lieut.-Colonel Mulliner, of Northampton, in his presidential address, referred to the immense growth of the motor industry. He said there was a diminution in the number of bodies purchased either in the raw or finished state from the Continent, British manufacturers of motor chassis having evidently recognised the fact that the carriage-building done in this country for automobiles was as good, if not better, in design and finish as the best Continental work. Sir William Angus, who followed, said he firmly believed there would be a revival in the coach-building trade, as he thought the motor-car was not at present fulfilling its real mission. Ladies did not live for the sole purpose of rushing through the air at fifty miles an hour. That novelty would soon wear off. There was not a more beautiful object in the world than a well-dressed woman in a carriage. Ladies would not go about for ever disguised as ghosts. Even a respectable horse that was not afraid of a motor-car was frightened by the goggles which looked out of it! This phase would pass away, for while the automobile would remain the most convenient carriage for getting into the town or for covering long distances, it could not equal the pleasure carriage for taking the air and meeting friends.

A Dubious Point.

IN our issue of the 31st ult. we referred to an interesting point that had arisen at Dunbar, where a prosecution arose in connection with a trap laid, it was alleged, over a portion of a road where a ten-mile speed limit was in operation. The Scottish A.C. have had under consideration the decision of the sheriff of Haddingtonshire in convicting the driver of a member of the Club for exceeding a speed limit of ten miles an hour in Westbarns over a portion of road which is partly within the county and partly within the burgh of Dunbar. The objection was urged at the hearing that the application upon which the speed limit was fixed was made by the County Council of Haddington, who have no jurisdiction over the roads within the burgh, that the notice boards have been improperly erected, and that consequently the speed limit cannot be applied to that portion of the road under the burgh's control. It has been agreed that, if an appeal be taken to the High Court, the Club will lend support to the same.

Educating Councillors.

AT a meeting of the Lower Ward District Committee of the Lanarkshire County Council, held in Glasgow recently, a recommendation of the District Highways Committee was submitted to the effect that application should be made to the Secretary for Scotland for the imposition of a ten mile speed limit in the villages and populous places throughout the lower ward of the county. On the motion of Mr. John Adam, of Larchgrove, it was agreed to delay consideration of the matter

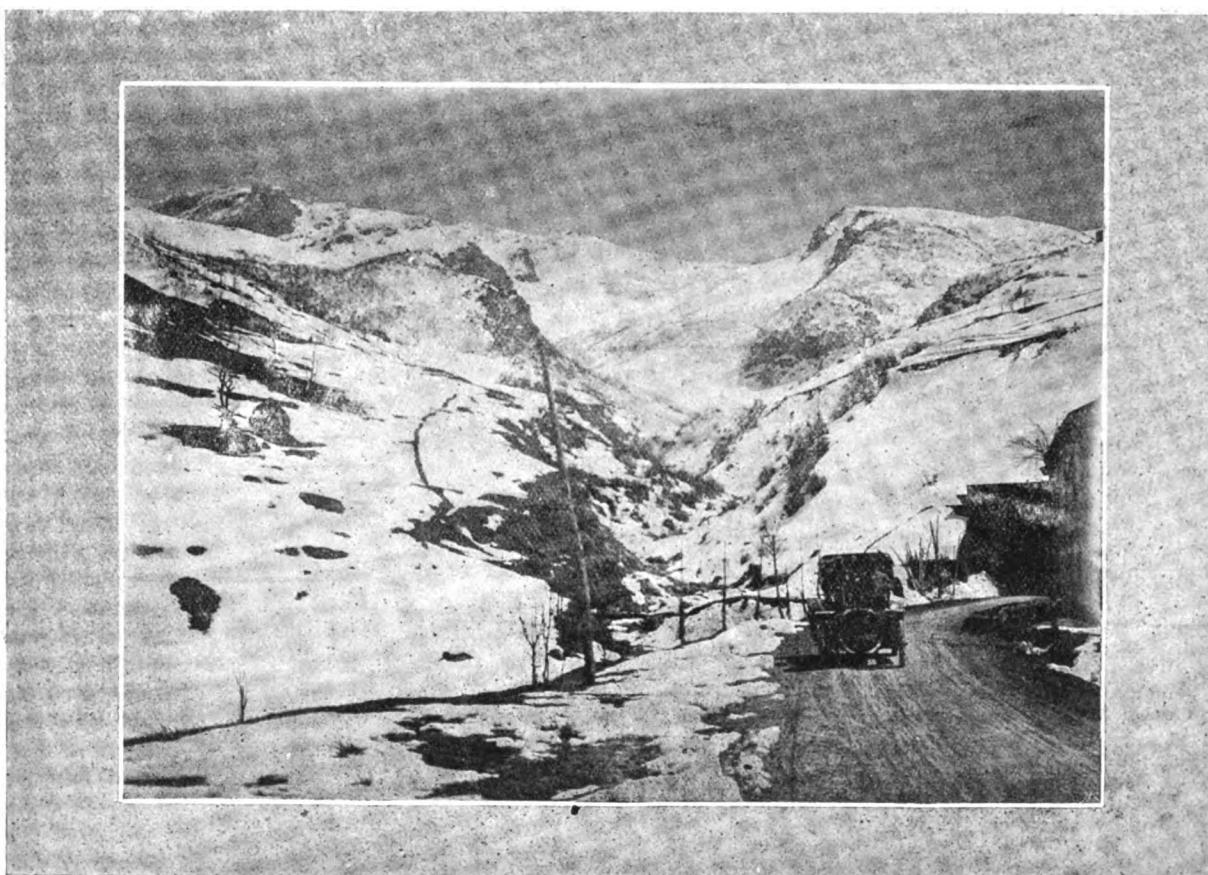
for a month, and Mr. Adam undertook that during that time he would arrange that motor-cars should be placed at the disposal of the members of the Council in order that they might be driven over the roads in question and be in a better position, after the experience thus gained, to discuss the matter at a future meeting. A number of the members of the Scottish Automobile Club are lending their cars fitted with speedometers for this purpose—a means of practical education that recalls the strenuous work of the English Club in the old days of Whitehall Court.

Water on the Road.

THROUGHOUT the country experiments have been, and are, in progress with regard to the alleviation of the dust nuisance. That is not the only inconvenience to which motorists, in common with other users of the road, are subjected. High hedges, twisty corners, and other peculiarities of

Motor-car Imports and Exports.

THAT the 1907 season is rapidly drawing to a close is indicated in the returns relating to the importation of foreign motor-cars and parts into the United Kingdom during August. The number of complete vehicles which reached this country last month was 342, their value being given as £166,863. Parts were responsible for an additional £231,884, which gives a total of £398,747, as against £398,110 in the corresponding month of last year. For the first eight months of the current year the figures are:—Number of cars imported, 3,552; value of same, £1,531,389; imports of motor parts, £1,802,046; total, £3,333,435. For the similar period of 1906 they were:—4,413 cars of a value of £1,823,087; parts, £1,301,918; total, £3,125,005. Turning to the exports of British motor-cars and parts, these continue to show a steady expansion. The number of vehicles shipped during the eight months ending with August last was 1,259, of a value of £476,205; to this have to be added



Touring in Italy.—Crossing the famous Col di Tenda, which is at an altitude of 8,140 ft. above sea level.

[Allgemeine Automobil Zeitung.]

our English highways, are now being considered, and the motor-car is revealing the necessity for many improvements that were previously not very urgent. The experience of Mid-Sussex may be regarded as typical of many another place. At Pookbourne Lane, Hurst, increased traffic is showing the necessity to bridge a stream which crosses the road. In the days of long ago a stream across a road was a rural feature of not much importance if it could be comfortably forded by the pedestrian, but when motors or modern carriages have to encounter a stream, sometimes three feet deep, there arises a demand for improvement. The Pookbourne Lane improvement has been deferred in the hope that some of the motoring community may contribute to the cost. This is not the only water splash in the home counties, and the matter is important enough to warrant serious consideration on the part of some of the organisations that are endeavouring to make the roads passable to motorists.

parts estimated at £323,071, which gives a combined total of £799,276, as contrasted with only £420,760 in the corresponding period of 1906.

A YOKOHAMA correspondent writes that the number of motor-cars at present in use in Japan is very small, there being probably not more than twelve, owned, with one or two exceptions, by foreigners in the vicinity of that city and Tokyo, where one would expect to find them numerous. Few are up to date, and several could be classed "freaks."

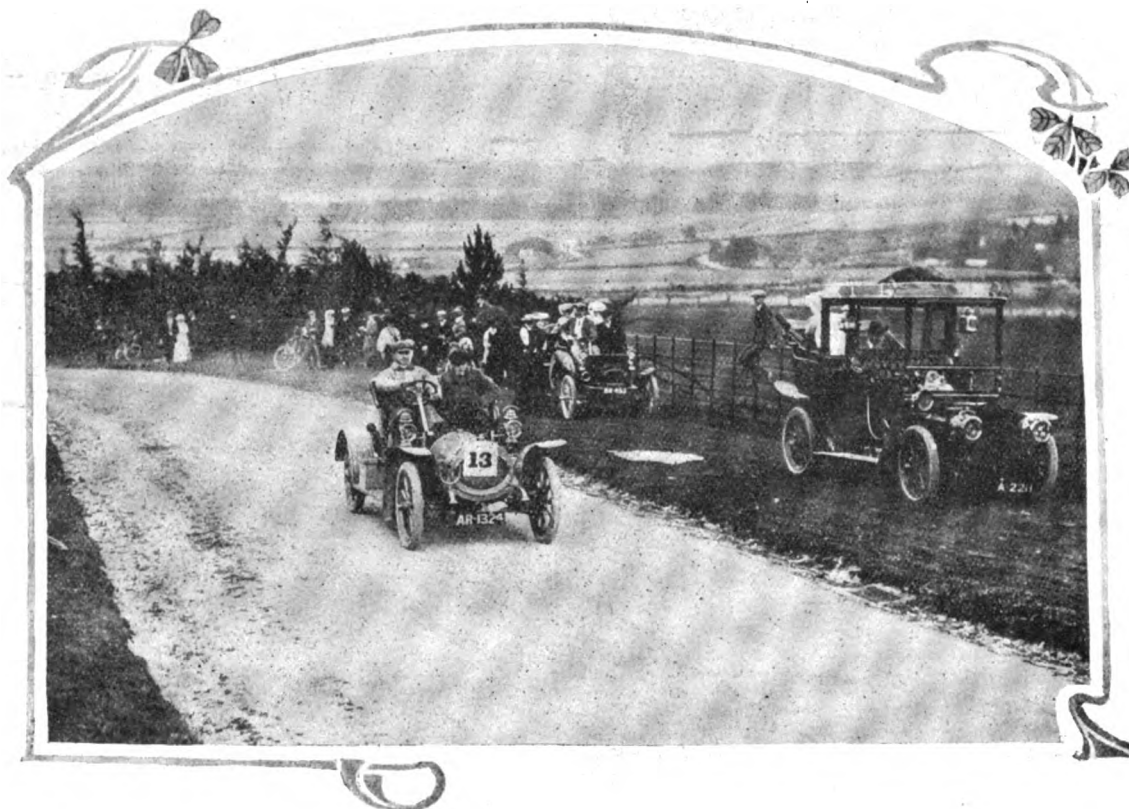
CARBURATION, LTD., of Byron House, Fleet Street, London, E.C., who, a few months ago, brought out a patent carburettor controller and fuel economiser, which has attracted much notice, are now introducing a new design of carburettor in which the Gillett-Lehmann system is incorporated, together with other novel features, to which we hope to refer in a subsequent issue.

OXYGEN AND ITS USE IN PETROL MOTORS.

WHATEVER may be the opinion regarding the use of oxygen in the races at Brooklands, there can be no dispute as to the universal desire to promote the general efficiency of the internal combustion motor itself. Experiments are constantly in progress with fuels of various kinds, which almost invariably have for their composition a hydro-carbon base. It may not be out of place to refer here to the chemical action which occurs in the engine, by which mechanical energy is produced from the heat energy, obtained by the combustion of the mixed gases. Briefly, it is this: The gases themselves, produced in the well-known process of carburation, are first compressed, and then, by the electric spark or otherwise, ignited, with the evolution of tremendous heat and pressure. The heat naturally arises from the chemical union of the mechanically mixed gases, and the rise in temperature which accompanies the combination during oxidation increases the pressure by tending to expand the volume of the gases.

heat. In other words, the thermal efficiency of the latter combination is far higher than that of the former. Further, when an oxy-hydrogen mixture is exploded and water is produced, and water only, as the product of combustion, the general efficiency of the engine is necessarily higher. The water which is produced tends to lower the excessive temperature to which the cylinder walls otherwise rise. This, while theoretically a loss of thermal efficiency, is a gain in mechanical efficiency, as an undue rise in the temperature of the cylinder walls neutralises its tendency to conserve the ultimate thermal efficiency by limiting, by immediate rarefaction of the gases, the supply necessary to maintain it. From this it follows that the most perfect form of fuel possible would be an oxy-hydrogen mixture, as this would eliminate the inert nitrogen entirely from the equation, and would substitute throughout a complete combustion of fuel with the highest heat value, for the partial combustion of one of lower efficiency.

This perfect fuel, however, has not yet arrived, but with the rapid march of progress in chemical science it may not be long before it does. In the meanwhile we are confronted with the



The Hertfordshire Club's Hill Climb at Aston Hill.—Mr. H. S. Adey's 14-h p. Germain Car making the Ascent.

When a hydrocarbon, like petrol, paraffin, or benzene, is used, the chemical process is essentially the oxidation of the carbon with a portion of the oxygen of the air to form carbon dioxide; another portion of the oxygen also uniting with a volume of the hydrogen to produce water. Now, in addition to this change, there is a mechanical process going on which is actually and entirely a loss of energy. The air, from which the vital element oxygen is obtained, contains three parts or thereabouts by volume of nitrogen, an inert gas which acts merely as a diluent, being swept into and out of the cylinder without taking any active part in the chemical processes. It forms (the nitrogen) a considerable part of the exhaust gases, the balance of which are the uncombined or unconsumed hydrocarbon mixture—evident by its characteristic odour—and the carbon dioxide of the combustive process, to which must also be added the partly vapourised heavy hydrocarbon lubricant.

When oxygen unites with carbon to form carbon dioxide there is an evolution of much heat; but when oxygen unites with hydrogen to form water, there is a far greater evolution of

problem of getting the best results from the fuel we use ordinarily. Here, in the use of additional oxygen, we see the endeavour to increase the thermal efficiency by supplying in sufficiently great volume the necessary oxygen to ensure as nearly as possible complete combustion of the fuel used. Given an inexpensive method of producing liquid oxygen and liquid hydrogen, with a convenient means of storing them on the car, together with a simple apparatus for permitting their re-vaporisation and mixture, we shall have made a distinct advance towards the perfecting of an already excellent mechanical invention. The increased thermal efficiency would have a distinct bearing upon the experimental side of the science of aeronautics, in which, even in these days of extremely high efficiencies per pound weight of engine, there must be greater reductions to assist in the production of the mechanical bird. J. W. F.

MR. S. J. BULL has retired from the management of the Waterloo Motor Works, which will be carried on under the supervision of the Hon. Lyndhurst Bruce.

Under Cader Idris and Snowdon to Chester.

BY JOHN LL. WARDEN PAGE.

(Concluded from page 595.)

THE way out of Llandudno takes us along the wide esplanade and over the neck of the Little Orme, and the road is steep and winding. On the other side lies the watering place of Colwyn Bay—in fact, along this coast there is a procession of watering places. However, we do not see much of them, for ere long we turn inland for St. Asaph. Climbing out of Colwyn Bay we run downhill through the pretty village of Llandulas and past Gwrych Castle, where Lord Dundonald lives, a place beautifully situated at the base of wooded crags, and turn through the little town of Abergele towards the Cathedral city. The best of the scenery is now behind. The mountains are things of the past. Still the country is anything but tame, especially about the Vale of Clwyd, where St. Asaph nods drowsily. As we approach it we pass Bodelwyddan church, the spire of which has been a prominent object for miles. This, one of the most costly village churches in



The River Dee at Chester.

Bodfari and thence to Mold, over the slopes of the bold range that bounds the Vale of Clwyd on the east. The pyramidal mass on the summit of the loftiest, Moel Fammau, represents the ruins of a monument set up to mark the Jubilee of King George the third of pious memory. Mold has a fine church which was once steeple-less—a fact commemorated in the old rhyme:—

Pretty Mold, proud people,
Handsome church without a
steeple,
though what cause the inhabitants
had for pride we know not.
Close to the town, marked by an
obelisk, is the field of Maes-y-

Garmon, the traditional site of the great battle of Alleluia, where in A.D. 448 an army of Christians, led by Germanus (hence Garmon) and Lupus utterly routed an immense host of Picts and Scots, and in the other direction is Tower, an old mansion which takes its name from an embattled tower, centuries older than the house. This place has a grim history. In the Wars of



Castle Street, Conway.

the country, is well worth seeing. It cost £60,000 and is (as it well may be) a marvel of costly stone, sculpture and carving. St. Asaph is hardly more than a village, and the Cathedral, the smallest in England or Wales, has little of interest about it.

The last thirty miles, from St. Asaph to Chester, are soon disposed of. The road turning south crosses the Clwyd and ascends gradually through a picturesque country to the village of

the Roses the tower was the abode of one Reinallt ap Gryffydd ap Bleddyn, a Welsh chieftain always at feud with the citizens of Chester. Matters culminated in his seizing the mayor, carrying him to Tower and there hanging him. This could not be tolerated. The citizens attacked the keep in such force that Master Reinallt, thinking discretion the better part of valour, retired and hid himself close by. The infuriated citizens rushed

headlong into the house. Then Reinallt emerged from concealment, turned the key in the door, and set the place on fire! Few, if any, returned to Chester, for those who escaped the fire this truculent Taffy put to the sword. Those were pleasant times.

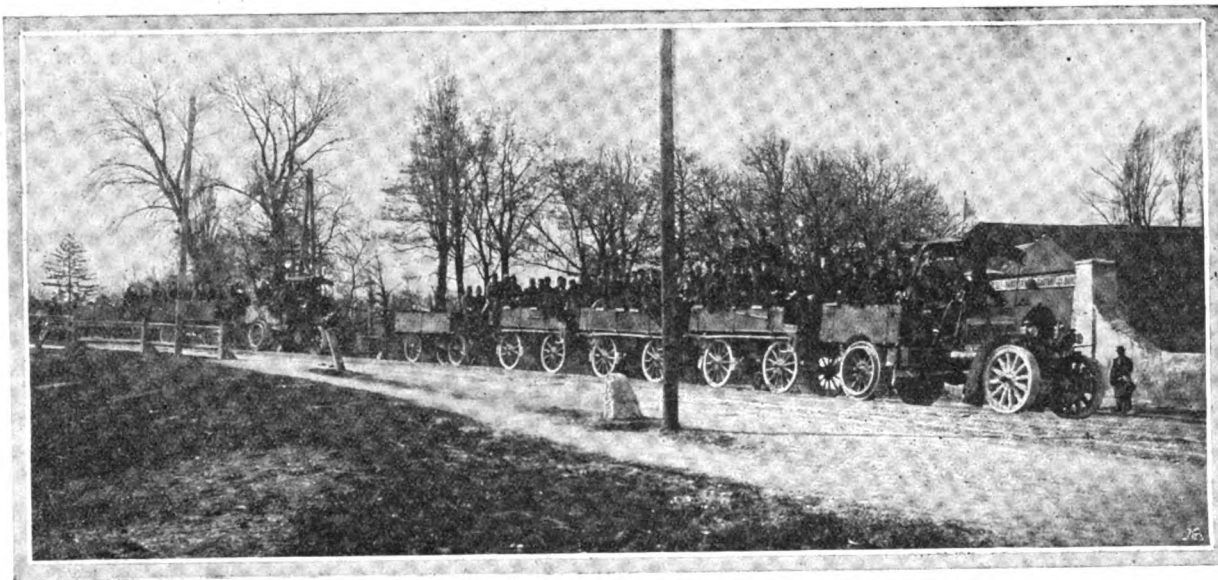
The country about Mold is not improved by the presence of collieries and other blots of commerce. Neither are the roads, which in places are loose. Still there is not much to grumble at. At the village of Broughton many motorists will diverge a mile or two to visit Hawarden Castle, where Mr. Gladstone lived and died. There are really two castles at Hawarden—an ancient and a modern. Of the former little but an ivy-mantled keep remains. It came into the hands of the Glynnnes (Mrs. Gladstone was of this family) in the time of the Civil Wars, when Sergeant Glynnne, a friend of Cromwell, bought it after its assault and capture by General Mytton—the same amiable gentleman who threw the Irish defenders of Conway into the river tied back to back.

Hawarden Castle is the last place of interest in Wales. At Saltney we cross the boundary of Flintshire and are in England. And the beginnings of England are not good. The road is bumpy and there are tramlines which accompany us the last two miles into Chester. But if the approach thereto is indifferent, Chester,

SOME USEFUL NOTES.

THE fact that a sparking plug will spark outside the cylinder is no guarantee that it will discharge properly when under compression in the cylinder, as the added resistance of the air gap between the spark points, caused by the gas pressure when the engine is compressing, is often enough to cause the discharge to pass by preference, through defects in the insulation, which are, however, not serious enough to manifest themselves when the spark has an easy path between the points.

THERE is a curious belief, which is very widely current, in regard to cleaning sparking plugs when they have become fouled. One often sees the most minute care being exercised to carefully brighten the metal of the points, while, at the same time, the condition of the insulating surface between the central electrode and the shell of the plug is ignored. As a matter of fact the presence of soot or carbon on the points is of no account whatever, unless there be enough to form a conducting bridge between the live and the earthed electrode. The matter that really demands attention is whether there is a layer of carbon on the surfaces of the insulation over which the current



The above illustration depicts the two Motor Road Trains with which some Trials have recently been carried out by the Austrian Military Authorities. *[Allgemeine Automobil Zeitung.]*

it must be admitted, makes a good *finale* to our tour, and I am sorry that an account of its "rows," its walls, its Cathedral can find no place here. As the bricklayer said when he finished his day's work, "That is another story."

THE latest addition to the ranks of British motor-car builders is Messrs. H. Coltman and Sons, of the Midland Iron-works, Loughborough, an old-established firm of engineers. We have been aware for some time that Messrs. Coltman have been at work on the production of a car, to the designs, and under the supervision of Mr. Wm. Wilson, and we are now able to announce that the first car is on the road undergoing its initial trials. The vehicle is fitted with a 20-h.p. four-cylinder engine, in which a number of special features are incorporated, notably in regard to the ease of accessibility of the valves and the cam shafts, and also the dual ignition, which is effected through one switch and a single set of plugs. The transmission is through a cardan shaft and bevel gear, the latter being so arranged that the large bevel wheel and the differential can readily be taken out without removing the road wheels. We understand that, with a test body, the new car—with which we hope to deal more fully in a subsequent issue—has already been driven close on 2,000 miles, and has fully answered the expectations of the makers.

can find a path and along which it can short circuit. It is the insulation that needs cleaning rather than the points, and the plug may have to be taken apart to allow this to be properly done.

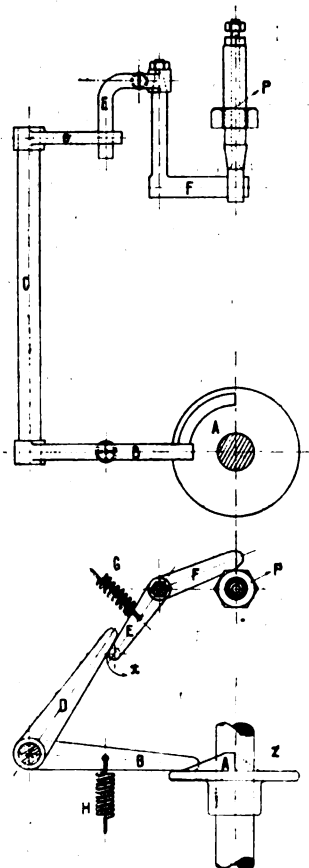
If a good spark is obtained at the plugs, it can safely be presumed that the electrical system is working correctly. If a good spark is not obtained, the following may locate the trouble:—First, the accumulators may be run down. Test them with a voltmeter—they should show at least four volts. Second, a loose connection at some point in the electrical system. Go over all connections, and make sure that all the terminals are perfectly tight. Third, broken wire, either in the wiring or in the coil. If the trembler of the coil works properly, the trouble is not in the latter. Fourth, a loose connection or a short circuit in the contact maker caused by dampness, weak springs, or the plugs being loose or worn. An examination at each of these should show where the difficulty lies.

A LARGE excess of oil in a certain cylinder is likely to cause a more extensive and rapid deposit of carbon on its piston head than will accumulate upon the others. Sooner or later, especially when doing hard work, this cylinder is almost sure to develop pre-ignition, and bad "knocking" will be the result. The scraping off of the offending carbon crust is the obvious remedy.

SOME HINTS REGARDING LOW-TENSION MAGNETO IGNITION.

AT different times various accounts have been given of troubles in connection with magneto ignition; as this form is increasing in popularity, a few hints on the adjustment and operation of the rotary type of low-tension magneto may be of interest and utility to many motorists. In the first place reference may be made to the accompanying sketches, Figs. 1 and 2, of the make and break mechanism which forms a necessary adjunct to the low-tension system, and which we have prepared with the view of enabling the following remarks to be readily comprehended. A is the ignition cam; B the cam lever; C the adjustable spindle for timing; D the striking lever; E, the ignition plug lever; F the contact lever; G the tension spring for the contact lever; H the tension spring for the cam lever; and P the ignition plug.

On several occasions we have seen motorists on the road, owing to their engine, from one cause or another, refusing to run, taking these parts of the ignition system down, whereas they should never require touching except in a workshop. The part which goes wrong in nine cases out of ten is either the contact lever F or the ignition plug P, which wears slightly owing to the continual tapping and the excessive heat at the point of contact. When these contact points have worn so as to reduce the space X to a minimum, a short circuit is formed, the result of which is that it is impossible to get a spark in any of the cylinders. Therefore, when a petrol motor misses fire and stops



FIGS. 1 AND 2.

owing to ignition troubles, all that is necessary is to first see that the conductor wire from the magneto is in order; secondly, to see that the springs G and H are all right; and thirdly, to turn the crankshaft round until the striking lever D rises to its highest point, in order to see that there is a space between the levers D and E. This space should be about one-sixteenth of an inch in width on most motors; it may vary a little on some makes, but the right position can soon be ascertained. The

adjustment is made by loosening the nut which secures the ignition plug lever E, setting the lever in the desired position and securing it in place by the nut. The crankshaft should next be turned further round until the striking lever D falls sharply on the ignition plug lever E, thus breaking the contact between the contact lever F and the ignition plug P, a spark occurring at the same moment between these two points.

In the case of a four-cylinder engine, the timing of which is considered to be wrong, all that is necessary is to turn the crankshaft round until one of the striking levers D falls sharply

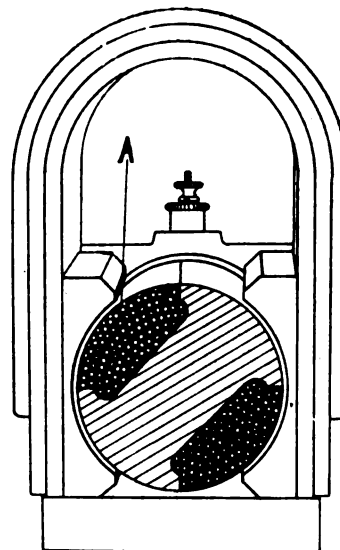


FIG. 3.

on the ignition plug lever E, and at this point put a chalk mark on the flywheel rim; repeat this with all four cylinders, and note that the chalk mark falls precisely on the same centre for cylinders No. 1 and 3, and directly opposite on the flywheel and on the same centre for cylinders No. 2 and 4. From Fig. 2 it will be noticed that the cam A has a gradual rise to the top and then a quick fall; the tension spring H pulls the cam lever against the cam, and is of sufficient strength to overcome the tension of the spring G. Thus, when the highest point gets past the lever B, the lever D then strikes E and breaks the contact between F and P, and at this instant of breaking the contact the spark occurs. If the cams are of the slow type, as shown by the dotted line, the method for fixing the timing is the same, except only that the flywheels should not be marked until the lever D just touches the lever E.

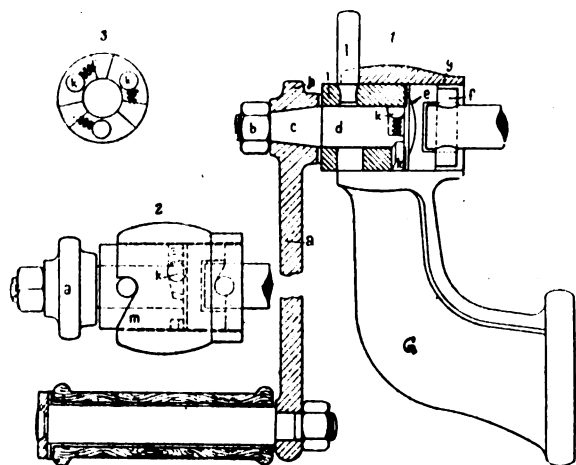
With regard to the magneto and the magnets becoming demagnetised, there are those who imagine this happens at very short periods. This is, however, not the case; we have already had a magneto running for over six years, and it is in perfectly good condition to-day, and has not yet been re-magnetised. The principal point about the magneto is to see that it is set correctly for the timing. Fig. 3 shows the armature in the correct position for firing when the ignition lever is set in its retarded position, and the line A indicates approximately the position of the armature when the ignition lever is fully advanced. When once the magneto has been set correctly (and this is usually done on the test bench) it should not be disturbed again, as it is then fixed to give the best possible working results. If, however, one has the idea that the full power is not being obtained from the magneto, all that is necessary is to detach the wire from the conductor rod or sparking plug and turn the motor, at the same time touching the base work of the magneto with the wire to see if a spark is obtained. If there is no current passing, the most likely thing to have happened is that some dirt has found its way between the spring contact points at the end of the armature spindle. It is a very good plan to wipe this occasionally with a piece of rag, and thus remove any grit that may get between these points.

The spring contacts on the end of the armature spindle

on some magnetos are quite unfit for use on motors, and they have been the cause of considerable trouble in the past. The contacts are too small and also too lightly made; and it might be well if manufacturers of these machines would look into this point and improve the design for conveying the current from the armature. A good piece of insulated wire should always be used between the magneto and the ignition plug or the conductor rod, and care should be taken that there are no loose strands which might cause a short circuit. By keeping these points in mind, more especially the contact at the end of the armature spindle on the magneto, and the space between the levers D and E, no serious trouble need be experienced with the low tension rotary-type magneto ignition system. One great feature about it is that very accurate firing is assured, which enable the very best possible results from the motor in regard to power to be obtained.

A SAFETY STARTING HANDLE.

A NEW safety starting handle for use in connection with petrol and heavy oil engines has lately been introduced by the Gas Motorenfabrik of Deutz, Cologne, Germany. The arrangement is such that, once the engine is in operation, or when it gives a back kick owing to too early ignition, the handle



is automatically thrown out of engagement ere it can inflict any injury to the operator's hands. Referring to the illustrations, it will be seen that the handle *a* is fixed by the nut *b* on the conical surface *c* of the spindle *d*. The rear end of the latter is so formed that it can, by pushing in the starting handle, be engaged with the pin *f* which passes through the prolongation of the engine crank shaft. *G* is a bracket from the motor in which the starting handle is supported. As soon as the engine starts up and its speed exceeds that at which the handle is being turned the pin *f* slides on the rear faces of the connection *e* and tends to automatically push it away out of engagement with the crank shaft.

Passing now to the means adopted to prevent a back kick of the engine—owing to the ignition being too far advanced—injuring the operator, it will be seen that the spindle *d* is surrounded by a bush *i*, which is free to slide in the hole *g* of the bracket *G*. In the rear end of the bush is mounted a free-wheel clutch, shown separately at 3, somewhat similar to those now used in bicycles. While the bush is normally quite free of the spindle *d*, it is rendered, by means of the clutch, solid therewith the moment the engine shows any tendency to give a back kick. When this occurs the pin *l*, which is fixed in the bush, and which, when the starting handle is placed in position, becomes engaged with a hook *m* (shown in the plan view No. 2) formed on the top of the bracket, slides on the inclined face of the hook, and so pushes the handle out of engagement.

MOTOR AUCTION SALES

THE motor-car has not only altered the aspect of the streets; it has transformed the outlook of the shops that line the same, and scarcely an important thoroughfare in the west end of London fails to bear witness to the progressive development of the automobile industry. Long Acre's transformation has become a hackneyed suggestion of the change; Piccadilly and the more aristocratic roads and streets going westward tell the same tale. A little to the north, in the region of which Euston Road is the centre, has no variant in the general confirmation of the strength of the motor-car trade. It has ousted older businesses to the rear, and now asserts itself as a regular and recognised business of the country. This is true of London; it is also equally certain with regard to the provinces, where, emulating the Metropolitan example, auction sales are now regarded as mutually helpful in the way of business.

But with regard to Euston Road, the Motor House, or rather the two Motor Houses, of which Grand Maison d'Automobile, Ltd., are the proprietors, occupies an unique position. To visit the establishment nearest the Tottenham Court Road is an education in the art of liberal decoration, for the showrooms seem to typify the high-class range of the stock, including not only the utilitarian touring car for the professional man, whose enjoyment of the pastime is limited to the week-end, but the lordly vehicle for a duke or the speedy car for the Brooklands racing track. Here, as a matter of fact, is a permanent exhibition of cars for all classes of private owners.

Then there are the auction sales, that take place every Thursday, attracting buyers from the provinces—both private and trade—as well as regular visitors from the London area. The auction sales have developed well, and many an owner who realises the limitations of his small car sends it to the Motor House, where it is generally disposed of at a price that is reasonable—to those who buy and those who sell. Hence there are always gentlemen on the look-out for reliable vehicles of a type not too antiquated, and who go to Euston Road in the confidence of being able to supply their wants. It follows, therefore, that the auction sales of the Motor House are always full of interest—of a really practical kind.

The other day we looked in at one of these non-reserve sales. Cars of every type were among the lots catalogued for sale—Lanchesters, Darracqs, Panhards, Wolseleys, M.M.C.'s, Gladiators, Peugeots, Napiers, and, in fact, all the best-known cars of British or foreign origin, find their way to the Motor House. The auctioneer asks for a bid, just by way of a start, and a timorous call of £50 or £60 comes from the tonneau of one of the cars, in which the prospective purchasers sit while the miscellaneous assortment of parts, spares and accessories is being offered. Then by easy stages the biddings advance; the auctioneer dwells on the advantage of the canopy in wet weather, the detachable body in dry, and the general features of the particular car that distinguish it beyond all others. Meanwhile the busy buyers assiduously watch for opportunities, and thus the afternoon passes away, scores of cars changing hands, and many men coming from the sale-room actual motorists who previously did not own a car.

To assist users and drivers of Napier six-cylinder vehicles, Messrs. S. F. Edge, Ltd., have drawn up a diagram which enables the driver to make quite certain that he is not missing any point when lubricating his car. As every detail which requires attention before a day's run is numbered, he can walk round his car and count each grease cup as he turns it, and so be quite certain that he has not missed one; and the same applies to the points which require oiling. A copy of the diagram is being given to every owner of a Napier, mounted on stiff cardboard, and arranged to hang up in the garage, so that it should be of great assistance in helping the chauffeurs to keep their cars in perfect running order.

THE British Motor Body Company, Ltd., have large premises at Bannermill Works, Aberdeen, where they are doing much in motor-carriage work.

MOTORING has been taken up with great enthusiasm by the people of Argentina, and it is predicted that in the near future Buenos Ayres will be one of the leading cities of the world in the number of its automobiles.



The London and North-Western Railway Company have recently built a large slope at the Camden Town Goods Station to enable them to deal promptly with the motor-cars they carry to London. The photo reproduced above shows a group of Argylls just arrived for Argylls London, Ltd.

A MOTOR gymkhana will be held in aid of the Ross-on-Wye Golf Club on Tuesday, the 17th inst. Mr. T. W. Coombes, of Ashfield, Ross, is the hon. sec. of the event.

A CORRESPONDENT writes that there are at present about seventy pleasure cars and some twenty to twenty-five motor-lorries in use in Singapore. These latter are used owing to their ability to negotiate the hills with fairly large loads.

A CORRESPONDENT of one of the daily journals suggests that those owners of motor-cars who lack passengers when travelling should take strangers aboard, "and so help to bridge over the gulf between motorists and the public, and also help to make country life a little more social."

A NEW cradle for carrying spare tyres on the car is being put on the market by Messrs. Wm. Cole and Sons, Ltd., of High Street, Kensington, W. The device, which can be detached from the car by undoing a single screw, is very simple, and is adapted to take any size of spare wheel, rim, or tyre.

UNDER the guidance of Mr. W. Shave, the works manager, we recently had an opportunity of going over the works of the Albany Manufacturing Company at Cumberland Park, Willesden Junction. The exterior of the premises gives but a faint idea of what must be one of the largest and most important works devoted to motor-car repairs in the country. At the time of our visit there were close upon 300 hands engaged in the different departments, prominent among which is that devoted to the manufacture and repair of radiators, where we saw many familiar patterns being dealt with. The buildings also include a foundry for the production of repair castings in iron and aluminium, a plating and polishing shop, wheelwright and body painting and repair works, machine tool department and a tool-making section. Perhaps the most striking of all was the dismantling and erecting shop, where there appeared to be collected the cars of every make and pattern. With an establishment of this description, with facilities for making any part of a motor vehicle, the Albany Manufacturing Company are able to carry out any class of repairs without having to wait an indefinite period for replacements from the maker, a feature of great advantage, especially in the summer months, when the loss of one's car for a few weeks is a consideration.

HERE AND THERE.

MR. W. BLAND, who has a garage in the Poulton Road, Southport, has been injured in a fire which broke out on a motor-car in that establishment.

IN connection with a bazaar in the Cambridge Hall, Southport, to-day (Saturday) a 14-h.p. Vulcan motor-car, now on view at the garage of Mr. Harold Bell in Tulketh Street, Southport, will be offered for sale by auction.

WE regret to learn that Mr. Rees Jeffreys, secretary of the Motor Union, has been ordered to take a month's rest and to undergo a course of treatment at Harrogate. He hopes, however, to be present at the Leicester meet to-day (Saturday.)

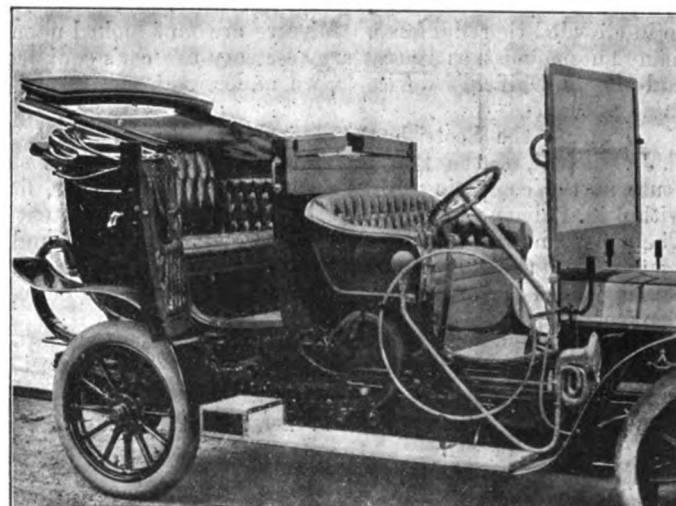
THE new bridge which has been constructed over the river Witham at Langrick will prove a boon to local users of the road. Hitherto the nearest bridge on the south was at Boston, five miles away, and on the north at Kirkstead, nine miles away.

MRS. PIERPONT MORGAN has just completed a successful tour through the north of England and Scotland on a 30-h.p. touring car, placed at her disposal by the Motor Supply Co., Ltd., of 111, Piccadilly, W. She was accompanied on the tour by Miss St. Clair, the daughter of Archdeacon St. Clair, and Miss Gregory.

THE United States exports of motor-cars have at last overtaken and passed the imports, which were so long in the lead. This is revealed by the figures just issued by the U.S. Bureau of Statistics of the Department of Commerce and Labour, for the fiscal year ending June, 1907, which show that the exports totalled £1,100,000, and the imports £900,000.

THE new list of the Stepney Wheel Company gives illustrations of the various patterns made for use in conjunction with artillery or cycle type motor-wheels, together with full instructions as to the fitting of the same. A new departure is seen in a new spare wheel specially adapted for cars having unequal size road wheels, and another pattern designed for use in connection with cars the wheels of which are shod with Collier mechanically-attached tyres. Several pages of testimonials from satisfied users of the Stepney form a fitting conclusion to the list.

WE illustrate herewith the special single landaulet body which has recently been completed by Mr. John C. Beadle,



carriage builder, Dartford, for a 24-h.p. De la Buire chassis to the order of Messrs. Rimmer and Co., of Great Portland Street, W. As will be seen, the feature of the body lies in its suspension on Cee springs, which renders it exceedingly comfortable riding and well adapted for town use. On completion the vehicle was subjected to a very severe test of 250 miles before being delivered, carrying five adults, and it was eminently satisfactory, scarcely any vibration at all being felt. We may add that the car in question has been acquired by Mr. Hugh Andrews, of Winchcombe, Gloucestershire.

MOTOR-CARS are let for hire by Messrs. J. W. Greenwood, Ltd., of Portland Place, Halifax.

A CHAIR of motoring will be established at the opening of the next term in Washington University, St. Louis, U.S.A.

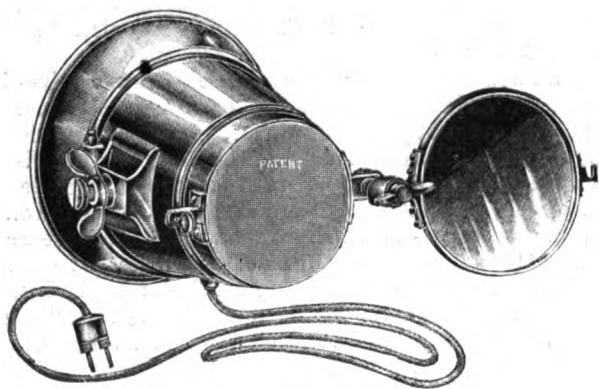
MESSRS. FARR AND SON, proprietors of the Auckland Motor and Carriage Works, Bishop Auckland, are making a speciality of motor-car bodies.

MOTORISTS will be interested in hearing that it has been practically decided to engineer a new road between Lynmouth and Minehead, obviating the necessity of going up and down Countisbury and Porlock Hill.

A CORRESPONDENT writes and describes "a rocky-faced and jowl-cheeked individual," somewhere from "down-under," who was on the Brighton road last Saturday—car, a Daimler, cream-coloured, sign "L.N. 5865—blocking the road and preventing other cars passing. We regret we cannot publish further of the communication.

THE Slough Urban District Council have decided to ask the Bucks County Council to apply to the Local Government Board for a speed limit of ten miles an hour for motor-cars passing through Slough. They have further resolved to draw the attention of the County Council to the damage done to the roads by the steel-studded bands on motor-car wheels.

MESSRS. J. AND R. OLDFIELD, Warwick Street, Birmingham, are now fitting a driving mirror to their side lamps, both electric and paraffin, at a small extra cost, an arrangement which should prove very useful to motorists on the road, and especially



so in crowded thoroughfares. Mirrors are now looked upon by many automobilists as a necessary accessory to a car's equipment, and Messrs. Oldfield's device is, we understand, meeting with a rapid adoption.

DURING the Scottish Reliability Trials in June last, Mr. E. J. Mitchell, of the Palmer Tyres, Ltd., traversed the same route as the competing cars on his 18-h.p. Siddeley car, fitted with 6 in. Palmer tyres, which attracted considerable attention. These have now covered a distance of over 5,000 miles, and on examination the other day we found that beyond a slight wearing down of the rimmed corrugations the tyre was perfectly free from cuts and dentations.

DESPITE the deadness of the season, no fewer than 243 new members were elected at the fortnightly meeting of the Executive Committee of the Automobile Association on Tuesday last, among them being the Duchess of Beaufort, the Duke of Abercorn, the Earl of Dalketh, the Earl of Abingdon, the Earl of Macclesfield, Sir William Cooper, Lord Forester, Lady Gordon Lennox, Lord Gerald Grosvenor, Sir Henry Kimber, Lady Henrietta Guinness, and Sir Alfred Cooper.

OWING to the fact that cars are now being built of such large dimensions, difficulties have been caused in loading up on some lines when cars have been sent by rail. The Midland Railway Company has accordingly had some special covered trucks made, suitable for this traffic, and possessing the following dimensions:—Height at side, 7 ft. 1½ in.; height in centre (inside), 9 ft. These trucks will take a car measuring 7 ft. 5 in. in width, and in addition other trucks have been made measuring 31 ft. in length, and capable of carrying two cars. When these special trucks are required it is, of course, advisable to give notice to the company a day or two in advance.

WE understand that considerable improvement has recently been effected in the Elastes filling for pneumatic tyres.

DURING this month the Aldershot command will engage in military manoeuvres, and motor-cars will again be extensively used during the operations.

MR. R. NICHOLSON, of Morpeth, has written to the Local Government Board suggesting that local authorities should be encouraged to provide suitable housing accommodation for the men whose duty it is to keep rural roads in order.

IN connection with the note in our last issue with regard to troublesome tail lamps the "Signal" Motor Company, of 85, Sisters Avenue, Clapham Common, S.W., draws our attention to the "Signal" tell-tale, which operates by thermostatic action, and consists of an electrical contact opened by the heat of the lamp flame. Immediately the lamp becomes extinguished this contact closes and illuminates a small electric lamp fixed on the dashboard, and warns the driver that his tail lamp is out.

ON Tuesday last Mr. S. F. Edge entertained Mr. Charles J. Glidden to lunch at the Café Royal, London, W., in order to enable him to meet a number of prominent motorists, and to relate to them some of his experiences whilst twice encircling the globe by motor-car. In proposing the health of the guest, Mr. Edge said that it was five years since Mr. Glidden purchased a 24-h.p. Napier, on which he had now driven a distance of 42,367 miles in thirty-five countries in 337 days of running, having crossed the Arctic circle in Sweden, and created the record which he still holds for "farthest north" on a motor-car as well as reaching the most southerly road in the world in New Zealand. It seemed to him that the secret of successful touring had been found by Mr. Glidden in his system of never pushing a car overmuch. For instance, if he intended to run for ten hours during any day he was content to cover 150 miles in that time. Without question, going steadily was the whole secret of touring great distances at a minimum of expenditure. Mr. Glidden, in responding, said that he had found ample leisure during his travels to take over 2,000 photographs and to write over 200,000 words concerning his experiences. Since using his old British-built petrol car he had travelled through 11,000 cities, towns, and settlements. The rest of his tour, which he hoped to complete in 1911, would be chiefly among the countries around the Mediterranean and in the Southern American States.

THE preliminary open-air trials of the first military dirigible balloon to be built in England were carried out on Farnborough Common on Tuesday last with satisfactory results. It was towed out from its shed by a detachment of about fifty men of the Balloon Companies of the Royal Engineers, under the direction of Colonel J. E. Capper, R.E., superintendent of the balloon factory. The balloon is of the shape of a huge sausage; it is about 90 ft. long and is covered from end to end with a fine network of cordage, which meets about 10 ft. below, where it is fixed to a light steel framework. Below this again is a boat-shaped car of light steel framework covered with canvas. An eight-cylinder provides the motive power, it being connected to propellers fixed on either side. Mr. F. S. Cody, who has been attached to the Balloon Department for experimental purposes, was in charge of the engines; Colonel Capper steered, and Captain King, of the Balloon Department, completed the crew. The lifting power of the balloon was first tested, and this was found satisfactory. The engine was next tried, and the balloon, ballasted so that the keel was just a few feet off the ground, was propelled along at a good pace by means of the fan-like propellers. The surplus ballast was then removed, and the Sappers being ordered to let go the trail ropes, the balloon rose quickly up over the common to about a thousand feet, with its head to the wind. The engine was put in motion, and the airship started, and at once moved forward against the wind, rising and descending as the wings at the sides were altered. The steering apparatus was afterwards brought into play, and three parts of a circle was made, the arc described being about a mile and a half in extent. A defect in the engine water circulation necessitated a descent, but, this having been put right, the airship was again tested in the afternoon, completing a circle of about three miles, and again descended near Jersey Brow. It was then replaced in the shed to await further trials.

CONTINENTAL NOTES.

Motoring in the Paris District.

The Touring Committee of the French Automobile Club in a recent circular once more calls the attention of motorists to the fact that a special service exists on the club premises for the purpose of measuring-up petrol tanks on motor-cars, and that owners will save themselves considerable annoyance at the Octroi gates on entering and leaving Paris if they can present tanks measured in this way. It is not necessary to be a member of the A.C.F. to take advantage of these arrangements. Octroi officials everywhere now recognise the accuracy with which the measurement is carried out, and accept the certificate given by the club as to the capacity of any tank, no matter what the shape.

The French Rule of the Road and the Position of the Driver.

As is well known, the rule of the road in France is the reverse of that obtaining in Great Britain, vehicles being required to keep to the right and pass on the left. Notwithstanding this, the driver's seat and the steering wheel and control gear of motor-cars are arranged on the right, the same as on British

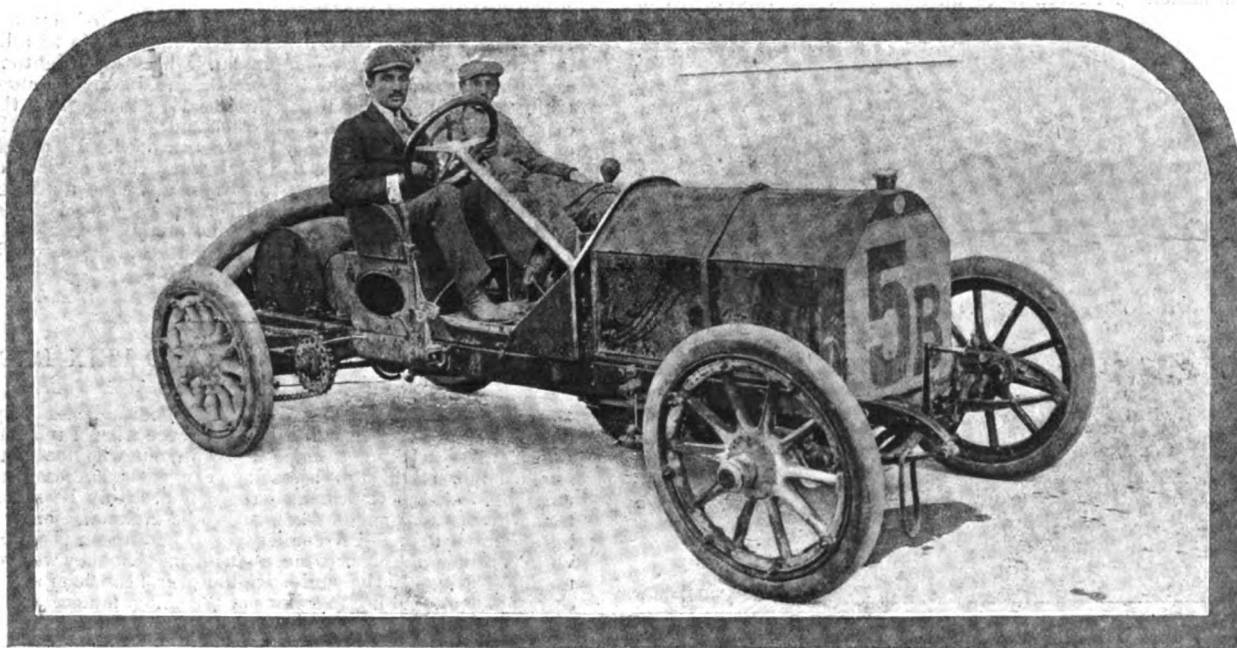
minute inquiry in each case, and as far as possible obtain the evidence of witnesses on this point. If it is finally proved that the majority of accidents are due to fast or reckless driving very severe measures will be taken, and in addition to heavy fines the licences of motorists will be withdrawn.

Taxation of Motor-Cars in Austria.

The Lower Austrian Diet is considering a proposal to impose an annual tax of 1,000 kronen (£40) on motor-cars, and of from 100 to 200 kronen (£4 to £8) on motor-cycles. Advocates of the measure argue that the tax is rather in the nature of compensation for the dust nuisance and the damage wrought to the roads by the passage of motor-cars travelling at a high speed. Manufacturers, on the other hand, declare that so heavy a tax will spell ruin to their industry, as it will deter many would-be motorists from purchasing cars.

A New Car for the Kaiser.

The Kaiser has just added a Fiat six-cylinder car to his stud of automobiles. The vehicle, which was supplied through



The Brescia Race Meeting.—Minoia, the winner of the Coppa Florio, at the wheel of his Isotta-Fraschini.

machines. The result is that the driver of an automobile wishing to pass another vehicle does so at great risk, inasmuch as he is unable to see in crowded traffic whether there is a clear road ahead, or whether another carriage is approaching in the opposite direction. Furthermore he is badly placed to make a safe turn in the road, which must be to the left. In view of this M. Charron, of the C.G.V. firm, is urging, with some reason, a change in the construction of motor-cars for use in France to the extent that the driver's seat and steering wheel should be located on the left side, with the change-speed and hand brake levers arranged in the centre of the floorboard between the driver and the passenger.

Motor-car Accidents in France.

In view of the continued frequency of motor-car accidents, the French Ministry of the Interior has notified the authorities of the different Departments that more stringent measures must be taken in the future. The Prefecture of the Seine has, as a result, issued an order that whenever an accident occurs a special report is to be made as to the speed at which the car was going at the time of the collision. The police agents are to make a

E. E. C. Mathis, of Strassburg, is fitted with a side entrance double phaeton body, a wind screen and hood being furnished in connection with the rear seats.

Miscellaneous Items.

Forty-six entries have so far been received for the reliability trial of industrial motor-vehicles which is to be held in Germany in October.—A 28-h.p. Mors car was last week driven to the summit of Mont Revard, near Aix les Bains. The feat has attracted considerable attention in the neighbourhood, as no horse-drawn vehicle has so far been able to make the climb.—Seven entries have so far been received for the competitive trial of two-cycle petrol engines which is to be held in October by the French Automobile Club.—The French Post and Telegraph Office are about to invite tenders for the transport of the mails between Draguignan and Castellane, Lower Alps, by motor-vehicles.—The Swiss Automobile Club has recently issued an exhaustive Road Book; it contains town plans, road maps, distance records, a list of hotels and motor-car repairers, and notes concerning places of historical interest or of exceptional picturesqueness.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

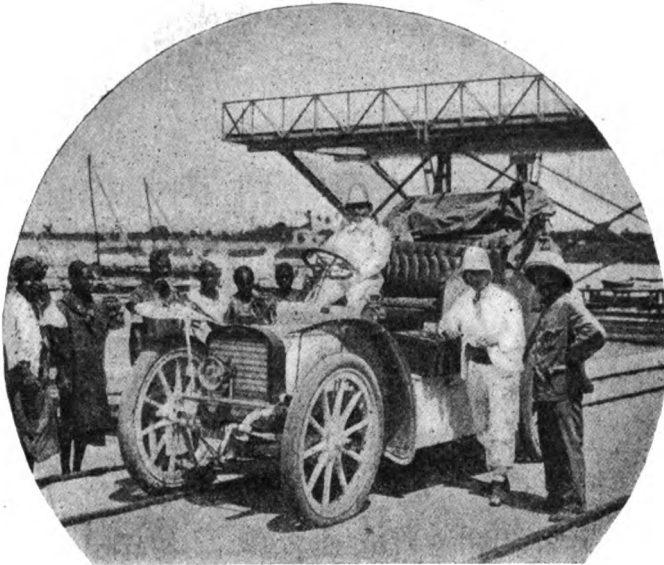
WHAT SHALL WE DO WITH OUR BOYS?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is really getting somewhat monotonous to hear the same reply vouchsafed from about 90 per cent. of the rising male generation when they are asked as to what they intend to be when they grow up. With a unanimity that makes one wonder what is going to become of all the other trades and professions, the youth of to-day plump for the motor industry. The reason is not far to seek; for, putting on one side the money getting side of the question, there is no doubt that a combination of fascinations is presented to the youthful mind by a life in the works where motors are manufactured.

With one huge factory after another being built, and one gigantic company after another being floated, the motor trade certainly looms large on the horizon, and it is no wonder that parents feel relieved at finding their sons choosing of their own accord a calling with such apparently rosy possibilities. But, whilst admitting to the full the enormous field that is opening up, and without any wish to proffer advice of the wet blanket description, I believe that parents will do well to study the question a little carefully before concluding that a royal road to fortune is offered to their progeny by the advent of the automobile.

Because there is always room at the top, and since it is a common falling with fathers and mothers to mistake mediocre intelligence in



Across Africa by Motor-Car.—Lieut. Graetz at Dar-es-Salaam, German East Africa, ready to start on his Gaggenuar Car.

their own offspring for transcendental genius, it is in many cases hard for them to think otherwise than that, however overcrowded the ranks may be, their Jock will inevitably squeeze through the ruck.

But what I feel called upon to point out is, that it is a pity that many a good business or profession, built up by years of unremitting toil by a father, and which he has fondly hoped will be continued by his son, should have to fall into strangers' hands or perhaps be buried altogether, simply because that young man is crazy to sit behind the steering wheel of a motor-car.

And again, unless one has influence, really good positions in the motor industry will soon be quite as hard to get by honest merit as in any other branch of engineering, perhaps more so. The days of crude experiments are over, and with settled designs and methods of working, a much larger field of labour supply is open for employers to choose from; in fact, were it not for this, half the factories would be short of competent hands. Companies once established replenish their staff as required with wondrous ease; all the officials, from the managing director down to the foremen, have friends and relations waiting for berths, and, therefore, it is only to be expected outsiders must take their turn.

With everybody rushing helter-skelter into the motor line there will be necessarily somewhat of a vacuum in those branches of industry which have or will become more or less neglected for it, and therefore it may be well for the more perspicacious to pause and look around for possible careers, whose future, for the reasons we have stated, promise a field with less competition and at least equal pecuniary advantages.—Yours truly,

WORKS MANAGER,

THE CONTROL OF THE ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With indescribable astonishment I read in your issue of September 7th the letter concerning control of the roads, signed by Mr. John Wallace, written, from the manner in which he has handled the matter, either in utter ignorance or ignorance feigned in order to better give currency to statements intended to be of detriment to the interests of the Automobile Association.

To commence with, your correspondent is entirely misinformed as to facts. The Automobile Association has taken part in no run this year, and the particular event referred to was that of the Motor Club, whose choice of roads brought them into close contact with Sergeant Wag-horne, the smartest man in the force, personally responsible for the vigilance exercised by the police on the Brighton road, who, owing to the run having been so extensively advertised, was very much on the *qui vive*, dividing his attention, by means of circuitous routes across fields, between his various measured stretches without our scouts being aware of the fact. Thus it was that that excellent sportsman, Mr. Cordingley, became the first and only victim; the other two cars which were stopped, a six-cylinder Napier (not driven by Mr. Edge, but a private owner), and a Fiat, preferring to continue their neck-and-neck race regardless of consequences, than to slacken speed at the warning which was given by the scouts.

The Automobile Association was instituted by a few sporting motorists with a view to making roads possible to all. But for its intervention, I dare not contemplate what the Brighton, Portsmouth and other main roads would be to-day, and, in my opinion, the highest tribute possible is paid to its organisation in the fact that out of 753 cars registered in the books of the scouts as using the Brighton road on the day in question, only one was trapped. Its popularity is widespread, and as an instance of this I would inform your correspondent that one noble lord recently forwarded a cheque for 10 gs. beyond his annual subscription, in recognition of the association's services in enabling him to now freely use one of the main roads leading from London, hitherto debarred him, without being pestered by the police.

—Yours truly,

WALTER GIBBONS.

THE 1908 A.C.F. GRAND PRIX RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to Mr. H. J. Chapman's letter in your issue of August 31st, I trust he will take no offence when I tell him that it has been a rarity with me to come across anyone who does not believe himself capable of driving a racing car with success in the classical races held on the Continent. He will probably be surprised to hear that when I first announced that I would make and enter Weigel cars in the Grand Prix and Ardennes races I had upwards of 200 letters from various people unknown to me, assuring me that they were without doubt the finest drivers in the world. If, however, I can be of any utility to your correspondent, and he is desirous of becoming famous as a racing man, I should advise him to get employment in a firm who build racing cars, and do his best to so obtain the appreciation of his employer as to get into the testing department, from which he will ultimately become an expert in all those branches which are required to make a good racing man.

If, however, he believes that he is the only capable driver, and that firms are losing by not employing him, he will never be successful. Most continental racing men have been recruited from the workshop, where they have proved their ability and reliability, and earned the confidence of the firm employing them. I trust your correspondent will take my letter in the spirit in which it is written, and I hope at some future date to welcome him as a successful racing debutant.—Yours truly,

D. M. WEIGEL.

FINDING OWNERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent "Tourist," replying in your issue of the 7th inst. to my letter on the above subject, upholds the position of the County Councils and Local Government Board in refusing to give the name and address of a motor-car owner without reasonable cause assigned, and the payment of one shilling.

If "Tourist's" view be a correct one, it follows that it is not our business to trouble about inconsiderate and dangerous drivers whose exposure the authorities deliberately discourage. It is, moreover, absurd for County Councils to appeal to any motor union or association for assistance in checking, or for our journals to exhort their readers to expose the unknown and unknowable "motor-hog."

If it be the general desire of motorists that their names shall be a police and registration office secret, let us accept the consequence of our choice, and take gratefully the speed limits, traps and penalties

imposed upon us through the inconsiderateness of the few whom we are not supposed to be able to trace and influence!

"Tourist" prefers that the police should know him rather than that the public should, and seems to have less horror of summonses than of trade circulars and advertisements, and his view may or not be the popular one.

Personally I feel that, as road restrictions are multiplying so rapidly, it is time every facility and encouragement were given to motorists and the public generally to appeal directly, by letter or otherwise, to owners of cars who inadvertently, or through unscrupulous chauffeurs, are inviting the restrictions which we all deplore.—Yours truly,

D. W. SAMWAYS.

MOTORISTS AT KINGSTON.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Is it not now high time that motorists united together to boycott Kingston in the same way that Andover was boycotted some twelve months ago? Many motorists will remember how this latter town accumulated vast sums at its local police-court by trapping motorists. By uniting together and boycotting Andover completely, the tradesmen of this town soon raised such an outcry against their local police that at the present time motorists rarely appear at the Andover police-court, and then only when it is thoroughly deserved. Surely the action of the Kingston police has now reached such a pitch that the same treatment should be dealt out to Kingston by motorists as was dealt out in the case of Andover. Owing to the excellent work executed on the main roads south of London by the A.A. scouts the

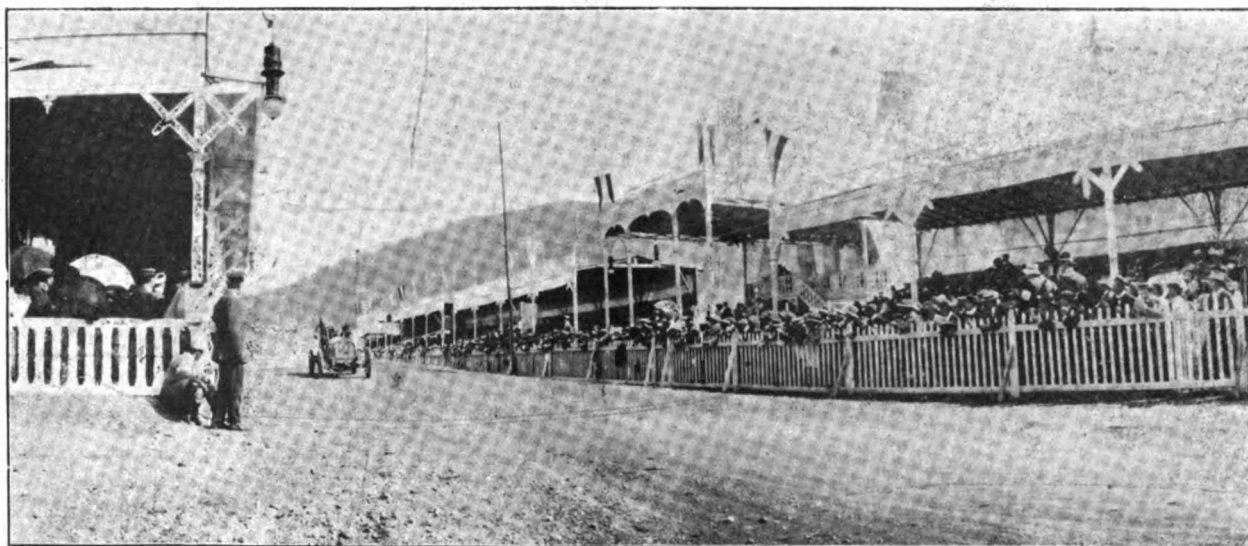
not take chances, and she brings her car and its human freight home without damage. None of the accidents which the newspapers play up with inch long headlines occur when women are driving. Someone recalled this fact the other day when a number of experienced drivers were discussing the subject, and a veteran of the industry who was there remarked that not only was this true, but it had been his experience that the cars which he had sold for women to drive had been the subject of less repairing than those which were driven by men, particularly by professional chauffeurs. One reason for this, he thought, was that women did not try experiments with cars. When the cars were running well they usually let them alone. This, he thought, was an exceedingly desirable trait.—Yours truly,

J. W. HAYNES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The question exposes a point which does not receive due consideration; that point is individual natural adaptability. I have taught many people to drive, and I notice that while some can talk "motor" quite legibly for hours, others, who say little, can drive and manipulate their machines with a quiet, amateur determination showing excellent judgment and ability lying dormant and being called upon by the circumstances taking place during their tuition. Among those people, in my experience, the ladies are prominent; they take to it like ducks to the water, if they are naturally adapted to it, but if they are not then you cannot teach them.

I think a lady's delicate handling of a car is just as much envied by the men, as was their extremely graceful attitude of riding the cycle,



The Brescia Race Meeting.—The View at the Grand Stand.

police have been compelled, in order to secure a revenue for the Kingston borough, to direct their attention to several by-roads, where traffic is scarce. I, for one, have spent many hundred pounds in Kingston, but for the future shall spend my money elsewhere. If only all motorists who are in the habit of patronising Kingston for the week-ends and at other times would unite together and boycott this place completely, Inspector Marks and his confederates would soon be requested to direct their attentions elsewhere, or, at all events, to trap the dangerous and not the harmless motorist.

At the present time neither the police nor the magistrates of Kingston seem to make any distinction whatsoever between the careful and the inconsiderate driver. The Kingston police area covers Kingston, Surbiton, Walton, Esher, Cobham, and neighbourhood. A large number of motorists have already expressed their intention to join in this movement, but it is necessary that the boycott should be general in order to be successful.—Yours truly,

B. M. THORNTON.

SHOULD LADIES DRIVE MOTOR-CARS?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have observed that women who learn to drive cars are as a rule exceptionally capable after they have mastered the mechanical details of the work. It is true that they are not as daring as men in all emergencies. But this, to my mind, is rather a recommendation than a drawback. Most men take too many chances with cars. The desire to perpetrate the unusual seems to overcome them. Judgment may be good with them nine hundred and ninety-nine times, but the thousandth chance taken is apt to be their downfall. A woman does

when the machine for ladies came into vogue. I would much prefer, anyway, to be driven by a lady "artist" than by a man who "manages to get through."—Yours truly,

HERBERT J. CHAPMAN.

A CARBURETTOR TROUBLE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having purchased a new 14-16-h.p. car, I find there is a difficulty in the carburettor which the suppliers of the car cannot remedy, viz.—flooding after the vehicle has been stopped and wasting petrol through the air inlet pipe. If you can suggest a remedy I shall feel obliged. I may say that the suppliers of the car have fitted a piece of piping on to the air inlet and let the end up between the cylinders. This only receives the overflow and does not prevent the cause, as the end of the pipe joined to the inlet was not properly soldered, and of course allowed the petrol to escape.—Yours truly,

W. C.

[This trouble is in all probability caused by a badly adjusted level in the float chamber in relation to the amount of vacuum in the induction pipe when the engine is working. This results in the petrol in the float chamber rising to such a height to establish equilibrium that it is considerably higher than the top of the jet, and therefore each time the motor is stopped the surplus fluid runs out into the mixing chamber and so floods the inlet pipe. The difference in inertia between petrol and air is very great, and if the suction is too fierce round the jet nozzle in relation to the normal level, the stream of fluid will continue to spray out for an appreciable time after the throttle is shut. On the other hand, should the level be normally too low, there will be great trouble in starting.

If the carburettor is of the type with removable air cones it will be as well to try a larger one, provided that on careful testing the level of the petrol appear to be about 1 mm. lower than the top of the jet.

Carburettors with weighted needles are great offenders in flooding, as also are those with heavy floats.

The extra piece of inlet pipe that has been put on can only make matters worse, and if it had concealed the petrol, instead of, by bad soldering, allowing it to escape, it would have made it almost impossible to start the motor.

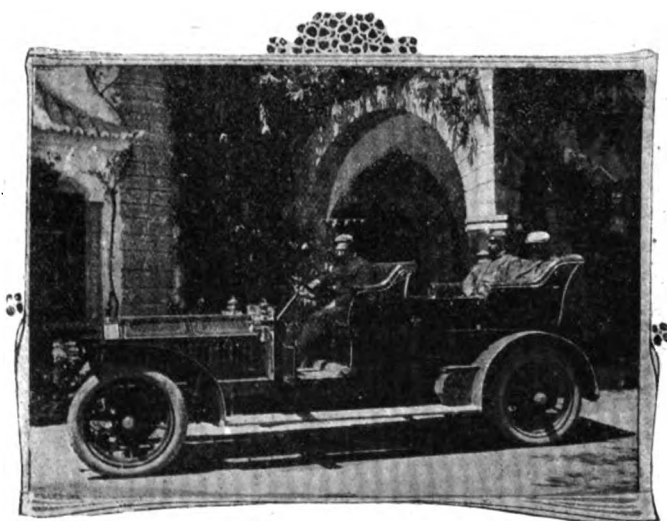
MOTERING FREEMASONRY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—An idea has occurred to me whereby the unhappy lot of a broken-down motorist might be considerably relieved. If an influential power such as yourselves would inaugurate a kind of Freemasonry and issue a neat sign that well-wishers to motorists would exhibit say in their gates or windows, such a sign would imply that the party would be willing to assist, in dire necessity, the person requesting help. How often has a motorist been prevented from continuing his journey for the want of a piece of wire, petrol, carbide, paraffin, accumulator or plug, which he is willing to pay for but cannot get? I have already dozens of people that would do it, and I should be glad to join. A list also could be published of those people who join.

I should be glad if you would publish this letter, and I trust such an union will be started, and thus forge another link in the chain of Freemasonry among motorists.—Yours truly,

FRED CATLING.



Mr. B. Johnson, of Messrs. S. F. Edge, Ltd., has just returned from Portugal, where an agency for Napier Cars has recently been arranged in the centre of Lisbon.

The photograph reproduced above shows the six-cylinder Napier he drove to the principal towns round Lisbon, at the castle which Mr. Hugo O'Neill built at Cascaes. Mr. O'Neill, who is a keen motorist, is aide-de-camp to H.M. the King of Portugal, and a direct descendant from the last King of Ireland.

LIGHTS ON HORSE DRAWN VEHICLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your note with regard to the necessity of lights being made compulsory on all vehicles is often demonstrated here in Cambridge. The other evening, while motoring just outside the town, I came upon a cart which was going in the same direction as myself. It had no light, either in front or at the rear, and had it not been for my powerful acetylene lamp I should most certainly have dashed into it. As it was I was as near it as I should ever want to be. Suddenly swerving I just managed to miss the cart, and had the road been at all greasy I should certainly have run into a ditch. We motorists are compelled to carry lamps. Why cannot the rule be universal?—Yours truly,

A NIGHT DRIVER.

TYRE TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a heavy, high-powdered 9-h.p. tri-car, and have trouble with the back tyre bursting and throwing the machine over. Is there any kind of tyre or tube that would not go flat on puncturing or bursting? Elastes, I am afraid, would be too heavy. The tyre is 700 by 75 mm. and has a Grose non-skid fitted. I believe the studs of this get hot and cause the tyre to burst. Is there any way of filling the inner tube to prevent this happening?—Yours truly,

WILL BISHOP.

THE COMMERCIAL VEHICLE TRIALS.

THE Commercial Vehicle Trials promoted by the Royal Automobile Club are now in progress, the vehicles having started on their procession on Monday morning.

To inaugurate this important event a dinner was held at the Trocadero Restaurant on Saturday, at which Mr. C. D. Rose, M.P., presided. In the course of his speech Mr. Edward Manville, president of the Society of Motor Manufacturers and Traders, referred to this event as marking an epoch in the advance of the motor industry in this country. As a proof that all the competitors were serious in the matter, he mentioned that fifty-nine of the sixty machines entered had appeared for inspection, and that fifty-six of that number would actually start. Mr. W. Worby Beaumont said that the trials were the fruit of four years' planning, and Mr. J. D. Siddeley mentioned that manufacturers were looking to the trials to supply available data to designers or experience in the future. Other speakers made interesting comparisons with the trials of 1898 in Lancashire; 50 per cent. more vehicles were entered for those tests than for any others of like kind hitherto held, while half-a-dozen more makers were represented. Those trials cost £700, whereas the forthcoming trials will cost £4,000, towards which sum the Society of Motor Manufacturers and Traders have contributed 10 per cent.

Punctually at 7.30 on Monday morning the vehicles in Classes F and H got into line outside Messrs. Thornycroft's works, at Chiswick, for their journey to Reading. Of the ten entries, the two Fiat vehicles, which could not be got ready in time for the trials, did not start. An hour later the second class, D, was sent on its way; Class E was despatched in two batches at 9 and 10 o'clock respectively. The Siddeley brewers' dray had not put in an appearance at the depot owing to an accident whilst journeying to that place. The other non-starter was the Atkey-Gimson lorry, which had to retire owing to an accident to the gear-box, just as it was preparing to leave the depot. The last class to leave was A, the six vehicles in which had to traverse the longest route to Reading, namely seventy-one miles.

The run was uneventful, and absolute non-stop journeys were made by thirty-three of the competitors. Analysing the involuntary stops for mechanical troubles, we find that of six vehicles in Class A (10 cwt. loads) only two made non-stop runs; in Class B (20 cwt. loads) five out of six had a clean record; in Class C (30 cwt. loads) five out of seven; in Class D (two ton loads) three out of eight; in Class E (three ton loads) fourteen out of eighteen; in Class F (five ton loads) two out of eight, and the lorry with paraffin fuel only lost one minute; in Class H (five ton loads in trailers) two out of three. The vehicles making non-stop runs were, Class A, the 10-12-h.p. Darracq, the 10-12-h.p. Unic; Class B, the Straker-Squire (two), Lacro (two), and Palmer tyre Thames; Class C, Halley, Siddeley, Darracq-Serpollet, Dennis, Thornycroft; Class D, Straker-Squire, Milnes-Daimler, Churchill; Class E, Milnes-Daimler (two), Halford, Siddeley, Straker-Squire, Wolseley petrol-electric, De Dion-Bouton, Churchill, Maudslay, Dennis, Commercial Cars, Thames, Thornycroft, Ryknield; Class F, Milnes-Daimler, Dennis; Class H, Burrell, Foster.

On Tuesday the vehicles left Reading during the morning for Hungerford. Class A followed a route of seventy-two miles through Basingstoke, Winchester, Andover, and Bursage. Class B travelled through Stratley, Dorchester, Oxford, and Wantage, while classes F, G, and H went by the direct road through Purley, Thatcham, and Newbury, a distance of thirty miles. Chippenham was the stopping place on Wednesday and Bristol on Thursday, the cars being placed on exhibition on Friday at the Avonside Engine Works.

THE CANNING CUP.

AFTER providing sport for the members of the Motor Cycle Union of Ireland for a number of years, the Canning cup passed out of the possession of that body on Saturday last, when C. E. Murphy (3½-h.p. Triumph) made it his own by a second successive win. The contest took the form of a reliability trial from Dublin to Carlow and back, a distance of about 100 miles. Murphy was the only competitor who succeeded in covering the distance with a clean record within the limit of time fixed.

PUBLIC MOTOR SERVICES.

AT the last meeting of the Goring Parish Council, a debate took place on a question raised as to the danger caused by the speed at which motor-buses and charrs-a-banc travelled along the narrow roads through the village, and it was mentioned that at one point the highway was only fourteen feet wide. It was suggested that the route should be diverted to the main road, but it was pointed out in this connection that the motor-buses were a convenience to some of the Goring residents, and that a variation of the route would take the vehicles away from the village. It was eventually resolved to write to the District Council of East Preston, expressing the opinion that the speed of motor-buses and charrs-a-banc along Goring Lane should be limited to five miles an hour.

THE HERON MOTOR COMPANY, John Bright Street, Birmingham, are increasing their machine and repair department to cope with the increased number of orders received for their mechanical pump.

CLUBS AND ASSOCIATIONS.

THE MOTOR UNION.

IN order to encourage motor club meets the Motor Union presents a medal from the design of Professor Sir Hubert von Herkomer, R.A., on the application of any of its affiliated clubs, which is usually awarded by the Club to the competitor who makes the best all-round performance during the day. During the present season medals have been granted to the following:—Coventry, Essex County, South Wales and Mon., Notts., Bristol and Glos., West Surrey, Kent, Sussex County, Ipswich and East Suffolk, Naval, Wolverhampton and District, Sheffield, Manchester, Cheshire, North-East Lancashire, Northamptonshire, and Leicestershire.

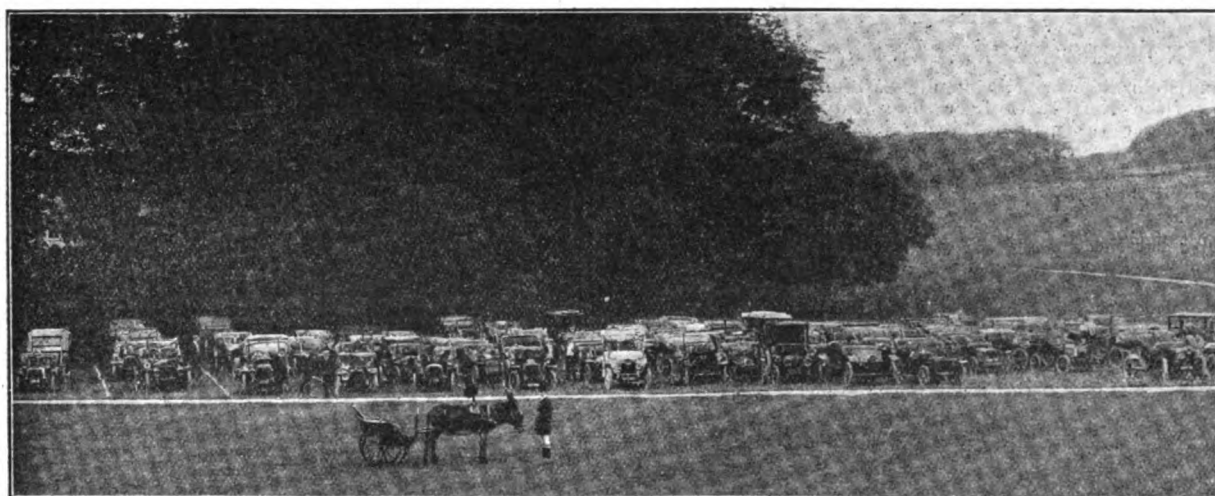
AUTO-CYCLE CLUB.

THE awards in connection with the Auto-Cycle Club's six days' trial have been made as follows:—

First Class Certificates and Gold Medal.—J. H. Slaughter (3½-h.p. Triumph), E. S. Myers (3½-h.p. Triumph), J. Marshall (3½-h.p. Triumph), W. H. Wells (5-h.p. Vindec), R. Moore (3½-h.p. Phelon-Moore), F. C. Mustard (3½-h.p. Triumph), W. Smith (1½-h.p. Motosacoche). All the above, except the 1½-h.p. Motosacoche, scored the highest possible of 1,325 marks. The Motosacoche had 1,213 marks, but was specially mentioned by the judges.

First Class Certificates.—W. G. Pople (3½-h.p. Triumph), S. W. Carty (3½-h.p. N.S.U.), T. Woodman (3½-h.p. Vindec), R. M. White (3½-h.p. Hazel), T. K. Hastings (4-h.p. Indian), J. D. Hamilton (3½-h.p. N.S.U.), J. B. Hart-Davies (3½-h.p. Triumph), D. G. Gilmour (9-h.p. Bat), A. S. Phillips (5-h.p. Vindec), W. G. McMinnies (5-h.p. Vindec).

fastest time. The Musical Chairs event brought out nine cars, from a 30-h.p. Renault to a 6-h.p. Rover. The event proved exciting to both competitors and spectators, Miss Wilkins, after a keen struggle, securing the prize. Mr. Aldington won the Motor Bicycle Sea Saw Race, Miss Wedell and Mr. D. Evans the Tilting at the Ring car contest and Miss Ramsey and Mr. Aldington the similar trial for tri-cars. The most exciting event of the day was the Blindfold Driving Test, in which the cars had to be placed at one end of the course backwards to the winning post. The competitors were in turn blindfolded, and placed six yards from their car. At the word to go they had to grope for their machine, get in, and drive backwards towards the left, then drive forward. Six or seven competed; the first round resulting in a dead heat between Mr. D. Evans on a Napier and Mr. C. J. Webb on a M.M.C. Each had another try, and, to the surprise of all, a dead heat was again announced by the judge. A third opportunity was given to each of the two competitors, and on this occasion Mr. Webb succeeded in getting nearer the goal than this rival, and so carried off the well-fought-for prize. Mr. Catherhood was victorious in the Tri-car Blindfold Test. The final event was a Medley Race, in which the drivers had to run to their cars, drive partly round the track, pick up a lady passenger, who had first to tie a bow round the driver's neck, while the driver tied a sash round the lady's waist. Proceeding, a supply of potatoes had to be picked up, which the lady passenger had to drop into flower pots. Afterwards the lady had to carry an egg on a spoon and the driver to burst a toy balloon with one of his road wheels. The prize was won by Mrs. Wallington and Mr. Pattison on a Panhard. Although the weather was dull the rain held off and a very enjoyable



The members of the North Eastern Automobile Association and their friends were invited by Lord and Lady Barnard to an at home at Baby Castle. As will be seen from the photograph reproduced above, there was a large muster of cars. [J. G. Brigham.]

Second Class Certificates.—F. C. Dee (5-h.p. Vindec), F. Cozens (10-h.p. Lagonda tri-car).

Team Prize.—The Triumph Company, for the performance of Messrs. Slaughter, Myers, and Marshall, each of whom gained full marks.

Light-weight Prize, presented by Mr. A. J. Wilson.—Awarded to the 1½-h.p. Motosacoche.

Private Owner's Prize, presented by Mr. T. K. Hastings.—Awarded to F. C. Mustard, 3½-h.p. Triumph.

Prize for Best Performance on a Variable Gear Machine, presented by Captain L'Estrange.—Awarded to the Phelon-Moore machine.

Motor Cycle Medals for Best Performances of Private Owners.—Bicycle Class: F. C. Mustard. Passenger Class: F. Cozens.

Appearance Prize.—4-h.p. Indian of T. K. Hastings.

SOUTHERN.

THE Southern Motor Club held a very successful gymkhana on Saturday last in the grounds of the historical Battersea Rise House, Clapham Common, S.W. The first event was a Glass of Water Race, in which the driver had to hold a glass of water in one hand and start the engine and drive the car round the track with the other. A glass of water had also to be carried by the lady passenger, the winners being the pair who lost the least water between them. Several cars and tri-cars competed, the honours falling to Mr. and Mrs. S. W. Phillpott in the former section, on a 6-h.p. Wolseley, and to Miss Ramsey and Mr. Aldington in the three-wheelers. A Potato Race for Motor-bicycles followed, and was won by Mr. Davies, he succeeding in making two rounds of the track, placing the potatoes in flower pots and afterwards collecting the same, in the

afternoon was spent. Mr. Allen Vickers acted as judge, Messrs. F. C. Pattison and P. T. Worger were the clerks of the course, and Mr. S. W. Phillpott the secretary of the meeting.

AERO.

THE Aero Club of the United Kingdom is represented at the conference of the International Aeronautic Federation now taking place at Brussels.

The committee of the Club is urging that members in charge of balloons should take particular care only to trail in suitable country, and to at once rise when there is any likelihood of a rope doing any damage. They also hope that any member in charge will at once take steps to make compensation for any damage done by trailing, and to report to the club.

HERTFORDSHIRE COUNTY.

ON Saturday, the 7th inst., the Hertfordshire County A.C. held its annual members' hill-climbing handicap, the hill selected on this occasion being Aston Hill, near Tring.

There were twenty-one entries in the three classes into which the programme resolved, Class I., for motor-bicycles, having had to be cancelled on account of a sufficient number of entries not having been received. In Class II., for tri-cars and quad-cars, only one machine succeeded in climbing the hill, a 5-h.p. Riley, entered by Mr. Victor Riley, and was therefore adjudged the winner in its class.

Class III., for cars up to 20-h.p. by the Thornycroft formula, was also won by Mr. Victor Riley, who drove his 12-h.p. Riley and made a very fine performance, making third fastest time of the day. He also made the best handicap performance in all classes.

In Class IV., for cars of over 20-h.p. by formula, Mr. Edwards (24-h.p. Minerva) made fastest time for all classes and also secured the Jay Challenge Cup for the best performance in Classes III. and IV. by a private member of the club. The prize for best handicap performance in this class was won by Mr. Tom Thornycroft with his 14-h.p. Thornycroft Tourist Trophy car.

The full results of the handicap were as follows:—

CLASS II.					
Place.	Car.	Owner.	Driver.	Marks.	
1.	5-h.p. Riley	Mr. Victor Riley	Entrant	1-041	
CLASS III.					
1.	12-h.p. Riley	Mr. Victor Riley	Entrant	0-782	
2.	8-h.p. Phoenix	Mr. J. van Hooydonk	Entrant	0-905	
3.	8-h.p. De Dion	Mr. F. C. Fisher	Entrant	1-103	
4.	15-h.p. Ford	Mr. Rudyard	Entrant	2-400	
CLASS IV.					
1.	14-h.p. Thornycroft	Mr. T. Thornycroft	Entrant	0-883	
2.	24-h.p. Minerva	Mr. E. Edwards	Entrant	0-930	
3.	15-h.p. Humber	Mr. F. W. Sherland	Entrant	1-099	
4.	18-28-h.p. Gladiator	Mr. F. C. Baisley	Mr. J. Fenton	1-128	
5.	28-38-h.p. Gladiator	Mr. F. C. Baisley	Mr. W. Scarf	1-132	
6.	25-h.p. Austin	Mr. O. Thompson	Entrant	1-193	
7.	24-30-h.p. M.P.	Mr. J. Stanning	Mr. W. Monk	1-200	
8.	28-35-h.p. Pilain	Mr. E. Heinemann	Mr. E. Heinemann	1-204	
9.	14-h.p. Germain	Mr. H. S. Adey	Entrant	1-317	
10.	16-20-h.p. Rover	Mr. F. J. Jenkins	Entrant	1-420	

NORTH-EAST LANCASHIRE A.C.

A MOTOR trip for cripples at Preston on Saturday was given through the kindness of the North-East Lancashire Automobile Club. Two hundred children were taken to Lytham. The day was fine, and over forty cars were employed. The children were driven round the town before leaving for Lytham, via Wrea Green and Moss Side. The return journey was made via Freckleton Marsh.

THE result of the pace judging competition held by the Sheffield A.C. on Saturday last was that Mr. T. H. Firth was first and Mr. Beesley was second.

ROAD REPORTS.

HOLYHEAD.—The Holyhead road just outside Shrewsbury will be under repair for a month. The length between the borough boundary and Shelton Oak has long been in a shockingly bad state, giving motor-cars an extremely bumpy run there.

LONGTON.—The stipendiary magistrate at Longton, Staffordshire, has suggested that one of the associations acting in the interest of motorists should put up signals at Trentham warning motorists to drive slowly.

GLAMORGAN.—The Glamorgan County Council has received numerous claims for damages in respect of accidents upon the Mumbles road, which has been treated with tar to prevent the dust nuisance. Several horses had slipped, and people been thrown from vehicles on the tarred road. The County Council repudiate liability.

WIMBLEDON.—A notice board is to be placed on Wimbledon Hill, opposite "Droxmont," notifying drivers of motor-cars and other vehicles of the cross roads at the foot of the hill.

CHICHESTER.—The rain of last week rendered the surface of the main roads of Chichester quite soft, and as soon as a little traffic had passed over them, they were covered with thick black mud—in places several inches deep. The tar, with which the roads have been treated, was being trodden into private houses and shops, with results most exasperating to owners and occupiers.

SCOTLAND.—The Scottish A.C., after negotiation with the respective county councils, have had special caution signals erected at various places in Renfrewshire and Kinairdshire where very special warning to motorists was thought to be necessary. The signals are of enamelled iron, triangular in shape, and bear the crest of the club in the centre.

HAWICK.—The Secretary for Scotland has issued his determination in the matter of the application for a speed limit in the burgh of Hawick. A speed limit has been granted in the congested and narrow streets in the centre of the town, but otherwise the objections which were urged by the club to the application have been sustained.

THE repair shop of the National Motor Academy and Exchange, Ltd., in Boundary Road, Notting Hill, London, W., is being increased to nearly double its size. Practical instructions in motor repairs will now constitute a course of study at the Academy.

To cope with the demands of their trade in tube repairs, &c., the Defiant Non-Skid and Tyre Accessories Company have recently acquired the vulcanising works at 39, Farnival Street, Holborn, E.C., and with these extended facilities will be able to handle all descriptions of tube and tyre repairs, non-skid bands, &c., with the greatest despatch.

CASES UNDER THE MOTOR CAR ACT.

HEAVY HAULS.

The Ayrshire Constabulary are still keeping a sharp eye on motorists who drive at an excessive rate of speed in limited areas throughout the county. Half-a-dozen cases were brought before Sheriff Mackenzie at Kilmarnock Sheriff Court the other day. They were all fined £3 and costs.

A batch of motorists has been in the Mortlake Police Court, where they were informed by the Bench that a distinction was made between the driver of a motor-car and a motor-cycle.

At the Horsham Petty Sessions on Saturday five motorists were fined £16 and costs for exceeding the legal limit at Crawley and Slinfold.

Batches of motorists have appeared this week at Arundel and St. Neots. On Saturday thirteen motorists were fined at Newcastle-on-Tyne, four at Grantham and three at Alnwick.

EXCEEDING PARK REGULATIONS.

Captain the Hon. Henry Beresford attended before Mr. Denman at the Marylebone Police Court to answer a summons accusing him of having driven a motor-car in Regent's Park at a greater speed than ten miles an hour. Mr. Cohen, solicitor, defended. Park constable Petherick gave evidence that shortly before midnight on August 29 he timed Captain Beresford's car over a measured furlong in Regent's Park with the aid of a chronograph and another constable. The car covered the distance at a speed of 18 miles 1,320 yards an hour. Other evidence having been given by park constables, Captain Beresford stated that he was driving the car on this occasion and was accompanied by his wife (Miss Kitty Gordon), Mr. Rose and a chauffeur. Mr. Denham said he had no doubt that the defendant exceeded the speed limit, and fined him 40s., and 2s. costs.

VISIBLE VAPOUR.

James Patterson, 5, Friar-stile Place, Richmond, was summoned for allowing visible vapour to issue from a motor-car in Richmond Park. Park-keeper Bardens said the car was emitting a very dense cloud of vapour. Defendant said the vapour was due to a temporary cause, and he was much obliged to the keeper for telling him, as he was able to adjust the lubricator in about three seconds. He had driven through the park about 1,500 times and was careful to follow the regulations. The Bench imposed a nominal fine of 5s., this being the first prosecution of the kind from Richmond Park.

DANGEROUS DRIVING.

Mr. Oscar Lewisohn, of Ascot, husband of Miss Edna May, was summoned at Eastbourne, on the 6th inst., for driving a motor-car at a dangerous pace in Terminus Road, and with failing to stop when signalled by Police-constable Ashenden, on August 18th. Two previous convictions were proved, and the defendant was fined £25, including costs.

At Thornberry Petty Sessions, Mr. Wingfield Digby, of Sherbourne Castle, Dorset, has been summoned for dangerous driving. The case was dismissed.

The Carnarvon magistrates on Saturday imposed the heaviest fine, viz., £10, they have yet entered upon their books in a case of reckless motor driving.

The Abergele justices were occupied for some time on Saturday in hearing a charge of recklessly driving a motor-car against Mr. W. D. Coddington, 80, The Promenade, Southport. The police witnesses said that the speed of the defendant's car must have been twenty-five miles per hour. For the defence Mr. Connor contended that it was not reckless driving, and that it was a matter of impossibility for the car to have travelled around the corner at twenty-five miles an hour without danger to its occupants. The corner was a dangerous one, and was well known to every motorist on that account, and also on account of the fact that it was closely watched by the police. Again, he contended that so long as the road was clear there was neither a right nor a wrong side. The case was dismissed.

At Wetherby, F. W. Gilliard, of Bradford, has been fined £10 and costs for driving a motor-car to the danger of the public at Boston Spa on Sunday, August 8th. It was alleged that defendant tried to rush between the rear of another motor-car going in the same direction and a horse and trap coming in the opposite direction, with the consequence that a lady cyclist was forced into the gutter, while several other persons had narrow escapes. Defendant pleaded that there was no danger to anybody.

EXCEEDING LEGAL LIMIT.

At Chapel-en-le-Frith, Edward J. Oldenton, of Coventry, was charged by the police with driving at an excessive speed on the Sheffield road, near Bamford, on July 27th. The evidence of Sergeant McCulman and P.C. Walldron was to the effect that in consequence of complaints as to the excessive driving of motors on these roads they were watching in plain clothes. In the space of four hours eighteen motor-cars and very many char-a-bancs, cycles, &c., passed them at a point near Cutthroat Bridge, above Lady Bower, on the Moscar road. The Bench imposed a fine of £5 and costs, and said heavier penalties would be inflicted in future cases.

ANDOVER AGAIN.

Before the County Bench at Andover on Friday, the 6th inst., four cases were heard against motorists, who were fined as follows:—£3 and costs 14s., £3 and costs 12s., £5 and costs, £3 and costs 8s. The first three cases arose at Wallop, the last at Barton Stacey.

RACING AT BROOKLANDS.

A RACE meeting will be held at the Brooklands Motor Track at Weybridge to-day (Saturday), for which the following entries have been made:—

THE FIVE MILE HANDICAP SWEEPSTAKES OF 10 SOV. FOR ACCEPTORS.—(The entrant of the second to receive one-quarter of the stakes.) For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 125 or under. Weight 2,700 lbs. Distance about five miles. 5 sov. will be returned to those declaring forfeit within 48 hours after publication of the handicap. S. F. Edge, 45-h.p. Napier; Lt.-Col. C. D. Carleton Smith, 40-h.p. Napier; Capt. G. Llewellyn Hinds Howell, 35-h.p. Iris; J. E. Hutton, 40-h.p. Berliet; J. E. Hutton, 60-h.p. Berliet; F. Guy Lewin, 30-h.p. Peugeot; Harvey du Cros, Jun., 60-h.p. Mercedes; R. Hennessy, 60-h.p. Berliet; Tom Thornycroft, 45-h.p. Thornycroft; E. G. Williams, 40-h.p. Martini; Walter Phillips, 20-h.p. Humber; G. F. Heath, 24-h.p. Minerva; A. Huntley Walker, 30-h.p. Darracq; Hon. H. L. Bruce, 40-h.p. Darracq; O. Cupper, 24-28-h.p. Metallurgique; O. Cupper, 50-60-h.p. Metallurgique; Hugh P. MacConnell, Targa Florio Rapid; L. Carle, 50-h.p. Mors; Corry Hurford, 60-h.p. Mercedes.

THE MERCEDES HANDICAP SWEEPSTAKES OF 20 SOV. FOR ACCEPTORS.—(The entrant of the second to receive one-quarter of the stakes.) For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 175 or over. Weight 2,700 lbs. Distance about 3½ miles. 15 sov. will be returned to those declaring forfeit within forty-eight hours after publication of the handicap. S. F. Edge, 80-h.p. Napier; E. Drabble, 120-h.p. Mercedes; J. E. Hutton,

Corry Hurford, 60-h.p. Mercedes; Lewis Aspinall, 50-h.p. Kaiserpreis Minerva.

THE FIRST 90-H.P. RACE OF 150 SOV.—The entrant of the winner to receive 100 sov.; the entrant of the second 40 sov.; and the entrant of the third 10 sov. For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 225.1 or under. Weight 3,000 lbs. Distance about five miles. J. E. Hutton, 120-h.p. Mercedes; Warwick Wright, 100-h.p. Darracq; F. R. Fry, 120-h.p. Mercedes; A. Huntley Walker, 120-h.p. Darracq; E. Drabble, 120-h.p. Mercedes.

In those races which have not attracted the minimum number of entries previously determined and announced by the executive, the value of the prize money will be proportionately reduced.

In the Five Mile and Mercedes Sweepstakes Races which will be held on the Brooklands Course to-day, the following are the first actual handicaps that have been arranged by the Club, although weight allowances have been granted by formulae in selling races at previous meetings.

For the Five Mile Handicap the following allowances have been made:—S. F. Edge, 45-h.p. Napier (scratch); J. E. Hutton, 60-h.p. Berliet, 76 yds. start; H. Du Cros, 60-h.p. Mercedes, 76 yds.; R. Hennessy, 60-h.p. Berliet, 76 yds.; T. Thornycroft, 45-h.p. Thornycroft, 76 yds.; Corry Hurford, 60-h.p. Mercedes, 76 yds.; L. Carle, 50-h.p. Mors, 87.8 yds.; O. Cupper, 50-h.p. Metallurgique, 98 yds.; F. Guy Lewin, 30-h.p. Peugeot, 481 yds.; H. McConnell, Rapid, 481 yds.; G. L. Hinds Howell, 35-h.p. Iris, 618 yds.; E. Williams, 40-h.p. Martini, 659 yds.; Lt.-Col. C. D. Carleton-Smith, 40-h.p. Napier, 738 yds.; W. Phillips, 20-h.p. Humber, 750 yds.; Hon. Lyndhurst Bruce, 40-h.p. Darracq, 761 yds.; J. E. Hutton, 40-h.p. Berliet, 927 yds.; A. Huntley Walker, 30-h.p. Darracq



The Commercial Vehicle Trials.—Some of the Lorries en route for Reading.

120-h.p. Mercedes; F. R. Fry, 120-h.p. Mercedes; A. Huntley Walker, 120-h.p. Darracq; A. Huntley Walker, 120-h.p. Darracq.

THE FIRST 40-H.P. RACE OF 150 SOV.—(The entrant of the winner to receive 100 sov.; the entrant of the second 40 sov.; and the entrant of the third 10 sov. For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 100 or under. Weight 2,500 lbs. Distance about 2½ miles. Lt.-Col. C. D. Carleton Smith, 40-h.p. Napier; Capt. G. Llewellyn Hinds Howell, 35-h.p. Iris; Harvey du Cros, Jun., 40-h.p. Austin; S. Gore-Browne, 24-36-h.p. Fiat; E. G. Williams, 40-h.p. Martini; A. Huntley Walker, 30-h.p. Darracq; M. F. Mieville, 40-h.p. Berliet.

THE FIRST 26-H.P. RACE OF 150 SOV.—The entrant of the winner to receive 100 sov.; the entrant of the second 40 sov.; and the entrant of the third 10 sov. For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 64 or under. Weight 2,000 lbs. Distance about 2½ miles. F. S. Bennett, 20-h.p. Cadillac; J. E. Hutton, 22-h.p. Berliet; J. E. Hutton, 22-h.p. Berliet; H. du Cros, Jun., 20-25-h.p. Mercedes; Tom Thornycroft, 14-h.p. Thornycroft; H. E. Hall, 14-h.p. Germain; Walter Phillips, 15-h.p. Humber; A. Huntley Walker, 16-18-h.p. Darracq; E. A. Rosenheim, 16-25-h.p. Arrol-Johnston; O. Cupper, 24-28-h.p. Metallurgique.

THE FIRST 60-H.P. RACE OF 150 SOV.—(The entrant of the winner to receive 100 sov.; the entrant of the second 40 sov.; the entrant of the third 10 sov.) For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 150.1 or under. Weight 2,700 lbs. Distance about 3½ miles. E. Herington, 35-h.p. Ariel-Simplex; S. F. Edge, three 60-h.p. Napiers; Capt. Hon. D. Carleton, 60-h.p. Napier; J. T. C. Moore-Brabazon, 35-h.p. Minerva; A. Huntley Walker, 30-40-h.p. Darracq; O. Cupper, 50-60-h.p. Metallurgique;

(120 mm.), 927 yds.; A. Huntley Walker, 30-h.p. Darracq (117 mm.) 1,050 yds.; G. F. Heath, 24-h.p. Minerva, 1,565 yds.; Oscar Cupper, 24-h.p. Metallurgique, 1,750 yds.

The Mercedes Handicap will be over a distance of three and a quarter miles and the following allowances have been made:—S. F. Edge, 80-h.p. Napier (scratch); A. Huntley Walker, 120-h.p. Darracq (190 mm.), 87 yds.; A. Huntley Walker, 120-h.p. (180 mm.), 232 yds.; J. E. Hutton, 120-h.p. Mercedes, 387 yds.; F. R. Fry, 120-h.p. Mercedes, 387 yds.; E. G. Drabble, 120-h.p. Mercedes, 387 yds.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

C. HOODYDONK AND CO.—£1,000. To acquire the business of a motor component and accessory dealer and agent carried on by Mr. C. Hoodydonk, formerly at 6, Leather Lane, E.C., and now at 45, Broad Street, Bloomsbury, with his agencies for Dependence lamps and Longemare carburettors. First directors: Messrs. C. Hoodydonk (managing director) and D. Mills, 45, Broad Street, Bloomsbury, W.C.

AUTOCAR MART.—As title. No initial public issue. Registered without articles.

SULTON MOTORS.—£1,000. No initial public issue. Registered without articles. Mansion House Chambers, E.C.

THE Coventry Chain Company (1907) Ltd., have sent us a handy little cigarette case, duplicates of which, they inform us, they will send to any of our readers, gratis, on application to their works at Coventry.

FORTHCOMING EVENTS.

SEPTEMBER.

- 14th (S.).—Motor Union Meet at Leicester.
 Brooklands A.R.C. meet.
 East Surrey A.C. run to Cranleigh.
 Essex M.C. 200 miles non-stop run.
 Harrogate M.C.C. hill climb.
 Cheshire A.C. gymkhana.
 Sussex County A.C. run to Hindhead.
 West Essex A.C. 100-mile reliability run for motor-cycles.
- 15th.—"The Industrial Motor Review" for September will contain a pictorial and descriptive report of the Commercial Vehicle Trials of the R.A.C.
- 18th (W.).—Commercial Vehicle Exhibition at Birmingham.
- 21st (S.).—Nottinghamshire A.C. hill climb.
 Southern M.C. closing run at Ewell.
 Auto Cycle Club meeting at Lincoln.
 Derby A.C. run to Dovedale.
 Blackheath A.C. run to Westerham.
 Brooklands A.R.C. meeting.
 Hertfordshire County A.C. members' driving test.
- 23rd (M.).—Inaugural dinner in connection with the northern offices of the Automobile Association at Manchester at the Midland Hotel, Manchester.
- 28th (S.).—Ipswich and East Suffolk A.C. petrol consumption trial.
 Midland A.C. at Tudor Grange, Solihull.

OCTOBER.

- 5th (S.).—Brooklands A.R.C. meet.
- 12th.—Close of the Commercial Vehicle Trials. Final run from Baldock to Dalston, London, N.
- Southend M.C. closing run of the season to Witham.
- 19th (S.).—Auto-Cycle Club's quarterly trial.

MARCH, 1908.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Sept. 14th—7.18	16th—7.13	18th—7.9	20th—7.4
" 15th—7.16	" 17th—7.10	" 19th—7.6	" 21st—7.2

To ascertain the approximate times in Glasgow an addition of 20 min. should be made to the above figures; in Manchester an addition of about 7 min. is necessary.

AUTOMOBILE ACCIDENTS.

A SERIOUS accident occurred on Sunday at Berriedale, Caithness, to a motor-car in which Sir William Cruickshank and his wife, son, and daughter were on their way north to Barrock House. When descending Berriedale Brae, the chauffeur lost control of the car. To avoid certain calamity at the foot of the hill, he ran the car into the wall by the roadside. All the occupants were thrown out, and the car, which took fire, was destroyed. Sir William, his wife, and daughter were removed in an unconscious condition to Langwell Cottage Hospital, near the shooting lodge of the Duke of Portland. Sir William recovered consciousness on Monday. The others were cut and bruised, but not seriously hurt.

A CYCLIST, named Edward Akers, living at Pennythorn Road, Peckham, was killed by a motor-car outside the village hall of Bromley Common, Kent, on Saturday. He was cycling to Farnborough when the motor-car collided with him. A doctor who was called pronounced life extinct. He was removed to the mortuary, and the chauffeur was taken to Bromley Police Station.

A MOTOR fatality occurred at Edmonton on Saturday night. Several boys ran after a heavy motor-lorry, belonging to Mr. J. Joyce, of Tottenham, and one of them caught hold of the side of the rear vehicle. He was jerked off and fell under one of the wheels, which passed over him, crushing his leg. He was removed unconscious to Tottenham Hospital, where he died a few hours later.

AN inquest was held on Monday at Portmadoc respecting the death of Mr. Cyril Bury, a civil engineer, who, while cycling on Sunday afternoon, crashed into the motor-car of Mr. Harold Tunnycliffe, of Churchill, Somerset, at a curve on Penygwryd Hill, Carnarvonshire. He and his brothers were cycling to Portmadoc, and Mr. Tunnycliffe was going from Beddgelert to Llandudno. The evidence showed that deceased lost control of his bicycle. He fractured his arm and leg, and died five hours later. A verdict of "Accidental death" was returned, and the motorists absolutely exonerated.

VAUXHALL MOTORS, LIMITED, Luton, have appointed Messrs. Scott, Morgan and Company, Christchurch, New Zealand, as agents for the 12-16-h.p. Vauxhall car.

IN the Pekin-Paris run the Spyker car covered a distance of 7,500 miles from Pekin to Moscow with the same set of Hutchinson tyres on the back wheels. Such a distance is good work under any circumstances, but, taking into consideration the state of the roads over which this run has been made, the distance is almost unsurpassed for one set of tyres.

POLICE TRAPS.

AT the Mortlake Police Court a park-keeper, giving evidence against a motorist summoned for exceeding the regulation limit, admitted that the trap was "rather down-hill."

RIPLEY is again the centre of police operations against alleged speedy motorists.

BAMFORD is the scene of police activities—a point of interest to Sheffield motorists.

ECCLIFECHAN.—At the cross roads on the main highway between Glasgow and Carlisle, Stirling, in Wallace Street, the police now time motorists.

NEWTIMBER, between seven and eight miles from Brighton, has a police trap.

CHRISTCHURCH, all the roads leading into the town are dangerous at various times.

HAMPSTEAD, the Fitzjohn's Avenue trap is again at work.

TADCASTER has its police trap—energetically and frequently operated.

A POLICE TRAP is in operation on the Bangor and Holyhead road, near Holyhead.

BUSINESS NEWS.

"THE greater part of our work arises out of the defects of other firms' material or workmanship, with, of course, a lot from simple smash-ups," remarked the manager of the motor department of Messrs. Smith, Parfrey and Company, on the occasion of a recent tour round the Pimlico Wheel Works, in Fulham Palace Road, S.W. "It is no strange experience for us to have a car's wheels delivered here in a couple of sacks, or have a car shot out of a builder's cart, like a heap of gravel. In fact, unless you saw some of our jobs arriving, you would never believe that a car could be so utterly wrecked as are some of them." The company do a large amount of repair work for insurance offices. Messrs. Smith, Parfrey and Company's experience of wheel-building and spring work antedates the first of motor vehicles by many years. Some of their most satisfactory jobs have been those in which they have transformed a most uncomfortable machine into a luxuriously easy riding car, simply by modification of the springing. They now do the under carriage work of most of the leading garage and motor repair works concerns in the kingdom.

A NEW material for brazing cast iron, known as Castolin, is being introduced into this country by Mr. W. H. Lillienfeld, of 11, Queen Victoria Street, London, E.C., and it is claimed that by its means it is possible to so repair damaged castings that they will not break a second time in the same place. Castolin is a product which has been worked out in the laboratories of Messrs. Wassermann and Company, Lausanne, Switzerland; it is rubbed into the pores of the broken surfaces, which have been previously cleaned with a wire brush. The pieces, joined together accurately with clamps, are placed in a clear charcoal fire, assisted by a gas blow pipe for large castings. When they have become hand-warm more of the Castolin is rubbed into the fracture, and the line of the same covered with plenty of borax and "Castolot" spelter. The casting is then replaced in the fire and brought up to a red heat until the spelter runs freely with a bluish flame. The brazed casting, after polishing, is stated to be as good as new in appearance, and, as has been shown by repeated tests, the fracture will resist breakage better than the rest of the piece. The product should be of interest to motor-car repairers, as, in dealing with damaged castings, not only is the latter itself saved but also the time usually wasted in getting another casting from the foundry.

MR. E. ARNOTT has sent us particulars of a new wheel for motor vehicles in which he has become interested. It is known as the "Lynton" resilient wheel, which is claimed to give the resiliency of pneumatic tyres with none of the drawbacks of the latter. Not having had so far an opportunity of inspecting the wheels, we can only briefly mention that they are built up of two discs, one fixed to the hub and the other free to rock slightly in any direction, and a solid rubber tyre of special section, and that the road shocks are absorbed at the point of contact of the tread on the road and at the sides of the tyre at the top of the rim.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, SEPTEMBER 21, 1907.

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"THE INDUSTRIAL MOTOR REVIEW."

"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.

MUNICIPAL officers are becoming motorists. They recognise that the motor-car is something more than a means of amusement; it saves time, economises labour, and thus contributes to the general efficiency of the public service. Most of the leading corporations and many of the county officials now own automobiles,

with which they make tours of inspection, and generally speed along their duties in a way that was not previously possible. Birmingham presents an excellent object lesson with regard to the city use of the motor-car. Its Tramway Department owns a car for its inspectors in their daily surveys of the line; a motor lorry is employed to convey stores from one depot to another; a motor repair wagon is always ready for breakdowns on any part of the system, and a motor tower wagon has lately been added to the automobile stud. Consequently, the horse is being displaced throughout the tramway system of the Midland city. The Water Department has to supervise seventy-four miles of watercourses, and two motor-cars are employed, the aggregate mileage of which will be about 18,000 this year. A couple of light vehicles are in service in the Electricity Department, and two larger ones are owned by the Fire Department. Thus it will be seen that the motor-car is engaged in almost every department of the municipal activity; and it is gratifying to know that in no branch of the service has it failed to justify its use.

The Chassis and the Body.

MR. G. H. BAILLIE has been giving his views on the motor-car from the engineer's point of view. He discussed the practicability of getting proper accommodation for five or seven people within a wheel base of reasonable length without giving up the perfections with which ten or fifteen years of work had endowed the modern chassis. Up to the last year or so the chassis builder has troubled little about the comfort or convenience of the carriage; he has striven for reliability and efficiency. It was perhaps better to reach the end of a journey with a certain amount of discomfort than to be stranded half-way in the most luxurious vehicle. A standard type of chassis has been evolved as the result. Mr. Baillie considers that it is possible to attain an ideal motor carriage having a centrally-swung body on a wheel base of reasonable length, but only by disposing the engine within the length occupied by the body. The only way which seems generally practicable in his view is to adopt a horizontal engine

with longitudinal shaft, with cylinders opposed or side by side. The experience of the last few years, however, affords very little encouragement to the designer of such a chassis. Some years ago horizontal engines were fairly common in England, and very common in America, but none have survived. All have been discarded in favour of vertical engines. Carriage-builders cannot achieve the same progress as the engineer while they have to submit to the dictation of their customers as to what kind of body they must build for the chassis the customers buy. The chassis-builder has submitted to no such dictation. He builds his own chassis, and the carriage-builders should, in their customers' as well as their own interests, adopt the same attitude. It would be the first step towards making bodies in quantity, instead of one by one. The second step must be made alongside the chassis-builder, and is to determine standard sizes of frames.

The Delivery Van.

THAT the day of the light motor delivery van is near at hand is evident from a careful observation of the streets of the Metropolis. The speedy conveyance of goods is an essential part of modern business; the motor-car is the most rapid means yet available for getting about the streets; and there are indications at all the trade exhibitions, such as the Bakers' Market at the Agricultural Hall, London, last week, that traders of every variety recognise the early advent of the new force in traffic. In fact, the more far-sighted of manufacturing firms are preparing for a great movement in this regard during the coming season, and interest is likely to be somewhat diverted from the purely pleasure car to the lighter type of commercial vehicle required by tradesmen for quick delivery. So far as it has been tried it has succeeded; and its scope is infinitely large.

Lincolnshire's Attitude.

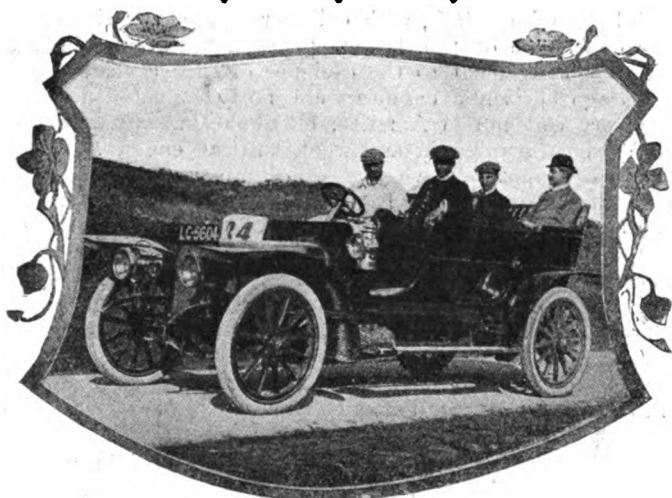
ELSEWHERE we publish a letter from Dr. Godfrey Lowe, written at the request of the committee of the Lincolnshire A.C., which we would commend to the serious consideration of our readers in other parts of the country. The Fen district has hitherto been singularly free from the police traps which have spoiled the landscape for motorists in many places. But the conduct of some drivers who reside outside the county, although sometimes travelling therein, threatens to destroy the goodwill that now prevails between automobilists and officials. The result would be harassing to the local motorists, whose good behaviour is recognised by the local police, and also a deterring force to the general prosperity of the movement. We trust, therefore, that the warning of Dr. Lowe and his colleagues will

not be in vain, and that, by maintaining that careful regard for the comfort of other people in the county which has hitherto characterised motorists, harsh treatment by the police authorities will be averted.

The Motor in the Harvest Field.

ACCORDING to the "Industrial Motor Review" great interest is being taken in France in the subject of the motor in the harvest field, and British inventions have been taking part in some important trials at Chalons-sur-Marne. In the

English Fens, too, some interesting experiments have lately taken place which should do much to establish the position of the petrol motor in farming operations. These were held on the farm of Messrs. Dennis Bros., at Kirton, a typical agricultural village four or five miles from Boston, in Lincolnshire. An acre of standing corn was cut, bound, threshed, and ground by the motive power of an agricultural tractor working with a petrol engine of 50-h.p., and an acre of ground was also ploughed, cultivated, drilled, harrowed, and sown for a new crop within seven hours. This constitutes a world's record. The tractor, thresher, drum, mill, cultivator, drill, and harrow were all British make, while the harvesting machine hailed from Canada. The tractor was by Messrs. Saundersons, of Bedford.



The Cardiff Club's Hill Climb. Mr. C. Garrard at the wheel of the 16-h.p. Talbot, the winner of the contest, the car being awarded a silver cup for the most meritorious performance. The vehicle also secured the Gold Medal in Class III.

Photo by]

[W. J. Jenkins, Cardiff.

Motor Cycling Organisation.

MOTOR-CYCLISTS are gathering in force at Lincoln to-day (Saturday) in order to discuss the organisation of the movement generally and the development of club life in particular. At present the Auto Cycle Club is the responsible authority

for the motor-cycling world; but although there are more than one hundred societies in Great Britain belonging exclusively to motor-cyclists, only a few have seen their way to affiliate with the central body. During the present year the unsatisfactory character of the position has been forced upon all identified with the motor-cycle, with the result that the Auto Cycle Club has wisely joined with the Lincolnshire Motor Cycle organisation in convening to-day's conference. The meeting will be officially received by the deputy Mayor of Lincoln, whose interest in motoring was demonstrated when the Motor Union met in the same city a few months ago. Apparently an endeavour will be made to contain the controlling influence within the Auto Cycle Club, while providing fuller latitude for the representation of provincial opinion thereon. It has frequently been pointed out that when the Royal Commission sat motor-cycles had no voice in the matter, their views being only incidentally brought forward by the advocates of the motor-car.

Mr. Frederic Harrison's Views.

STRANGE ideas have evolved from the active and fertile brains of leaders of sections of people whose notions present difficulties of belief to the majority of people. Not everyone could understand Comte and several of his friends; Mr. Frederic Harrison is an exception, as may be proved by his appreciation of those whom many would regard as peculiar. Some may even go so far as to say that Mr. Harrison has peculiar views himself, and the "Times" of Saturday bears evidence on this point. For there, in all the glory of large type, is an epistle from the Priest of the Positivists that breathes the spirit of Old Moore in its portentous avalanche of disaster. Verily the coming of the car has brought peril into the land—lowered rateable values, slaughtered animals, terrorised people, and, worse than all, caused Mr. Harrison to indict a letter to the Press. After calling "certain motorists" brutes and the patrons of an "idiotic sport," the plan is unfolded by the author in words which we cannot do better than quote in their entirety. This is done in the succeeding paragraph.

The New Tolls.

"ALONG all main roads erect small toll-boxes having a swing iron bar across the roadway, at intervals of about fifteen miles apart. Each toll-house to contain a police official and to be connected by telegraph or telephone with the next toll-house on either side. By a new and amended Motor Act every motor would be required to pull up at the toll-bar, where the exact time would be entered and compared with the time of the last toll-bar passed, thus obviating all question of any 'measured half-mile.' The motor would then pay the toll-bar due—say from 10s. to £5, according to its "h.p."—and in case of infringement of the law, the car would be detained in the garage attached to the toll-house. The dues paid on passing each bar would serve for a special county fund to repair and tar the road, and meet expenses of bar and officials, telephone and other charges. No more police traps, no more uncompensated injury to public property, no more bolting of road hogs! The record of each run between bars would be conclusive evidence, and the motorist would fairly pay for the losses he caused. The amended Act should also abolish the derisive alternative of a fine for misdemeanour. The only legal penalties for deliberate and systematic offences should be imprisonment of the actual driver, or owner if present at the offence, or the confiscation of the car, and its ultimate sale, to go to the special county motor defence fund."

A Prospect of the Future.

THIS is really a delightful prospect. England is to be "harrisoned" with a cobweb of toll bars, studded with policemen, who will collect tolls—corresponding to fines—detain cars, and generally regulate the roads of the country as though they were the exercise yards of a county penitentiary. The electrical industry would rejoice over the supply of telegraphs and telephones, the police would probably play cards in their toll boxes instead of hide and seek behind the hedges, and the authorities generally would have a good time in annoying motorists. But the complexity of the scheme is its condemnation. Something simpler would be to place trees across the path, as was done at High Wycombe in the early days.

The Motor Union at Leicester.

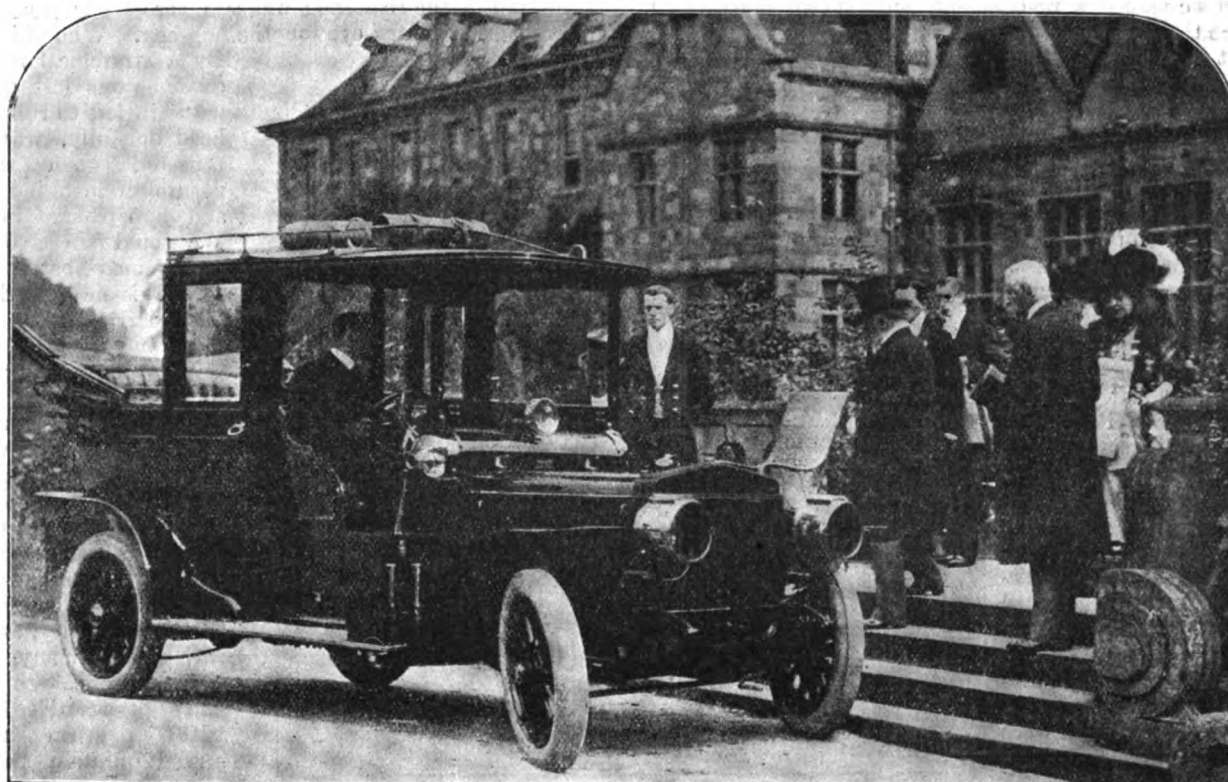
LAST week's meeting of the Motor Union at Leicester was the final gathering of that organisation so far as the provinces are concerned for the present year. Looking back over the programme of 1907, the proceedings at Leicester were as varied and interesting as either of the preceding gatherings at Lincoln and Southport, the local club and the municipal

authorities combining in their welcome to the visiting motorists. At the dinner which is always a prominent feature of the day's gathering, Mr. C. D. Rose, M.P., presided, being supported by many of the chief men of the county and borough. The chairman referred to the good work done in influencing public opinion, and after referring to the Fuels Report and the question of danger signals, went on to say that they could not always expect to sail on a smooth sea and under an open sky. A small cloud had arisen on the horizon. He recognised the work done by the Automobile Association in its own sphere, but the provision of road agents had been forced on the Union by its own members, by the authorities, and by the public, and greater attention had to be paid to inconsiderate driving through towns and villages where speed limits were demanded. They had taken a generous course in suggesting arbitration between the two bodies, and he trusted that their advances would be accepted in the same spirit by the Automobile Association. Major J. A. Cole, J.P., Mr. E. G. Mawbey, Mr. Rees Jeffreys, and Mr. G. T. Langridge also spoke.

varied efforts of all parties to effect sales of cars so as to get quite clear for the opening of the 1908 season.

Commercial Vehicle Trials.

THE second week of the Royal Automobile Club's Commercial Vehicle Trials was begun on Monday, when the cars travelled from Gloucester to Worcester by various routes. Although some of the classes had to negotiate difficult country, the weather was glorious and the roads were in excellent condition, and the splendid result of forty-five non-stops, not counting the performances of three cars, which are under consideration, was achieved. On Tuesday, fifty-four vehicles reached Birmingham, and up to the night of that day thirteen vehicles had made non-stop runs for every day of the trials, these being a Darracq delivery van and a Unic van in Class A, a Lacre box van in Class B, a Dennis van in Class C, a Halford lorry, a Siddeley wagon, a Straker-Squire van, a Churchill lorry, a Dennis van, a Commercial Cars lorry, and a



King Edward spent last week at Rufford Abbey, near Doncaster, as the Guest of Lord and Lady Saville. The photo reproduced above depicts His Majesty leaving the Abbey for a motor trip.

(Photo by)

(Bolton)

The Plaintiff of the Agent.

AMID the confusion that prevails in some departments of the automobile industry the plaintiff of the agent is borne in upon us by correspondence and conversation, combining to confirm the impression that his lot, like that of the policeman, is not a happy one. In many cases makers of cars by speeding production have attempted to hustle the vehicles into the showrooms of their clients, who have found conditions somewhat adverse to their going to customers in similarly quick time. Both parties have been disappointed, and the roseate hue that was prognosticated at the dinners and banquets with which the long evenings of last November were beguiled has been as intermittent as the sun of 1907. This discontent has resulted in agents and manufacturers attempting to shuffle quietly from each other's sight in the hope of effecting better arrangements for the year that is coming. Hence the tension which is generally felt throughout the industry—one result of which is seen in the

Thornycroft lorry in E Class, a St. Pancras steam lorry in Class F, and the Burrell steam tractor. On the run from Worcester to Birmingham, thirty-six of the cars achieved non-stops, and in most of the other cases the stoppages were brief; all the arrivals being before 6 p.m. On Wednesday, the competing vehicles were exhibited at the Aston Lower Grounds.

SIR A. J. MACDONALD, one of the pioneers of motoring in this country, has recently taken out a patent for a new non-skid device. The arrangement comprises a pair of depending arms or sprags pivoted to the frame of the vehicle, a little to the rear of the back axle. The arms are normally held clear of the road surface by springs attached to the frame, but can be lowered so as to press firmly on the road by means of a pedal connected to longitudinal rods linked to the frame and passing rearwards from beneath the driver's seat to the arms. The longitudinal rods are connected to the sprags through springs, which allow the sprags to yield on encountering a lump in the road.

B

THROUGH HOP LAND.

A PLEASANT RUN WITHIN EASY REACH OF LONDON.

NO more delightful run can be had at this time of the year than through the hop districts of Kent. Moreover, for the most part, the way lies over tarred roads. Those who indulge in a car ramble through the smiling county of Kent at this season will, doubtless, be struck by the resemblance that exists between the landscape of our charming home county and that of Southern Italy. The wreathing hops rising in regular avenues against a sky of cobalt, the bright patches of colour afforded by the multi-coloured kerchiefs of the pickers, all serve to enhance this pleasing resemblance. With a small stretch of imagination one is transferred to the sunny South, where the wheels of life run easily in well-lubricated grooves.

Gladly I accepted the invitation from a friend owning a 20-32-h.p. car to accompany him in a motor pilgrimage through Hopland. Leaving London by way of Lewisham and Bromley, the traffic of the Sevenoaks road involved careful driving. At Farnborough we passed a road agent, but, as we preserved a decorous pace through the village of this name, our friend did naught but wave his hand, seemingly indicating that the road was free from any trap ahead. To Riverhead the road is tarred, the long rise through Sevenoaks being taken in good style, as was the succeeding stiff rise to the crown of Riverhill. At the last bend there was a large car stationary, evidently through over-heating, as the radiator was steaming vigorously.

Shortly before Hildenborough a short cut to Tunbridge Wells, *via* Penshurst, was taken. This road is not generally known, but effects a saving of some miles over the direct road. Moreover, the scenery along this stretch is simply delightful. Cosy, picturesque, flower-embowered country homes lay buried on either side of the road, and it was difficult to realise, judging by the surroundings and absence of traffic, that we were but a little over a score of miles distant from town. Through Leigh, with its old church and houses, the way lay over a delightfully shaded road into Penshurst, passing Penshurst Place and grounds—one of the finest seats in Kent. At the far end of the village was noticed a novel blending of the old and the new, a curious old blacksmith's shop, that appeared as if it had been undisturbed for centuries, yet bearing the modern legend, "Motor Repairs."

Shortly after Penshurst the road forks. We followed the left hand road leading past a fair-sized hop garden, and then commenced a stiff climb to Fordcombe. This was taken without falter, though it is not far short of Westerham in gradient. Then past Langton and its green a gentle undulating road led on to Tunbridge Wells Common, the views from this point, especially overlooking Crowborough, being grand. Quite unnecessary to state, the road was tarred, and, judging by the amount of car and carriage traffic, it was evidently the height of the season there. Despite the vaunted attractions of rival Continental resorts, the "Wells" still holds its own as a fashionable and popular inland watering resort. And the place bears a hallowed memory in motor history, for was it not on the broad common that the first motor meet in this country was

held? Here also resides Sir David Salomons, the pioneer of English motorists, and a local agent displays photos of some of his most historical cars.

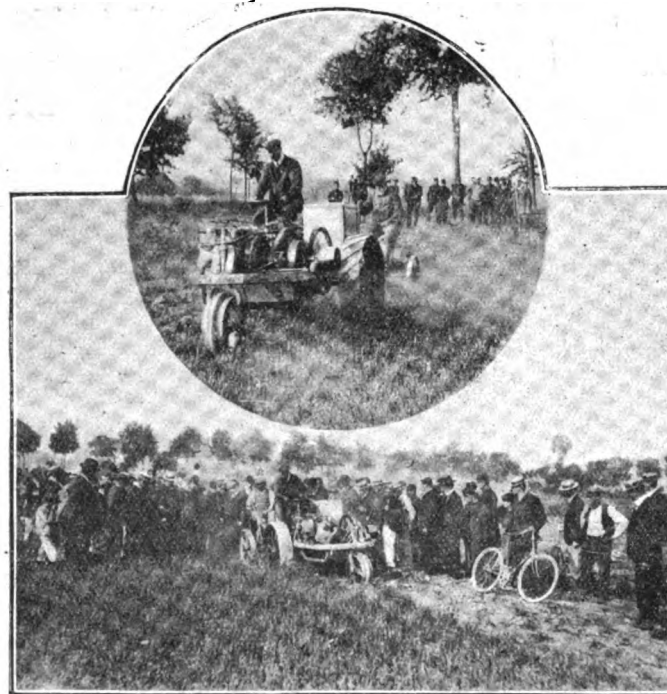
A long rise out of Tunbridge Wells led to Pembury, on the Hastings road, which, however, is left at the end of the village, the left hand road leading to Paddock Wood and Marden. After a few miles over level and winding road we were in the thick of the hop country. Gardens with splendid crops bordered each side of the road, and extended back for some considerable distance. Picking was in full progress, and it was interesting to see even tiny mites of children assisting. Here and there against the tender grey-green of some distant woodland rose the thin shafts of smoke that denoted the encampments of the hoppers. Blue and ethereal rose the vapour of the camp fires, till, touching the more azure blue of the heavens, it dissolved and was lost, bearing with it the soul of the appreciative beholder to realms far above the sordid cares of earth.

We were lost in admiration of the scene when—whop! Our soul fluttered back to earth with a broken wing, for a well-directed clod of earth caught us shrewdly on the left cheek. The trail of the road hog was laid across our paradise, and we searched with wary eye for the hop-hog. Who did this thing?

By a strategical retreat under cover he was lost to view, and we were left to rub our injured head dolefully, what time we reflected upon the debased nature of mankind in general and hop pickers in particular. We would fain have dismounted and joined battle with him. Thrice is he armed who hath his quarrel just. But fifteen times must he be armed who would venture to bring matters to a crisis with a hop picker backed by forty-five companions. Whereon we drove on, leaving the hop hog to further vent his spite upon the next unfortunate motorist who might happen to come along. Turning to the left after Paddock Wood, we followed the road to Watlington, at which railway station many hundreds of hop pickers are deposited. Thence the road led past Offham with its green and well-preserved quintain post. A few miles further the main Maidstone road was joined at Borough Green, and almost reluctantly

we turned the bonnet London-wards. At Ightham, an old-world village, we stopped for dinner with appetites well whetted by the run. The George and Dragon, like many of the houses of the quaint old village, has escaped the desecrating touch of the modern restorer, and, with its ancient timbered front and old-fashioned interior, is a welcome contrast to the modern inn. Following an excellent meal we started for the homeward run, the stiff hill out of Ightham being taken in excellent style. Then through Seal and past the Bat and Ball station at Sevenoaks, the outgoing route being joined at Rive Head. Thus ended as pleasant a trip as is to be found within a forty mile radius of London.

C. M. F



The Ivel Agricultural Motor on trial at Chalons, France.

A BUENOS AYRES correspondent writes that commercial motor vehicles are being extensively used in the Argentine Republic. Scarcely a business house of any standing can be found that does not own at least one delivery van, and any passer-by may see in the streets of Buenos Ayres huge vehicles of this sort carrying big loads to the several railway stations.

THE WEIGEL 25-H.P. CAR.

WE are this week able to illustrate and briefly describe the new 25-h.p. car which Weigel Motors, Ltd., have just put on the market, to meet the demand for a British-built vehicle of medium power. Figs. 1 and 2 show the general arrangement of the chassis in elevation and plan; it will be seen that, although the car is built very low, and thus eminently suitable to receive landaulet bodies, clearance has not been sacrificed. The frame, which is of 3 per cent. nickel steel, is composed of three cross members and two side members. The side members, which are of \square section, are narrowed at the forward end to permit of a large lock to the steering wheels, and raised and "outswept" at the extreme rear to clear the back axle, and to allow the rear half springs to be bolted direct in the side members, thus doing away with the usual

the tappets are adjustable in length so that the necessary clearance may be regulated to a nicety; while, to ensure perfect alignment between the valves and tappets, the flanges at the base of the cylinders are extended to carry the valve tappets, which bear on the cams through the medium of rollers. The crank shaft, which is of vanadium steel, and ground dead to gauge at all the journals, is supported on three long phosphor bronze bearings, lined with white metal, a system of felt washer oil retainers being employed to prevent any oil escaping from the crank chamber. Compression cocks are provided to each cylinder, while there is a tap to the base chamber of each pair to enable the spent lubricating oil to be drawn off. The standard ignition is effected by a gear-driven Simms high-tension magneto located on the inlet side, provision being made for the fitting of a supplementary accumulator ignition if desired. The magneto, as also the pump, can be instantly dismantled without

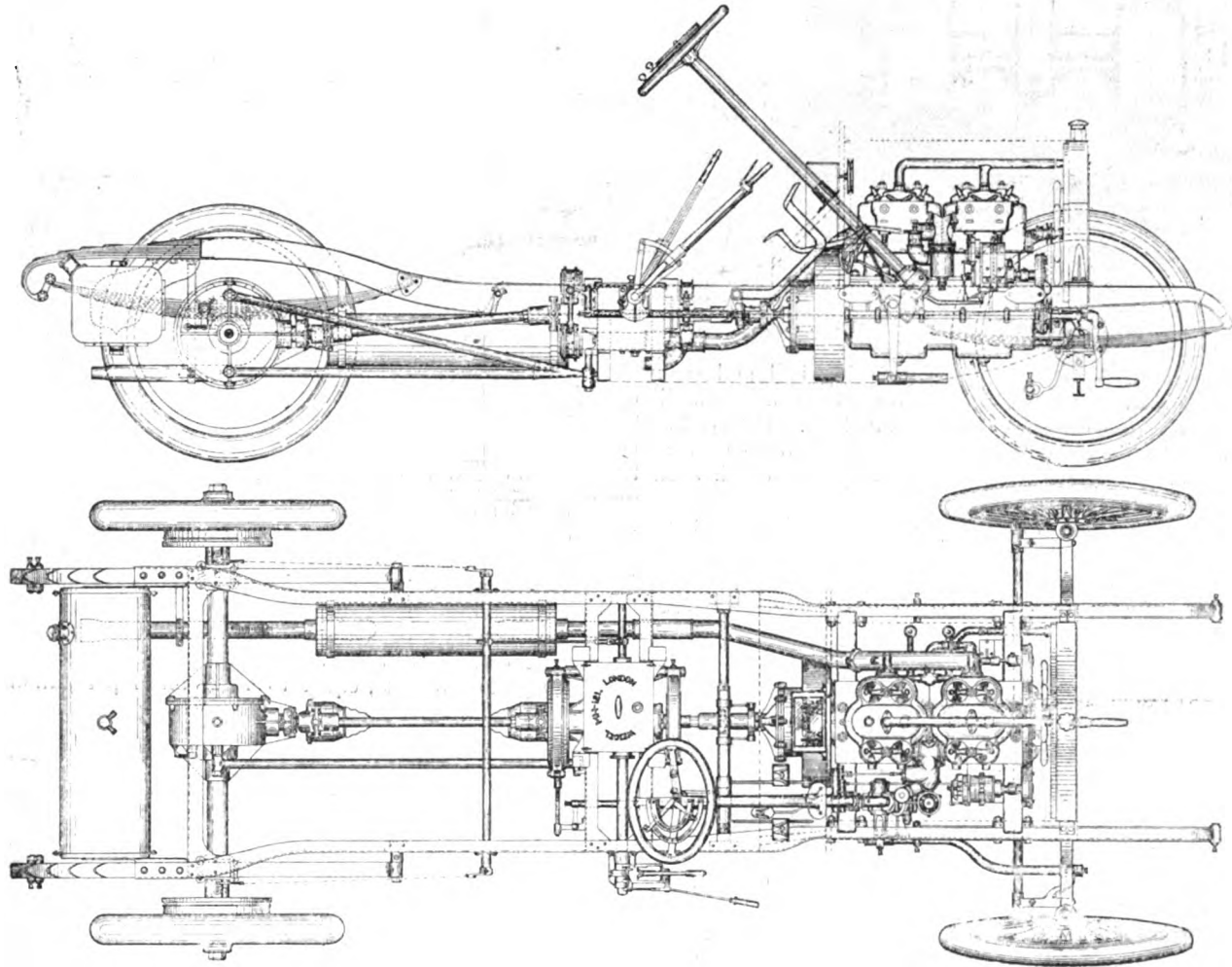


Fig. 1 and 2.—Elevation and Plan of Chassis of Weigel 25-h.p. Car.

attachment by brackets. The springs are of a good length, a feature being the provision of an oil channel between each leaf; furthermore, all the shackle bolts are formed hollow to permit of efficient lubrication.

The motor (Figs. 3 and 4), which is bolted direct to the side members of the frame, comprises four cylinders cast in pairs, the dimensions being 110 mm. bore by 120 mm. stroke. Mr. Weigel informs us that the cooling system has been specially studied to insure immunity from over-heating under the most severe climatic conditions, and so meet the requirements of motorists in the Colonies as well as in this country. To this end very large water jackets are provided, in addition to a high-capacity gear-driven centrifugal pump and honeycomb radiator with air-inducing fan. The interchangeable valves—in 25 per cent. nickel steel—are of large diameter, and are placed on opposite sides of the cylinders, the inlets being on the right and the exhausts on the left. To obtain absolute silence in running

disturbing any of the timing gear, a special ring coupling being placed between each of these units and its driving shaft.

The power is transmitted from the engine to the gear-box through an oil-containing metal disc clutch and a system of universal joints, which not only allow for any want of alignment between the engine and gear-box, but also permit the clutch to be dismantled without disturbing either of the two parts just named. The self-contained clutch spring rides on a ball thrust race, and another ball thrust race is placed behind the clutch disengagement collar. The gear-box (Figs. 4 and 5), is arranged to provide three forward speeds, with a direct through drive on the top gear, and one reverse. There is no split in the aluminium gear-box, but a large and rapidly-detachable cover affords an easy method of inspection. The gear wheels and shafts are made from "Ubas" steel case-hardened and ground where necessary; all the shafts run on Hoffmann ball bearings, and oil-retaining felt washers are employed to prevent any unsightly

escape of oil. The method of striking the gears is on special lines, it being absolutely positive both in action and locking. It is effected by a rocking lever working through a gate quadrant, the rocking lever engaging with either striking shaft as it rocks through the gate. The spring-operating arms, together with the special profile of the gate, positively lock the gears in mesh, and a detent rod prevents the reverse gear being inadvertently engaged.

From the gear-box the power is conveyed to the back axle by means of a cardan-shaft and bevel gear. The shaft is provided with a specially designed universal joint at each end, the torque

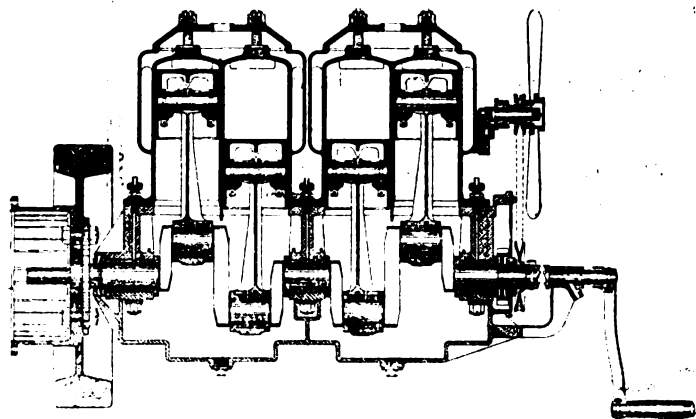


Fig. 3.—Sectional Elevation of Motor.

being resisted by a γ rod ending in a swinging ball and socket joint. As the road wheels are carried on the axle casing the live shafts have only to withstand the driving effort. Ball load and thrust bearings are employed where necessary, and the bevel and crown wheels are formed with a large tooth profile which should ensure extreme silence in running.

The steering gear is of an improved worm and segment type, both the worm and the segment being supported on adjustable ball bearings. All the steering joints are formed by a ball piece held between two sockets. The front axle is of the dropped

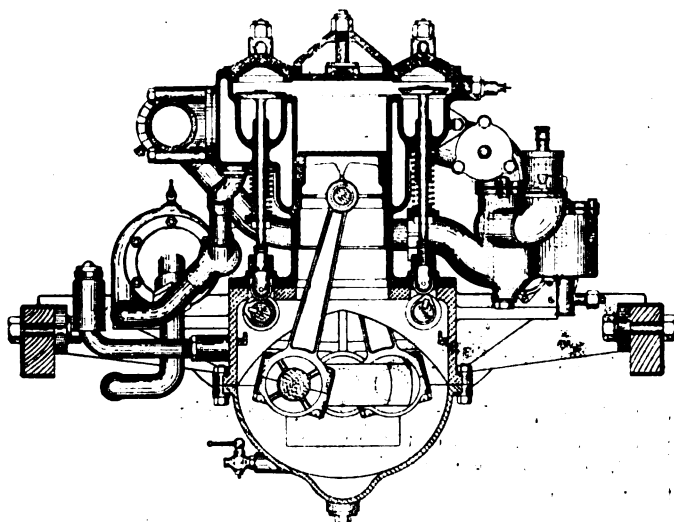


Fig. 4.—Cross Section of Motor.

type and is of I. section nickel steel; the weight of the car is supported on ball thrust races fitted under each swivel.

The gear-box carries two external contracting brakes; the one at the front of the gear-box comes into operation when the clutch pedal is depressed beyond a predetermined limit, and serves to prevent the gear pinions spinning, thus avoiding all noise and wear when changing gear. The main foot brake, immediately in the rear of the gear-box, is quite independent of the clutch, and is of ample proportions. The adjustment of both these brakes is readily effected by turning a self-locking butterfly

nut, a system of springs preventing any rattle in the connections. Expanding brakes, operated by hand through a side lever, are provided in the rear hubs, while a ratchet sprag is formed on the differential casing for use in case of emergency.

The car has been specially designed to take a side-entrance or landaulet body, and from the foregoing brief particulars it will be gathered that it forms a worthy companion to the 40-h.p. vehicle introduced by the same firm about a year ago.

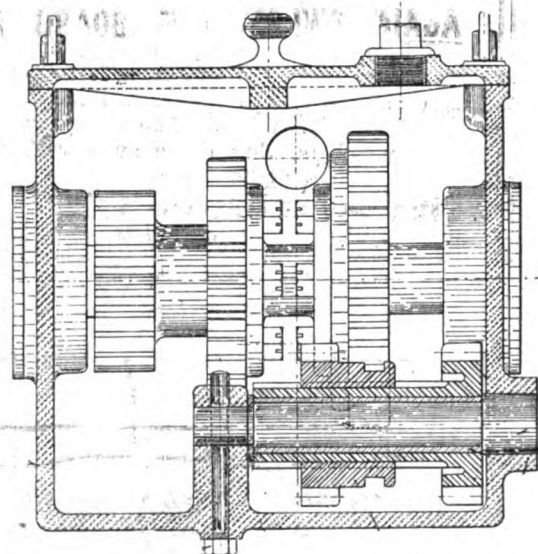


Fig. 5.—Sectional Elevation of Gear Box.

THE R.A.C. has issued a certificate in connection with the petrol and benzol consumption test, made with a 40-h.p. six-cylinder Napier, on August 23rd and 24th last. For the petrol test Shell spirit was used, specific gravity 720. The total distance run was 200 miles, and the amount of spirit used was 10 gallons 3 oz., equal to 19.96 miles per gallon. For the second test Bowley's benzol was used, specific gravity over 730. The total distance run was again 200 miles, and the consumption was 10 gallons 3 pints, equal to 19.27 miles per gallon. For both

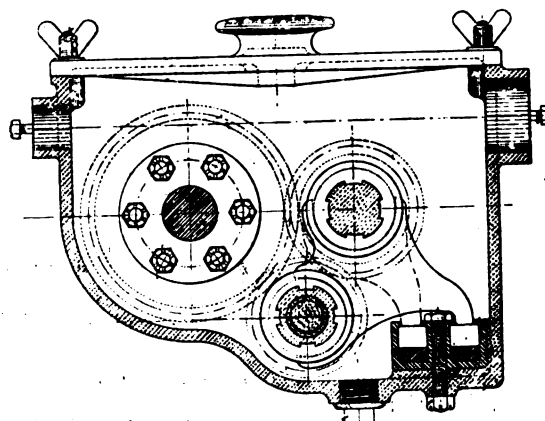


Fig. 6.—Cross Section of Gear Box.

the above tests the same route was followed, viz.:—From the 13th milestone to the 113th milestone from London, on the North Road, *via* Stevenage, Wansford and Grantham, and back over the same route. The weight of the car on both days was the same, viz., 3,226 lb., and there were four passengers carried. We may add that no adjustment or alteration was made to the carburettor for the benzol. Seeing that it was of much greater specific gravity than the petrol, the carburettor should obviously be slightly altered to obtain the best result, but even under the adverse conditions the trial was very satisfactory.

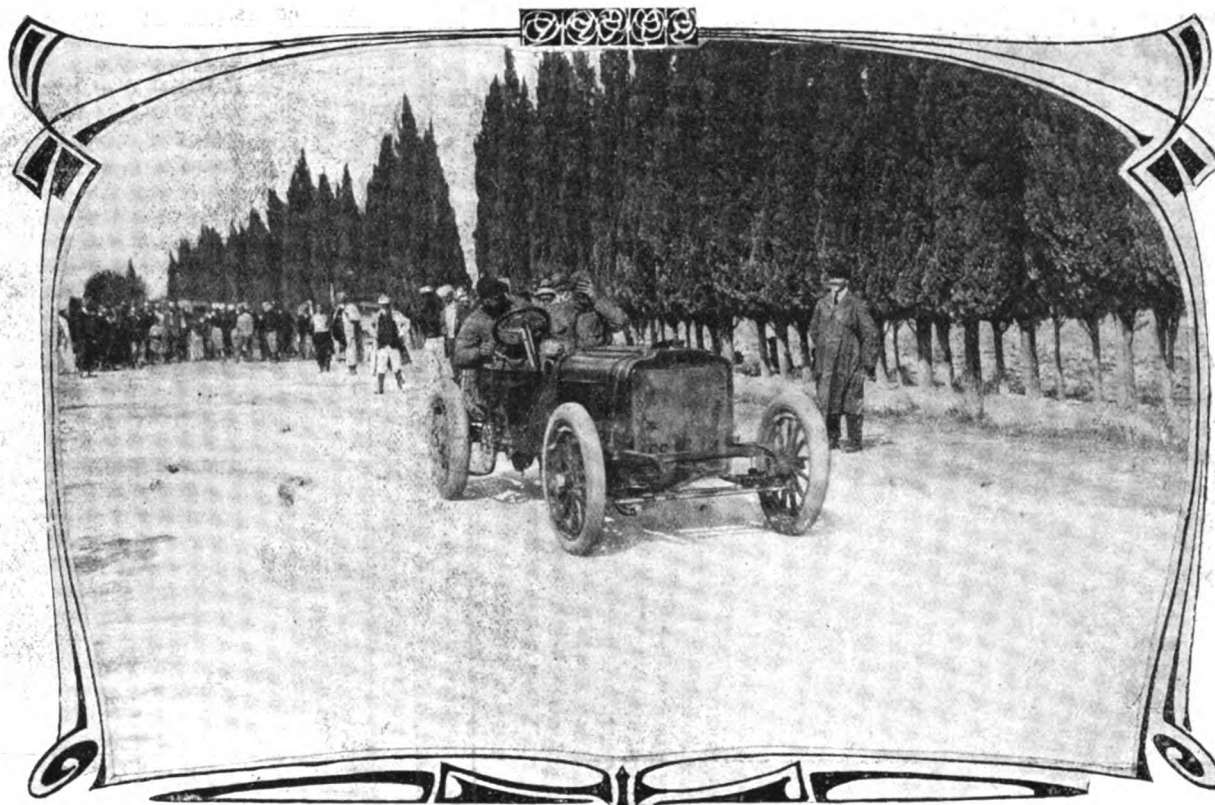
THE MONT VENTOUX HILL CLIMB.

A HILL-CLIMBING meeting was held last week end on Mont Ventoux (France) under the auspices of the Automobile Club Vaclusien. The course is 21.6 kilometres long, the gradient varying from 1 in 16 to 1 in 7. The starting point was at Bedoin, between which place and the finishing point there is a difference in altitude of 5,245 feet, or nearly a mile. The first day—Saturday—was devoted to the motor-cycles and light cars. M. Sizaire climbed the hill in 43 min. 27 3-5 sec. on his Sizaire-Naudin, making the best time in the 120 mm. single-cylinder class; in the category for single-cylinder (from 121 to 140 mm.), Giuppone on a Lion-Peugeot was first in 48 sec.; in the four-cylinder (71 to 80 mm.) section Lachannay on a De la Buire in 46 min. 38 2-5 sec.; in the four-cylinder (81 to 90 mm.) class, Belleville on a Brouhot in 35 min. 30 1-5 sec.; and in the four-cylinder (91 to 102 mm.) class, Souchal on a Brouhot in 29 min. 14 sec. The proceedings on Sunday were confined to the trials

CONTINENTAL NOTES.

The Provence Speed Trials.

Considerable interest was shown in the series of flying kilometre and five kilometre speed trials held by the Automobile Club de Provence on the level road between Salon and Arles on Thursday, the 12th inst. The honours of the day fell to Bablot, who, driving an A.C.F. Grand Prix Brasier racer, covered the flying kilometre in 23 4-5 sec., and the five kilometres in 1 min. 56 4-5 sec., the latter being equal to 96.3 miles per hour. Rougier, on a Lorraine-Dietrich, was second, his times being respectively 26 1-5 sec. and 2 min. 4 2-5 sec.; and Haeusslin, on a Rochet-Schneider, third in 32 1-5 sec. and 2 min. 38 2-5 sec. Two Sizaire-Naudins, a Prima and a Demeester competed in the class for single-cylinder cars up to 120 mm. bore, M. Sizaire proving the fastest—51 1-5 sec. for the kilometre and 4 min. 16 4-5 sec. for five kilometres. The category for four-cylinder vehicles between 103 mm. and 116 mm. bore resulted in a dead



The Provence Speed Trials.—Bablot on the Brasier Car on which he made the fastest time of the day.

of racing and high-power touring cars. The best time of the day was made by Rougier on a Grand Prix Lorraine-Dietrich, his time being 19 min. 30 2-5 sec., as against Bablot's (Brasier) 19 min. 59 2-5 sec. The record for the climb stands at 19 min. 13 sec., this having been set up by Cagno on a Fiat in 1905. The winners of the touring car sections were:—Class 5, four-cylinder engines, 103 to 116 mm. bore, Feuillet (Brouhot) 28 min. 4 3-5 sec.; Class 6, ditto, from 117 to 125 mm. bore, Marze (Cottin-Desgouttes) 25 min. 16 4-5 sec.; Class 6a, ditto, from 123 to 129 mm., Hamelle (Mors) 28 min. 22 sec.; Class 7, ditto, from 125 to 140 mm., Gaste (Radia) 25 min. 44 1-5 sec.; and Class 8, six-cylinder cars, from 40 to 60-h.p., Jenne (Rossel) 24 min. 54 4-5 sec.

heat between Kiss, on a De la Buire, and Barthelemy, on an Itala, both covering the kilometre in 39 4-5 sec. Kiss, however, proved the faster over the longer distance—3 min. 17 2-5 sec., as against 3 min. 41 3-5 sec.

The Semmering Hill Climb.

The annual hill-climbing competition from Schottwein up the Semmering, promoted by the Austrian Automobile Club, promises to be a big success, over a hundred entries having been received. The event is to be run off on Sunday next.

Motor Vehicles in the French Military Manœuvres.

The most important feature of the military manœuvres just completed in the Gironde district of France has been the experiment with motor instead of animal traction for the commissariat wagons. Bordeaux was fixed upon as the terminus point, and every morning a convoy of motor wagons left that city with bread, oats, sugar, coffee, tinned meat, &c. In eight or nine hours it covered the sixty odd miles separating it from the cantonment zone of the 18th Corps, returning to the starting point

THE Renard road train which has been on view at the Tropical Industries Exhibition at Liverpool this week arrived in the city on Friday week, after a journey from Coventry. Leaving the latter town at seven o'clock on Friday morning it arrived in Liverpool a few minutes after nine o'clock the same evening—a distance of about 112 miles.

next day. In this way two convoys of forty wagons were able to revictual the army corps. The experiment has been entirely successful, and has placed beyond doubt the immense advantage of mechanical traction for revictualing armies in the field.

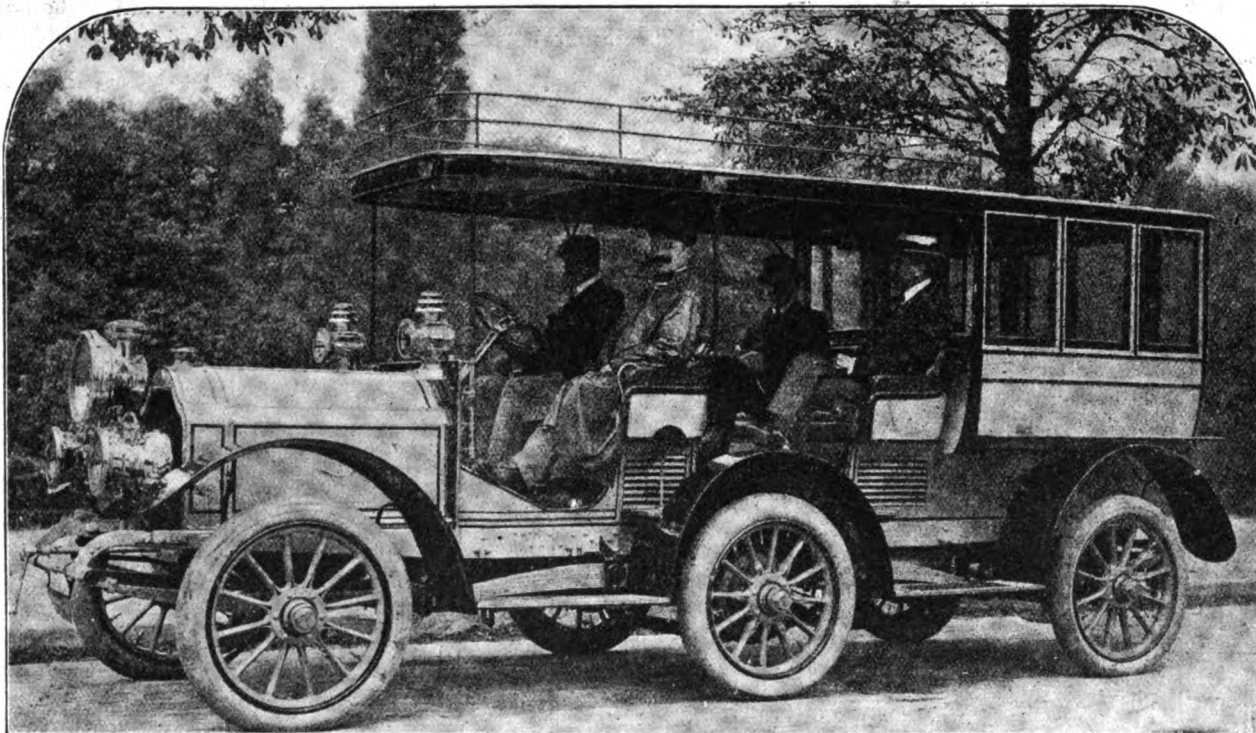
The 1908 A.C.F. Grand Prix Race.

Two new circuits for the 1908 A.C.F. Grand Prix race have already been proposed. One, which measures 100 kilometres, is situated in Maine-et-Loire; there are no level crossings on it, and only five or six small villages are passed through. It is situated near Angers, the principal places on the route being St. Jean, Becon, Candé, Champtocé, and St. George's. The second circuit is situated between Bourges and Nevers; it is 71 kilometres long, and, except for the level crossings, is said to be an ideal course.

An Automobile Caravan.

M. A. de Fabregues, a member of the Marseilles Auto-

motor-vehicles.——A public motor-car service is being established between Memel and Libau, Russia.——The Conseil-General de Loire-Inferieure is open to receive offers for the establishment of a public motor-car service between Nantes and Berval, for which it has voted a subvention of £400.——Recently, when travelling upon her car from Biarritz to San Sebastian, the Queen of Spain experienced tyre troubles, and was unable to proceed until Senor Don Augusto Perogordo arrived upon the scene with his 28-h.p. Daimler car and supplied the necessary outer cover.——La Société le Taxauto Nantais has just been formed in Nantes to introduce a service of taximeter motor-cabs into the town. A start is being made with six 12-h.p. vehicles.——In order to stimulate interest in motor-cars some influential gentlemen in Norway have recently taken up the question of organising an automobile club.——Eleven motor-cars and seven lorries were used in connection with the recent manoeuvres in Switzerland.——Some trials with a new agricultural motor constructed by M. Gougis have lately been carried out near Auneau (Eure



The Six-wheel Car built for the Khedive of Egypt by the Lorraine-Dietrich Co.

mobile Club, has recently had constructed a motor caravan which will render him independent of hotels when touring in various parts of France. The vehicle, which is provided with a 35-40-h.p. petrol motor, comprises a dining saloon with a table for eight persons, the chairs being convertible to bedsteads, a lavatory, and a kitchen with cooking stove.

Motor-Car Regulations in Russia.

The Russian Ministry of Ways and Communications has drawn up a series of regulations with regard to motor-car traffic in Russia. All automobiles must be submitted to the authorities, who, after examination, will issue a certificate that the same are safe. The maximum speed permitted on the open roads is sixteen miles per hour, this being reduced in towns and villages to thirteen miles.

Miscellaneous Items.

Herr Scheibler, of Aix-la-Chapelle, has lately completed a double-deck motor-bus for service in Abyssinia.——A motor-car race from Odessa to Nicolaieff and back (Russia) is to be held on the 27th inst.——Tenders are about to be invited for the transport of the mails between Amiens and Doullens (Somme), France, by

et-Loire), France.——It is reported from Turin that the makers of the Rapid car have suspended operations owing to financial difficulties.

THE fleet of Brown cars which is used by the members of the Royal Commission on Congestion in Ireland has now completed over 13,000 miles without having given the slightest trouble.

AN American firm of motor-car builders is organising a competition for chauffeurs employed by motorists owning vehicles of their construction who do the best work and show the most common sense in 1908. That the records may be absolutely accurate in detail, each contestant will be required to have his report acknowledged by his employer, and sworn to before a notary public. The rules require that each competing chauffeur must drive for the same owner throughout the contest. The first prize is £200, the award being based on average cost of repairs per mile. Thus not only will drivers be encouraged to retain their positions but also to keep their repair bill down to a minimum by handling the car intelligently, keeping it constantly in good running condition, and especially in avoiding reckless driving.

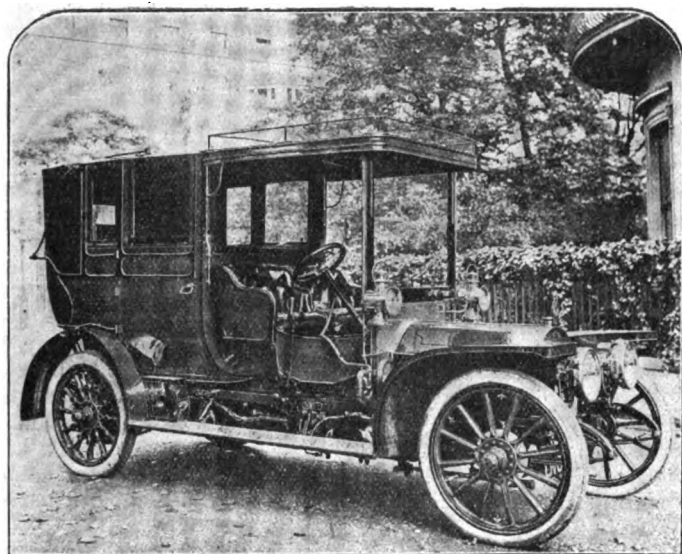
SEVERAL members of the Gaelic League are on a motor-car tour through the Irish-speaking districts of Donegal.

THE tenders received by the London County Council for the supply of a motor-escape van to the fire brigade vary in amount from £860 to £1,300.

MANCHESTER is considering the adoption of motor vehicles for certain of its municipal officers.

A SMALL car at a cost of not more than £150 is to be purchased for the official use of the Motor Union.

FIFTY-THREE entries have so far been received for the reliability trials of voituettes and light cars which are to be held in France next month.



The 30-40-h.p. Fiat just supplied to the Duke of Rutland by Fiat Motors, Ltd. The vehicle is fitted with the Fiat special automatic starting device. Over the driver's seat is a substantial roof for the carriage of heavy luggage, while the interior of the body, which may be opened or closed at will, is a fine example of comfort and adaptation to practical requirements.

THE Union Motor Car Company, 21, Denbigh Street, Victoria, S.W., have secured the British agency for a new Italian car—the S.M.B., made by the Societa Meccanica Bresciana. The first chassis is expected to arrive very shortly.

At the Brussels Aeronautic Conference, the Aero Club of Great Britain has been represented by Prof. Huntingdon, Messrs. Roger Wallace, K.C., the Hon. C. S. Rolls, Griffith Brewer, F. H. Butler, and H. E. Perrin. Next year's gathering may take place in London.

THE Car Supply Company, Ltd., have opened showrooms at 34, Knightsbridge, W., next door to the Ladies' Park Club, where they are exhibiting examples of cars made by the Maison Duhanot of Paris, for whom they are the British sole agents. A stock of motor accessories is also being kept on hand.

WITH the sanction of the Indian Government, the Motor Union of Western India has decided to hold Reliability Trials on December 26th, 27th, 28th, and 29th. The test will be over a distance of about 600 miles, from Bombay to Kohlapore and back, via Mahabaleshwar, the last day's run being 185 miles long.

DAMAGE to the extent of £50 has been done to a motor lorry near Reading under peculiar circumstances. A motor-car got into difficulties, and a lorry belonging to Messrs. Durham, Churchill and Co. went to its assistance, and itself became disabled. The lorry was left by the roadside all night unattended and with no light. A gentleman, seeing that it was a source of danger to traffic, tied a bull's-eye lantern to the lorry with a string. The cord burnt through, the lamp fell on the lorry, setting it on fire, and causing the damage mentioned.

HERE AND THERE.

THE annual dinner of the Motor Union has been fixed for November 13th.

THE latest departure of the Vanguard Motor Bus Co., Ltd., is the undertaking of goods

transport under contract, and they have already undertaken such work for Messrs. Barclay, brewers.

IN the London Road, Hatfield, Mr. J. Gray has provided a garage with accommodation for fifty motor vehicles.

AN inspection pit is a feature of the garage which is owned by Messrs. Passey and Hill, Ltd., at Ross, in Herefordshire.

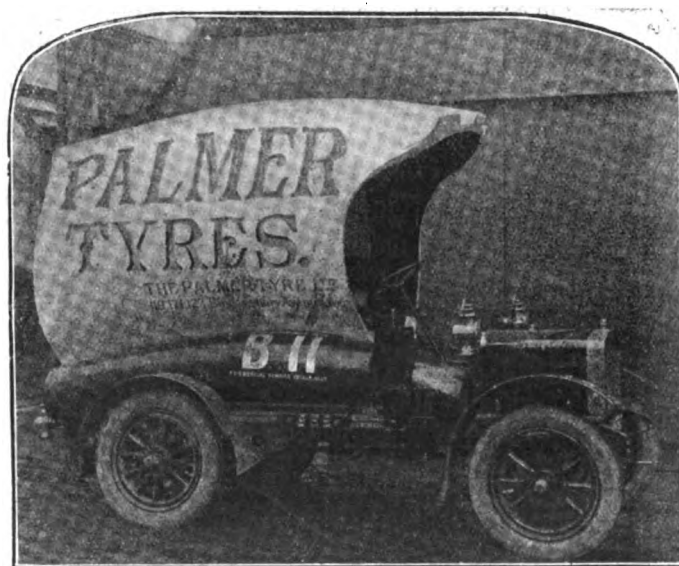
MR. R. W. F. CECIL, son of the late Lord Francis Cecil, has just ordered a 26-30-h.p. limousine from Messrs. J. B. Ferguson, Ltd., Belfast.

WE learn that two motor-cars have been sent out to Mombassa for the use of Mr. Winston Churchill in his forthcoming tour through Central Africa.

MESSRS. ARGYLLS (LIVERPOOL), LIMITED, have secured a trial order from the proprietors of the "Liverpool Echo" for a 10-12-h.p. Argyll newspaper delivery van, similar to those supplied to the "Glasgow Evening News."

SERGEANT BAKER was charged at Folkestone with perjury, it being alleged that he gave false evidence in a prosecution which he, as traffic inspector, brought recently against a motor-car driver, whom he summoned for loitering, to the general satisfaction of the townspeople. Baker was discharged without any evidence on his behalf being offered.

A DELIVERY van that is creating a great deal of interest in the Commercial Vehicle Trials is that of the Palmer Tyre, Ltd. As will be seen from the accompanying illustration, the body—built by Messrs. Bayleys, Ltd., of Newington Causeway, S.E.—has been specially designed to represent a section of the well-known ribbed-tread Palmer Cord tyre, and is of a decidedly unique construction. The Palmer Tyre, Ltd., have received so many inquiries from motor-van builders and users regarding the possibility of using pneumatic tyres for delivery vans, that they have decided to avail themselves of the opportunity to demonstrate the capabilities of Palmer Cords for work of this description. The van has been designed for a load of 15 cwt., but a specially strong back axle and rear springs have been fitted for the trials, during which the vehicle is carrying a load of one ton. The Palmer Tyre, Ltd., are confident that their 5-inch

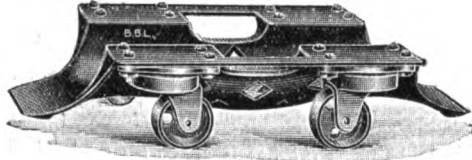


tyres will be capable of dealing with the additional load without the slightest trouble. Beyond the special and original type of body, the van does not differ from the standard 15 cwt. Thames delivery van chassis supplied by W. T. Clifford Earp, Ltd. At the conclusion of the trials the van will be utilised by the Palmer Company for ordinary delivery requirements.

IN Stanley Place, Chorley, the Chorley Motor Company have opened a garage.

AT Ross, Herefordshire, Messrs. C. and W. Butcher have a motor garage with repair works.

WE illustrate herewith the latest model of the Duco portable turntable introduced by Messrs. Brown Bros., Ltd. This simple and ingenious device is made of iron throughout, and so substantially constructed that the heaviest motor-car can be moved about on a pair of them, and so easy is their movement that one man can turn a vehicle in any direction. For the handling of



cars at close quarters these turntables are especially useful, and for use in garages they save tyres, time, and labour, while facilitating the cleaning and washing operations. They work equally well under either the two front or two rear wheels, and by using four it is possible to turn a car completely round in its own length.

THE motor fire-engine belonging to Finchley has broken down on several occasions recently.

"THAT'S a life-belt," remarked an urchin in the Strand one day last week as a taximeter cab passed with its Stepney wheel attached.

MESSRS. REYNOLDS AND PODMORE, of Stockport, near Manchester, are making a speciality of coach-built bodies for motor-cars.

SPEAKING at Tiverton Town Council, Mr. T. Lake said he looked upon motor-cars as "The Devil's Own Team." They made the country intolerable.

THE motor garage of Messrs. Evan Jones and Son, at Carnarvon, is in Castle Square. The firm have also a depot in Bangor Street, in the same town.

THE Lancashire Steam Motor Co., Ltd., Leyland, have lately completed an 18-seated single-deck petrol motor-bus for the Metropolitan Asylums Board.

MESSRS. DURHAM, CHURCHILL AND CO., Grimesthorpe Sheffield, are building a 15-cwt. delivery van to the order of the Sheffield Corporation for the collection and distribution of money and tickets in connection with the electric tramways.

To the end of July last the exports of motor-cars and parts from the United States this year have attained a value of £849,098, as compared with £593,857 in the corresponding period of 1906. England heads the list with £267,034, Canada being second with £180,077.

THE Sculcoates (Yorkshire) Rural District Council have decided to apply to the Local Government Board for the necessary powers to deal with motor-cars, it having been brought to their knowledge that there was a possibility of motor-buses being run between certain villages within the area of the county.

IN connection with the recent visit of the American Assistant Postmaster-General to Cork, Messrs. Argylls Ireland, Ltd., supplied the Cork Harbour Board with a 16-20-h.p. Argyll car, in which the distinguished visitor, accompanied by the High Sheriff of Cork and Mr. James Long, J.P., chairman of the Harbour Board, drove to Blarney, via Carrigrohane, where they inspected the castle.

THE question is often asked, Does Brooklands assist the motor trade? The proprietors of the "Motor House" are of the opinion that it does. While not finding any decrease in the demand for the fastest cars, they say that the track has been of considerable service to them in regard to some of the older, though fairly powerful, cars. Many people will not believe that some of the cars of two or three years ago are anything like as fast as the more modern cars. But when they take them round Brooklands against the clock and the wind, they will, probably, discover their error in judgment and, in nine cases out of ten, complete the bargain.

MR. D. C. CRUIKSHANK has opened a motor garage at 29, Diamond Street, Aberdeen.

"THE MAID AND THE MOTOR-MAN" is being performed at the Gaiety Theatre, Manchester, with a "gentleman chauffeur" as a leading character.

PARAFFIN should never be used in any way whatever for washing motor tyres. Covers are best and most safely cleaned with a sponge and the smallest possible quantity of clean water.

THE Sheffield motor char-a-banc accident has resulted in another death, a young woman named Edith Slack succumbing to her injuries on Monday. This is the fourth death as a result of the accident.

MR. ARNOLD HERBERT, M.P., has suggested to the President of the Board of Agriculture that a large part of the increasing cost of maintaining the roads should be thrown upon the national exchequer.

SIR HERBERT JEKYLL, the head of the new Traffic Department for London, was motoring recently at a speed that he estimated at twenty miles an hour. Accepting police evidence, however, a fine of £5 on his chauffeur was imposed by the magistrates at Kingston.

MESSRS. GUTTERIDGE AND ZAMBRA, LTD., of 308, Euston Road, N.W., have opened a motor repair works at 108, Drummond Street, Hampstead Road, N.W. Garage accommodation is provided for fifteen cars, and general repair work will be carried out, the establishment being well equipped for that purpose.

FOUR Dundee firms—Thomas Shaw, Limited; the Rossleigh Cycle and Motor Company, Limited; the Dundee Motor and Cycle Company, Limited; and Mr. F. W. Raikes Bell—are being asked to quote for a suitable motor-car to be used by Mr. George Baxter, water engineer, Dundee, for his official duties.

MANY of the large market gardeners in Middlesex now convey their produce to Covent Garden Market, London, by means of steam tractors and trailers. Among them is Mr. A. W. Smith, of Feltham, whose Wallis and Steevens' tractor, hauling two trailers piled high with fruit baskets, is a regular feature of West End traffic.

THE motor lifeboat, which is intended to serve Teesmouth and Hartlepool Bay, is now about to leave the builders' hands. She will be the only motor lifeboat on the North-east Coast, and will be the third to be brought into use in the country by the National Lifeboat Institution. She will be taken to her destination by Mr. W. Gales, of the firm of Messrs. Robinson and Co., motor engineers, West Hartlepool, who will be accompanied by half-a-dozen of the Seaton Carew lifeboatmen.

WHILE motorists naturally pay full regard to the appearance and fitments on their motor-cars, the smaller matters are often overlooked. Especially is this the case with regard to such



things as goggles, in connection with which attention might well be paid to the fitting as well as the appearance. The use of ill-ventilated and badly-constructed devices of this kind quickly injures the eyes. Recognising this fact, Messrs. Aitchison and Co. have brought out a "collapsible cup" motor goggle, which obviates many of the

dangers connected with the use of the cheaper varieties that are on the market. Mr. Aitchison is a well-known optician and authority on the eyesight, and, while paying full regard to scientific construction, has provided a speciality that fits without pressure on the face, affording comfortable and easy wear. The goggles are well ventilated, and fitted with special lens. The flexibility of the cup form secures safety, as the spring fronts, if forced to the face by a blow, collapse at once, so that the force is projected from the face without injury. The Aitchison motor goggle may be obtained from the firm at 14, Newgate Street, E.C., or any of the London branches of the firm, as well as from their Yorkshire establishment at 37, Bond Street, Leeds.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

RACING AT BROOKLANDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It will be remembered that the promoters of the Brooklands Automobile Racing Club, when asking for the support and patronage of the principal motor manufacturers and the sporting public, did so upon the grounds that the Brooklands course would give every manufacturer an opportunity of testing the capacity of his cars, and that the public would be certain that the administration of these races would be without partiality. I venture to think that these promises in actual practice have been, unfortunately, very slightly adhered to, and that a complete open system of competitions cannot and does not take place at these races.

The real cause of this unfortunate state of affairs seems to be the desire on the part of the powers that be to arrange or strain the regulations so that the British manufacturer shall have a decided preference over his foreign rival. The proof of this statement is exemplified in the regulations made by the club for entries of cars whose cylinder capacity has been limited to 126 mm. (about 5 inches). Now these are the

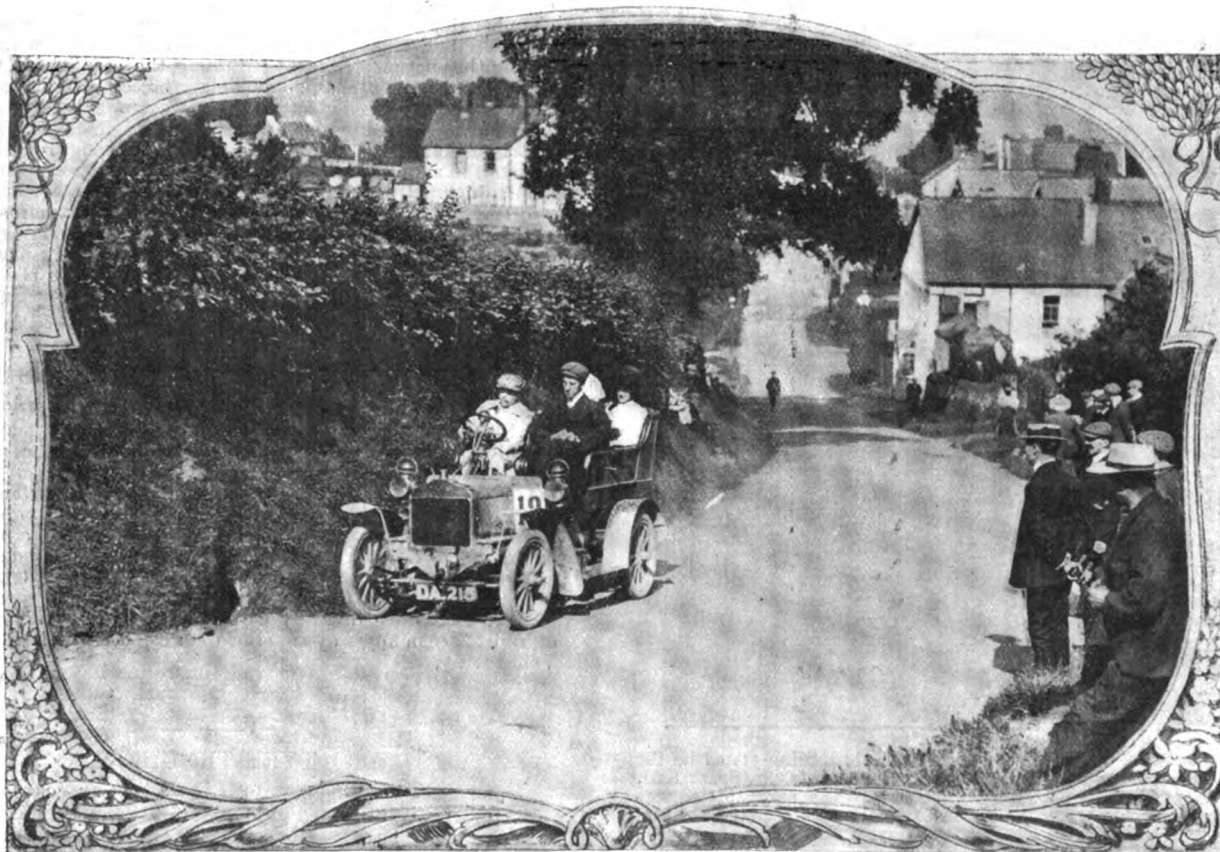
I have noticed that after passing the finishing line some competitors drive to the right with the view of turning round to the left, and that others do just the opposite, with the result that either collisions are inevitable, or that in endeavouring to avoid the same something equally bad may happen. I think it would be wise if the officials were to issue instructions that no stopping and turning round will be permitted, but that the cars must continue—at a slower pace naturally—right round the track. This would only occupy a few minutes longer than at present and would, I am sure, tend to greater safety.—Yours truly,

A SPECTATOR.

IS IT POSSIBLE TO ELIMINATE THE CHANGE SPEED GEAR?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The question whether it is possible to eliminate the change-speed gear in petrol cars is one that has been raised at intervals ever



The Cardiff Automobile Club's Hill Climbing Competition.—Mr. G. Stevens on his Royal Starling Car taking the first bend.

dimensions of most of the British-built cars, but the principal foreign makers standardise their cylinders of this type at 130 mm., and this difference of 4 mm. prevents many cars such as the following from being entered in this class, and of course it would be worse than useless for them to enter in the next class, where the cylinder dimension is 155 mm.

35-45-h.p. Renault	130 mm.	40-h.p. Rapid	130 mm.
40-h.p. De Dietrich	130 mm.	28-40-h.p. Züst	130 mm.
40-h.p. Itala	130 mm.	30-h.p. Daimler	130 mm.
28-h.p. Peugeot	130 mm.	30-h.p. Spyker	130 mm.
40-h.p. S.P.A.	130 mm.	40-h.p. Junior	130 mm.
40-h.p. Weigel	130 mm.	40-h.p. Nordenfelt	130 mm.

and many others.

If these regulations stand, the foreign maker must build a special engine, and therefore the cars they enter in these races will not be similar to those sold to the public.—Yours truly,

FAIR PLAY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is a curious fact that all the accidents that have so far taken place on the Brooklands Track have occurred after the race was over—in the pulling up operation. As one who has attended most of the meetings

since the internal combustion motor was first adopted as a source of power for automobiles, and there appears to be very little doubt that it will continue as a thorn in the side of the motor engineer for a long while to come. Much has been done, it is true, but, in a certain sense, what has been accomplished has actually tended to leave matters further from the realisation of this ideal than was the case at the outset. The necessities of the situation have been appreciated, and a practical change-speed gear developed from extremely crude beginnings; during the same period the motor itself has undergone a marvellous amount of improvement, but this has stopped far short of the culmination desired, and its shortcomings still loom up as large as ever. There are occasional outbreaks on the part of various enterprising firms in organising top speed runs to show the motor world in general that the change-speed gear is no longer an absolute necessity—it is merely an emergency reserve and a friend in need for the inexperienced driver. But the majority of manufacturers still continue to put a three or four speed gear-box on their cars. Such performances as those referred to show what can be done by a skilful driver with a clear road, but forcing a motor of the present type until it is ready to gasp its last will not benefit it nor bring the sought-for result any nearer. Cylinder multiplication has appeared to offer a quasi remedy for the evil, and so far as the use of the six-cylinder motor has made it possible to do a much greater

proportion of the driving on the high-gear, it may be said to have accomplished the object in view, but considered as a whole the problem remains practically unaltered. It is quite evident that the inability to start under load is one of the principal drawbacks of the internal combustion motor, and, viewed at the present stage of development, it appears likely that the need of an intermediate step between the engine and its load constitutes a shortcoming that falls in the same category in any such exacting and variable service as that called for by motor-vehicles.—Yours truly,

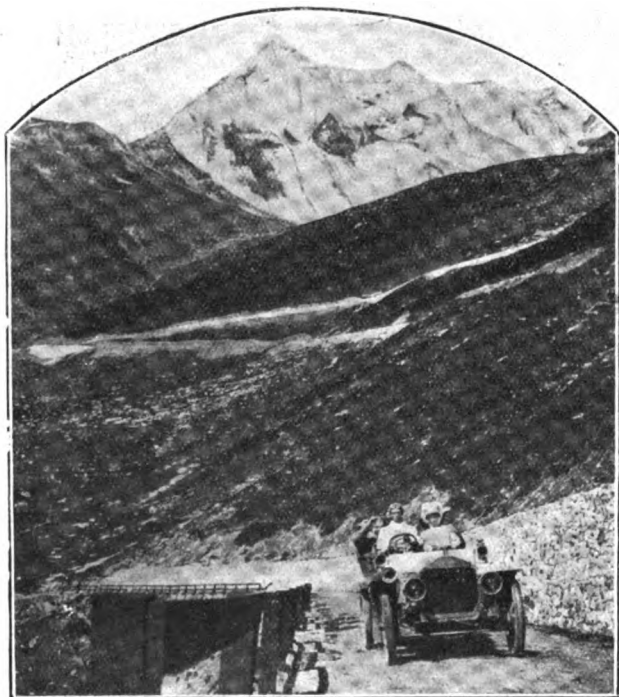
A. T. MILLINGTON.

THE A.C.F. GRAND PRIX RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to my letter of August 31st, to which Mr. Weigel has been good enough to reply, I do not think it can in any way be so construed as to imply that I am the only driver. I simply made a statement, thereby showing that if I want to be successful I must rely upon my own ability, that my ambition is racing, and that ambition is fanned by the remarks of people I have driven. At all events, please exonerate me from any thought of pride or presumption to real racing ability; whatever I do I must do for my living, and I know that I could do more if I only had the opportunities.

Mr. Weigel has placed the thin edge of the wedge in sight for me, i.e., I must get employment with a firm who build racing-cars; now



A six-cylinder San Giorgio car (an Italian Napier) being tested up the Grand St. Bernard, a very severe road. At the helm is Mr. Bruce Ball, technical director of the San Giorgio Company. The car depicted was driven from the works without previous trials, and completed a run of 475 miles with one stop to adjust a fan belt.

who will first satisfy themselves as to the probability of my being a remunerative acquisition to their workshops and then employ me. I would give up my business, motor dealing, and start at once where there was a chance of—as Mr. Weigel so nicely puts it—being welcomed at some future date as a successful racing debutant. At all events, he does not advise me, so far, to give up the idea.—Yours truly,

H. J. CHAPMAN.

A STEAM CAR ENTHUSIAST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR—Why is there so much prejudice about steam cars? There is hardly any correspondence about them, and none of that mechanical analysis that appears with regard to petrol cars. The following may be of interest to those who neither express their views nor cry their wares. I sold to a gentleman a 10-h.p. White steam car, second-hand, and three years old. The sale occurred on the evening of the 9th inst. in London, and on the following day I drove the buyer home to Grimsby, where we arrived in time, for tea. Not wonderful; no, but just read the description of the car again and add to that a heavy limousine top, tools, spares, petrol, parcels, and two passengers as well as myself. We did not have the slightest trouble; the ride was delightful and the purchaser delighted with his bargain. We only stopped a few times for water and then glided off immediately. No starting handle, gears, or

clutch to worry about, and the smooth, noiseless, easy running was a revelation to the owner. The buoyant athletic movement is a real luxury which can only be acquired in a petrol car costing four times the price of the steamer. There is no doubt that some of the early types of these cars poisoned the minds of people who still retain the fear of sitting on a boiler and watching the water level.—Yours truly,

H. J. C.

LOSS OF COMPRESSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Would you please give me a little advice on the following? I have a 10-12-h.p. Aster engine which goes fairly well, but the compression in one cylinder is not so good as in the other. I have had new valves fitted complete (inlet and exhaust) and had them very well ground in. I have also had new piston rings put in, but still this is of no avail, the compression being still as bad as ever. I may say that the following strikes me as being peculiar. I always find a certain amount of oil floating on the water in the water tank. How does it get there? Do you think there is a leak inside the cylinder head, thus allowing escape of compression, and also a little oil into the water jacket?—Yours truly,

W. P. LOFT.

[The oil that is found in the water tank may come from the lubricator of the circulating pump. If there is a hole in the combustion chamber that lets the compression escape into the water jacket, it is probable that water from the jacket will be drawn into the cylinder during the suction stroke, and if this is the case, there would likely be trouble in starting up, and on opening the compression tap when running there would be steam ejected. The way to test the matter is to take down the suspected cylinder and turn it upside down. Then couple the water jacket to a supply of water under pressure; the house supply if from the main direct will be sufficient, otherwise a force pump must be obtained. If there is a leak, a glance into the bottom of the cylinder will reveal it. Whilst the cylinder is down for examination the crown of the piston should also be inspected, as this may have a blow-hole or be porous. If, when these tests have been carefully made, the cause is not discovered, it will be necessary to suspect that the work of fitting new valves and rings has not been done properly. Has the cylinder been tested as to being dead true in bore, or is it scored at all?]

MOTOR-CARS AND PATRIOTISM.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The writer of an article on "The Army and the Motor-car," in the current issue of a service journal, states that many officers in the army are adopting the motor-car as the most convenient and expeditious means of transit in the discharge of many important military and social duties. He also mentions the fact that they largely patronise an all-British made car. This is as it should be. In a contemporary I read a report of an American's tour round the world on a British motor-car. If a London-made car can establish such a wonderful record, does it not seem wholly unnecessary and unpatriotic to spend good British money, as is done in many cases, on imported foreign-made cars, none of which are in any way superior to or as good as the British article?—Yours truly,

H. F. TRIPPEL.

Major, Army Motor Reserve.

TYRE TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was interested in Mr. Will Bishop's letter *re* tyre troubles, inasmuch as I have been experiencing the same kind of difficulty. My car is a 7-h.p. four-seater. I began the season with plain Dunlop tyres, 750-85, but owing to the greasy state of the roads, caused by much rain, and also by water-carts, had to have recourse to some kind of non-skid. I was advised to have non-skid bands vulcanised on the two back covers. A fortnight after I received them—during which time I had had no tyre trouble whatever—the near hind tyre burst with a loud bang, one afternoon when I was visiting a patient in the country, after I had been running ten miles at a pretty smart pace. I found about an inch of the edge of the outer cover lifted out of the rim of the wheel, and the inner tube projecting and a hole in it, the length of my hand. A week later the same thing happened, but this time more of the edge of the outer cover came out of the rim. It then got to be an almost daily occurrence, actually happening three times in one day. I decided to use my spare Dunlop cover which had no non-skid on. Then next day, after I had driven about two miles, the off-side hind tyre suddenly went down; I immediately jacked up the car, and found the inner tube very hot: I felt the studs and could hardly bear my bare hand on them, whilst the leather band of the non-skid was absolutely at atmospheric temperature. I put in new inner tubes on both wheels and once more resorted to the non-skid bands. My motor agent suggested that I had nipped the tubes with the dogs, or the beaded edge of outer cover. Three times I have allowed them to fix the tubes themselves, blow them up and test with gauge, but it still happened. The last time I had a brand new tube put in, properly blown up by them, and had gone two miles to visit

a patient, and, whilst in the house, heard a report like a cannon. On coming out, I discovered about nine inches of the edge of outer cover out of the rim, and a slit in the tube into which I could easily get my hand. I took the tube out and found it quite hot, the studs on the non-skid very warm, but the leather, being a non-conductor of heat, as usual, cold. I take it that there is great friction between metal studs and the ground, causing the metal to become very hot, but, as the leather is a non-conductor of heat, most of the heat finds its way to the lining of the outer cover and so to the inner tube, which when the tyre is inflated is practically part of the inner surface of the outer cover. As a medical man I should be glad to hear further on the subject, as such frequent occurrences as burst tyres is a matter of very grave importance.—Yours truly,

GALLEN.

FAST MOTORING IN LINCOLNSHIRE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am requested by the Committee of the Lincolnshire A.C. to enlist the kind offices of the Press in a very urgent matter. For some time complaints have reached us from all parts of the county, but more especially from the south-western portion, where the main roads to and from the north pass through the county of Lincolnshire, as to the reckless driving of motorists and as to the damage caused to the roads by heavy cars being driven at a high speed.

Our relations to the authorities and with the police, which have hitherto been so cordial, are in danger of assuming another aspect, and we have received information that very strict measures will shortly be taken unless greater moderation is observed.

This club is entirely sympathetic with the authorities in this matter, and my committee has decided to assist the police in every possible way to check what has undoubtedly become a public danger and a nuisance.

It is more especially in connection with fast driving through villages and at cross roads that complaints arise, and motorists are earnestly requested to observe the utmost caution in this respect. My committee feels that the attention of motorists has only to be called to the matter for an improvement to occur.—Yours truly,

GODFREY LOWE,
Hon. Secretary Lincolnshire A.C.

THE CONTROL OF THE ROADS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a casual reader of the A.A. and M.U. controversy, it seems to me that the position taken up by the former is childish. Even if the badge idea did originate from the A.A., why on earth should not the M.U. adopt one? Assuming Oxford first thought it expedient for her representative athletes to wear dark blue, did she turn up her eyes and ask the vengeance of the gods when Cambridge adopted light blue for the same purpose? Of course not; she, I have no doubt, welcomed the distinguishing mark.

Then the scout and road agent ideas—the latter neither infringes nor duplicates the work of the former, and while the former aids scorching and incidentally the dislike of the public to motorists, the latter is intended to ensure considerate driving and to popularise motoring. However the quarrel may end, the ordinary motorist is distinctly the gainer now, and, like myself, probably believes that competition is good for the public, and that the A.A. has seized an excellent opportunity to advertise itself.—Yours truly,

A. C. THOMPSON.

CAUSE OF WATER BOILING.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 20-h.p. four-cylinder car which has not caused any trouble until recently, when the water in the radiator commenced to boil so badly as to force its way out through the filling plug when the latter is screwed down tight and the vent pipe is open. The engine is getting enough oil.—Yours truly,

RIPLEY.

[The trouble is apparently due to a failure in the circulation. We would advise a careful examination of the pump; if this should be in order, follow on through the connections, radiator, &c. The cylinders being foul or too rich a mixture will also cause the water to boil.]

SULPHATED ACCUMULATORS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or any of the readers of the *M.C.J.* could advise me what to do in the following difficulty. One of my accumulators has unfortunately, owing to neglect, become rather badly sulphated, and it is not possible to get it charged. I may add that I am able to charge the cells from a 100-volt electric lighting circuit.—Yours truly,

W. JAMIESON.

[The remedy for sulphation in an accumulator is charging for a very long period at a low charging rate. If possible, the acid should

be emptied out and weak acid of 1.050 specific gravity substituted, but if this is not easily done it is not an absolute necessity. The accumulator should then be charged at half its normal rate for a long period of time. The sulphate will then be gradually reduced, or that part of it which is too hard to be acted upon will be driven off by the gas bubbles when "gassing" begins to take place. Some authorities recommend the addition of a little soda (sodium hydrate) to assist the action, but practical users have found that it makes very little difference. As the charging can be done from a 100-volt circuit, it will be no trouble to arrange for a low current, one 16-c.p. lamp being put in circuit for every 4 amperes required. Change to ordinary acid after the sulphate has been removed.]

THE NEW ROUTE TO IRELAND.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having noticed that the Royal A.C. has been asked to advise its members not to take their cars to Ireland by the Fishguard route or *vice versa*, which means missing touring through Pembrokeshire—one of the most picturesque counties in Wales—I have made a special point of going to Fishguard to inspect the facilities afforded by the Great Western Railway Company for the embarkation and disembarkation of cars by the new route, and find that motor-cars can and have been dealt with satisfactorily at Fishguard, where the cars have every attention. The remarks which have been made are unfair to the new



The Germain Car on Tour.

The Germain cars which ran in the A.C.F. Grand Prix Race in July last were ordinary touring cars fitted with racing bodies. Captain Masul had one of the vehicles fitted with a two-seated touring body, and has just completed a three thousand mile tour in the Vosges, Savoy, and Dauphine, touching Aix-les-Bains, Chambéry, Grenoble, Briançon, climbing the steep roads of Mont Cenis, the Little St. Gothard, &c. The road from Grenoble to the Col du Lautaret, where the photo reproduced above was taken, has an ascent averaging one in ten, and this was covered at an average speed of 43 miles per hour, notwithstanding the sharp turns and difficult passages thereon.

Rosslare route and prejudicial to the interests of motorists wishing to avail themselves of the facilities afforded by the railway company for the conveyance of motor-cars to and from Ireland, for it was apparent to me during my tour of inspection at Fishguard that the arrangements were such as to ensure cars being expeditiously and carefully dealt with. Special fitted trays are provided on which cars are run prior to their being lifted on or from the turbine steamers by the electric cranes, and cars arriving by road at Fishguard too early for immediate shipment are accommodated on the platform under a verandah at the station in close proximity to the steamer berths.

These are the principal features which appealed to me during my personal enquiries and observations, and I am satisfied motorists have nothing to fear from want of attention, as my experience is that much care is taken to satisfy motorists, the railway company showing that they are anxious to cater for motor traffic.—Yours truly,

GEORGE ACE.

CAPTAIN BERESFORD, of Flemmington, Gollanfield, Inverness-shire, has picked up near Gollanfield station a number plate B. A. 211, which the owner can have on application.

CLUBS AND ASSOCIATIONS.

THE MOTOR UNION.

In connection with the meet of the Motor Union at Leicester on Saturday last, a gymkhana was held in aid of the local Guild of the Crippled.

The officials were:—Judges, Mr. Rose, M.P., and Mr. E. G. Mawbey; starters, Mr. Rees Jeffreys and Capt. Byron; timekeepers, Messrs. F. K. Ward and S. C. Winks; hon. secretary, Mr. A. McAlpin. The results were:—

Glass of Water Race.—1st, Major Cole (30-h.p. Humber); 2nd, Mr. J. A. Harper (15-h.p. Humber).

Lady Passenger Race.—1st, Mr. J. A. Doran (24-h.p. Minerva); 2nd, Mr. J. A. Harper (30-h.p. Beeston Humber).

Tilting at Rings.—1st, Mr. A. Cayley (10-12-h.p. Humber); 2nd, Mr. A. E. Gould (15-h.p. Humber).

Adam and Eve Race.—1st, Mr. A. Cayley (10-12-h.p. Humber); 2nd, Mr. J. A. Harper (30-h.p. Beeston Humber).

Musical Chairs.—1st, Mrs. E. A. Riley (20-h.p. Belsize); 2nd, Mr. J. A. Doran (24-h.p. Minerva).

The prizes were distributed by Lady Marshall.

During August 700 new members were enrolled in the Motor Union, making an aggregate total membership of over 19,000. 320 Motor Union badges were issued during the month.

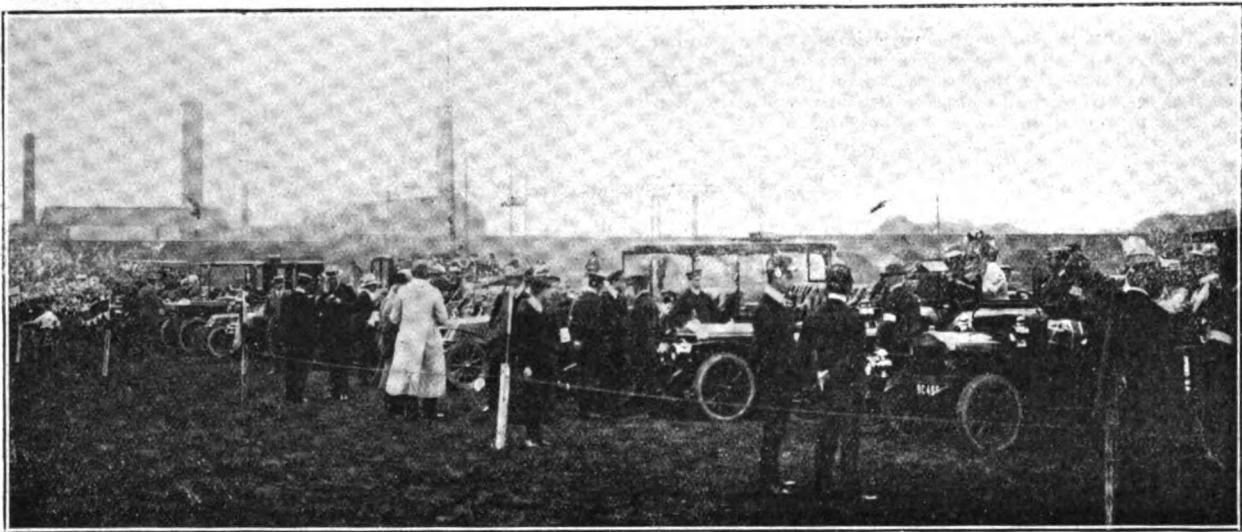
The Motor Union is issuing a list of rules and courtesies of the road, which it has compiled for the guidance of all users of the highway. Neglect of the amenities of the road is often due to ignorance,

It was decided that a sub-committee be appointed to report on the existing caution notices throughout the county, and to draw attention to those positions in which they consider caution notices are necessary, also that a letter be sent to the Motor Union to this effect.

The Secretary reported that his attention had been drawn to a very dangerous corner on the Oundle and Peterborough road near Warmington, by Mr. John Crisp. It was resolved that a letter giving full information be sent to the Clerk of the County Council, and that Mr. Crisp be informed of the action taken.

CARDIFF.

The officials of the Cardiff Motor Club are to be congratulated upon their successful competition held on Wednesday of last week, at Tynygrwr Hill, Caerphilly. This venue is some half-dozen miles from the Welsh metropolis, and the occasion attracted not only a good entry of motorists but a large attendance of interested spectators. The length of the measured portion of the hill up which the climb took place was 3,582 ft., with a total rise of 387 ft., the average gradient being 1 in 8.6 with 1 in 6.2 at the steepest part. The hill was admirably chosen for the purpose of the trial, the bends therein being a good test of the drivers. The handicaps were arranged according to the R.A.C. formula, and the officials were:—Judge, Mr. C. J. Thistle; clerks of the course, Messrs. J. W. Courtis, F. C. Shackel, and T. Butt Ekins; marshal, Mr. Albert Williams; secretaries, Messrs. H. B. Jotham and S. Hill; clerk of the scales, Mr. W. Wood; timekeepers, Messrs. F. Straight and A. C. Reynolds; starter, Mr. F. Straight; handicappers, Messrs. H. Hadden and E. Owen.



The Motor Union Meet at Leicester.—Some of the Members' Cars at the Gymkhana.

and the Union, desiring that the rules shall be as complete as possible, is inviting suggestions on the subject.

WEST ESSEX.

The competition for the 1907 challenge trophy was held on the 8th inst., but the results have not yet been passed by the competitions sub-committee, and will be published later. The next competition is for the club challenge cup, and will be held on the 22nd inst. It will take the form of a 100 miles reliability run, confined to motor-cycles, tri-cars, side cars, trailers, or quad-cars. The course will be from the Artichoke Hotel, Shenfield Common, thence to Billericay, through Stock to Widford, and back to the Green Dragon by main road (about one mile on the Chelmsford side of Brentwood), a distance of fifty miles, such course to be covered twice.

NORTHAMPTONSHIRE.

A MEETING of the committee of the Northants A.C. has been held at the George Hotel at Northampton. There were present: Mr. Alfred Webb (in the chair), Dr. A. A. Hope, Dr. Lewis, Mr. C. Phipps, Mr. J. C. Hipwell, Mr. Sidney F. Harris (hon. sec.), and Mr. J. F. Stops (hon. solicitor).—Mr. Arnold Wicksteed reported that he was obstructed by a carrier's cart on the Kettering road on August 24th, and although he sounded his horn continuously, the carrier would not let him pass for some considerable time. He also said that Mr. Nicholls was also prevented from passing on the same day by the same carrier, and Mr. Webb said he had had a similar experience the following week. After full discussion it was resolved that the hon. solicitor, Mr. F. J. Stops, be instructed to prosecute for the three obstructions, the committee feeling that the rights of members must be protected.

The results were as follows:—

In motor-cycles the gold medal for single-cylinder machines not exceeding 85 mm. by 85 mm. was won by R. M. Brice (3½-h.p. Brown), and the silver medal by W. Pollard (3½-h.p. Quadrant). In the class for multi-cylinder machines, O. L. Sammers (5-h.p. Vindec Special) won the gold medal and J. C. Moore (5-h.p. Rex) the silver medal.

In cars the successes of the Talbot cars were an outstanding feature of the day, as will be seen from a perusal of the following results, the figures following the name of the cars being the figures of merit:—

Class I., for cars whose cylinders D²N are under 35—nine entries: 1, C. J. Newey, 10-h.p. De Dion, 76.95; 2, R. E. Leigh-Jones, 8-h.p. De Dion, 76.23; 3, V. Riley, 12-h.p. Riley, 72.09.

Class II., between 35 and 50 rating—four entries: 1, G. Dav, 12-16-h.p. Talbot, 83.44; 2, J. H. England, 12-16-h.p. Talbot, 73.64; 3, W. Biscombe, 12-16-h.p. Talbot, 64.92.

Class III., between 50 and 65 rating—ten entries: 1, C. R. Garrard, 15-h.p. Talbot, 97.95; 2, F. H. Woollen, 15-h.p. Talbot, 76.68; 3, W. Stokes, 20-h.p. Talbot, 74.708.

Class IV., between 65 and 90 rating—thirteen entries: 1, Viscount Ingestre, 15-20-h.p. Talbot, 84.41; 2, G. F. Heath, 24-h.p. Minerva, 78.27; 3, P. Graham, 24-h.p. Deasy, 74.89.

Class V., between 90 and 150 rating—1, E. W. Lewis, 35-h.p. Deasy, 64.64; 2, W. Parker Thomas, 35-h.p. Daimler, 64.26; 3, H. Hollingdrake, 35-h.p. Buire, 63.32; 4, N. Parish, 40 h.p. Buire, 61.38; 5, Capt. D. Hughes Morgan, 45-h.p. Daimler, 58.67; 6, P. Lewis, 35 h.p. Ariel-Simplex, 57.29; 7, Gibbon Brooks, 40-h.p. Weigel; 8, S. Smith, 60-h.p. Napier; 9, E. A. Bowden, 35-h.p. Iris; 10, R. Cory, 50-h.p. Darracq.

The first in each class was awarded a gold, the second a silver, and the third a bronze medal. The winner of the silver cup for the best

figure of merit was Mr. T. H. Woollen, whose 15-h.p. Talbot was second in Class III. The 60-h.p. Napier in Class V. did fastest time, but, at the dinner that followed, Mr. Parker Thomas announced that Mr. Edge having surrendered the silver cup to the second car—the 35-h.p. Daimler—he (Mr. Thomas) as the holder would be glad to offer it to the club for competition again next year under similar conditions.

CHESHIRE.

ON Saturday, under the auspices of the Cheshire A.C., a motor gymkhana was held on the show ground of the Wirral Agricultural Society at Bebington. There were thirty-five contestants in five events, which resulted as follows:—Appearance competition, Mr. A. L. Rea (30-h.p. Delaunay Belleville) took first prize, and Mr. D. T. Brown (70-h.p. Mercedes) second prize in Section A; and Mr. J. A. Stephens (45-h.p. De Dion) first prize, and Mr. W. Gerald Barker (40-h.p. Napier) the second prize in Section B. The Tortoise race was won by Dr. A. J. Wallace (16-20-h.p. Sunbeam), Mr. A. E. Crowdy (Siddeley) being second. Mr. Crowdy also won the Victoria Cross race, in which Captain Alkin (16-h.p. Star) was second. Dr. S. Wilkinson (9-10-h.p. Cadillac) won the Police Trap race and Mr. J. L. Smith (16-20-h.p. Clement-Talbot) was second. The Bomb race fell to Mr. A. G. Jeans (24-h.p. De Dion), with Mr. J. H. Temple (22-h.p. Berliet) second.

At the close of the competitions the prizes were distributed by Miss King (Oxton), to whom a vote of thanks was afterwards tendered, on the initiative of Mr. A. G. Jeans, seconded by Sir Percy E. Bates, Bart.

The success of the gymkhana was mainly due to the energy of the honorary secretary (Mr. J. A. Hassall) and of the hon. treasurer (Mr. William Jackson), who had the co-operation of Dr. Wilkinson, Mr. J. A. Stephens, Sir Percy Bates, and Dr. Stevenson. Mr. James Moon acted as starter, Mr. J. Arnitt Dear as marshal, and Mr. D. T. Brown, Mr. W. Hind, and Mr. L. Stevenson as judges.

NORTH WALES.

WITH the exception of a brief shower of rain, fine weather favoured the motor gymkhana promoted by the North Wales Automobile Club, held on Gwydyr Castle Park, Llanrwst. Competing cars were divided into two classes—those of over 9 ft. wheel base and those not over 9 ft. wheel base. In the former class were entered Mr. A. E. Crowdy (30-h.p. Siddeley), Mr. A. C. Davies (35-h.p. Daimler) and Mr. Phil. D. Lee (18-h.p. Siddeley); while in the latter class were Mr. J. E. Alkin (16-h.p. Star), Mr. W. H. Buxton (14-h.p. Germain), the Rev. F. P. Watkin Davies (12-h.p. Unic), Mr. E. O. Watkin Davies (18-h.p. Germain), Miss Gwladys Davies (5-h.p. Oldsmobile), Dr. H. Grey Edwards (10-12-h.p. Humber), Mr. R. Norton (8-h.p. Rover), Col. S. Sandbach (6-h.p. Siddeley), Mr. H. D. D. Walthall (24-h.p. Germain). At the conclusion of the events prizes were distributed by Lady M'Laren, of Bodnart.

ON Saturday the South Devon A. C. held a successful meet at Ashburton.

CASES UNDER THE MOTOR CAR ACT.

DAINGEROUS DRIVING.

Lord Vernon was, at Stockport, fined £10 and costs and his licence endorsed for driving his motor-car through the streets of Stockport at an excessive speed. The deputy town clerk said the defendant was travelling at the rate of nearly forty miles an hour through streets which were filled with people, and he frightened many of them out of their wits.

Inspector Jarrett figured at the Reigate County Bench on Saturday, being the principal witness against motorists who had been summoned for various offences. In the case of John Rapley, chauffeur, of Burstow Hall, Horley, whom the inspector charged with driving a motor-car to the danger of the public; it was stated the officer had a narrow escape. Inspector Jarrett said the defendant, who was travelling at the rate of about thirty miles an hour, drove the car straight at him. He was on his bicycle at the time, and to escape being run down jumped off into the grass just as the car passed within a few inches of him. He was of the opinion that the defendant lost control of his car owing to a motor scout acting "like a maniac." Under cross-examination Inspector Jarrett said the reason why he jumped off his machine was because he thought discretion was the better part of valour, and he was not desirous of being run down by a motor-car. The allegations were denied, but defendant was fined £3 and costs.

At Newton-le-Willows, Charles Gartland, of Marton, Leamington, Warwickshire, was fined £10 and £10 15s. costs for driving a motor-car to the danger of the public at Winwick, Warrington, on August 7.

HEAVY HAULS.

At Wimbledon three motorists were, one day recently, fined £9 and costs for various technical offences.

Five motorists have been fined £1 each at the Woolwich court.

Under the Motor Car Act a batch of motoring defendants were fined at the Moot Hall, Newcastle, on Saturday last.

CARS AS OBSTRUCTIONS.

At the Bridgwater Police Court Ernest Edward and Frederick Morgan, motor-car drivers, of Taunton, were summoned for unlawfully leaving two motor-cars in High Street for an unreasonable period, viz., one hour, so as to obstruct the free passage of the highway, on Sep-

tember 4th. Mr. E. G. Boulting, of Taunton, appeared for the defendants, who pleaded guilty, and were fined 5s. and costs each.

DRIVING INTO SHEEP.

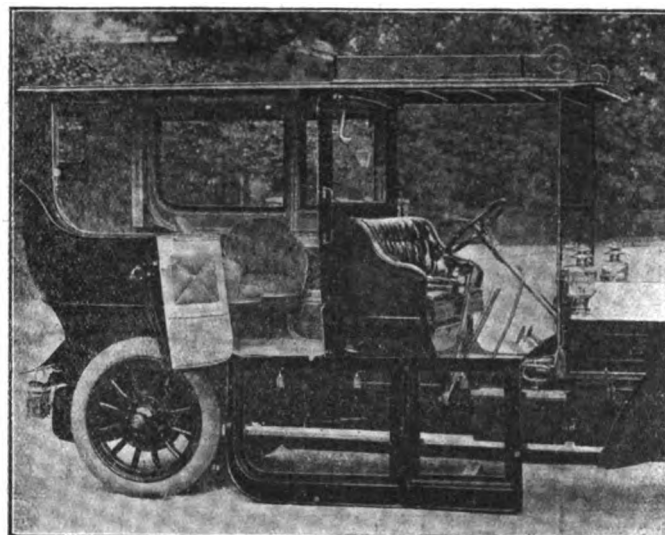
A Leeds chauffeur named Charles Butler has been summoned at Otley for driving a motor-car into a flock of sheep on the highway at Burley-in-Wharfedale. A farmer called on defendant to stop, but he ran full speed into the sheep, killing and maiming several. Butler was fined £5, or one month's imprisonment.

A WARRANT ISSUED.

At the Haywards Heath Police Court Albert Dodds was charged with driving a motor-car at a greater speed than twenty miles an hour at Clayton, on July 14th. P.S. Hughtley gave evidence that he arrested prisoner on a warrant the previous evening in Mayfair. Asked by the Acting Clerk (Mr. Ellison) why he did not appear to the summons, prisoner said that, being away, he wrote pleading guilty, and he thought his letter would have reached the Bench in time. Prisoner was remanded until Monday next, bail being allowed in prisoner's own recognizance of £20.

NO REAR LIGHT.

At the Otley Police Court, Albert Kaye, a Huddersfield draper, was summoned for driving a motor vehicle without a red rear light at Otley on August 4th, and also for refusing to stop when requested by a constable in uniform. P.C. Bemrose said that at eleven o'clock on the night in question he was on duty at Otley, when he saw the vehicle pass without a red rear light. He whistled and held his hand up, and the driver pulled up and nearly stopped. The witness went to get the name of the driver, when the car was set off at a fast pace.



A new design of Limousine body built and fitted to an Ariel chassis to the order of Mr. E. W. H. Beaton, by Mr. Max Graddon. Attention may be drawn to the construction of the sides, which are made detachable, transforming a closed town limousine into an open touring car with canopy.

Photo by]

[Wakefield, Brentford.

On making inquiries at Huddersfield he found that the defendant was the owner of the car, but on seeing Mr. Kaye, the latter refused to give the name of the driver. For driving without red rear light a fine of 2s. 6d. and the costs was imposed, and for refusing to stop the defendant was ordered to pay the costs.

EXCEEDING LEGAL LIMIT.

At Carlisle, on Saturday, the county magistrates had to deal with a number of charges against motorists of driving at excessive speeds. The first defendant was John Innes, Fen Court, London, whose speed in the village of Kingstown, three miles north of Carlisle, on the main road to Scotland, was stated by the police to have equalled thirty-one miles an hour, on August 24th. The bench imposed a fine of three guineas and costs and ordered the licence to be endorsed. The Chairman added that the bench were determined to put a stop to dangerous motoring in the village.

SPEED LIMIT IN ST. JAMES'S PARK.

Jules E. Vidoux, a chauffeur, living at Balls Park, Hertford, appeared before Mr. Fenwick at Bow Street Police Court on Monday, charged on a summons with driving a motor-car beyond the legal limit in St. James's Park. Park-keeper Gould stated that he timed a motor-car driven by the defendant over a measured furlong in Birdcage Walk, and found that it travelled at the rate of 22½ miles an hour. Lady Faudel-Phillips was in the car, and stated that she never allowed her chauffeur to drive more than 16 miles an hour, even in the country. Mr. Fenwick said it was perhaps impossible for park-keepers to estimate the speed of a motor to a nicety, but it was evident that in this case the legal limit of ten miles an hour had been greatly exceeded, and the defendant must pay 40s. and 2s. costs.

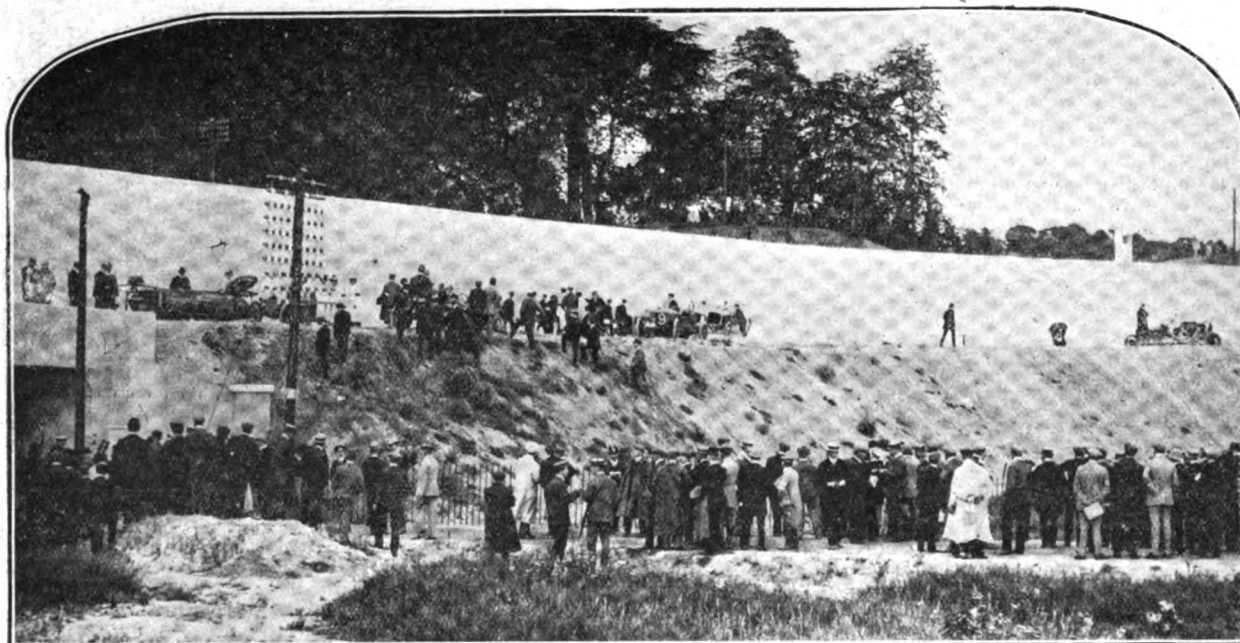
RACING AT BROOKLANDS.

THE race meeting on the Brooklands Track, Weybridge, on Saturday last was unfortunately marred by what proved a fatal accident. It occurred at the conclusion of the sixth race, in which nine competitors took part, and in which Mr. H. Vincent Hermon, who was driving Mr. J. T. C. Moore-Brabazon's Minerva racer, had finished sixth. The preceding competitors were all slowing up, but Hermon took the sharp bend at the junction at such a high speed that he was forced up the banking. Apparently fearing he was going over the top, he seems to have sharply turned the steering wheel, the wheel marks on the track showing that the car practically took a semi-circular course down the bank, eventually turning over on its side at the bottom, with the bonnet pointing in the opposite direction to which it had been travelling. The two rear wheels were smashed to pieces and the driver, Mr. Hermon, and the mechanic, Slade, were both thrown out. Assistance was quickly available and the two injured men were carried into the club house in the Paddock, where a nurse and a doctor were at once in attendance. About half-an-hour later a bulletin was issued to the effect that Hermon had sustained a broken arm and minor cuts and bruises, that Slade had no broken bones, and that both were going on as well as could be expected. After the races were over Slade, although covered in bandages, had so far recovered as to walk out with his friends. Hermon, however, was carried away on a stretcher to Brooklands Hotel, Weybridge. He was, as it transpired, much more seriously injured internally than was at first thought, and passed away about 8 o'clock the same evening. At the inquest, held on Monday, the jury, after hearing the evidence, gave a verdict of "Accidental death."

so that the competitors could be easily distinguished, and by announcing the average speed in miles per hour attained by the winning cars in the various races.

The opening contest was fixed for 2.30 p.m., and prompt to time nine cars turned out for THE FIRST 26-H.P. RACE of 120 SOVS., which was for cars of a cylinder dimension of 64 or under, and over a distance of 2½ miles. The winner received 80 sovs., the second 32 sovs., and the third 8 sovs. In view of the relatively low power of the vehicles the experiment was tried of starting on the finishing-line, so that the race might take place from beginning to end in view of the spectators. Oscar Cüpper, on a Métallurgique, got away at the start, and led for three-quarters of the distance, when he was passed by the Arrol-Johnston, Germain, and the Humber. Nearing the straight the Germain overtook the Arrol-Johnston, the former winning by two lengths. The result was H. E. Hall's 21-h.p. Germain (entrant driving), 1; E. A. Rosenheim's 25.6-h.p. Arrol-Johnston (J. S. Napier), 2; and W. Phillip's 25.6-h.p. Humber (W. G. Tuck), 3. The winner's time averaged 53½ miles per hour.

THE FIRST 40-H.P. RACE OF 97½ SOVS. brought out a field of six cars of a cylinder dimension of 100 or under. The distance was a short one—2½ miles—the vehicles entering the finishing straight without passing along the fork. The struggle for first place lay between Lieut.-Colonel C. D. Carleton-Smith's 38.4-h.p. Napier (H. C. Tyron) and Capt. G. Hinds Howell's 40-h.p. Iris (A. Clifford Earp). The former, however, drew away and won by about seventy-five yards. The result was: Lieut.-Colonel C. D. Carleton-Smith's Napier (Tyron), 1; Capt. G. L. Hinds Howell's Iris (A. Clifford Earp), 2; A. Huntley-Walker's 35.7-h.p. Darracq (entrant), 3; M. F. Mievill's 35.7 Berliet (entrant),



The Brooklands Race Meeting.—The scene on the Track immediately after the accident.

A regrettable disturbance following the accident; a number of people, including several photographers, clambered on to the track and the officials somewhat excitedly began pushing them down the banks, so that for a brief period the scene was anything but a decorous one. Later on, one particular photographer, who had been somewhat roughly handled, mainly owing to his persistent efforts to secure a snapshot of the accident, returned to the charge behind the paddock. Unnecessary force was again resorted to, with the result that for a few minutes there was a free fight between the officials and the photographer and his friends.

Apart from the accident the meeting was by far the most interesting so far held, the spectators numbering about 5,000. New departures were seen in allowing cars with their passengers to occupy the land on either side of the finishing straight towards the fork, the members' enclosure being on the paddock side and the ordinary motoring visitors' opposite, a goodly array of vehicles in both sections being *en evidence*. It was evident, too, that the officials are keenly alive to the necessity of rendering the racing more attractive to the public. Not only were the races started promptly but they were all over short distances, while an innovation was seen in a couple of handicap events, in which the starts, which had been worked out by Col. Holden, were given in yards. Although considerable time was lost in the five mile handicap in getting the seventeen competitors on their marks, the race proved most interesting, for while at the start the cars were spaced out all over the course, they soon closed up, and there was an exciting finish. The interests of the spectators were also studied by having large numbers affixed to the cars,

4; H. du Cros, jun.'s 36.1-h.p. Austin (J. Hadley), 5; and E. G. Williams's 39.4-h.p. Martini (entrant), 6. The speed averaged 68½ miles per hour.

By the non-starting of Warwick Wright's 89.5-h.p. Darracq, THE FIRST 90-H.P. RACE OF 8½ SOVS. proved a battle royal between three 75.9-h.p. Mercedes. The distance was about 5 miles, the winner receiving 55 sovs., the second 22 sovs., and the third 5½ sovs. J. E. Hutton led for nearly a lap, when he was passed by E. G. Drabble, who won by eight lengths from Hutton, the latter beating D. Resta on F. R. Fry's car by a length. A protest was lodged against Mr. Hutton, who had gone to the starting post without weighing in, owing to delay caused in repairing a damaged petrol pipe. The second prize was consequently awarded to the car driven by D. Resta. A speed equal to 92½ miles per hour was attained by the winner. Hutton's Mercedes bore little semblance to this well-known make of car, for the radiator had been removed and its place taken by a circular brass water tank, from which a series of nine small copper pipes extended along the sides and round the back of the vehicle.

Considerable interest was shown in the first FIVE MILE HANDICAP SWEEPSTAKES held on the track. The race, which was over about 5 miles, was for cars of a cylinder dimension of 125 or under. No less than nineteen entries had been received, and of these seventeen competed, the largest number of cars which has so far been seen in a race at Brooklands. A considerable delay ensued owing to the time taken up in getting the competitors on to their different marks, the handicaps angling from scratch to 1,750 yards, or nearly a mile. The race proved

exciting throughout, the progress of the scratch man as he passed the different competitors being closely watched. It was only on entering the home straight that he caught the leaders, but a couple of lengths separating the first two at the finish. The result was: S. F. Edge's 50-h.p. Napier (F. Newton) scratch, 1; Lieut.-Col. C. D. Carleton-Smith's 38-4-h.p. Napier (H. C. Tyron), 738 yards, 2; Mr. A. Huntley-Walker's 35-7-h.p. Darracq (entrant) 927 yards, 3. The others finished in the following order:—Capt. G. Hinds-Howell's 40-h.p. Iris (A. Clifford-Earp) 618 yards, O. Cupper's 48-3-h.p. Metallurgique (entrant) 98 yards, A. Huntley-Walker's 33-9-h.p. Darracq (K. Haussler) 1,053 yards, J. E. Hutton's 35-7-h.p. Berliet (entrant) 927 yards, G. F. Heath's 27-9-h.p. Minerva (entrant) 1,565 yards, T. Thornycroft's 48-6-h.p. Thornycroft (entrant) 76 yards, Mr. R. Hennessy's 48-6-h.p. Berliet (entrant) 76 yards, O. Cupper's 25-6-h.p. Metallurgique (F. Burgess) 1,750 yards, F. Guy Lewin's 41-9-h.p. Peugeot (entrant) 481 yards, H. Carle's 48-3-h.p. six-cylinder Mors (entrant) 878 yards, E. G. Williams's 39-4-h.p. Martini (entrant) 659 yards, H. P. MacConnell, 41-9-h.p. Rapid (entrant) 481 yards, and C. Hurford's 48-6-h.p. Mercedes (entrant) 76 yards. The speed of the winning car was equal to 65½ miles per hour.

Event number five was a MATCH FOR A 50 GUINEA CUP between Sir Ralph Gore's 75-h.p. Mercedes and Mr. Guy F. Lewin's 80-3-h.p. Hotchkiss, over a distance of about 5½ miles. Lewin was in trouble almost from the start with his clutch, which prevented him getting his third speed in. Consequently he was nearly lapped by the Mercedes, which covered the distance at a speed of about ninety miles per hour, notwithstanding that just before entering the finishing straight one of the rear tyres flew off, the driver continuing on the rim.

It was in the FIRST 60-H.P. RACE OF 120 SOVS. that the fatal accident occurred. The contest was over a distance of 3½ miles, the entrant of the winner receiving 80 sovs., the second 32 sovs., and the third 8 sovs. The event was for cars of a cylinder dimension of 150-1 or under. Eight vehicles started out of nine entered, the result being S. F. Edge's 60-h.p. Napier (driver, S. Smith), 1; S. F. Edge's 60-h.p. Napier (F. Newton), 2; Oscar Cupper's 48-3-h.p. Metallurgique (owner), 3; Capt. the Hon. D. Carleton's 60-h.p. Napier (Glentworth), 4; Mr. A. Huntley-Walker's 55-8-h.p. Darracq (owner), 5; Mr. J. T. C. Moore-Brabazon's 52-1-h.p. Minerva (H. V. Hermon), 6; S. F. Edge's 60-h.p. Napier (J. F. Browning), 7; Mr. E. Herington's 58-h.p. Ariel-Simplex (A. Harrison), 8. The race was a well-contested one, Mr. O. Cupper's Metallurgique running strongly for a good part of the way. One of the tyres of Smith's Napier came off about two miles from the finish, but he continued on the bare rim of the wire wheel. The speed attained was equal to about 76½ miles per hour.

Five entries had been received for THE MERCEDES HANDICAP SWEEPSTAKES of 20 sovs. for acceptors (the entrant of the second receiving a quarter of the stakes), for cars of a cylinder dimension of 175 or over, but only three cars faced the starter. The contest was over a distance of about 3½ miles. Mr. S. F. Edge's 94-h.p. Napier, driven by C. A. Glentworth, was on the scratch mark, while Mr. J. E. Hutton on his 75-9-h.p. Mercedes and Mr. E. G. Drabble on a similar car each received 387 yards start. There was a good struggle for the first place between the two Mercedes, but eventually Drabble drew away and won easily, Hutton being second and Glentworth third.

AUTOMOBILE ACCIDENTS.

A MOTOR-CAR accident has just occurred on the Cambridge main road. Mr. J. P. Granville, of Dulwich, was motoring from Newmarket to London, and when descending a hill near Audley End a traction engine emerged from a brickyard half-way down the hill, while on the opposite side of the road were some school children. Mr. Granville's first consideration was to avoid the children, and in doing so he collided with the traction engine, smashing the front of his car. Two ladies were with Mr. Granville in his car, but, fortunately, all escaped with a severe shaking.

WHILE Dr. Felix Lane, of 26, Almeric Road, Clapham Junction, was proceeding in a taximeter cab on Monday along the Embankment, a portion of which is under repair, the chauffeur, in his efforts to avoid a van, apparently lost control of the steering-gear, and the motor dashed with great violence into a gas standard in the centre of the road. Every pane of glass in the vehicle was smashed, and Dr. Lane was hurled through the broken framework, his face and head being badly cut.

HERBERT WARRELL, a motor-omnibus driver, of Eswyn Road, Tooting, was charged on remand at Tower Bridge, on Monday, with the manslaughter of James Hales. Warrell was driving a motor-omnibus along Newington Causeway, and to avoid running over a man who started to cross in front of him he ran the vehicle on to the pavement. In doing so he knocked down a post, which, in falling, struck Hales and his brother, who were standing talking in the middle of the pavement. Both men were knocked down, but while one was practically uninjured, Hales was rendered unconscious, and died soon afterwards at Guy's Hospital from fracture of the skull. At the coroner's inquest the jury returned a verdict of accidental death, and exonerated Warrell from blame. Warrell was subsequently discharged at the police court.

THE SIRDAR RUBBER COMPANY, LTD., have received an order to fit Royal Sirdar solid tyres to gun carriage tractors for the War Office.

ROAD REPORTS.

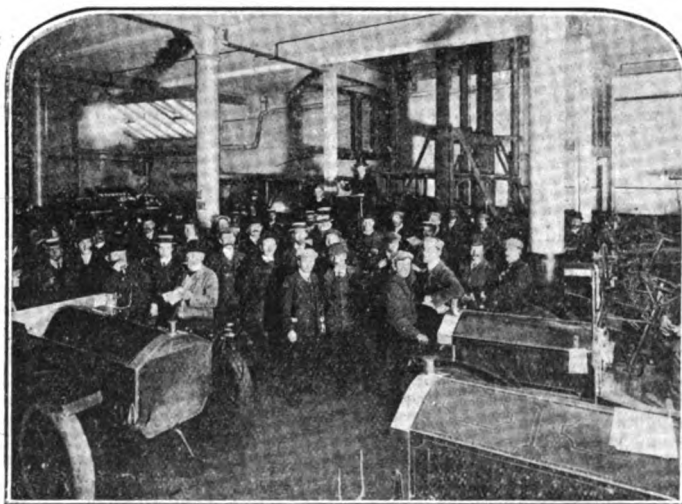
BROMLEY.—An effort is being made by the road authorities in Bromley (Kent), to secure a reduction in the speed of motor vehicles travelling through the town. The borough council are taking action in the matter, and have applied to the Local Government Board for a regulation to be made that no person shall drive a motor-car through certain streets at a speed exceeding ten miles an hour.

KESWICK.—The high road between Keswick and Windermere was early in the season treated for the prevention of dust arising from the motor-cars. The result leaves a surface so greasy and slippery that horses can with difficulty keep their feet. A correspondent suggests at this season of the year, when coaches are so often overlaid, such a state of things is sheer cruelty to the horses.

CRIEFF.—At a meeting of Crieff Town Council the question of the speed of motor-cars in the burgh streets has been again under consideration. The Secretary for Scotland, in reply to a former request by the Council to restrict the speed to ten miles an hour, refused to grant an order to all the streets, but stated that he would be prepared to consider an application for such regulations in which certain streets were specified. After a discussion, a report by the Roads Committee was approved of, in which most of the streets in the town were scheduled as being dangerous for a speed of motor-cars exceeding ten miles an hour, and asking the Secretary for Scotland to grant an order to that effect.

WORCESTERSHIRE.—During the course of the discussion on motor-cars and highways at the last meeting of the Worcestershire County Council, Mr. E. J. Bigwood stated that he did not believe they could adopt any system likely to allay the dust at a cost of less than £35 a mile per annum.

BATTLE.—The Battle Urban District Council have adopted a



A corner of the "Motor House" Sale Room on the occasion of the Daimler and Napier car sale.

resolution calling upon the County Council to place danger warning boards at specified points within their area.

MUSSELBURGH.—The Town Council of Musselburgh have made application to the Secretary for Scotland praying that regulations should be made restricting the rate of speed for motor-car traffic to ten miles an hour (on certain highways) within the limits of the burgh.

EXETER.—The road from Exeter to Moreton Hampstead is in a highly dangerous condition for motor-cars, owing to excavations about ten miles from Exeter.

TARRED ROADS COMPENSATION CLAIMS.—The Esher and Dittons Urban District Council, which has been making experiments on the main road in its district with a view to combating the dust nuisance by spreading tar preparations thereon, has decided to resist three claims for compensation made by two cyclists for damaged clothes, and by a motorist for injury done to his car, the contention being that due notice was given of the experiment, and that warning notices were posted at either end of the length of road treated.

CROWBOROUGH.—At Monday's meeting of the Uckfield Rural Council attention was called to the state of the Station Road, Crowborough, and it was decided that its repair should be immediately proceeded with.

RAPID progress is being made with the erection of the Humber Company's new works in Folly Lane, Coventry. At present one section is completed so far as the building is concerned, and is being used for body-building purposes.

MR. G. T. HILTON, the Rugby agent for Humber cars, reports that so far this year he has run a 15-h.p. Coventry and a 30-h.p. Beeston Humber over 30,000 miles on hire, and has not failed on a single journey with the exception of an occasional puncture.

FORTHCOMING EVENTS.

SEPTEMBER.

- 21st (S.).—Nottinghamshire A.C. hill climb.
 Southern M.C. closing run at Ewell.
 Auto Cycle Club meeting at Lincoln.
 Derby A.C. run to Dovedale.
 Blackheath A.C. run to Westerham.
 Hertfordshire County A.C. members' driving test.
 West Essex A.C. run to Shenfield.
 Notts A.C. hill climb.
 North London A.C. run to Hatfield.
 Motor Cycling Club run near Luton.
- 23rd (M.).—Inaugural dinner in connection with the northern offices of the Automobile Association at Manchester at the Midland Hotel, Manchester.
- 25th (W.).—R.A.C. examination for driving certificates.
- 28th (S.).—Ipswich and East Suffolk A.C. petrol consumption trial.
 Midland A.C. at Tudor Grange, Solihull.
- 29th (Su.).—Run of the Southend and District M.C. to Bishop's Stortford.

OCTOBER.

- 5th (S.).—Brooklands A.R.C. meet.
 Speed judging competition of the West Essex A.C.
- 12th.—Close of the Commercial Vehicle Trials. Final run from Baldock to Dalston, London, N.
- Southend M.C. closing run of the season to Witham.
- 19th (S.).—Auto-Cycle Club's quarterly trial.

MARCH, 1908.

- 21st-29th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Sept. 21st—7.2	...	23rd—6.58	...	25th—6.53	...	27th—6.48
" 22nd—7.0	...	24th—6.55	...	26th—6.51	...	28th—6.46

To ascertain the approximate times in Glasgow an addition of 20 min. should be made to the above figures; in Manchester an addition of about 7 min. is necessary.

CLAIMS AGAINST MOTORISTS.

IN the Under Sheriff's Court at Bristol, Mrs. Maria Merrick, an elderly lady, living in Clifton, has been awarded £650 damages against Mr. Clifford G. Rattray, of Frome. The claim arose out of a motor accident on May 16th, when Mrs. Merrick was run over by a car, which, it was alleged, the defendant was driving negligently.

A CLAIM was made by H. E. Tierney, labourer, against Mr. W. Eden Walker, J.P., of Saltburn, on Tuesday, in the City of London Court, to recover £50 damages, for being knocked down, on March 21, in Knight-rider Street, owing to the furious driving of what was alleged to be the defendant's car. Tierney said the car made off as quickly as possible, but not before the number (LC 8,457) had been taken. Mr. Harry Dobb, defendant's counsel, said that the number was correct, but the car was in Yorkshire at the time in question. It had not been out of the county within months of the accident. For the plaintiff, several witnesses were called, who said they were quite sure the defendant's car did the damage in question. Mr. Walker, the defendant, said he was quite sure the car did not do the damage. He had two cars, and the other was in the South of France. The plaintiff's suggestion that the number plates had been exchanged was absurd, as they were painted on. The jury stopped the case, and found for the defendant.

POLICE TRAPS.

AT Littlebourne the police have a motor trap leading to the Wingham Petty Sessions.

AT Stilton there is a trap worked by a couple of police-constables who are generally located behind two telegraph poles.

A NEW trap has been started at the foot of Alconbury Hill, which is being worked regularly.

AT the Frystone Park corner of Selby, Inspector Pattison, of Shirburn, who is obtaining considerable local notoriety in connection with motorists, has a measured quarter of a mile.

GIVING evidence at the Kingston Police Court, a police-sergeant has acknowledged that the motor trap, of which he was in charge, was partly down one hill and up another, with a stretch of level ground between.

AT Esher, on the Portsmouth road, is a motor trap in frequent operation.

BETWEEN the fifth and seventh milestones on the Queensferry road from Edinburgh a motor trap is in frequent operation.

THE police have measured a quarter of a mile on the main road from Huddersfield, along which motorists are timed. Information as to its exact whereabouts was refused by the police-sergeant at the Saddleworth Police Court, on the ground that if he gave the information it would be reported in the motoring press.

NEAR Mitchell Hill, Chapeltown, Leeds, is a measured distance of a quarter of a mile.

PYCOMBE, Patcham and Southwick are three well-known Sussex villages in which traps are constantly in operation.

PUBLIC MOTOR SERVICE.

NEARLY 6,000 passengers were carried during August by the London and South-Western Railway motor-omnibus service, which runs between Farnham and Haslemere Stations, via Hindhead, Churt and Frensham. This constitutes a record for any month since the service was started two years ago.

BUSINESS NEWS.

MESSES. TESTE AND LASSEN, Warwick Street, W., are about to introduce a new London-built car. The vehicle is of 14-20-h.p., and is fitted with a four-cylinder engine.

THE ATLAS ENGINEERING COMPANY, of Levenshulme, Manchester, have sent us an illustration of a new metal wheel for touring cars and an improved detachable adjustable rim they have recently introduced.

THE APOLLINARIS COMPANY, LTD., of Stratford Place, Oxford Street, W., are employing a 30-40-h.p. Daimler for the use of their travellers.

AT the Oak Lane Garage, Bradford, of the Northern Automobile Company, Ltd., Mr. Albert House held an auction sale of cars, &c., on the 18th inst.

THE Heavy Vehicle and Export Department of Fiat Motors, Ltd., is now under the charge of Mr. Sidney W. Lewis, who has had many years' experience in such matters. For sixteen years he was connected with Messrs. John Birch and Company, Ltd., engineering merchants, of London, and during the latter part of this time was in charge of the motor export department. He has travelled round the world, and thereby gained much knowledge and experience, which has since proved invaluable to the firm he represented. For this reason his services are likely to prove equally valuable to Fiat Motors, Ltd., who are now making a special feature of their motor export department. Agencies are already established in India, Egypt, and Australia, and negotiations are in progress in connection with further representation in the Straits Settlements, South Africa, Ceylon, and New Zealand. Fifty cars are being built to orders received from India—five of them were despatched to Bombay last week—while fifteen are now on the road to Australia, and twelve will be sent to Cairo within the next three months.

MOTOR SCHOOLS, LIMITED, have been appointed official instructors to the British Motor Boat Club. The instruction launch is moored off Messrs. Hart and Harden's shed at Kingston Bridge.

ON the main road into Ledbury from the cathedral cities of Worcester and Hereford Messrs. F. C. Swift and Co. have set up an excellent motor repair shop.

LEDBURY is an interesting district, associated with the name of Mrs. Browning, the poetess, and visitors have been availing themselves of the facilities for motoring in the locality provided by Mr. W. L. Tilley, of the Motor Garage in the High Street.

AT the Central Criminal Court, on Monday, before Mr. Justice Bray, Robert Eyraud, aged twenty-one, a chauffeur, of Paris, was sentenced to six months' imprisonment with hard labour for the manslaughter of May Smith, aged fifteen, who died from shock following a fractured skull caused by being knocked down by a motor-car in Oxford Street.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

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"THE INDUSTRIAL MOTOR REVIEW."

"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



ALL the records are not made at Brooklands. In New York there is a fine thoroughfare, Upper Amsterdam Avenue, similar to our own Oxford Street in London. Instead, however, of a decently smooth surface, it has cobble stones not unlike some of the highways about Preston, while, for motor-car drivers, there is a ten-mile limit, as though it were some Sussex borough. Apparently it has been used by at least one of the automobile firms as a splendid place whereon to test the possibilities of motor-cars. A driver was doing this successfully when he was espied by a couple of detectives, who were out in Commissioner Bingham's automobile, looking for just such drivers. They were at 105th street when they saw a cloud of dust up the avenue, rapidly nearing them. Next moment an automobile flashed by them, and they started in pursuit. For a mile and a-half they were behind, and one of them, timing the flying automobile on his stop watch, found that part of the distance had been covered at the rate of six miles a minute. At Seventy-fifth street the automobile slowed down and the driver was arrested. When the police gravely told the judges in the Special Sessions Court that the defendant was travelling at the rate of 360 miles an hour, the motorist looked somewhat askance. The judges were appearing to question the police veracity—it would have been accepted implicitly in Surrey—when the motorist hurriedly whispered to his lawyer, who quickly entered a plea of guilty. The defendant was fined 100 dollars, in return for which he has legal testimony as to the speed of his car. Possibly he may hand the certificate to Mr. Ross, the American gentleman who is anxious for speed, on his return to the States.

Technical Education.

In another column we mention a few of the educational centres at which instruction in automobile work will be given during the coming season, and shall be glad to have the assistance of our readers in extending publicity to any other institutions which thus have regard to the needs of the time. From the outset we have done what was possible to foster this movement for technical education in motor-car work at the polytechnics and technical institutes, recognising that both theoretical and practical knowledge of the motor-car was one of the best means to secure efficient drivers, and so ensure the safety of the road so far as the automobile was concerned. The opportunities for obtaining information have increased very considerably of late, and this development is to be welcomed for more reasons than one. In the early period it was urged that

chauffeurs were often careless and not always competent. The adoption of a higher standard of knowledge of a practical kind is probably the best means of preventing such failings in the future; hence the encouragement that should be given those educational authorities which are enterprising enough to establish classes of this kind, especially when they are supplemented by actual driving tuition.

On the Towpath.

MR. W. Y. COCKBURN, the Chairman of the Kingston-on-Thames County Bench, at which many hundreds of motor-car prosecutions have been heard, has been referring to the continued running of motor-cars on the Barge Walk, which stretches along the Middlesex bank of the Thames from Kingston Bridge to Hampton Court Bridge, and in respect of which a Local Government Board inquiry for the closing of the walk to motor-cars was held at Hampton Wick on June 5th last. Mr. Cockburn says he understood that a statement was officially made shortly after the inquiry to the effect that, on account of the danger to pedestrians and other persons using the Barge Walk, it was decided to close it to motor traffic, but on visiting the walk recently he was very much surprised to find motor-cars still running there. He and others were anxious to know when this order was going to be given effect to, for there could not be the slightest doubt that persons who frequented the place were in danger so long as motor-cars were allowed to be driven there. Mr. Cockburn added that he had heard of many cases where cyclists and persons owning carriages had given up going along the Barge Walk on account of the danger. We understand that the order has since been issued.

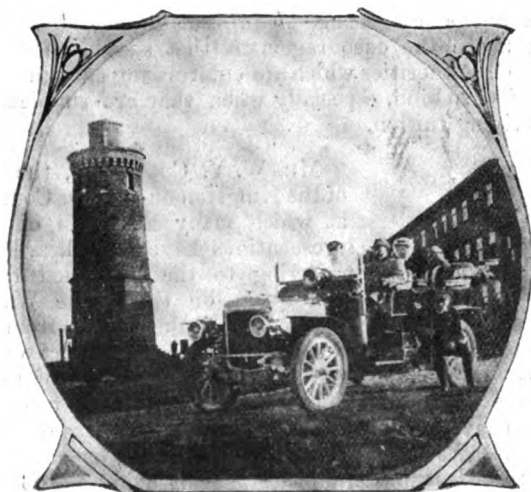
Rear Lights on Vehicles.

IN our Correspondence columns a victim of police watchfulness with regard to the rear lights on motor-cars asks as to the legality of the endorsement of the licence for such a small offence under the Motor Car Act of 1903. We are sorry we cannot do other than confirm the view that magistrates have it entirely in their power in endorsing licences; in fact, the Act gives them no option in the matter. The particular Article dealing with the subject is Section 4, which declares that particulars of the conviction and of any order of the court shall be endorsed upon the licence for all offences save the first and second under Article 9, which deals with the legal limit. This is a point that in any future legislation will have to be carefully considered, as in this particular instance no inconvenience or danger to the public has been caused, and, as every practical motorist knows, the rear light trouble is not an easy question for solution. In towns and places where traffic is congested in well-lighted streets, the heinousness of the crime is not so apparent

as elsewhere, and surely there should be some magisterial discretion allowed.

Benzol v. Petrol.

DURING the past month Mr. F. K. Rider, of Leeds, has been using benzol daily for his car (8-h.p. Rover), with most satisfactory results. He finds he can obtain considerably more power with this fuel, the car climbing on top-gear hills that he had hitherto been obliged to change gear for. On removing the cylinder, after a month's running, there was a slightly greater deposit of carbon on the cylinder walls and piston head than with petrol, but as regards the condition of the valves there is no appreciable difference with the two fuels. On starting up from cold he finds it a little more difficult with benzol, owing to its greater specific gravity. Mr. Rider made an additional air inlet to his carburettor, but that is only required on hot days, the carburettor working equally well with petrol or benzol. Of course, the great advantage of using benzol is the price, which works out, including carriage, at 10d. per gallon. This experiment was conducted on a weekly mileage average of 250 to 350 miles, and travelling at thirty-five to forty miles to the gallon.



Mr. Paul Brodtmann, managing director of the Continental Tyre and Rubber Co. (Great Britain), Ltd., at the wheel of his 45-h.p. Daimler, fitted with Continental Non-skids, on the summit of the "Brocken," Hartz Mountains, Germany (height 3,768 feet.)

The A.A. in Manchester.

Now that the Automobile Association has gone northward, motorists in the Lancashire areas should become more confirmed week-enders than they have hitherto been. There is plenty of good work to be done, and well done, by the scouts of the A.A., and they should quickly attack the traps in the Lancaster district, the roads leading thereto being a conspicuous centre of operations. Carlisle, too, is another danger spot, and if the Association's agents succeed in disheartening the police in those two places alone they will justify the opening of the office in Manchester from which operations will be superintended. The development of their defensive policy has been well conceived and efficiently carried out, for the duties of the scouts do not end with protecting members of the A.A. from the provoking and un-English methods of the police. The system which has been adopted secures their aid in many other ways, while the plan of road reports places at the disposal of the members information that may often be valuable in resisting unfair claims for alleged delinquencies on the road, as well as in combating police evidence. The Association is to be congratulated on its going northward; the North should reciprocate this attention by supporting the society as loyally and as numerous as those in the south have shown themselves convinced of its fitness.

The Troubles of the Police.

THE alleged infallibility of the police has received some great indentations of late, and suggestions of perjury, with magisterial disregard of police evidence, have shattered the idol that some people had set up with regard to the accuracy of the policeman's word. Motorists have long chafed under the system of never doubting a constable's oath adopted by bucolic magistrates when questions of speedy travel were involved. They, therefore, are not surprised that the police, emboldened by the ease with which they can persuade the Bench against motorists, are now extending their prevaricating operations into other directions. But they will quickly over-reach themselves, if they have not already done so. Now and again there are indications that the magistrates in some districts are not so gullible as of yore. Thus the other day a motorist was summoned before the Kingston Bench for exceeding the speed limit at Esher. Mr. William Taylor-Parkes defended, and submitted that the method adopted in ascertaining whether he had exceeded the speed limit was a very unsatisfactory one, as it was very difficult to estimate the speed of an approaching car unless it actually passed the person judging. The Bench upheld this contention, and dismissed the summons, the chairman stating that the car ought to pass the observer, and the method adopted by the police was very unsatisfactory.

Acknowledging an Error.

AND now comes another instance of police evidence similarly discredited. Prosecutions against two Darwen cotton manufacturing firms for exceeding the speed limit with motor-lorries have had a singular ending at Bolton. Messrs. T. and R. Eccles, Lower Darwen, had been fined £5 for a similar offence at the same place, and notice of appeal was given. Subsequently the chief constable of the county communicated with the appellants' solicitor, informing him that it had been ascertained that the police had made a mistake in a quarter-mile measurement, and under these circumstances he proposed that the conviction should not be recorded and that the payment of the fine should not be enforced. Prosecutions in the other cases were, therefore, formally withdrawn. That the police measurement should have lacked correctness is not a new fact in the situation; but that the police should have acknowledged their error is truly remarkable. We wish we could regard the incident as an omen for an improvement in their behaviour throughout the country.

The Commercial Vehicle Trials.

THE great procession of motor-vans, lorries, and heavy vehicles is now in its third week, and has been turned towards London again. On Tuesday the vehicles in the trial were on exhibition in the North Haymarket, Liverpool; and on Wednesday the vehicles ran to Manchester for the exhibition there on Thursday. Up to Saturday last the following cars had made non-stops since the beginning of the trial:—A6, Unic Van; B12, Lacre Box Van; C18, Dennis Covered Van; E30, Hallford Lorry; E32, Siddeley Canvas Tilt Wagon; E33, Straker-Squire Open Van; E41, Dennis Van; E43, Commercial Cars Lorry; E45, Thornycroft Lorry; F52, St. Pancras Lorry, and H58 Burrell Steam Tractor. Many of the others have made most creditable performances, and a better aggregate result was noted in the second week than in the first. There are now fifty-three vehicles remaining in the competition.

The Position of the French Motor Car Industry.

FOR some time past rumours have been current that the French motor-car industry has not this year been in a very healthy condition, and that the 1907 season is closing with a much heavier stock than usual of unsold cars, more especially of those of relatively high power. For a long time France had practically a monopoly as regards motor-car construction, but within the past

few years many large factories have sprung up not only in this country but also in Italy, Germany and the United States, with the result that French builders, who have hitherto relied on the export trade as the main support of their business, are meeting with increased competition at every turn. With the view of ascertaining whether the disquieting reports have any foundation in fact, the *Motor-Car Journal* recently caused a special enquiry to be made as to the present position of the motor-car industry in France. The first instalment of our correspondent's report, which is a very exhaustive one, will be found in the present issue.

Tarred Roads.

It would appear that the troubles of the authorities who, to avoid dust, have adopted preparations for the surface of their highways are only just beginning. Cases of compensation are becoming frequent, and although the authorities have not yet conceded anything in this way, complaints are becoming almost as rife as the dust in the days before the tarring. At Chatham an unexpected sequel has followed the Chatham Town Council's experiments in tarring the highway in

asserted his belief with regard to the measures to be taken for the suppression of dust. These are of two orders. (1) Mitigative: Sweeping, sprinkling with water, either pure or with an addition of deliquescent salts (chloride of calcium or of magnesium, Aconia). (2) Curative (specially for macadamised roads): Sprinkling with water with an addition of bituminous oil (Westrumite, Rapidite, Goudrogenite, Hahnite, &c.); the sprinkling is easy, but the effect will not last long in the case of motor-car races, festivities, &c.; sprinkling with petroleum (particularly in California); tarring the roads. The latter is recommended in the resolution which Dr. Guglieminetti will submit to the Congress of medical men; it also seems, despite the complaints that have been made, to be most generally in favour among road authorities.

Horse v. Motor.

QUITE a joyful note prevailed in the speech of Mr. F. W. Griffin at the Spalding Foal Show dinner last week. Mr. Griffin is a well-known breeder and exhibitor of Shire horses. He said he did not think Shire horse breeding was ever on such a sound basis as it was to-day. There had never



Mr. Charles E. Shaw, M.P., of Tottenhall Wood, at the wheel of his new Star six-cylinder Car. This is the second vehicle which the Star Engineering Company have supplied to Mr. Shaw.

New Road, in that borough. The tar adhered to the boots of people who had to cross the road, and the floor of the new church of the Presbyterian community was badly soiled, marked, and discoloured. The executive of the church has called upon the Town Council to bear the cost of scraping and polishing the floor, but the Corporation declines to admit any responsibility. It remains to be seen whether the elders will seek to enforce their claim by legal process, but the point is interesting, similar complaints having been made elsewhere.

Tarring the Roads.

In this connection we notice that Dr. Guglieminetti, who proposed the first trials in connection with tarring the roads at Monaco in 1901, maintains his conviction that this system gives the most satisfactory results. When he came to England to take cognisance of the trials held at Ascot under the auspices of the Roads Improvement Association he was very emphatic on the point, and rejoiced at what he regarded as advanced English opinion on the subject. This week, at the Congress of Health which is being held at Berlin, he has again

been a time when the foreigner was so much on the look-out for good Shires. He himself had never had a better year. People were coming from all countries and asking for Shires, and he believed there was a great future for Shire horse breeding. He was convinced that motor power was not going to hurt them. Those who drove motor-cars knew that they cost a great deal of money, and for moving heavy traffic he was quite certain they would never do any good. The motor-omnibuses were being taken off, for they were not paying a dividend, and the railway people had told him that they had tried motor power and it was no good to them, and that they had more horses working to-day than ever. He recommended that they should stick to Shire horse breeding. We are afraid that Mr. Griffin scarcely reads the signs of the times aright, for the Commercial Vehicle Trials now in progress are revealing something of the possibilities of the motor-van.

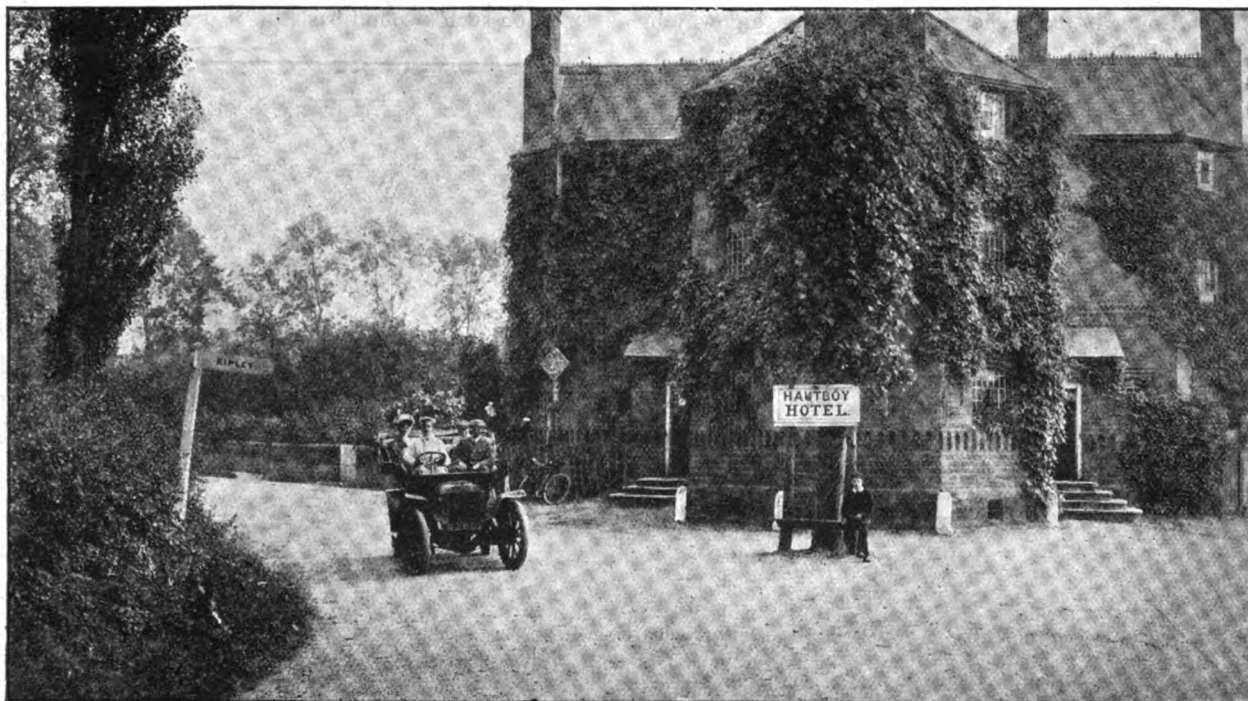
A REWARD of £5 is being offered by the Automobile Club of Indiana for the arrest and conviction of any person throwing glass on the streets or public highways of Indianapolis, U.S.A.

EXIT THE C.T.C.

WE motorists talk so much of touring that it is curious to reflect that we have not yet founded a body to cater specially for our needs as tourists. We are mighty particular to see that our cars are touring cars. We take part in endless competitions to prove that they really are touring cars. We use them for touring purposes with great assiduity, yet, as I have said, we have no organisation whose special duty it is to shepherd the motor tourist. In this we contrast somewhat curiously with our cycling friends, who have a Cyclists' Touring Club, yet admit to themselves that they have as a body ceased to tour, and now merely race or potter.

Some time since, recognising the incongruity of the situation, some of those in the ranks of the C.T.C. endeavoured to amend its constitution so as to include motorists in its scheme. But the ossification of idea and enthusiasm so apparent in the changed character of the club's membership was too far advanced to permit such a modernisation, and it was rejected. Out of that rejection arose a turmoil and a strife that has practically

That being so, the body to whom we must look for a development on the lines of a touring organisation is the Automobile Association. That young society has, up to the present, successfully concentrated its efforts on a narrow but much appreciated programme, and there is no reason to apprehend any immediate diminution of its necessity or use. But the present absurd condition of affairs in the official control of road traffic cannot be prolonged beyond a year or so, and, with an accession of sanity and justice on the part of our rulers, something of the *raison d'être* of the A.A. as at present constituted will have disappeared. But in any event I offer it as a suggestion that the Automobile Association should adopt in this country the functions so admirably performed for French tourists by the Touring Club de France. It has the organisation; it has the officials, the energy, and I should say the funds necessary for an admirable start. It possesses the nucleus of a Touring Club of Great Britain, if those running it care to adventure. Such a programme would only be a development of the A.A.'s present lines, for it commenced some time ago to erect information and distance plaques at the entrances and exits to all our southern



A well-known spot in Surrey.—An Argyll Car at the Hautboy Hotel, Ockham.

rung down the curtain on the Cyclists' Touring Club as a popular or even a live organisation. A discredited management, a depleted membership, and bitter personal animosities dividing its councils, mark the beginning of the end. Like many another and similar body, it has outgrown its usefulness, and it remains for the new tourist—the motorist—to organise some body to take up the white man's burden.

Motoring in this country has probably quite as many societies founded to care and tend us as is probably good for anybody concerned. They have begun to wrangle for the right to do this and that, and we have the unedifying spectacle of the Motor Union poaching on the very clearly defined preserves of the Automobile Association at a time when it would be better employed endeavouring to retain the support and allegiance of the long-suffering and discontented motor-cyclist. The Motor Union has too much on its hands, and it would be well advised to restrict its programme and to cover that programme thoroughly. Its legislative functions and responsibilities are far too important to be jeopardised in the fashion that seems highly probable if its energies are allowed to branch out in the bewildering fashion that has characterised recent developments at No. 1, Albemarle Street, W. Its programme requires pruning.

villages and towns. A little elaboration of these towards the T.C.F. model is all that would be required, and the institution of a touring bureau for the issue of maps, guide books, &c., would not, I am sure, overweight the abundant capacity for work of the capable staff. There is an admirable model to hand in the T.C.F. It has avoided the error of entering upon a trading programme for its members which has injured the Motor Union and the Cyclists' Touring Club. The hotel scheme of the latter is an anachronism. It certainly would not be desirable to cumber up the touring department of the A.A. with such an involved and trouble-begetting device. By the time that it had all our roads properly signalled and boarded, and its bureau provided with all the multifarious information which would be required by its members, it would find its hands just as full as efficiency could permit.

TRIVIATOR.

MESSRS. EVAN JONES AND SON, who have depots at Pen-y-groes, Ebenezer and Pwllheli, have their headquarters at Carnarvon, where motorists passing through the town are always welcome at their garage in Bangor Street. They have a smaller depot at Castle Square.

AN EARLY MORNING MOTOR RIDE.

I WAS dining one evening last week at a well-known Italian restaurant in Wardour Street, W., and during the coffee I was joined by the amiable "restaurateur," the proud possessor of a 24-40-h.p. Fiat, and he proposed a motor trip on the morrow, which I accepted with much gusto. To my surprise, however, when making the final arrangements he suggested that his chauffeur should call for me at 5 a.m. the following morning. I demurred for some time, thinking of the unusually early hour, but at last I acquiesced, and at 5 a.m. was aroused by the toot of the Fiat standing at my door in Regent's Park. It was not many minutes before I was seated in the car and being driven towards the well-known hostelry of my previous night's enjoyment. There, on our arrival, 5.30 a.m., was mine host waiting with hot coffee, rolls, &c., for our consumption. We were here joined by a Maltese gentleman, and started at 6 a.m., the route suggested being *via* Sevenoaks to Bexhill for breakfast, thence to Hastings, and on to Bodiam for lunch, then to Tunbridge Wells for tea, and town for dinner.

Our route lay through the South-east portion of London, and it being a Saturday we experienced some delay occasioned by the early morning market traffic, but having successfully negotiated it we were soon out of London careering at a delightful pace towards Sevenoaks. I cannot properly describe the exceptional exhilarating feeling to be obtained at such an hour of the morning. It happened to be a fine day, not too cold, and the air seemed impregnated with some sweet odour which seemed to lift one from Mother Earth. The country was at its best. We reached Sevenoaks before 7 a.m.; we did not stop, however; the car was going splendidly, and on we went through the deserted town, when we were surprised to meet, at such an early hour, a pack of hounds with the huntsmen in their scarlet liveries. After slowing down to admire the pretty picture it was not many minutes before we were well on our way again. The surroundings, the country, the early morning life, were so delightful that before I was aware of the fact we were on the outskirts of Bexhill. Not very long after we pulled up at the Metropole Hotel, and were soon seated in its cosy dining room enjoying our omelette and coffee.

Breakfast over, a walk to view the motor track and a lounge round the town was the next item on the programme. At 11.30 we were again seated in the Fiat making tracks through Hastings towards Bodiam for lunch. Not in any hurry, we reached the Castle Hotel comfortably at 12.15. Here we were met by some friends of mine host who had ridden over earlier in the day and had ordered us a good old-fashioned lunch, which I believe this hostelry has a reputation for, or at any rate ought to have. After the lunch, to which we all did justice, a walk to view the castle remains was suggested—and they are really worth a visit, being, in my mind, in as good a state of preservation as any ruins in England. An hour or so was spent in exploring the surrounding country, and then we again started on the car, this time making tracks for home through the delightful scenery surrounding Tunbridge Wells. Passing through this town we pulled up at the Royal Oak Hotel at Tunbridge for tea. Leaving there at about 5.30 p.m. we were soon flying up the long and tedious ascent before the drop into Bromley. It was not long after that we were on the outskirts of our destination.

The difference between our going through New Cross and returning on Saturday evening is better imagined than described. However, thanks to the excellent handling by the chauffeur, we arrived home safe and sound at about 6.30 p.m., thoroughly convinced that to obtain a perfect motor drive free from traffic and police traps and to realise the beauty of nature in its early attire it is necessary to start your journey with the morning deliveries of the milk.

J. H.

Of a motor-cyclist, fined for exceeding the speed limit, at the Greenwich Police Court, the magistrate observed, "He has one excellent qualification for a motor-cyclist, he is so deaf that he cannot hear the objurgations that probably follow in his track."

THE BRAMLEY VALVE ATTACHMENT.

NOTWITHSTANDING the many varieties of tools on the market to facilitate the removal of the valve springs of petrol motors, there are still a large number of motorists who have not equipped themselves with such useful appliances. The result is that engines are frequently kept running in a mediocre condition when, were it possible to easily remove them, a grinding in of the valves would effect a considerable improvement in the power developed. With the new attachment which has lately been introduced by Messrs. Bramley and Co., of Okehampton, Devon, and which we illustrate in Figs. 1 and 2, all difficulty in this direction is now removed, for by its use it is possible to compress the spring in order to withdraw the retaining cotter entirely by hand, or at most by the use of a light cycle spinner. Referring to Fig. 2, the usual spring-retaining cup and cotter are shown on the right, while on the left are the three parts which form the components of the Bramley device. First there is an externally threaded sleeve which is slipped over the end of the valve stem and secured in place by passing the cotter through the hole in both the sleeve and the stem. The spring and its cup are next slipped over the valve stem, and then a nut is screwed on the sleeve,

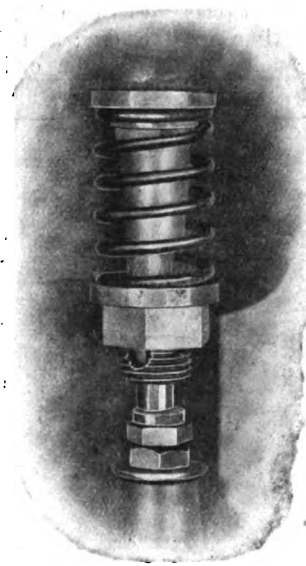


Fig. 1.—The Bramley Valve Attachment as fitted in position.

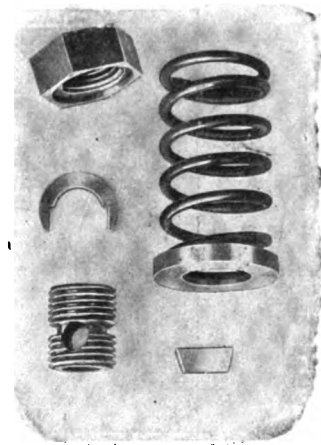


Fig. 2.—The Component Parts of the Bramley Valve Attachment.

compressing the spring as it proceeds, until a groove formed at about the centre of the sleeve is uncovered. A crescent-shaped washer which acts as a lock-nut is then placed in the groove, and the nut screwed down on to it until the whole is securely locked together. No alterations are needed to the engine to convert the valves to the new system, the only change necessary being a slightly shorter spring which the makers supply, and which they guarantee to exert the same pressure when in position as the old one. Judging from the model Messrs. Bramley have sent us the idea is as effective as it is ingenious. The only point which is, we fancy, likely to cause annoyance is the crescent-shaped washer, which in its present form is inclined to slip out of position, and probably fall into the mud shield below the engine, ere it is gripped by the nut as the latter is screwed back. This might be remedied by the use of a spring washer or a pivoted one made caliper shape to encircle a great portion of the sleeve.

THE Ross-on-Wye Rural Council are getting up a petition to send to Parliament that all licences in connection with automobiles should be paid into one fund all over the country, and divided amongst the different counties towards road maintenance.

B

CONTINENTAL NOTES.

The Semmering Hill Climb.

The annual hill climbing competition up the Semmering organised by the Austrian Automobile Club, over a ten kilometre course, attracted a very large number of entries, the competitors being divided into several classes. The best time of the day was made by Poege, who drove his 120-h.p. Mercedes up the hill in 7 min. 29 1-5 sec., beating the record made last year by Braun on a 100-h.p. Mercedes by 10 1-5 sec.

A Novel Hill Climb.

The Automobile Club de Spa held a somewhat novel hill-climbing competition on the 15th inst. on the Malchamps Hill, near Spa, Belgium. The ascent, which measured five kilometres, had to be made four times without the engine stopping. The competition was open to all types of petrol cars, those fitted with two-seated bodies having to carry 150 kilogs. of ballast; the entries were ranged in the order of the power of the engines in accordance with a formula, the largest being first and the smallest last. The total time for the four ascents was recorded against each competitor's name, and it was on the results obtained that the separation of the vehicles into categories was based. Thus, the first class was established by the car which made the best time of the day; and in it were placed those vehicles of an equal or greater cylin-

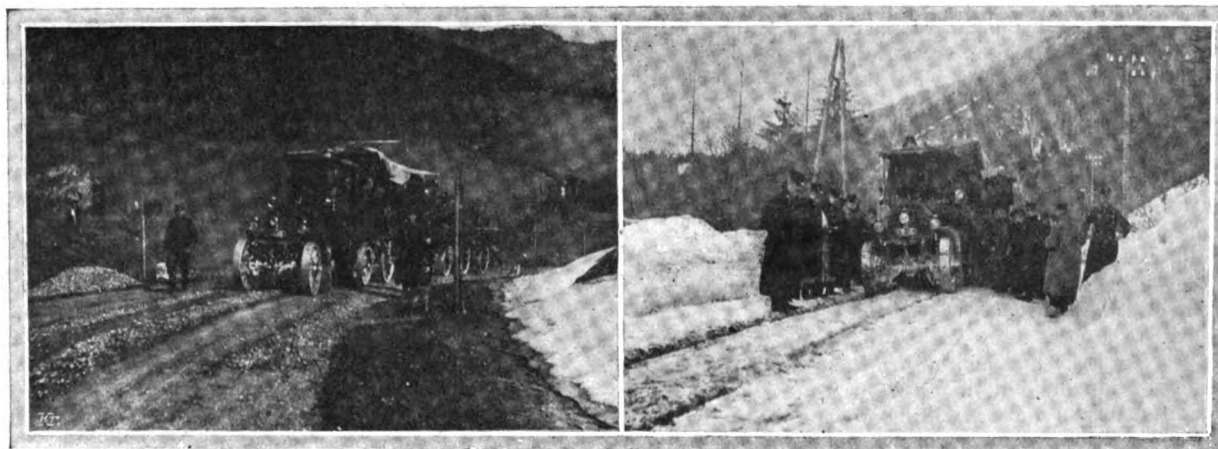
average and the actual times recorded was then worked out, the prize—the Pillette cup, which has to be won twice in succession to become the winner's own property—going to the vehicle which showed the smallest fluctuation, this proving to be De Spirlet's Clement-Bayard, whose time for each of the four trips did not vary more than 8 sec.

The Mont Pilat Hill Climb.

The Automobile Club du Rhone held an interesting hill-climbing competition on Sunday last up Mont Pilat, near St. Etienne, France. The road, which comprises many sharp turns, is five miles long, the average gradient being 7 per cent., or about 1 in 14. The usual categories for touring and racing cars were provided. Rougier, on his Grand Prix Lorraine-Dietrich, repeated his Mont Ventoux victory of the previous Sunday by making the best time of the day, he climbing the hill in 6 min. 20 sec. Bablot, his biggest rival, had, unfortunately, to retire half a mile from the finish owing to the breaking of the clutch of his Brasier. Halut on a Mors was second in 8 min. 51 sec. In the 120-140 mm. cylinder bore racing category Mottard, on a De la Buire, made the climb in 8 min. 16 sec.

International Races for Touring Cars.

Some important resolutions with regard to international races were passed at the recent meeting of the Automobile Club of



Austrian Military Road Trains in Course of Trial on the Semmering Hill.

[Allgemeine Automobil Zeitung.]

der capacity in accordance with the formula. Other categories were formed in the same way. To illustrate the method which was adopted, let it be imagined that twenty entries were received and arranged in the order of the cylinder capacity. Further, supposing that the best time was made by the sixth car, this would be the winner in Class 1, in which the preceding five vehicles would fall. Category 2 would be formed by taking the car showing the best time out of the remaining fourteen. If this were the tenth in the complete list, cars No. 7, 8, 9, and 10 would fall into the second section, the same plan being adopted for the remaining vehicles. Twenty-one cars took part in the event, ranging from a 129.52-h.p. (by formula) Metallurgique to a 34.64-h.p. Clement-Bayard. The best time of the day was made by Moermann on a 104.96-h.p. Mercedes (time, 15 min. 4 2-5 sec.), the Metallurgique referred to above being second in Class 1 in 16 min. 32 1-5 sec. The winners in the other classes were:—Dahmen (100.36-h.p. Opel), 17 min. 8 4-5 sec.; Gregorius (91.8-h.p. Itala), 17 min. 23 sec.; Wilford (44.4-h.p. Germain), 20 min. 11 2-5 sec.; Bourlard (34.6-h.p. Germain), 23 min. 55 1-5 sec.; and De Spirlet (34.6-h.p. Clement-Bayard), 25 min. 8 2-5 sec. The awards as to regularity were also made on a somewhat novel plan. In this section only the winners of the different categories in the speed classification were taken into account. The average time for the hill climb was found by dividing the gross time for the different ascents by four. The difference between the

Italy. It is suggested that, in addition to the annual classic contest for racers, several speed events open to touring cars shall be organised under the regulations of the International Committee of Delegates of National Clubs. With a view of limiting the steadily increasing number of international races, the Club has further suggested that only recognition shall be given to races run on the open road over a minimum distance of 20 kilometres, to be notified in the first quarter of 1908, and in which a guarantee is given as to the technical and sporting organisation arrangements.

Miscellaneous Items.

The motor-car has made its appearance at the Vatican, Cardinal Merry del Val having lately acquired a limousine.—The tenth anniversary of the founding of the Mid-European Motor-car Union is to be celebrated by a banquet in Berlin on October 1st.—A public motor-car service is shortly to be started between Hofheim and Okriftel, near Wiesbaden, Germany.—The Peugeot Company have lately patented a new petrol motor in which the inlet and exhaust valves are of the piston type and actuated by a single cam.—The annual hill-climbing competition at Chateau-Thierry is to be held on Sunday next, the 29th inst. An entry list of nearly sixty vehicles has been obtained, among them being two Napiers.

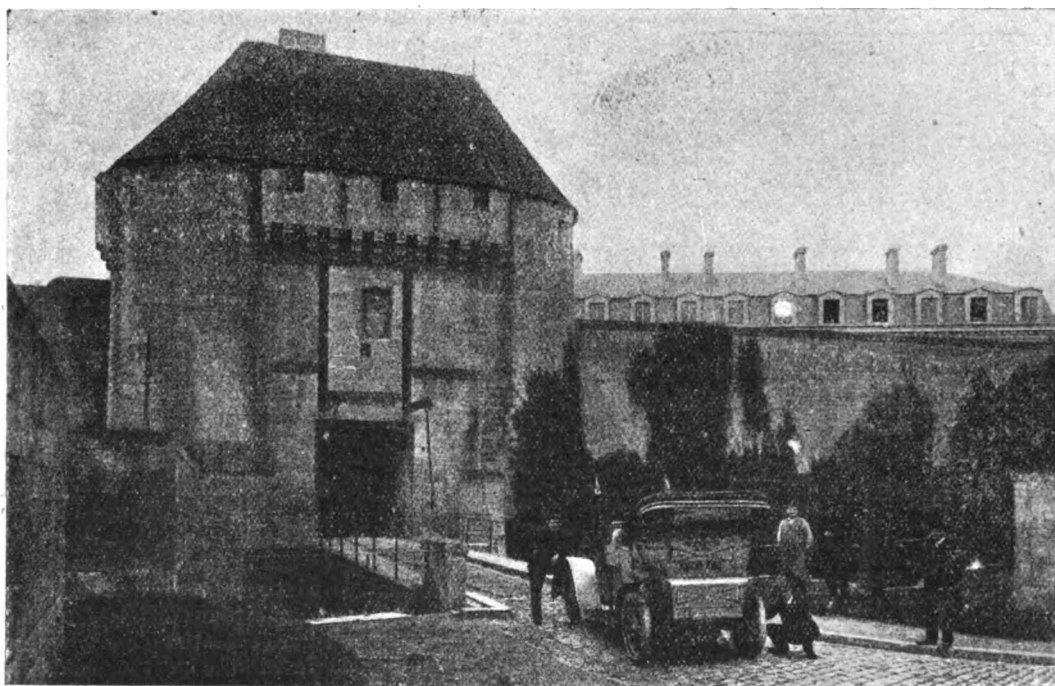
The Present Position of the French Motor-Car Industry.



(BY A SPECIAL CORRESPONDENT.)

WHEN an industry attains the rank of sixth in importance in relation to a nation's exports, and more especially when this industry is of a mushroom growth, represented by the motor-car trade, conditions and statistics are carefully watched and commented upon both by national economists and by foreign rivals, to discover defensive measures in the one case and weakness and trade possibilities in the other. France now occupies that unenviable position, which has come about by the credit which has attached to the rumours of the past few months regarding the state of its internal market and exterior trade. One by one certain facts have come to light which, culminating, have led people to suppose that there is more than a passing depression to disturb the hitherto strongly marked upward tendency of French trade; but, however keenly the signs of the times have been discounted, there remains little upon

it being of note that very little of this export trade ever returns in like form. For the first time in twenty-five years the value of exports of French produce has exceeded that of the imports, and Frenchmen are drawing comforting conclusions from the fact. Conditions which have been constant for half a decade cannot be considered conclusive, and the present feeling is that, however elated statistical facts may cause the makers to feel, a wave of depression would be brought about if it could be shown that "buds were as scarce as bloom was plentiful." The status of the trade in France is undergoing a serious alteration, for whatever quick changes have come about in past years of the trade history, these changes have been for the better. The present change is not so easily diagnosed, and wears two aspects—the internal trade prospects and the exterior market for French cars and parts. Of the two points of view the exterior



Touring in France.—A Mors Car at the Gate of the Old Castle at Caen.

which to seize as the nucleus of the story of the threatened crisis in the industry. Inasmuch as France has been in the vanguard of European nations in matters concerning the internal combustion motor, quantity and quality, practice and theory being included in the French claim to a grand superiority, it is but natural, so it is said, that the turning point in motor-car industrial progress should likewise see the day amongst the busy factories on the banks of the Seine.

Trade has been dull in France for the whole of the year, and the fact has escaped nobody. But whether this portends a coming crisis, or merely a passing depression, is a searching question, which only a general and critical study of the changeable market conditions can answer. Reference has been made to the exceedingly youthful character of the automobile industry and the high position it has already taken in the wealth of the nation. The most important of French industries is the old-established silk trade; wine exports are fifth on the list, closely followed by the value of automobiles and parts exported, a *bona-fide* figure amounting in 1906 to six million pounds sterling,

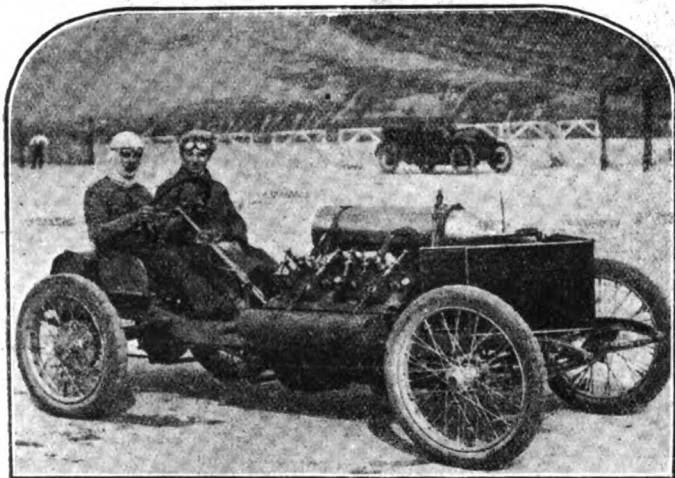
trade is by far the more important and fraught with greater danger to French factories; for, whilst the internal trade may be suitably protected, the foreign market cannot, and, moreover, the latter is an ever-increasing factor in the welfare of the French automobile trade.

It is a fairly sound statement that if the special conditions now confronting the trade in France were to affect any other of the leading French industries the word crisis could rightfully be applied, and confidence would be lacking. This is the great difference between the motor-car and other trades. The latter are directed and managed by older established and perhaps less energetic firms than is the youngest of French industries, and a serious change in the market conditions would mean ruin to many. The automobile traders, however, are new to the work, and buckle to with ability and energy to combat rumour and fact, and this factor has to be reckoned with in all essays upon the present trend of affairs in the motor industry.

Dealing first with the internal aspect of the question, upon which volumes might be written and endless debates started it

must be stated that the present position of affairs has been to some extent brought about by the lop-sided growth of foreign trade, which has caused attention to be given to the birds in the bush whilst neglecting those in the hand. The latter, in view of French tariff possibilities, has always been a sure thing for French firms, and only recently has there been the stimulus of competition added to home trade to cause lively bargaining between agents and buyers. The possibilities of home trade are by no means played out, and there remains a deal to be done in order to bring about a healthy trade in France. True, business is slack, but, on the other hand, till recently little has been done towards making trade.

Such has been the ease with which French production has been disposed of in past years, that it is small wonder that competitive tactics have been rather tabooed among the makers in France. It has been impossible to purchase the same car in Paris that has been sold at a given figure in London. This peculiarity is not confined to motor-cars. Many other products of French industry are sold at higher rates at home than abroad, simply by reason of the artificial tariff wall which deadens competition, as the word is understood in Great Britain at least. The above may be said to have held good until the beginning of last year, when another element appeared in the trade, this being the organisation of new works fitted with the most modern machine tools, and devoting their energies towards the production in bulk of one or two models. The effects would have



Mr. A. Lee Guinness at the wheel of his 200-h.p. eight-cylinder Darracq Racer on the Brooklands Track. On the 30th inst. he attained a speed of 115.4 miles per hour, whereupon the car was bought by Mr. Dugald Ross.

been noticed immediately in the swamping of the market and the quick decline of prices at home (for these new firms had not achieved the reputation requisite to build up a large foreign trade), had there not arisen just at that time an enormous demand for chassis designed for town use, and especially for public hiring business, as represented by the taximeter motor-cab. This "taxi" business, as it is familiarly known, caught up every maker who could spare a corner of his shops for the work, and some well-known firms went so far as to build large additions to their factories, where only chassis for motor-cabs have been made. The demand for these vehicles has been almost unlimited, and large orders of almost unprecedented importance have been handled both for Paris and the principal European and American capitals, in addition to smaller orders for large towns. But huge demand brings about a plentiful supply, and the newer firms referred to above, which have grown up, one may say, by the dozen within the past two years, have brought the question of supply and demand to a more normal basis. There is less profit to be made from the construction of chassis for motor-cabs now than there was eighteen months ago, for the reason that prices have declined although the demand is still great. Firms are again turning their attention to their normal output, and it is found that the trade in touring cars has suffered largely within the past year.

The reasons for this are not far to seek. The introduction of taximeter cabs upon the city streets has put off many a customer who, for business or pleasure, had need of a town vehicle; for the hire of a cab, even for several hours daily, has been proved to be less expensive than the keeping of the private car and a chauffeur, not to mention the repair bill, which somehow seems to remain at a constant figure whatever the daily service of the vehicle. Thus professional men, just beginning to consider the acquisition of a light car, have postponed their purchase until vehicles are cheaper than the hire of a motor-cab, a state of affairs which is sure to come about in the long run. The light car business was beginning to be studied with success in France when the taximeter cabs first appeared, and the result has been the falling off of sales of these handy vehicles, a decline in trade which may be considered as relative rather than actual, since the number sold has certainly increased. So much may be said for the light car, which has proved itself an essential adjunct to city life.

The situation is still worse as regards the high-powered car, the 40, 60, and 80-h.p. vehicles which were so wont to be pushed by agents a year or so ago. There is still a demand for these cars, since fashion will have its way, and there are those who do not count cost of upkeep compared to the delight of handling a high-powered machine. These cars were very quickly found quite unsuitable for city work, and of use only for touring and long country trips. With the convincing proof of the capabilities of the 30 or 35-h.p. vehicle, however, as brought to light in the various endurance trials, speed meets, hill-climbing contests, &c., it came to be seen that the uneconomical running of the heavy four and six-cylinder cars was very much out of proportion to the actual advantages of possessing a vehicle capable of doing certainly four or five miles an hour more than the moderate-sized machine, which latter also could easily hold the road at speeds beyond the limit either permitted in tolerant France or compatible with comfortable and safe travel. The doom of the sale of the heavily-powered car was, moreover, more than apparent from the splendid doings of the small-powered car in the Grand Prix and other road contests. The swing of the pendulum rang in the fashion for the handy medium power car.

The number of pleasure cars in France is not so great as may be imagined, and leaving out the hundreds of taximeters which are placed in service monthly, it is certain that seventeen or eighteen thousand cars of more than two seats are all that are in service. Of two-seated cars there may be 3,500. This total is not overwhelming having in mind the size of French factories and the aggregate production. A two mile circle with Puteaux as its centre would include factories capable of producing 500 cars per week. Certain it is that either the demand in France is really small, or the trade is not pushed as it should be. The writer inclines to the latter opinion, and is backed up in the statement by the unprejudiced spirits in the French Automobile Club. It is just here that the export trade affects the interior trade, for, to aggravate the existing conditions, there has been a very marked tendency this present year towards a decline in the exports of complete cars. This aspect of the matter is dealt with later on, but the main result has been that cars which were offered at a premium early in the year in Paris are now sold at a reduction—anything to clear stock before the Salon—which is a month earlier than usual this year. It is not that the makers are full up with stock. They had, for the most part, exclusive contracts with large agencies, and disposed of their 1907 production before the needs of the market were known. The agents, however, have found themselves in a difficult position as regards their contracts, and the fly in the treacle was observable even in 1906 when Brasier cancelled his contract for the disposal of his entire stock to an exclusive agent, and started dealing direct with the public. That makers did not do this before is a proof of the heavy demand and scant supply. In view of the congested conditions of agents' garages, and the hesitation shown by the latter to renew their contracts, makers are now taking the bull by the horns and making arrangements to dispose of their production in the way recognised and practised by all trades except those snugly stowed away in a monopoly.

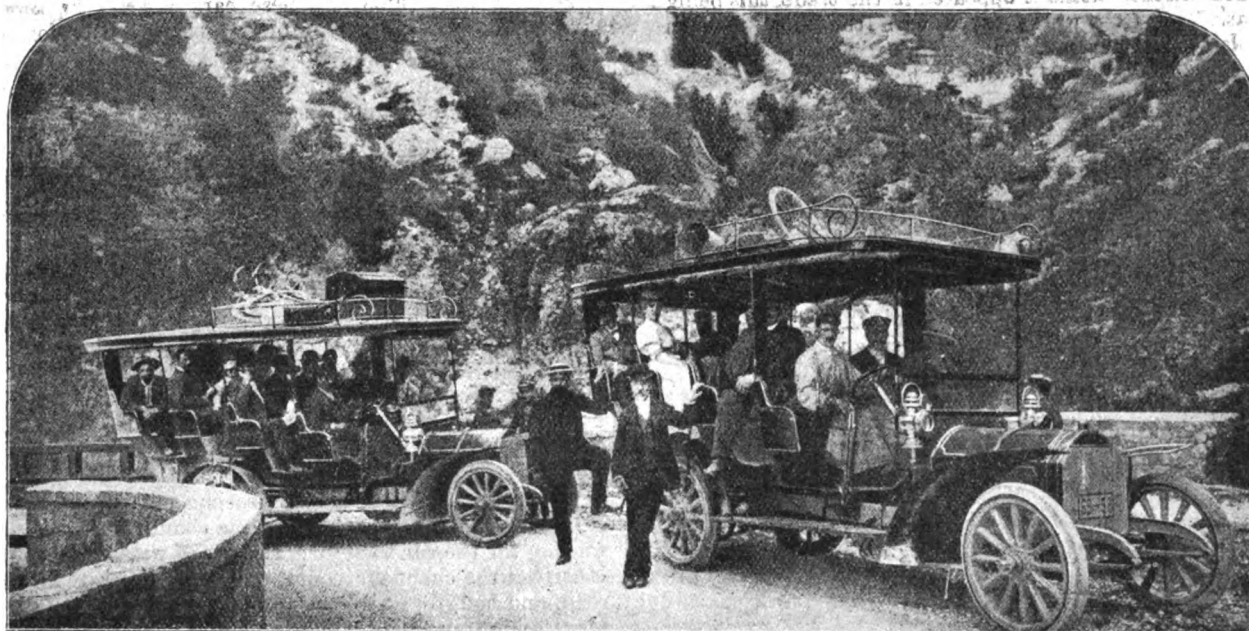
(To be concluded).

SOME NOTES ON LOSS OF POWER.

WHETHER the car be a four-cylinder high-powered one or merely a 5-h.p. single-cylinder it is equally liable to the indisposition known as loss of power—a form of laziness, if you choose to call it so, but one for which there is always a cause, and this, if diagnosed, can be treated, and, what is more, cured. The causes which bring about loss of power can be considered under three headings:—1, poor compression; 2, poor ignition; 3, poor water circulation.

Poor compression may be due to leakage at either the inlet or exhaust valves, sparking plug, compression chamber, if it be a detachable one, or the piston rings. If a little soap or oil is placed round a suspected joint and the engine started up, escape of bubbles will reveal the position of the leak, and when found it can be remedied. If a sparking plug porcelain is broken, a new plug is necessary; if the inlet valve or plug joint "blows," a new washer is required. Copper and asbestos ones are now made of all sizes and shapes, but failing a suitable one a grommet of asbestos cord rubbed up with a little red lead will always make a gas-tight joint. Inspection will reveal if the valves are true

trembler blade, and with a very fine file dress them so that they are square with one another, then replace, and, with the contact-maker at contact, adjust the trembler to give a good "buzz." If the accumulators are run down, get them re-charged, and if away from home borrow a fresh set. If none can be obtained, it may be possible to get home by adjusting the sparking plug points a little nearer to one another. The usual place where contact trouble occurs is at the contact maker; the fibre wheel may be worn out of truth with the wipe, or the latter may itself be irregularly worn. A new wipe can be fitted, or the old one can be filed true. If the fibre ring is much worn, it will need spinning in the lathe, but on the road the wipe can be usually adjusted so as to get the engine to take one home with a good pull. Often the spring that keeps the wipe in contact merely wants bending or pulling out so as to cause it to press more firmly against the ring. Mud or oil on this part is a frequent cause of stoppage, but occasional cleansing will prevent this. Loose terminals or partly broken wires, too, may be the cause of poor ignition, also imperfect insulation of the leads. The latter at the accumulators often corrode; after attaching them it is well to smear on a little grease, which will prevent the acid, which often slightly escapes, from attacking them. All exposed



Two of the Fiat Cars employed in the Public Service which has lately been established between Schio and Rovereto, Italy.

[L'Automobile.

if not, and they are pitted, they require grinding, so that the valve fits on its seat perfectly. This can be proved by taking out the valve and marking the seat in a few places with chalk, then replace the valve and press it well home. Move it round with a screw-driver, then lift it out, and if the fit is correct it will at once be seen. Gumming of the piston rings may be a cause of their not holding the compression. Pulling the engine round after injecting a little paraffin through the compression cocks is the treatment. Scoring of the cylinder or worn piston rings are the last and, I believe, least frequent causes in this class. The treatment will depend on the extent of the damage; new piston rings may be needed, or if the liner is badly scored it may need relapping, and, if much is so removed, a new piston as well as rings. With proper lubrication, however, a car should run for three or four years on one set of rings, and the cylinder should not require lapping in double that time, but this all depends on proper and sufficient oiling.

Poor ignition may be due to the plug, coil, accumulators or contacts. If the plug is sooted, it should be taken out and cleaned, or a new one put in. If the platinum points on the coil trembler have worn irregularly, remove the screw and

wires should also be well insulated. I believe in putting them through rubber tubing and then lead gas piping, and using tinned copper wire covered with vulcanised rubber; this may be dearer, but it obviates all possibility of a "short."

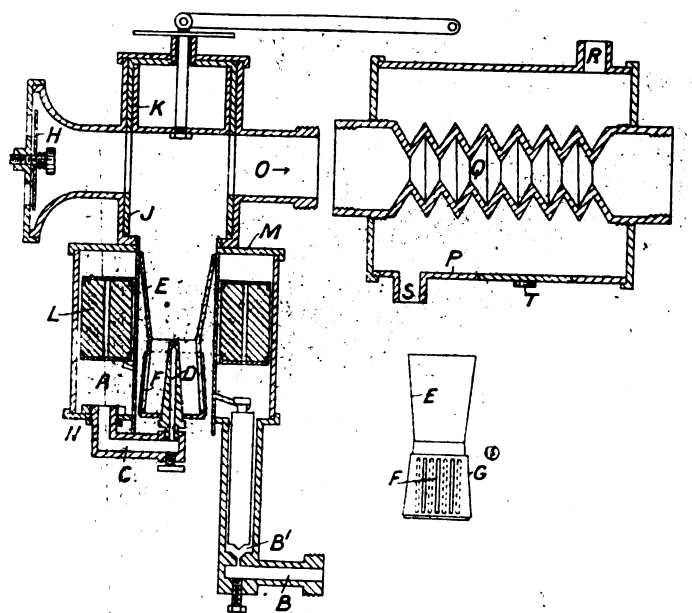
If the water circulation is imperfect, the engine will heat, the cylinder oil may then burn and the rings, among other possibilities, not hold compression; in addition, the cylinder will be so hot that the gas will expand so much that a full charge cannot enter, and what does, as a result of the excessive heat, will explode prior to full compression, so it is as well to see to the pump and also that the water tank contains water. A few facts about friction pump worries were discussed in the *M.C.J.* of June 15th last, so I will not enter on that question again.

CHARLES T. W. HIRSCH.

THE Newport (Isle of Wight) Town Council is considering the question of securing power to restrict the speed of motor-cars to six miles an hour in the borough, and the surveyor is furnishing information on the subject to the Local Government Board.

THE "YUNEEK" CARBURETTOR.

WE illustrate herewith a new automatic carburettor known as the "Yuneeek," which has lately been put on the market by Messrs. Jas. Adams and Sons, of Union Street, London Bridge, S.E., and which is claimed to give a perfect mixture of air and vapour at all engine speeds. The device, which is designed for use in connection with either petrol or paraffin, comprises a number of interesting features, not the least of which is that by unscrewing a single nut it can be taken entirely to pieces for cleaning purposes. Referring to the drawings, Fig. 1 gives a sectional view of the carburettor as made for use with petrol. As will be seen, the float and spraying chamber are not separate, as usual, but are concentrically arranged. The petrol enters the float chamber A through the pipe B, the outlet to which, as the float rises, is closed by the needle valve shown. The spraying nozzle D, which is connected with A through the elbow piece C, passes up through the closed end of a double-coned tube E, which forms the spraying chamber. A series of slits are formed in the lower portion of the tube E, through which the necessary air for admixture with the sprayed petrol is drawn in. In order to



Figs. 1, 2 and 3.—Sectional Views of the "Yuneeek" Carburettor.

- | | |
|-----------------------------------|---|
| A Float Chamber. | K Piston Throttle. |
| B Petrol Inlet. | O Connection for Admission Pipe. |
| B' Needle Valve. | P Heating Chamber for use with Paraffin. |
| C Petrol Pipe from Float Chamber. | Q Screw-shaped Pipe for Heating Paraffin-Air Mixture. |
| D Spraying Nozzle. | R S Connections for branch from Exhaust Pipe. |
| E Spraying Tube. | T Removable Screw for introduction of lamp for initial heating. |
| F Air Admission Slits. | |
| G Air Regulating Ring. | |
| H Automatic Air Inlet Valve. | |
| J Additional Air Regulator. | |

regulate the air supply at this point a perforated ring G, shown separately in Fig. 3, is provided round the tube, by means of which the slits can be more or less closed as desired.

Attached to and above the float chamber is a special fitting, which forms one of the noteworthy features of the carburettor, as it comprises the branch to which the inlet pipe is attached, an automatic valve H, which allows additional air to be drawn in by suction, in accordance with the requirements of the engine, a hand-controlled rotating valve J, by which the amount of additional air can be adjusted and a piston throttle operated either by hand or foot through suitable connections. The rotating valve J is closed at the top and open at the bottom; in its sides, opposite the extra air and mixture inlet parts, holes are formed of such shape that while the air admission can be more or less contracted, a full passage is always ensured for the mixture, the regulation of the supply of the gas being entirely performed by the piston throttle. The latter is also so arranged that when the car is running down hill the mixture

can be entirely cut off, and a blast of cold air drawn into the engine straight through the valve H, in this way not only cooling it but effecting a considerable economy in fuel. In fact, one of the claims made for the new carburettor is that it effects a saving in petrol of at least 25 per cent. A screw is provided below the needle valve to enable any deposit to be readily removed, a similar fitting being located below the spraying nozzle, which permits the latter to be cleared of any obstruction without it being necessary to remove it from the tube E.

So far we have dealt with the carburettor as arranged for use in connection with petrol; to adapt it to work with paraffin it is only necessary to add to the inlet port O the fitting shown in section separately in Fig. 2. This comprises a heating chamber P, through which part of the exhaust gases are caused to pass, by means of pipes attached at R and S. In the centre is a nickel tube Q, made in the form of a screw in order to increase the heating surface over which the mixture passes ere it enters the explosion chamber of the engine. The makers claim that by heating up the tube Q for a few minutes by means of a lamp, the flame of which is introduced at T, the engine can be put in operation directly on paraffin, no petrol being necessary, and that, owing to the complete combustion, there is no objectionable smell nor dirty exhaust. The carburettor is being made in two sizes—one for engines up to 20-h.p. and one for those from 20 to 100-h.p., the form of the spraying tube being varied to suit different powered engines, the one we examined drawing its initial air supply not through slits F at the side, but through holes in the bottom of the tube E.

AN ACCIDENT IN THE HIGHLANDS.

THE dangers of motoring in the Highlands have been fully revealed to the participants in the Reliability Trials organised in past years by the Scottish Automobile Club; they receive new emphasis from the regrettable accident which occurred a few days ago on the Glen Affric road, in Inverness-shire. Lord Tweedmouth had lent his car to the house staff at Guisachan (lately acquired by Lord Portsmouth from Lord Tweedmouth) to visit friends at Affric. They had to travel over one of the worst pieces of road in the Highlands. It is only 8 ft. 6 in. in width, the angles in it are sharp and difficult to negotiate, and the surface is by no means satisfactory. The party were being conveyed back to Guisachan in two journeys, and one half were safely landed there by the chauffeur. The others, after waiting for the car to return, set out to walk to meet it. When it arrived the chauffeur could not turn the car in the narrow road, and had to go on a mile and a half. Mr. Hancock and Mr. Unwin stepped in, while the ladies decided to continue their walk until overtaken by the car. The most dangerous part of the road was negotiated in safety, and the car turned and started on the final run to Guisachan. It was going at a fair speed, and when running uphill and taking a very sharp curve to the left the right front wheel went slightly off the roadway and, unnoticed, got on the outside of a strip of sharp rock. The car kept running, and the rock pulled its head over the embankment. The rear part swung down, and the car tumbled on its side and lay on the rocky bank, about twelve yards from the road. Mr. Unwin, who had been sitting beside the chauffeur, was caught beneath the vehicle and was killed instantaneously. Mr. Hancock and the chauffeur were thrown clear of the car, and both received injuries, but not of a serious nature. Too great care cannot be exercised when driving along such narrow roads.

THE local authorities controlling the district of Hammsmith, Twickenham, Ealing, Hampton Wick, Hanwell, and Teddington, through which the trams of the London United Tramways, Ltd., run, are considering the question of applying for an injunction restraining the company from running their cars, should they fail to comply with a notice to abate a nuisance which has been served upon them. Teddington has taken the lead in the matter. It estimates its losses from the depreciation of house property since the advent of the trams at £30,000, and another £30,000 for loss on empty houses.

IN addition to a motor ambulance an Argyll Motor Fire Brigade tender is being supplied to the Corporation of Sheffield.

IN his report on the recent army manoeuvres in Ireland General Lord Grenfell says the value of the Army Motor Reserve was fully exemplified during the operations.

MESSRS. WILSON AND STOCKALL, LTD., of Bury, are building an ambulance body for a Panhard chassis which has been acquired for the borough of Swansea.

A NEW garage has been opened in the Bridge End Road at Nairn by Messrs. Knowles and Cumming.

CARS are being let on hire by Messrs. Sutton Brothers, who have a garage in Lower Oxford Street, Swansea, where they also have plant for general motor repair work.

WE learn that Mr. Andrew Fletcher of Saltoun has bought the 60-h.p. De Dietrich car which was driven by Mr. Charles Jarrott in the famous dead heat on the Brooklands Track. Mr. Fletcher is having a handsome Roi de Belges body fitted to the vehicle, which will in future be used for touring purposes.

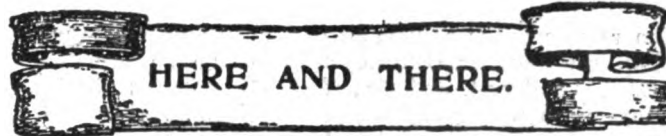
THE Automobile Association is appealing for subscriptions on behalf of the costs incurred by Mr. Joseph Taylor in connection with the freeing of Maidenhead Bridge from tolls. It has headed the list with twenty guineas, and motorists generally should show their appreciation of Mr. Taylor's endeavours to lessen the inconveniences of the roads.

ON Tuesday, at Prescott, Thomas Gregson, a master baker, of Lymm, was fined 40s. and costs for being drunk while in charge of a motor-car; for not producing his licence he was fined 20s. and costs; and for reckless driving he was fined £5 and costs, while his licence was suspended until it expired in February next. It was stated that the defendant had been convicted on five occasions for being drunk and driving recklessly with motor-cars, and he had had his licence suspended for six months.

MR. PERCY RICHARDSON, who left London for Sheffield some months ago, has called attention to the absence of warnings at many points of the Derbyshire highways where they should be put up with a view to averting accidents. Experience has led him to contrast the excellent way in which the roads in South Yorkshire are covered in this respect by the responsible authorities, and we would associate ourselves with his hope that those responsible in Derbyshire may be equally alive to their duties to the public.

MESSRS. HALL, CAPRIS AND CO., LTD., of Riding House Street, Langham Place, London, W., the British agents for the S.P.A. cars, send us particulars of a new self-starting device for petrol cars they are introducing. The arrangement, which is known as the "Universal," consists of a small dynamo that can be fitted on all cars, the only modification necessary in the motor being in providing the fly-wheel with a light toothed crown or rim. In addition to its use for automatically starting the motor, the dynamo can be used to furnish current for ignition purposes, for the illumination of the vehicle, the electrical heating of the steering wheel, &c.

THE claims of a large number of competitors in connection with the August section of the competitions promoted by Argyll Motors, Ltd., have been considered by the judges, who have agreed that the trophy should be awarded to Mr. J. W. Schofield, of Dean House, Uxbridge Road, Ealing. This gentleman owns a 10-12-h.p. Argyll three years of age, which has already, according to the Smith speedometer, covered over 30,000 miles. During the bad weather in the early days of August it carried a heavy limousine body, 2½ cwt. of luggage, and five passengers over 2,000 miles through the hilliest districts of France and Devonshire without a single mechanical mishap or adjustment in fourteen days. Other competitors honourably mentioned by the judges were Mrs. Senhouse, of Cockermouth; Messrs. Hermon Sykes, of Huddersfield; A. A. Jones, of Swansea; E. R. Prince, of Queen's Park; A. Alexander, of Kensington; Hugh Conybeare, of Ingatestone; Thomas Whaley, London; and T. A. Hall, of Leeds.



ACCORDING to the County Court judge at Bishop's Stortford, motor-cars are ruining the country and revolutionising society.

THE secretary of the Motor Union is now the possessor of an 8-h.p. Rover car to be used in connection with his official duties.

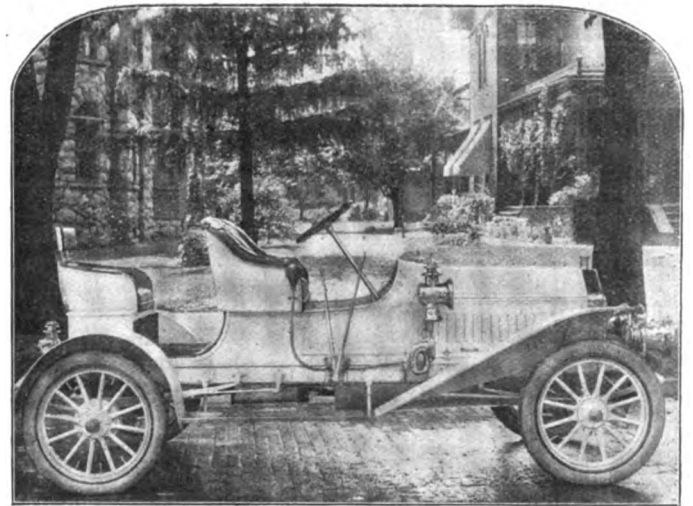
MR. E. A. TOMKIN, 53, Cross Street, Abergavenny, is stocking motor accessories, petrol, &c., and is also undertaking motor repair work.

ANTI-MOTORISTS in Paris are spreading a rumour that the trees lining the famous Champs Elysées are being killed by the exhaust of the numerous motor-cars which travel along that thoroughfare.

A NUMBER of motor volunteers are being employed in connection with the military manoeuvres at present being carried out in Spain.

IN one of the four cases heard at the Carlisle bench on Saturday the motorist had taken the precaution of photographing the constable into whose trap he had fallen. The production of this evidence of identification amused the court, though it did not lead to a mitigation of the fine.

CALLING in at the depot of Messrs. Sternberg and Eason, in Poland Street, London, W., the other day, we had an opportunity of inspecting the new 24-h.p. Buick car. As will be seen from the photograph reproduced herewith, it is fitted with a very smart three-seated body, which, although built in America by



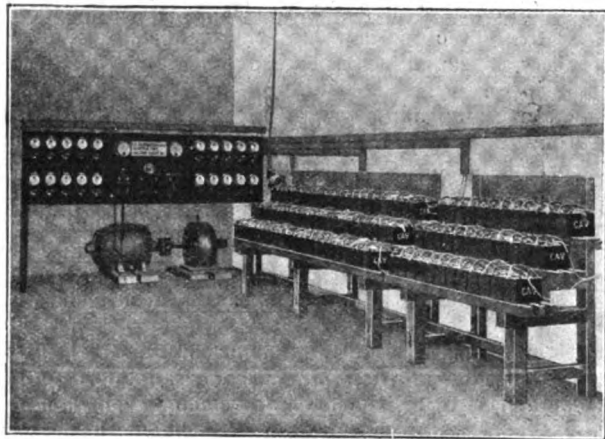
the Buick Co., is on the latest French lines. The engine is of the four-cylinder vertical type, the change-speed gear, which is of the usual sliding type, giving three forward speeds and a reverse. The car is extremely silent, and will climb most hills on top speed.

THE funeral of Mr. H. V. Hermon, whose fatal accident on the Brooklands track has elicited much sympathy with his relatives, took place at Wargrave, near Reading, on Thursday week, when wreaths of floral tributes were sent by many friends, including Sir R. T. Hermon-Hodge, Mr. and Mrs. Moore-Brabazon, Mr. and Mrs. Locke-King and the Committees of the R.A.C., the Brooklands A.R.C., the Automobile Association and the Motor Club.

MESSRS. J. M. DENT AND CO. have issued a little work, "Romantic Essex," by Mr. R. A. Beckett, which will be of interest to all who tour that county by car. Unfortunately for the hostellers of Essex the road from London lies through the drab and dreary district of East London, and not until the suburbs of Forest Gate and beyond are left does the highway become tolerable. But once at Brentwood and rambling around Chelmsford, Colchester, Braintree, Maldon, and other less known places, the county is full of historic interest, and not lacking in rural beauty—as Mr. R. A. Beckett pleasantly proves.

D

THE accompanying illustration represents the accumulator charging plant recently installed in the Daimler Company's Works at Coventry by Messrs. C. A. Vandervell and Co., of Acton Vale, W., who make a feature of supplying and fitting up complete charging plants of any capacity. The switch board measures 11 ft. by 3 ft., and has, mounted at the back of it, a field rheostat for the dynamo, with hand wheel in front. A reverse cut-out is fitted, to prevent the accumulators discharging through the dynamo in the event of the latter accidentally stopping. The main ammeter and voltmeter are 9 in. in diameter, and of the dead-beat moving-coil type, reading up to 175 amps. and 75 volts respectively, while there are 20 ammeters



of 6 in. diameter to the charging circuit. The resistances are fitted in separate porcelain units for each step and may be easily replaced. There are double-pole main switches and fuses, with a safety fuse to each circuit. The dynamo is capable of a normal output of 70 volts 160 amps. continuously. It is possible to charge at one time 275 "C.A.V." accumulators of 100 amps. 4 volts, the normal rate being 7 amps., with a possible maximum of 10 amps. If necessary, the dynamo runs at 960 r.p.m., and is coupled direct to one of the Coventry Corporation's 15-h.p. motors. We believe, so far as motor factories or garages in Great Britain are concerned, that the installation is unique.

MR. A. F. WALLACE, a director of the Bank of England, has lately acquired a 14-16-h.p. Argyll car.

RUSHMORE LAMPS, LTD., have recently fitted Rushmore headlights to Princess Henry of Battenburg's 40-h.p. Daimler car.

AN offer of £2,000 to be utilised as prizes for the promotion of the use of alcohol for motor and industrial purposes has been made to the Motor Union by Peat Industries, Ltd.

DR. H. S. HELE-SHAW is the chairman of the Standing Committee of the Motor Union formed to watch new developments in connection with the fuel supply for automobiles.

WE had an interesting conversation a few days ago with a visitor from Toronto, and we were glad to learn that the automobile movement is making good progress in Canada, and that British-built cars are growing in favour.

A MOTOR lifeboat ran some trials on Saturday from Yarmouth with the Lifeboat Institution's local officials on board. She made up to eight knots an hour. The boat is destined for service at Seaton Carew, on the north-east seaboard.

THE latest departure of Elastes, Ltd., is the introduction of a moveable flange rim by means of which Elastes filled tyres can not only be fixed in position without in any way straining the cover, but the latter when worn can be removed, the Elastes boyau withdrawn and placed in a new cover and replaced in position without difficulty and in a short space of time. We hope to deal with the new rim more fully in a later issue.

SIGNOR MARCONI, of wireless telegraphy fame, has lately acquired a Fiat 40-h.p. four-cylinder car.

AMONG the latest orders for Crossley cars received by Messrs. Jarrott and Letts are one for a 30-h.p. car for Lord Alwyne Compton and a limousine for Mr. A. Barclay-Walker.

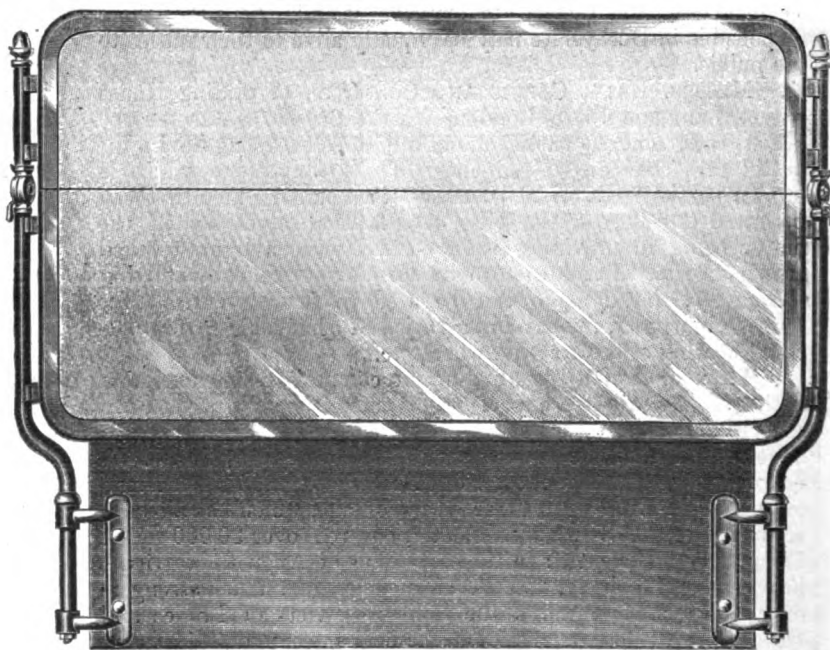
THE showrooms of the Bristol Wagon and Carriage Works Company, Ltd., at Lawrence Hill have recently been enlarged for the convenience of the motor department of the company, which now finds employment for 1,000 people.

MANN'S PATENT STEAM CART AND WAGON COMPANY, LTD., of Hunslet, Leeds, have lately completed a novel confectioners' van, to the order of Mr. W. T. Davies, Cobden Steam Confectionery Works, Pontypridd, to be used for advertising purposes as well as carrying goods. The vehicle is of the firm's two-ton size designed for a speed of eight miles per hour.

VOLUME III. of the Automobile Technical Library, published by M. Krahn's Verlagsbuchhandlung, Berlin, is devoted to carburettors. It is from the pen of Herr H. Dechamps, and contains illustrated descriptions of all the principal carburetting devices at present in use. Although printed in German, the work is one which should prove valuable to automobile engineers.

WE learn that Mr. John E. Gibbs, managing director of John E. Gibbs and Maclean, Ltd., of Fawcett Street, York, has during the last three years made a number of very interesting experiments in connection with superheated steam. There are many steam cars, especially those of the Gardner-Serpollet type, which have been laid on one side from some little defect or other, which, of course, seriously affects the running of the vehicles, and has made them practically of no use, but the many experiments that Mr. Gibbs has made and the results which he has been able to obtain have so far proved that the several troubles which arise in connection with these machines can be easily overcome.

MESSRS. JAMES NEALE AND SONS, of Graham Street, Birmingham, the manufacturers of the Radyot wind screen, are placing on the market an improved type of screen. The chief feature of the new design is a metal frame in place of wood. To prevent noise and jarring the glass is embedded in rubber and felt, which constitutes a very satisfactory cushion. The metal frame gives a showy and very light appearance. The joint of



this screen has also been improved, all the wearing parts being now made of steel. Four different positions or angles can be obtained by manipulating this joint, and there is perfect rigidity at each one. These metal screens are finished in either brass or nickel, and some idea of their general appearance will be gleaned from our illustration.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE SPORTING SIDE OF MOTORING.

To THE EDITOR OF *The Motor-Car Journal*.

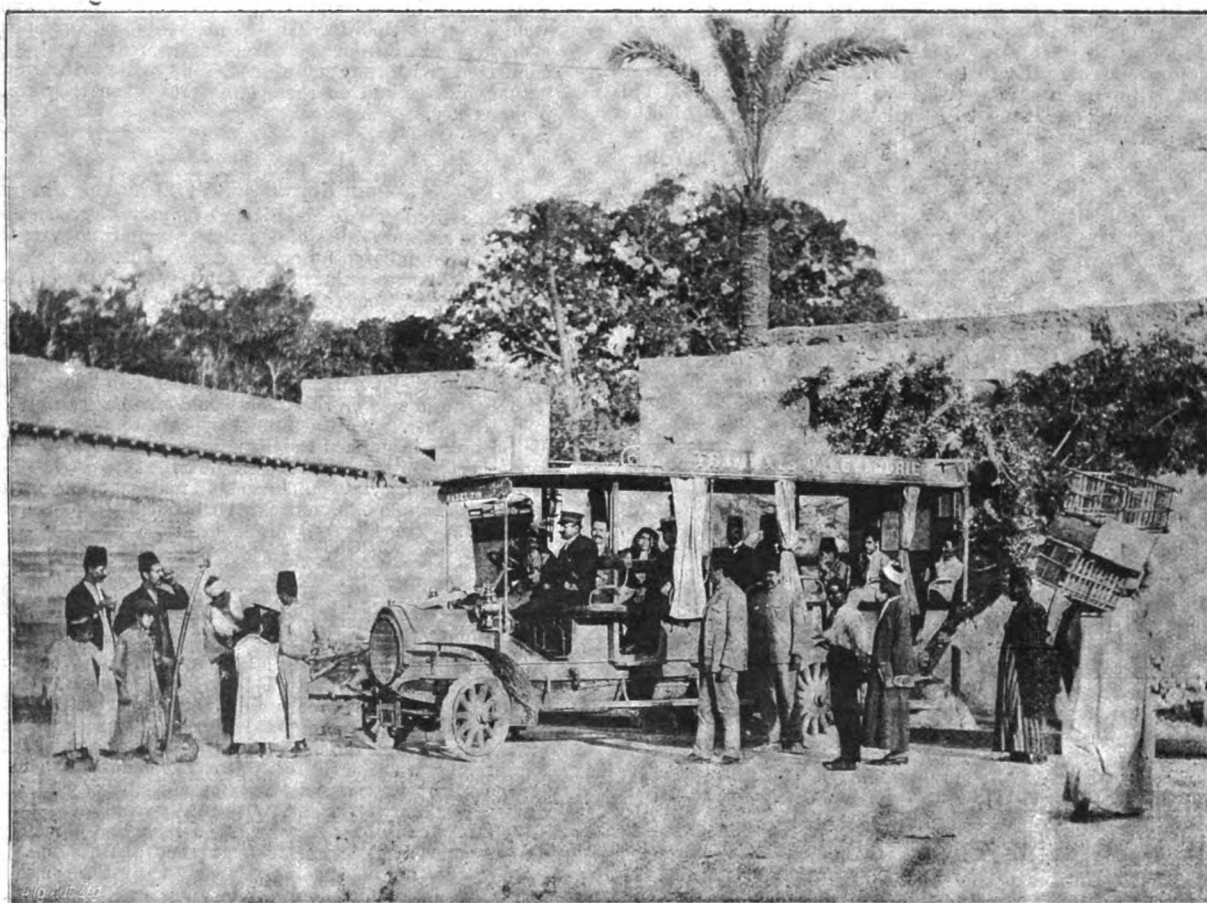
SIR,—I have been taking careful notice during the past year of the events—hill-climbing and speed—held by the various automobile clubs throughout the United Kingdom. With very few exceptions success has attended the effort of each club to provide sport and amusement for its members.

It would be impossible at the present time to predict the future of club life in connection with the sporting side of automobilism, but there exist to-day a large number of excellent clubs with active committees, doing much to popularise motoring in this country. It cannot be gainsaid that the success of these clubs depends in a large manner on the "camaraderie" existing between the members. Therefore hill-climbs, speed events, gymkhanas, &c., confined to the local club's members are of real value because of the opportunities they give for the members to

chance has a private member against a trade member having a fleet of special vehicles at his command? This sort of thing has been going on for some time past, but I think that things came to a climax during the past season, and it is foolish to expect that the *bona-fide* sporting club members will stand it much longer, as nothing is more likely to kill the success of club events than to have trade interlopers running down from London to scoop up the prizes.

I am not suggesting that trade members should not be admitted to club membership; on the contrary, I think that the energy and enthusiasm of the local trade members in connection with some clubs has much to do with their success, but, to prevent the abuse I have mentioned on the part of big trading concerns, it would be far better that some special rules should be passed by every automobile club in the country.

Firstly, that every car entered in a members' event should be his



One of the N.A.G. (Chars-a-banous) service in Alexandria, Egypt.

meet and to know each other. During 1907 the members of the various clubs have loyally supported their own club's events, and some of the keenest racing of the year has been witnessed in these closed races.

In this connection it would appear to the advantage of the trade that everything should be done to encourage these club events, and the friendly rivalry between the members, and I must say that on the whole this has been recognised. This fact, however, brings out the more prominently the action of certain traders who have joined a large number of the provincial clubs all over the country solely and entirely for the purpose of taking part in, and winning, these closed club events, primarily arranged for the benefit of bona-fide members. These "pot-hunters" having all the advantages and facilities of being in the trade, take part in, and compete, not for the sport or the pleasure of it, but merely to enable them to make use of a victory for the purposes of a trade advertisement. In some cases the principal member of the firm has not joined the club, but has substituted a subordinate, and, in spite of the rule properly passed by some clubs to the effect that the car of each competing member must be his own personal property, the firm's special car has been trotted out, to the discomfiture and chagrin of the private members taking part; not only this, but in some instances one of the professional drivers of the firm has driven the car in the club competition, posing, I assume, as the member's driver.

Undue credit is given in these events to the fastest time, and what

own personal property. Secondly, either bar all members connected directly or indirectly with the trade from competing, or, as an alternative confine the entries for each club event to members residing within, say, twenty-five miles from the club's headquarters, or actually resident in the county. The latter rule might place some of the private members under the ban, but this would be a case of the smaller suffering for the benefit of the greater.

Anyone studying the list of results of club events during the past year will immediately appreciate how necessary it is that something should be done. The result would be an increased interest on the part of members in club events and keener racing. A better feeling would prevail and a more appreciative interest in the club's welfare would follow, whilst the only sufferers would be those members of the trade to whom the law of fairness counts nothing, but whose actions are based, not upon the spirit, but the strict letter of the law.—Yours truly,

CHAS. JARROTT.

REAR LIGHTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Being a constant reader of your valued paper, I take the opportunity of asking you for a little advice. I was entering a town in Lancashire recently, and intended to stop at the hotel there. About

ten yards before reaching the hotel I heard a police whistle go, and when I pulled up a sergeant and constable approached and informed me that my rear lamp was out. I was not aware of the fact, and told them so.

He stepped to the back of the car and said the lamp was cold, thereby inferring that the lamp had been out a considerable time. After giving all particulars I resumed my journey. The result is a summons. Now I should like to know if the magistrates have the power to endorse my licence for this offence, as I have got the idea that they cannot do so. I should be pleased if you will furnish me with the above information.—Yours truly,

MOTOR MECHANIC.

[We deal with this point in our "Comments" on another page.]

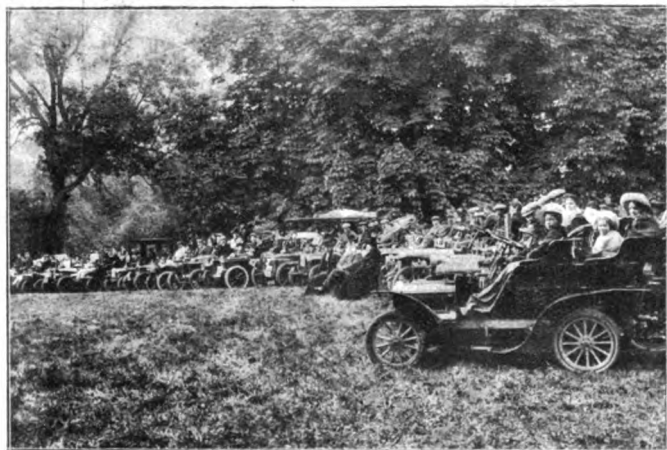
RACING AT BROOKLANDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have seen photographs in the papers this week showing the condition of the wheel of the Napier car which succeeded in getting over the finishing line first in the race in which Mr. Hermon was unfortunately killed. As most of the spokes are out it is to my mind a marvel that the whole thing did not collapse entirely prior to the finish of the race, when being driven at such a high speed. Surely if the Napier driver had no regard for his own neck, in common fairness to the other competitors he should have stopped.

I should like to ask what would have happened had the wheel in question collapsed entirely prior to the finish. The probability would have been that half-a-dozen cars would have been smashed up. This form of reckless driving ought not to be allowed where lives of other men are jeopardised.—Yours truly,

SPECTATOR.



Probably the Motor-car has never served a more worthy purpose than when Messrs. Argylls Hull, Ltd., inaugurated a Motor Outing for the Crippled Children of Hull. A fleet of twenty-one cars, mostly "Argylls," as shown in the photograph reproduced above, conveyed the children into the country, where a delightful day was spent.

TYRE TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been very interested in reading the correspondence appearing under above heading, and have noted the unfortunate experiences of "Galen" as detailed by him in the last week's issue. "Galen" raises the question of the heating which takes place in motor covers in a very interesting way, but I think that this question is very much misunderstood. Many motorists consider that heating takes place as the result of road friction. This is not so, the chief cause of heating being due to the friction of the strands of which the canvas fabric of the tyre is composed. Another cause is that, owing to the work which is done by the air inside the tube, it of necessity gets hot during a run. It is common knowledge that a skilful blacksmith by hammering a piece of iron on an anvil can make it a dull red heat, and when one considers the number of concussions or shocks which have to be absorbed by the air in a motor tube, it is not surprising that a very great amount of heat is generated from this source.

I think that the fact that heat is principally generated inside the tyre can be fairly well established, and it is undoubtedly a very great cause of damage to covers. The leather non-skid band which completely envelops the cover prevents the radiation of the internally generated heat, and consequently, during a non-stop run of say thirty to fifty miles, allows the cover to get much hotter than anything which is made of extremely perishable substance, as canvas and rubber, should. Non-skids are undoubtedly a necessity, and a type should be chosen much the same as one with which the writer's firm is identified, consisting of studs

built into a rubber and canvas fabric on the tread of the tyre. A non-skid on these lines, instead of tending to heat the cover, really makes it much cooler than the ordinary tyre owing to the fact that the shanks of the rivets penetrate right into the body of the cover and absorbing the heat there radiate it from their outer surfaces. Leather bands are very successful in certain cases, such as one in which it is advisable not to subject a cover to further vulcanisation, but there is no doubt that, owing to the leather being a non-conductor of heat, many instances such as that described by "Galen" are caused. It is rather difficult to say that is the cause of the trouble he has experienced, as from his description it is quite possible that the cover was improperly fitted. It is impossible for a tube which has only been run two miles, and is brand new, to burst with ordinary use in the manner described.—Yours truly,

GEORGE A. ROBERTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to "Galen's" letter in your issue of 21st inst., I have had two bursts and one blow out inside of a week when using studded covers. I sent the tyres to be re-treaded and repaired by the Acme Rubber and Tyre Company, in Glasgow, putting them on with flaked graphite instead of using French chalk. I have had them on for about fifteen days, and have travelled 1,265 miles over some of the worst roads in Scotland, viz., Glenshee, Braemar and Grampians. I would suggest that for his size of tyre your correspondent should use a band separate from the cover on the rear wheels. I am in no way connected with any tyre firm, but will write you later as to the actual mileage run on these two tyres when they are unserviceable.—Yours truly,

GRAPHITE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to Mr. Bishop's inquiry in a recent issue of the *M.C.J.* there are several makes of American single tube tyres that will permit of being driven deflated for some distance, but, on account of the method of repair not being popular in this country, they are seldom used here. The "Goodrich," "Goodyear," and "Collier" (old pattern), are types that your correspondent might investigate with advantage. To fill the tyre with any composition, either solid or semi-solid, will of course render it heavy and decrease the speed and resiliency, besides the risk of having flat places develop, if the tyre is left standing long with a weight on it. The wear and tear on the tread would also be greater than with an air-filled chamber. "Miraculum" appears to be a good thing; this is a liquid which is claimed to stop risk of punctures, and probably some of this injected in a good strong single tube tyre might suit Mr. Bishop. A larger diameter tyre would also help matters a lot, if there is room for it. In any case an 80 mm. tyre can be fitted instead of the 75 mm. on the same rim.—Yours truly,

C. A. E.

MAGISTERIAL TREATMENT OF A MOTORIST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you kindly allow me through your valuable paper to state the disgraceful way I have been treated? On Monday last, at Enfield, I was summoned for driving my car without a front light. It had just gone out when I was stopped. I was sentenced to pay a fine of 26s. I had not the money with me. I was put in the cells for seven hours along with a lot of prisoners, some of whom were absolutely dirty, waiting to go to prison for twenty-one days. Through the kindness of our inspector, Mr. Twigg, I was allowed twenty-one days in which to pay my fine. I may say I have had eleven years' experience and have not a single accident recorded against me. The magistrates have made my licence very nearly useless through endorsements. I think that something ought to be done for our protection, for the police seem to do as they like with us.—Yours truly,

A MOTORIST.

MOTOR BODY DESIGN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have been much interested in the reports of the meeting of the Institute of British Carriage Manufacturers. Though we are carriage builders ourselves, we are not members of the Institute, and therefore are unable to take any part in the proceedings. We notice that Sir William Angus is very hopeful that motor-cars will receive a set-back in favour of horse-drawn carriages, because the motor-car could not meet the desire of ladies for elegance and for possibilities of display. Doubtless Sir William is quite right in supposing that some sort of town carriage which will have an extremely elegant appearance, and which will permit of ladies driving in them, dressed in the same fashionable manner as when they drive in their victorias, is an absolute necessity, but we think he is quite wrong in supposing that the motor-car manufacturers cannot adapt themselves to this need. In our opinion they will certainly produce the type of carriage required as the necessity for it becomes more obvious. As a matter of fact we ourselves have built victorias which are, as nearly as possible, copies of the horse drawn victorias. Our own type of chassis is peculiarly suitable for

this kind of body, as we are able to get the body completely within the wheels and give the same convenience for getting in and out as was obtained with the horse-drawn carriage.

We at the present moment have in hand a 30-h.p. car fitted with a victoria body, and this is not for a lady, but for a gentleman who happens to prefer that type of carriage, but it scarcely seems that there can ever be much market for very powerful and consequently very expensive cars fitted with bodies which are only suitable for a rather limited amount of work. The victoria is undoubtedly an ideal carriage for park use, for afternoon runs out into the country, for paying calls and for the general purposes for which a lady usually requires her carriage, but it is very doubtful whether anyone would choose it for touring. In our opinion something like 20-h.p. is the correct power for such a car. It is then light and easy to handle, the upkeep is cheap, and the car can be turned out at a reasonable figure, even with the very highest class finish and the most elegant body work. It then becomes quite possible for owners of moderate wealth to have, beside their big all-round touring car, a couple of small cars, one a landaulet and the other a victoria, so that they are fully equipped for all types of driving, just as was usual in the days of the horse carriage.—Yours truly,

J. C. MORT, Director.
New Engine (Motor) Co., Ltd.

COIL TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Our attention has been drawn to a letter over the signature T. Beverley in your impression of September 7th, in which your correspondent states that he has had trouble owing to the points pitting, &c. In your footnote you give him some practical advice, but apparently you are unacquainted with the existence of this company, which has been formed in this country for the purpose of selling the productions of the Société d'Electricité Nilmelior, lately known as Messrs. Basse-Michel.

If Mr. Beverley will send his coil to us, we shall be only too pleased to examine same, and let him know where the trouble lies. Until we have examined the coil, we would prefer to make no further comment beyond stating that as far as we can ascertain the particular coil referred to would be manufactured somewhere about four years ago, and doubtless in that time it has passed through various hands. Incidentally, we might mention that up to the present the Société has manufactured some 635,000 coils, and may therefore claim to know something of the subject, and to be in a position to turn out nothing but first-class work.—Yours truly,

NILMELIOR (ENGLAND) LTD.

WHY MOTORS LOSE POWER.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice from time to time that correspondents write complaining of loss of power in their engines. As a motor driver I am surprised that the majority of cars show as much power as they do. You meet motor drivers occasionally who take a pride in keeping the power of their engines up to where it ought to be, but by far the greater class seem to be thoroughly satisfied if the car runs at all. There are three great causes for loss of power in a petrol motor. Probably the most serious offender is the lack of compression. The valves should be carefully ground in and care should be taken that there are no leaks either around the sparking plugs or the valve caps. The ignition is also usually carelessly taken care of, and it is a fact that the intensity of the electric spark is a most important factor if the motor is to develop its full power. A third and last cause is improper mixture of the petrol and air; or, in other words, the carburettor should be properly adjusted. There are, of course, several factors that enter into each of the above three general causes, but it can be taken as an axiom that when the compression, the electric system, and the carburettor are all in proper condition, the motor will show up its full power.—Yours truly,

OLD HAND.

WHEELS FOR MOTOR-CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of the 7th inst. there is a letter from Mr. O. Cook, advertising to one from us in the *M.C.J.* issue of the 31st ult. The various advantages which Mr. Cook demands in a new tyre, viz., unpuncturability, reasonable cost, non-skidding without destruction of roads, no necessity to carry spares, all these and more are conferred by the "K.T." tyre. Mr. Cook states that "where there is an air cushion on the edge of the wheel there must be a tendency to roll, which is an important factor to side-slips." I would point out to Mr. Cook that the question of rolling depends even more on the balance and height from the ground of a chassis and its body than on the tyres, but that, in any case, a vehicle shod with pneumatic tyres on the periphery of the rim rolls less than a vehicle with any other method of tyreing; that a vehicle with steel wheels propelled on the road at any pace above twenty miles an hour becomes almost unmanageable from rolling; that an ordinary solid rubber-tyred vehicle at thirty miles an hour is a positive danger from this cause; and that on any decently designed car fitted with pneumatics, there should be no tendency whatever to roll at any speed

below forty miles an hour, which I think all fair-minded men will agree is quite a sufficient speed for use on our present day roads.

It is a fact so well known to engineers that the only correct place to absorb vibration is on the outer circumference of the wheel, and that the only conceivable means of absorbing vibration as well as road shocks is to be obtained by a combination of rubber and air, that I need hardly enter into any controversy as to the merits or demerits of devices calculated to absorb the vibration at the hub instead of the outer circumference of the wheel.—Yours truly,

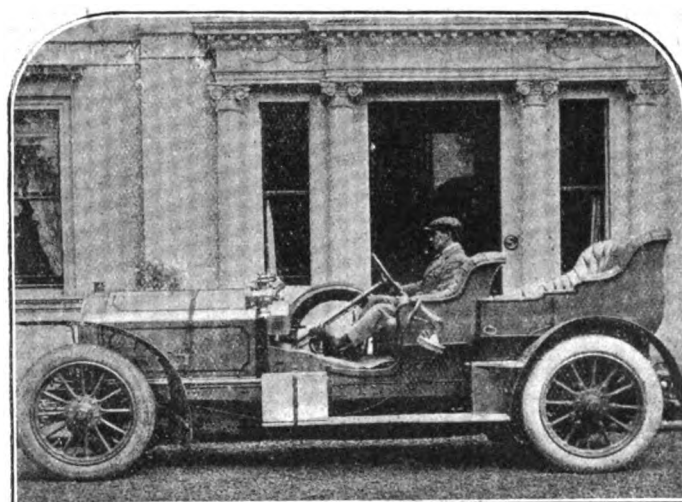
A. ERNEST GELDER.
The K.T. Syndicate, Ltd.

ARE SPEEDOMETERS USEFUL?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In view of the now general adoption of speedometers on motor-cars, it would be interesting to learn whether their use has had any effect on the way vehicles fitted with them are usually driven. The use of such instruments, of course, prevents the danger of unconsciously exceeding any given speed, and thus enables the driver who is desirous of observing the speed limit to do so. On the other hand, the driver who is trying to attain high speeds is ever attempting to urge the index of his instrument to a higher figure. It is probable, however, that the motorist who is out for speed will drive his car at its maximum rate, speedometer or no speedometer. One thing is certain, that with a car equipped with a speed-indicating device, all excuses as to ignorance of the rate at which the vehicle was travelling become invalid.—Yours truly,

BERKSHIRE.



Mr. Henry Dubs, of Cloncaird, Maybole, Ayrshire, at the wheel of the 80-h.p. De Dietrich Touring Car of which he has just taken delivery.

The car is fitted with a specially rakish side-entrance body, to hold five passengers. The rear seat is very low, so that the passengers at the back are sheltered from the wind. Equal sized wheels are fitted to take 935 by 135 tyres.

EXCESSIVE PETROL CONSUMPTION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Being a constant reader of the valuable articles in the *M.C.J.*, and advice in the past to motorists on practical points, I should esteem it a favour if you would give me some information on the following matter. I run a 6-h.p. De Dion two-seater, and find the carburettor (De Dion) consumes a terrible amount of petrol for the mixture; something like one gallon for only sixteen miles. I have adjusted the spray jet several times but this has been of no practical use.—Yours truly,

F. P.

[There must be something very much out of adjustment for this little car to consume a gallon of petrol in sixteen miles, as no less than thirty to forty miles can be got out of them for this amount. It is probable that the nose of the needle valve, either by wear or improper grinding, has worn a ridge round it, on which it sits. This will cause an undue amount to be sprayed when it lifts. The remedy is to have the nose skimmed up true, and then the length carefully readjusted by the set screw provided for regulating the same. It is possible, of course, that someone has reamed out the hole the needle valve sits on beyond the standard diameter, in which case a new jet must be obtained, as no amount of adjusting or grinding in will serve if it has been spoilt in this way. Another possibility is that the float has been punctured and let in some petrol, but in this case our correspondent would be troubled with flooding when the engine stops unless the tap is turned off.]

CLUBS AND ASSOCIATIONS.

THE AUTOMOBILE ASSOCIATION.

On Monday the inaugural dinner in connection with the Northern Offices of the Automobile Association in 30, Cross Street, Manchester, was held at the Midland Hotel, Manchester. Col. W. J. Bosworth was in the chair, supported by most of the members of the committee, who had travelled especially from London to be present, as well as by many of the leading officers of northern clubs, including Messrs. J. H. Baldwin, J.P. (chairman Halifax A.C.), W. Birtwistle (president North East Lancashire A.C.), J. Fraser (hon. sec. Manchester M.C.), A. G. Jeans (chairman Cheshire A.C.), J. A. Morris (president Manchester A.C.), J. Porter (Blackpool and Flyde A.C.), D. N. Mackay (northern manager A.A.) and Stenson Cooke (secretary).

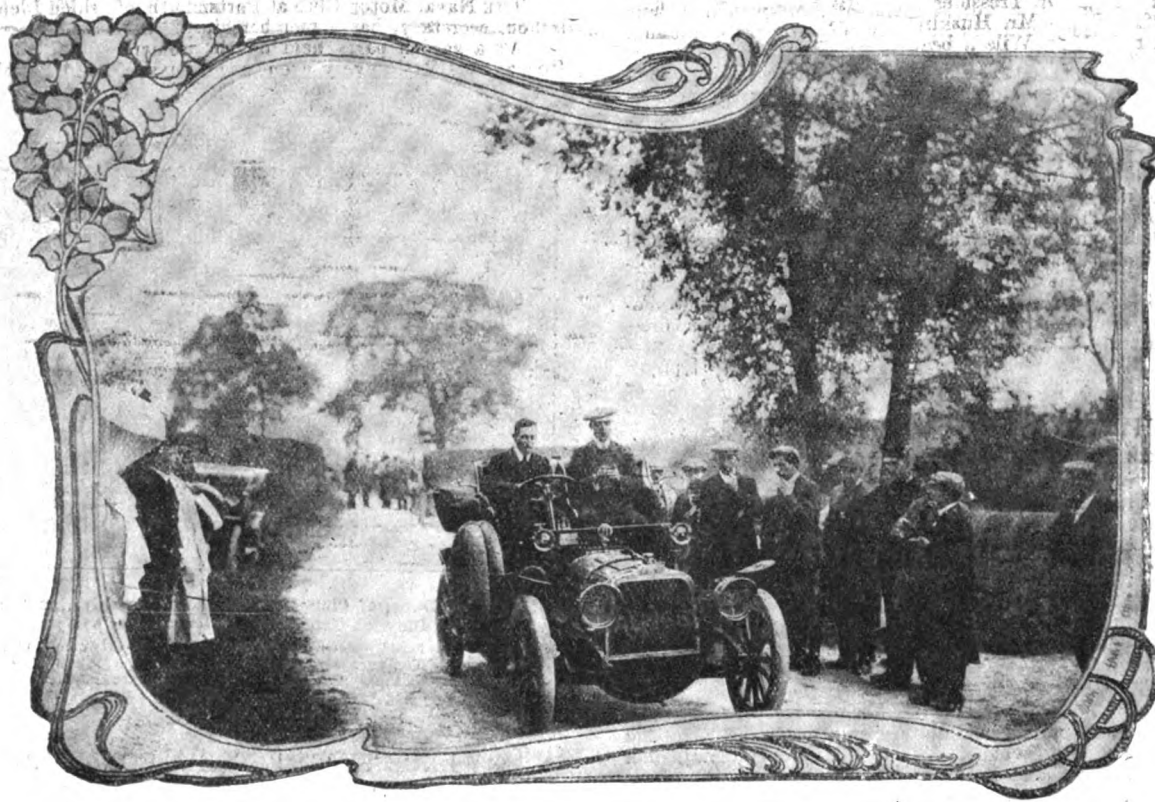
The loyal toast having been enthusiastically honoured, Mr. W. E. Rowcliffe proposed "The Automobile Association." He said the advantages to be derived from joining this body were entirely dissimilar to and the policy divergent from those of either the Motor Union or the Royal Automobile Club, and therefore there was no reason why these bodies should be in the slightest degree at variance. He regretted there should have been any misunderstanding between the Motor Union and the Automobile Association. It was, however, very gratifying that there was a prospect of a settlement of these differences in the near future. He trusted that a "modus vivendi" would be found to remove any unnecessary competition between the two associations, particularly

Robert Peacock, Chief Constable of Manchester, who was unable to be present. Last week, he said, an application was made by a gentleman to introduce a motor service to link up the Manchester suburbs, but the report of the Chief Constable and City Surveyor was unfavourable, though the same type of motor had been used by the Scotland Yard authorities.

NOTTINGHAMSHIRE.

On Saturday, the Nottinghamshire Automobile Club held a hill climbing competition at Hazlewood Hill, between Duffield and Belper. The arrangements were of the usual excellent character associated with the organisation of events by this very successful club, of which Mr. Booth Granger is hon. sec., and the hill afforded a capital venue for the trial. It has an average gradient of one in eight, being considerably steeper in some places.

The cars were divided into three classes, viz., not exceeding 15-h.p., not exceeding 30-h.p., and exceeding 30-h.p. In Class A there were two entries, in Class B eight, and Class C nine. The results were decided by the Royal A.C., on whose behalf Captain Bagnall Wild was present as handicapper. In each class there was a first prize value 2 gs., second prize of £1 1s., but the conditions prohibited the latter prizes being awarded unless there were six starters, so that these were withheld in respect of the 15-h.p. and not exceeding 30-h.p.



The Nottingham Automobile Club's Hill Climbing Competition.—Dr. Hogarth on his 12-16-h.p. Talbot, the winner of the Hardy Cup.

n view of the Parliamentary fight in motoring legislation, which in future would be far more severe than in the past.

The Chairman, Col. W. J. Bosworth, in responding, referred to the difference with the Motor Union, and said that when an invader came into their territory and collared a few of their cities he thought that could hardly in fairness be called "a holding out of the olive branch." He hoped, however, that those differences would be arranged. It was Mr. Jarrett who was the first to entertain the idea that they should have scouts on the roads. After two years' work they had succeeded in making the roads fairly comfortable round London, and now they wanted to do the same in such an industrial city as Manchester.

Mr. S. F. Edge, in proposing "The Northern Branch of the Automobile Association," said he felt the branch ought to have been formed in the early days. He emphasised the importance of covering the roads of Great Britain with scouts, who gave all motorists a certain comfort and freedom from annoyance. There was no association in which the small annual subscription of two guineas ensured more to the pleasure of the motorist. Members interested in the motor business, he added, had nothing to gain by working in such an association.

After Mr. S. Norris replied, Mr. Walter Payne proposed "The City of Manchester." Councillor H. Ross Clynes replied in the place of Mr.

cars. There was also the Hardy Challenge Cup, which is taken by the owner, for the best performance on the handicap, a miniature replica of which was provided by Mr. A. N. Lee. Dr. Hogarth, who was the organiser of the meeting, gave a prize for the fastest time.

Each car started dead from a mark. In a little over half an hour Classes A and B were run off. Then a little delay occurred through vehicular traffic. Afterwards the proceedings went on apace, and shortly after four the officials were able to announce the result of the hill-climbing competitions. Some remarkably good times were made, the best being 72.4 seconds, and the worst 185 seconds. The details were:—

Name.	Car.	R.A.C. Rating.	Time. Sec.	Rel. Eff.	Prize.
CLASS A.					
1. Victor Riley	12 h.p. Riley	12.4-h.p.	114	67.9	1st.
2. A. King	9-11-h.p. Swift	12.8-h.p.	185	40.0	—
CLASS B.					
3. Dr. R. G. Hogarth	12-16-h.p. Talbot	17.9-h.p.	115	77.0	Barred.
5. Dr. P. Tre-sider	15-h.p. Talbot	20.1-h.p.	120	72.1	1st.
7. Mr. Ross Browne	15-h.p. Mas	22.3-h.p.	128	55.4	—
8. P. Graham	24-h.p. Deasy	27.6-h.p.	99	70.3	—
10. J. Wilson	20-30-h.p. Humber	30-h.p.	117.3	47.6	—

Name.	Car.	R.A.C. Rating.	Time. Rel. Sec.	Prize.
CLASS C.				
14. P. L. Huskinson ...	30-h.p. Daimler	41-9-h.p.	77-2 67-5	1st.
12. R. M. Wright ...	28-h.p. Daimler	35-7-h.p.	100-0 81-1	2nd.
11. H. Belcher ...	30-h.p. Humber	35-7-h.p.	125-0 40-0	—
13. H. Bowden ...	35-h.p. Darracq	41-9-h.p.	108-4 41-0	—
15. Miss Hooley ...	35-h.p. Daimler	48-6-h.p.	90-8 49-6	—
16. E. W. Lewis ...	35-h.p. Deasy	48-6-h.p.	81-0 57-8	—
17. F. A. Bolton ...	45-h.p. Daimler	55-8-h.p.	72-4 54-9	—
18. C. Hardy ...	45-h.p. Daimler	55-8-h.p.	75-8 56-1	—

The Hardy Cup was won by Dr. R. G. Hogarth and the prize for fastest time by Mr. F. A. Bolton.

In class B Dr. Tressider took the first prize. Dr. Hogarth being barred in consequence of his capturing the Hardy Cup.

The most interesting races of the day were the "special heat competitions." The handicap was so framed that each car was called upon to do its best if it was to win. The cars were run in pairs, and handicapped on the time taken in the competition proper—e.g., Car A took 1 min. 30 sec. to negotiate the hill, and Car B 2 min. 30 sec., the latter had 1 min. start from Car A. Two prizes were given, the first being a silver cup by Mr. Ross Browne.

In the first round Mr. Ross Browne beat Mr. C. Hardy in the first heat. Heat 2.—Mr. Bolton beat Mr. A. King. Heat 3.—Mr. E. W. Lewis beat Mr. R. M. Wright. Heat 4.—Mr. J. C. Wilson beat Mr. P. Graham. Heat 5.—Dr. Tressider beat Miss Hooley. Heat 6.—Mr. Belcher beat Mr. Riley. Mr. Huskinson a bye.

In the second round Mr. Wilson beat Mr. Huskinson easily. Dr. Tressider beat Mr. Bolton by 50 yards. Mr. Ross Browne beat Mr. Lewis. Mr. Lewis was rapidly overhauling his opponent, and only suffered defeat by the length of the car. Mr. Belcher a bye.

The result of the ladies' driving competition was:—1st, Mrs. W. Shirley on a 6-h.p. De Dion; 2nd, Mrs. C. H. Bailey on a 28-36-h.p. Daimler.

Competitors in the "tilting at the ring" were handicapped by having the sun shining in their eyes. The result was:—1st, Mr. G. F. Mason, on his 10-12-h.p. Gladiator; 2nd, Mr. Francis Miles on a 16-20-h.p. Star; 3rd, Mr. W. Graham on his 28-36-h.p. Daimler.

The spectators got much amusement out of the glass of water race, in which the result was:—1st, Mr. R. Edwards's 18-22-h.p. Daimler (Mr. E. Thompson Willows driving); 2nd, Mr. G. F. Mason's 10-12-h.p. Gladiator; 3rd, Mr. R. W. Hunter's 10-12-h.p. Darracq.

The final motoring event was the ladies' passenger race. The result of this event was:—1st, Mr. E. Edwards's 18-22-h.p. Daimler (driver, Mr. E. Thompson Willows); 2nd, Mr. G. F. Mason's 10-12-h.p. Gladiator; 3rd, Mr. Rowland Sully's 15-h.p. Darracq. As, however, Mr. Mason had already won two prizes, the second prize was given to Mr. Sully.

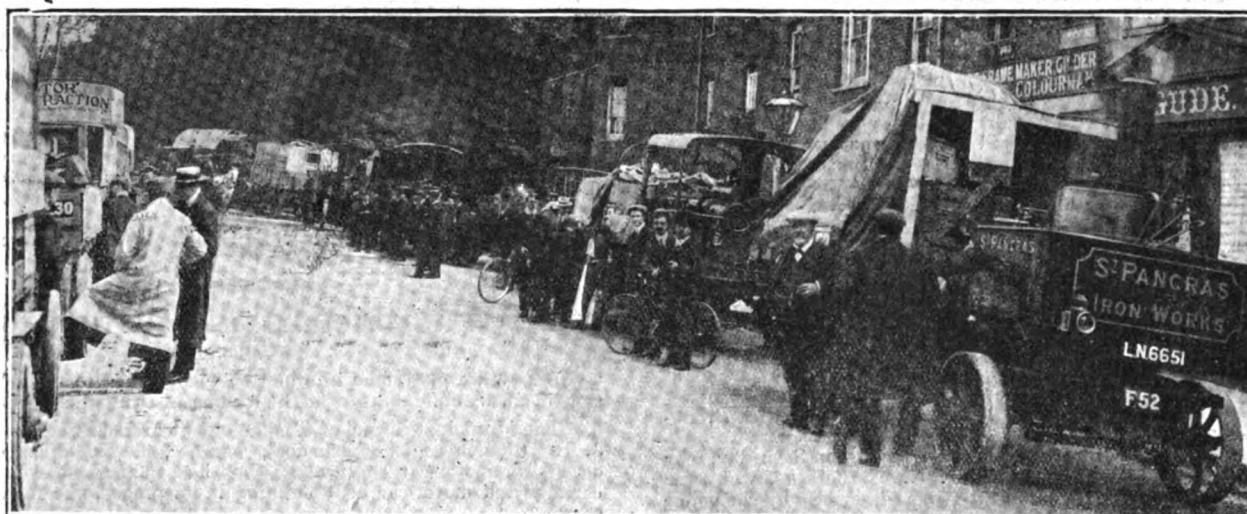
The "Motor Union Medal" for the highest aggregate of marks was won by Mr. G. F. Mason.

The arrangements were principally in the hands of the hon. secretary (Mr. J. Thompson Willows), and other officials were:—Judges, Colonel Henry Lewis and Colonel A. James; starter, Captain Lionel Lindsay; timekeepers, Principal E. H. Griffiths and Mr. Evan Lewis; and marshal, Mr. T. Butt Ekias.

THE Naval Motor Club at Portsmouth, of which Lieut. A. G. Tracy is hon. secretary, has a membership of sixty-five.

At a garden party held by the Somerset A.C. at Woodborough House, near Bath, every event has been won by a Daimler car.

ON Saturday afternoon the members of the Dublin centre of the Motor Cycle Union of Ireland held their concluding hill climbing com-



The Commercial Vehicle Trials.—A halt for Luncheon.

In the third round Mr. Belcher beat Dr. Tressider easily. Mr. Wilson beat Mr. Ross Browne. The latter gave up in the final stretch, and allowed Mr. Wilson to pass the post an easy winner.

In the final Mr. Wilson beat Mr. Belcher. Half way up the larger of the two Humbers lost ground through the engine failing to respond at a critical moment, and the smaller Humber came in a comparatively easy winner.

The officials were:—Starter, Mr. G. H. Kirk; timekeepers, Mr. C. Perry and Mr. J. H. Sothorn; clerks of the course, Mr. C. Hardy and Dr. Hogarth; marshal, Mr. A. R. Atkey; handicappers, the Competitions Committee of the Royal A.C.; hon. secretary of the meeting, Mr. Booth Granger.

SOUTH WALES.

THE motoring and polo gymkhana which was organised jointly by the South Wales Automobile Club and the Cardiff and County Polo Club was held with great success at the polo ground, Whitechurch, on Saturday, when nineteen motor-cars were entered for the various events.

In the obstacle race the fastest time was made by Mr. E. Thompson Willows, driving Mr. E. Edwards's 18-22-h.p. Daimler. However, he displaced two of the hat-boxes, and Captain Hughes-Morgan, whose 40-h.p. Daimler did quick time, was also unfortunate in the same way. The quickest time by a car which kept within the course all the way was by Mr. Rowland Sully's 15-h.p. Darracq, with Mr. Sully at the steering-wheel. The result according to the handicap was thus:—1st, Mr. V. E. Brukewich's 15-h.p. Itala; 2nd, Mr. W. Graham's 28-36-h.p. Daimler; 3rd, Mr. G. F. Mason's 10-12-h.p. Gladiator.

petition of the season at the Sugarloaf Hill, in Co. Wicklow. In both classes the fastest time was made by Mr. Seaton Findlater on an 8-h.p. twin-cylinder J.A.P. machine, and his best time, 2 min. 33 4-5 sec., constituted a record for the hill.

THE 150-miles reliability trial for the Agnes Wood Trophy is being organised by the Junior A.C. for to-day (Saturday). The start and finish will be within twenty miles of London.

MR. C. R. GARRARD'S 15-h.p. Clement, which obtained the highest figure of merit, viz., 97-95 at the Caerphilly hill climb of the Cardiff M.C., was awarded the silver cup at that meeting—not the car of Mr. T. H. Woollen, as originally recorded. The Clement-Talbot cars which won Class 2, Class 3, and Class 4 on the formula at that meet also did the fastest time in those classes and secured record figures of merit, namely, 97-95, 84-41, 83-44.

THE MOTOR UNION.

THE Motor Union has decided to support and to make a grant towards the costs of the appeal by Sir Henry Norman, M.P., against a conviction by the Guildford bench of magistrates for driving to the common danger. Sir Henry was timed over a measured stretch of road near Godalming, and was summoned for the offence mentioned above, the alleged speed being thirty miles per hour. In evidence it was elicited (1) that the sergeant who worked the arrangement did not know into what fractions of a second his stop-watch dial was divided; and (2) that there was no vehicle or person of any kind whatever on the road. There is a clear view of the road, which is wide. The constable signalled by "unbuttoning his coat and showing his white waistcoat." The Bench imposed a fine of £3 without cost.

CASES UNDER THE MOTOR CAR ACT.

A DUTCHMAN'S NESCIENCE.

Morie Maas, described as a Dutch merchant, of the Castle Hotel, Richmond, was brought under a warrant before Mr. Francis, at Westminster Police Court, charged with driving a motor-car without a licence, and with failing to stop after a collision. Richard White, a cabdriver, said that on the 4th inst. the defendant was in collision with him at Knightsbridge, smashing three spokes, a wheel, and one lamp of the cab. The witness shouted to him to stop but he did not. Henry Woodhams, chauffeur to the defendant, said that the latter was driving at the time of the collision, for which the witness thought the cabman to blame. Mr. Maas was licensed to drive in Holland, and was not aware that he could not do so in England. Mr. Francis imposed a fine of £10 for driving without a licence, and £20 for not stopping. Two cabmen had been obliged to attend the court three times, and he allowed them 30s. each, which the defendant would also have to pay.

DANGEROUS DRIVING AND EXCEEDING THE SPEED LIMIT.

At the Horsham Petty Sessions, P. A. Rubens was summoned on Saturday for driving a motor-car to the danger of the public at Crawley on the 7th inst. Sergeant Bristow stated that on the Saturday afternoon in question he was timing motor-cars on the London road at 4.40 and timed the car in question, the speed over the measured quarter of a mile being at the rate of thirty miles an hour. Just before entering upon the quarter of a mile defendant passed a danger signal; he then came round a dangerous bend at the Sun Inn, and met a car coming in the opposite direction, a road joining the main road at right angles near the spot. Defendant, sworn, said he was going from Ascot to Turners Hill, and at an even pace of about fifteen or sixteen miles an hour. The Bench decided to convict for driving to the danger of the public. There was a further summons for exceeding the speed limit on the same occasion, and defendant was fined in each case £5 and costs.

At the Retford Borough Police Court, last week, Edward Speranza, of Teddington, was charged with exceeding the twenty miles per hour speed limit at Retford on the 1st inst. Evidence was given by Inspector Meakin, who estimated the speed at which defendant drove his car from the Great Northern Railway bridge to the Whinney Lane corner, on the Great North Road, at from thirty to thirty-five miles per hour. In cross-examination witness admitted that he did not use a stop-watch, and could only estimate the speed by his observation of the car for a distance of 300 yards. A fine of £5 was inflicted. A fine of the same amount was inflicted on a chauffeur from Eltham who exceeded the ten miles speed limit in the town.

Amongst a batch of motorists summoned at the Hove County Bench recently for driving at excessive speed on the Brighton road, at Pyecombe, was Mr. P. W. Paddon, of Albemarle Street, London, who was said to be travelling at the rate of thirty-seven miles per hour. Defendant pleaded guilty, but urged in mitigation of the fine "that the car was on Saturday last involved in a terrible tragedy in which his partner had been killed." The magistrates, remarking that they could not listen to sentiment, imposed a fine of £5 and costs. The partner alluded to was Mr. Vincent Hermon, who was fatally injured at Brooklands.

At the Spittlegate (Grantham) Petty Sessions, on Saturday, four cases against motorists were heard. Mr. G. G. Fellows, who was summoned for driving at a dangerous rate, was described by the police as a "thorough gentleman," he thought the constable the "nicest policeman he had ever met," and was only fined 20s. and costs. Another motorist who did not agree with the police estimate of speed was fined £2.

THE PRODUCTION OF THE LICENCE.

Lieut. Keating, of the Grenadier Guards, Wellington Barracks, London, has been summoned for failing to produce his licence for endorsement within a reasonable time after conviction at the Kingston Court, and a letter having been read by the chairman from defendant's solicitor regretting the oversight and explaining that the defendant was away on manoeuvres, the summons was dismissed on payment of costs.

HEAVY HAULS.

At Lancaster, on Saturday, three motorists were fined £15 and costs for exceeding the legal limit, and at the Carlisle Court the fines and costs in four cases against motorists aggregated £26. Five motorists have been fined at the Midhurst Petty Sessions, four at Surbiton, and seven at Kingston—all on one day.

In a Sussex Court, on Monday, eight motorists were fined sums ranging from £2 to £10 for exceeding the legal limit.

On Monday, at the Haywards Heath Petty Sessions, seven motorists were proceeded against by P. S. Waghorn and fined various sums, aggregating £29 and costs. On the same day fourteen summonses were heard by the Arundel county and borough magistrates, and fines of £8 imposed, with costs.

THE Continental Tyre Company, owing to the great demand for their goods in Birmingham and district, are opening a depot in that city. Suitable premises have been acquired at 256, Corporation Street, and in two or three days the branch will be opened under the management of Mr. E. P. Coulter. A large and varied stock will be held, and customers will no doubt appreciate the fact that delivery will be obtainable much quicker than when ordering from London.

RACING AT BROOKLANDS.

ANOTHER race meeting has been arranged by the Brooklands A.R.C. for the 12th prox., entries for which close on the 3rd prox. The events to be run are as follows:—

THE SECOND 26-H.P. RACE OF 150 SOVS.—For cars propelled by means of internal combustion engines only, of a cylinder dimension of 64 or under. Weight 2,000 lbs. Distance about 2½ miles.

THE SECOND 40-H.P. RACE OF 150 SOVS.—For cars propelled by means of internal combustion engines only, of a cylinder dimension of 100 or under. Weight 2,500 lbs. Distance about 2½ miles.

THE SECOND 60-H.P. RACE OF 150 SOVS.—For cars propelled by means of internal combustion engines only, of a cylinder dimension of 150 or under. Weight 2,700 lbs. Distance about 3½ miles.

THE SECOND 90-H.P. RACE OF 150 SOVS.—For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 225 or under. Weight 3,000 lbs. Distance about 2½ miles.

THE MEDIUM HANDICAP SWEEPSTAKES OF 10 SOVS. FOR ACCEPTORS.—For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 104 to under 122. Weight 1,700 lbs. Distance about 5 miles. Entrance: 10 sovs., of which 5 sovs. will be returned to those declaring forfeit within 48 hours after publication of the handicap.

THE OCTOBER HANDICAP SWEEPSTAKES OF 10 SOVS. FOR ACCEPTORS.—For motor-cars propelled by means of internal combustion engines only, of a cylinder dimension of 150 or over. Weight 2,900 lbs. Distance about 5½ miles.

The entrance fee for the first four events is 7½ sovs. p.p., and the entrants of the winners will receive 100 sovs.; the entrants of the second, 40 sovs., and the entrants of the third, 10 sovs. The entrance for the handicaps is 10 sovs.

The executive of the Brooklands Automobile Racing Club make a point of measuring the cylinders of various cars entered for races at the conclusion of every meeting, in order to verify the dimensions given by entrants on their entry forms. The selection of such cars is entirely haphazard, and at the conclusion of the race meeting on the 14th inst. (reported in our last issue), the following cars were officially measured:—

In the first 26-h.p. race, Mr. O. Copper's 25.6 Metallurgique, bore 3.997 in.; Mr. E. A. Rosenheim's 25.6 Arrol-Johnston, bore 3.999 in.

In the first 40-h.p. race, Lt.-Col. C. D. Carleton-Smith's 38.4 Napier, bore 4 in. (six cylinders); Mr. A. Huntley-Walker's 35.7 Darracq, bore 4.727 in.

In the first 90-h.p. race, Mr. E. G. Drabble's 75.9 Mercedes, bore 6.87 in.

AUTOMOBILE INSTRUCTION.

BELOW we give some information with regard to technical instruction in automobile matters at the leading institutes in the country:—

The Municipal School of Technology at Manchester, of which Mr. J. H. Reynolds is the Principal, has not, as yet, arranged for any classes in motor-car engineering, but has included a course of road carriage and motor-car body building in its programme for the coming season.

At Leeds, the Higher Education Department is organising a course of lectures on motor-car engineering at the technical school by Mr. J. C. Bennett Mitchell. The course will follow the syllabus of motor-car engineering issued by the City and Guilds of London Institute.

An extended prospectus of the day and evening classes in motor-car engineering at the City of Bradford Technical College has been issued by Professor G. F. Charnock, the head of the department.

The Northampton Polytechnic Institute, St. John Street, Clerkenwell, E.C., was among the first of the London educational institutes to include the motor-car in its syllabus, and automobiles are again in the curriculum for the coming season. Lectures, laboratory work and drawing and design will be included in the course of instruction under Mr. C. E. Larard, assisted by Mr. D. G. Snodgrass.

Classes for instruction in petrol motors will be held at the Borough Polytechnic Institute, 103, Borough Road, S.E. Mr. A. Marsden is the instructor, assisted by Mr. W. Hill. This course is intended as a complete course for motor repairers, drivers, and amateurs driving their own cars.

Day and evening courses of instruction for motor-car engineers, mechanics, drivers and others are being held at the Polytechnic, 307-311, Regent Street, London, W., under the direction of Mr. H. J. Spooner. The equipment of the workshops includes a 10-h.p. two-cylinder Daimler motor. Messrs. J. S. Mathias and J. Johnson are the instructors in driving.

The Polytechnic Road Carriage and Motor Body Building Schools are in Balferton Street, Oxford Street, W., under the direction of Mr. Ernest Bailey. A special course of evening instruction is being given in road carriage building and motor body building.

Monday morning the classes in motor-car engineering at Battersea Polytechnic, Battersea Park Road, London, S.W., will commence as well as the lessons in driving, which have been a feature of the instruction offered at this institution hitherto.

THE MOTOR CYCLISTS' CONFERENCE.

At the Guildhall at Lincoln, on Saturday, the 21st inst., a conference of motor-cyclists was held, when there was a large attendance of motor-cyclists from all parts of the country. Mr. R. Todd (chairman of the Auto-cycle Club) presided. The Deputy Mayor of the city (Councillor A. C. Newsum) welcomed the delegates to the city. The City Sheriff (Dr. E. Mansel Symson) explained the Corporation regalia, and at the close of this a vote of thanks was accorded to the Deputy Mayor and the Sheriff for their welcome to the city, on the proposition of Mr. R. Todd (the chairman), seconded by Mr. A. W. Foster (chairman of the Lincolnshire Motor-cycle Club).

The first business on the agenda was a resolution from the Newcastle and District Motor Cycle Club, to the effect "that the time has now arrived when the Auto-Cycle Club should reconsider its position with respect to the support of motor-cycling; considering the altered circumstances, so as to further encourage the affiliation of provincial clubs, and enhance the sport of motor-cycling." There were several other resolutions on the agenda, and a lengthy discussion took place on the matter, several speakers expressing the feeling that the Auto-Cycle Club had neglected the interests of the motor-cyclists in favour of car owners. The combination of the Auto-Cycle Club and the Motor Union was described as unnecessary, and the opinion was expressed that one organisation should suffice for motor-cyclists. Ultimately the following resolution, proposed by Mr. G. J. Wilkinson and seconded by Mr. Bates (Newcastle) was carried:—"That the Auto-Cycle Club be reconstructed, and form an Auto-Cycle Union, composed of affiliated clubs, which shall control all local matters, the clubs being represented on the Auto-Cycle Union Council on the basis of one for each twenty-five members, or proportion thereof, the council to control the sport and safeguard the interests of motor-cyclists."

The Conference further agreed to the election of a committee of nine to meet and confer with the Council of the Auto-Cycle Club on matters of detail. In the afternoon a meeting of the Council of the Auto-Cycle Club was held, also in the Guildhall. There was a long discussion, and in reply to questions Mr. Rees Jeffreys defended the action of the Motor Union, quoting figures regarding the benefits received by motor-cyclists in response for the money paid by them. He gave statistics to show that only £150 was received by the Union from motor-cyclists, whereas quite £300 was spent on their behalf. Eventually the following proposition of Mr. G. J. Wilkinson, seconded by Mr. McCardie, was agreed to *nem. con.*:—"That the resolution of Mr. Wilkinson from the Conference held this morning be approved in principle, and that it be referred to the General Committee to meet the Committee appointed at the Conference, and discuss the best means of carrying such resolution into effect, and to report to a special meeting of the Council as soon as practicable."

A dinner in connection with the conference and council meeting was held in the evening at the Hotel Central, when Mr. A. W. Foster (chairman of the Lincolnshire M.C.C.) presided, and the vice-chair was occupied by Dr. Godfrey Lowe (vice-chairman of the Lincolnshire M.C.C.) After the loyal toasts, Dr. Lowe proposed the toast of "Our Motor Organisations."

Mr. R. Todd (Chairman of the A.C.C.) responded on behalf of the Royal A.C., and said that the A.C.C. and the Motor Union had got on smoothly and comfortably together. In some respects the interests of car owners and motor-cyclists were separate, but in nine cases out of ten they were practically the same.

Mr. Rees Jeffreys also responded and asserted that the work in which the Motor Union was engaged was of an enduring nature, and one which those who followed would approve and ratify. The work was one which was benefiting the motoring movement. He was perfectly convinced the future had nothing but happiness and prosperity for the Motor Union so long as it continued on its present lines, with one single aim—to improve and advance all motor industries of the country. Mr. F. Straight (secretary of the A.C.C.) offered a third response to the toast, and thought the result of the meetings that day would be beneficial to motor-cyclists generally.

Mr. R. Todd submitted the toast of "The Lincolnshire Motor Cycle Club." The response came from Mr. A. W. Foster, who paid a tribute to the energy of the secretary. It was a year the previous day since they became an established club, and he thought they could pat themselves on the back a little for having brought a club together of 250 members. Mr. G. J. Wilkinson (the secretary) also responded, and said they were very much honoured by the esteem in which the Lincolnshire Motor Cycle Club was held throughout the country.

The next toast was that of "The Visiting Clubs," and this was proposed by Mr. Wilkinson, who remarked that that day they set out on a new era, and saw their cause much strengthened.—Replying, Mr. J. H. Hall, of Sheffield, said they were all feeling delighted with themselves that they had gone that day a good many steps further up the ladder. The Press were toasted at the initiation of Mr. C. A. Smith. Dr. Godfrey Lowe gave "Our Visitors," and Mr. J. Van Hooydonk replied.

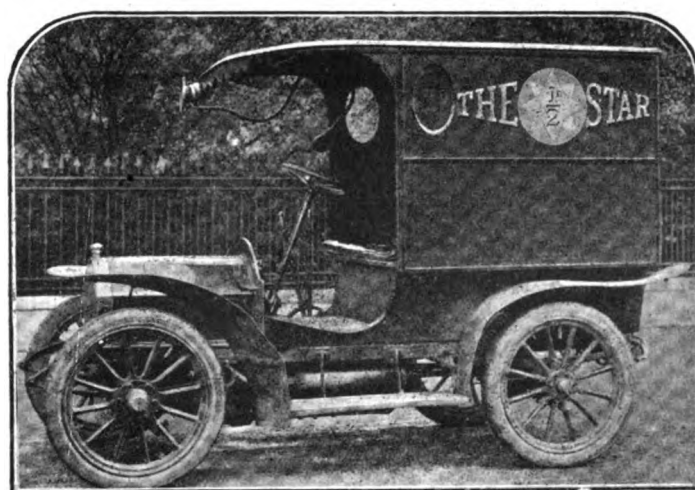
A NEW preparation known as Motoflor, for giving a pleasant odour to the exhaust of petrol cars, is being put on the market by Messrs. Regidor and Doumin, of 40, Trinity Square, London, E.C. It is added to the petrol in the proportion of 2 oz. to 5 gallons, and is claimed to in no way alter the nature of the spirit.

GYMKHANA AT ROSS.

LAST week we briefly mentioned the motor-car gymkhana held on the ground of the Ross Golf Club, and which was a great success. It should result in a substantial reward to the Golf Club, which undertook the organisation. There were 133 entries, and Mr. T. H. Coombes, the secretary, is to be congratulated on the way in which the event was organised. The first in each contest were as follows:—Ladies' Passenger Race, Mr. S. Pardoe (15-h.p. Panhard); the Academy Stakes, Mr. C. L. Llewellyn, jun. (10-12-h.p. Humber); Tilting at the Ring, Miss M. A. Webb (10-12-h.p. Humber); Lofting and Putting Race, Mr. C. L. Llewellyn, jun. (10-12-h.p. Humber); Tortoise or Slow Race, for mechanics, J. Campbell (12-16-h.p. Albion); Blindfold Race, Mrs. Dudley Beaumont (12-h.p. Gladiator); Musical Chairs, Dr. Cutfield (12-h.p. Siddeley).

OBSTRUCTING MOTORISTS.

At Highgate Police Court, Theodore Lehmann, of Queen's Avenue, Muswell Hill, and John Ardite, of Porchester Gardens, Bayswater, were charged with failing to keep on the left or near side of the road at Whetstone, thereby obstructing the traffic. P.C. Overall, 56 SR, stated that the defendants obstructed a motor-car for over fifty yards. Mr. Lehmann asked that he might be allowed to take the whole responsibility, as his friend, a Frenchman, could not ride very well, and entrusted himself solely to his guidance. He knew that he had committed an offence, and when the gentleman in the car stopped and told him so, he apologised, and the gentleman accepted the apology. Mr. Merton Jones, solicitor, said he was the motorist. It was quite true that Mr. Lehmann apologised. Sir Alfred Reynolds: The police constantly receive complaints from motorists and others of obstruction on the Great North Road, and it is their duty to take action. However, in this case



The Uno 10-12 h.p. Van No. 6, Class A, which is taking part in the Commercial Vehicle Trials.

defendants have erred unwittingly, and justice will be met by the payment of costs in each case.

ROAD REPORTS.

EXETER.—As far as is possible Mr. T. Moulding, the city engineer and surveyor of Exeter, endeavours to keep the roads over which he has jurisdiction useable by motor-cars when they are under repair. Local motorists appreciate this regard for the convenience of users of the road.

WORCESTER.—The county steam-roller has been at work on the Worcester and Alcester road and repairing will be in progress for some time.

ALVECHURCH.—It is noticed that the main Birmingham road through Alvechurch is crumbling, and that the surfaces of the bye-roads are also in a very loose condition.

SPEED LIMIT APPLICATIONS.—In several places the local authorities are urging County Councils to apply for the limitation of the speed of motor-cars to ten miles an hour, notably Slough, Guisborough, and Kingswood.

PETWORTH.—The Petworth Parish Council have had erected at the entrances to the town boards with notices urging motorists to drive their cars slowly.

SEAFOORD.—The Lewes-Seafoord road is inadequate to modern traffic both as regards width and surface, while its extraordinary contortions are the gibe of the travelling public. The number of motoring visitors to Seafoord has grown during the past few years to a remarkable extent while people taking their automobiles to the Continent over the Newhaven-Dieppe route are ever on the increase. The Newhaven Rural District Council have just expressed the opinion that the road should be improved, and suggested that the County Council should make extra grants for the purpose.

FORTHCOMING EVENTS.

SEPTEMBER.

- 28th (S.).—Ipswich and East Suffolk A.C. petrol consumption trial.
Midland A.C. at Tudor Grange, Solihull.
Birmingham M.C.C. run to Feckenham.
- 29th (Su.).—Run of the Southend and District M.C. to Bishop's Stortford.
Cardiff M.C. run to Cowbridge.
East Surrey A.C. run to Midhurst.
Lincolnshire A.C. meet at Grimsby.
Western District M.C. run to Ewell.
- 31st (M.).—Chatham M.C. run to Port Victoria.
Commercial Vehicle Exhibition at Leeds.

OCTOBER.

- 3rd (Th.).—Brooklands A.R.C. entries close.
Speed judging competition of the West Essex A.C.
- 12th (S.).—Close of the Commercial Vehicle Trials. Final run from Baldock to Dalston, London, N.
Southend M.C. closing run of the season to Witham.
Brooklands A.R.C. meeting.
- 17th (Th.).—Demonstration of Commercial Motor Vehicles in Glasgow, under the direction of the Commercial Vehicles and Industrial Committee of the Scottish A.C.
- 19th (S.).—Auto-Cycle Club's quarterly trial.

NOVEMBER.

- 13th (W.).—Annual Dinner of the Motor Union.

MARCH, 1908.

- 21st-29th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Sept. 28th—6.46	Sept. 30th—6.41	Oct. 2nd—5.32	—	4th—5.28
" 29th—6.43	Oct. 1st—6.39	" 3rd—5.30	—	5th—5.26

COMPANY NEWS.

NEW COMPANIES REGISTERED.

DIVISIBLE RIM AND MOTOR TYRE SYNDICATE.—£2,000. To acquire a patent belonging to Mr. T. Dunn, and to carry on business indicated by title. No initial public issue. Registered without articles.

INTERNATIONAL MOTOR TRAFFIC SYNDICATE.—£100. 14-15, Bedford Chambers, Covent Garden, W.C.

SELBACH INDUSTRIAL MOTORS.—£10,000. First directors: Messrs. O. C. Selbach (managing director), G. M. Gibson, N. M. Lawrance, L. P. Piellat, and S. B. Saunders. Bush Lane House, E.C.

LANGDON-DAVIES MOTORS (CANADA).—£1,000. First directors: Messrs. F. B. O. Hawes and A. E. Alston. The Langdon-Davies Motor Company, Limited, have consented to this registration.

EMPRESS MOTOR COMPANY.—£10,000. To take over the business carried on by Messrs. A. M. Tejeria, F. Smith, and C. A. Fletcher at 180A, Stockport Road, Manchester, as the Empress Motor Company. 180A, Stockport Road, Manchester.

WILLIAM LEE, BELFAST, LTD.—Capital £5,000. To carry on business of motor-car manufacturers and dealers. Directors not less than two nor more than five, the first being Messrs. William Lee, Moseley Hill, Liverpool; E. J. Hartenfeld, York Street, Belfast; Samuel Patton, Larne; and Herbert N. Harte, Liverpool. Registered office, 19-21, York Street, Belfast.

AUTOMOBILE ACCIDENTS.

A SINGULAR motoring accident has taken place on Standedge, the high moorland midway between Manchester and Huddersfield. Mrs. Waring, of Southport, left Huddersfield in the morning with two lady friends to return to Southport in a 40-h.p. car. Going down the brow at Ragstones, Denshaw, the wheels began to skid, and a jerk came so violently that Mrs. Waring and her niece were thrown over the high back of the car on to the road. The third lady is reported to have been so horrified that she could not speak, and the driver had gone nearly half-a-mile before he knew that Mrs. Waring and her niece were not in the car. He turned back and found them on the road. They were placed in the car and taken to the house of a doctor at Delph. Mrs. Waring sustained severe cuts and concussion of the brain. The girl is suffering from shock and injury to the head.

At the West Ham Coroner's Court, on Monday, Mr. W. J. Attwater held an inquest on Robert Canham, aged sixty-one, who was knocked down by a motor-cyclist on Friday of last week. William Hardcastle, who was riding the machine, and was badly injured, was arrested on a charge of manslaughter. The evidence showed that the deceased man, whose sight was rather defective, was crossing High Street, Stratford, when Hardcastle approached, riding the cycle at a moderate speed. Canham hesitated, and then, according to one of the witnesses, "walked right into the cyclist." He was knocked down, and Hardcastle was thrown across the road, and sustained severe injuries to the face. The coroner said he would adjourn the inquest in order that a post-mortem examination might be made.

CRIPPLED PEOPLE'S OUTING.

BETWEEN fifty and sixty poor children and a number of aged cripples living in Carlisle enjoyed a pleasant motor tour organised by Mr. J. H. B. Johnston, on Saturday afternoon. They assembled at the Crescent and through the kindness of a number of local motorists were taken by car to Bowness-on-Solway, by way of Kirkhampton and Cardurnoch. At Bowness, a substantial tea was provided. Carlisle was reached in the evening without mishap of any kind. Those who sent cars were Messrs. Claude Lowther, Theodore Carr, R. Dais, J. Fendley, G. C. Glenny, T. Graham, P. Hayton, J. Holliday, J. Hodgson, W. Hetherington, H. F. Leavers, H. A. P. Mawson, and J. Palmer.

MOTORIST v. TRAMCAR.

JOHN WYATT, a chauffeur, was, at Kingston-on-Thames, fined £2 17s. 6d., including costs, for obstructing a tramcar at Kingston Road, New Malden, on August 8th. According to the evidence the defendant was in charge of two motor vehicles—one car towing a disabled car—along the tram track, hindering the cars for 12½ minutes, several trams being held up. The defendant, it was alleged, was stuffing a punctured tyre with grass gathered from the roadside, and, although the passengers of the electric car dismounted and offered to assist in towing the disabled car off the track to a side road, a man with defendant calmly took out his pipe and commenced to smoke, saying they would not move.

PUBLIC MOTOR SERVICES.

THE Scottish Motor Traction Company will, during the winter, continue their motor-bus services between Edinburgh, Uphall, Loanhead, Penicuik, Gorebridge, Bonnyrigg and Dalkeith.

BANFF.—A suggestion that the Banff District Committee should regard the motor-omnibus service between that town and Strichen as of the nature of ordinary road traffic has not been acceded to by that body. The chairman reminded the meeting that as road trustees they must administer the Act as it stands.

THE Great Eastern Railway Company forward particulars of their motor services which commence on the 1st prox. and will continue most probably to the end of the year. These include motor-omnibuses for the conveyance of passengers, light goods and parcels between Norwich and Loddon, Ipswich and Shotley, Chelmsford and Writtle, Colchester and West Mersea, Lowestoft and Southwold. Time tables have been issued in connection with these services on similar lines to those used in connection with the ordinary train services.

It will not be long now before the British Motor Cab Company, Ltd., with its British built motor-cabs, is upon the streets. The cabs will be shod with British tyres, namely, the "Garantire," while it is interesting to note that "Automobilia," of Marble Arch, W., have secured the first contracts for uniforms and waterproofs.

POLICE TRAPS.

THERE is a motor trap being worked between Truro and Redruth. Touring parties to the Land's End should be on the look-out.

POLICE watchfulness is keen on the Perth and Cupar-Angus road. ON the Brighton road, to the south of Crawley, the police have a measured distance.

THE Otley Road (Headingley) police trap has had several victims during the past few days.

AROUND Petersfield several traps are in daily operation.

IN the village of Walshford Bridge (Knaresborough) is a measured quater of a mile watched by three constables, two of whom are provided with stop watches.

A NEW trap has been set up at Yealand Redmayne, on the Milnthorpe (Kendal) road, from telegraph pole 342 to an ash tree between poles 334 and 335, with a cross road, Moss Lane, from Yealand to Burton.

THE Kingstown trap, on the main road from Carlisle to Scotland, is in active operation.

AT Walshford Bridge, on the Boroughbridge road, is a trap leading to the Knaresborough Petty Sessions.

MOTORISTS travelling on the main road between Wellington and Shrewsbury should beware. There are several police pitfalls on the way.

THE Slaughtam cross-roads is again provided with a police trap.

ABOUT fifty yards from the gate where the footpath leads from the Canterbury road to the Swingfield and Lydden road, near Dover, a trap is frequently in operation.

IN the parish of Poston, on the Great North Road, between Newark and Grantham, is a trap.

A SET of Dunlop tyres and spares has been ordered for the car personally used by the Emperor of Japan.

THE Belhaven Engineering and Motors, Ltd., of Wishaw, N.B., are shortly opening a new garage and repair shop at 265, Hope Street, Glasgow.

WE have received from the Continental Tyre and Rubber Company Ltd., a souvenir of D. Resta snatching victory from J. E. Hutton, for the Prix de la France, at Brooklands, last Bank-holiday. The sketch depicts in a most spirited manner D. Resta's powerful Mercedes car racing at 90 miles an hour on Continental tyres.

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"THE INDUSTRIAL MOTOR REVIEW."

"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



ELSEWHERE we have something to say with regard to the clothing of motorists in the cool days of autumn and the colder days of winter. This sketch will be continued in our next issue, and will present motorists with an idea of the leading styles available for their comfort this season. Generally we have considered the car and given greatest prominence to its

parts and features; but the reference to the clothing of the man at the wheel, and passengers also, will serve a useful purpose, and next week's contribution on the subject will be of even greater interest than the present.

London Traffic.

ON Thursday, the 3rd inst., Mr. W. N. Twelvetrees gave his presidential address before the Civil and Mechanical Engineers' Society, on the question of London street traffic regulation. This is a subject that has been much discussed since motor-cars began to quicken the congested traffic of our City streets, and we agree with Mr. Twelvetrees that one of the greatest hindrances to vehicular traffic is due to the compulsory stoppages necessary for permitting passes of vehicles along intersecting routes; although mention might also be made of the too long halts allowed to stationary vehicles by the cab stands. In that part of Cannon Street near St. Paul's is an object lesson every morning, which is only possible in the City, and if the vehicles were not permitted to line the roadway up to a late hour in the morning, much of the congestion between the City and the West End would be avoided. The same thing is true in other districts. Mr. Twelvetrees also revived the idea of gyratory traffic regulation, which was first proposed for London by Mr. Holroyd Smith, about a decade ago. Unfortunately, we seem to make little progress to a practical realisation of these schemes. Papers have been read and discussed for years past, but the traffic seems to become thicker than ever.

A Million for Roads.

ALTHOUGH perhaps of wider extent than a scheme for London only is the suggestion put forward this year by the Roads Improvement Association. This is an ambitious project—probably flying high in order to realise but a moiety of its desires. The Association asks for a modest million pounds sterling from the Exchequer to be distributed among the various road authorities for the purpose of (1) widening main roads;

(2) removing dangerous corners; (3) cutting new roads; (4) putting in foundations to weak roads; (5) encouraging the use of better road materials; (6) making existing roads dustless. It is urged in support of the idea that the changes proposed by the Chancellor of the Exchequer in local taxation accounts pave the way whereby the State should contribute more liberally and equitably towards the cost of the construction, improvement and maintenance of roads. It is also proposed that the taxes of all classes of road vehicles should be reconsidered and revised and paid into the Imperial Exchequer to form a nucleus of the proposed fund, it being the declared policy of motorists that they do not object to paying extra taxes providing they are reasonable and the funds so raised are devoted to the improvement of roads under a central department.

A Niggardly Council.

AT Penzance the surveyor to the West Penwith Rural Council has reported that there were in his district thirty dangerous hills and corners where motor signs were really necessary. To place these in position would require about £56 as a maximum expenditure. Unfortunately for the safety of the lives of motorists and others using the roads, the economists in the illustrious Council of West Penwith were in the majority, and accepted a proposal that only £20 should be spent on warnings this year, as a tentative measure. The Council, having thus reduced the estimate of the surveyor, proceeded to select three of his thirty dangerous places for early attention. Such an instance of the fussiness of local authorities is, perhaps, somewhat exceptional, but it illustrates the difficulty of surveyors and other officials in efficiently carrying out their duties.

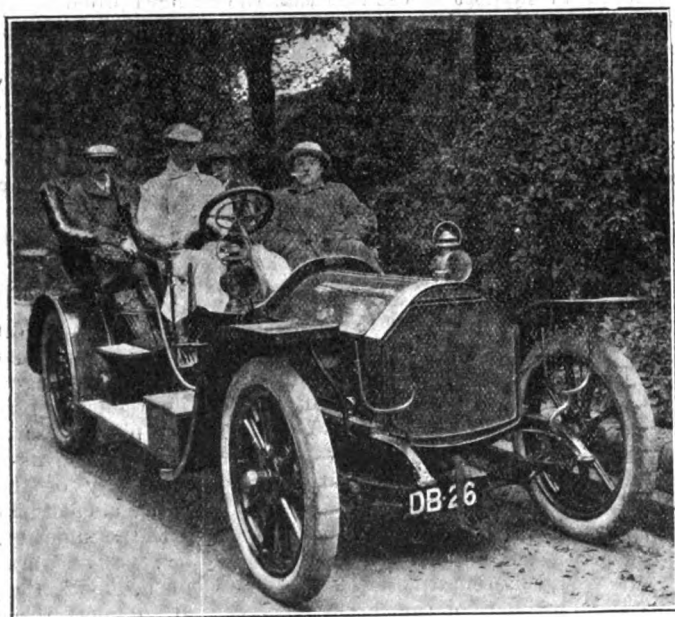
Hand v. Machine in Tarring the Roads.

ON Saturday, the Public Health and Local Government Officers' Association for Sussex paid a visit to East Grinstead, when Mr. Woodlam read a few notes on highway and sanitary administration in East Grinstead. The chief interest, however, centred in his views and methods in the upkeep of the roads and the tackling of the dust nuisance. The dust nuisance had, he declared, been solved there—at any rate temporarily, by the application of tar to the surface. During the past three years they had been tarring their roads in increasing quantity, and this year a continuous length of three miles had given unqualified satisfaction. Mr. Woodlam mentioned that through the public spirit of his Council he had been able to attend tar experiments in several places, and he had formed the opinion that no tar spreading machine was at present able to turn out the work as it could be done by hand. He, however, did not wish to

disparage the machines; in fact, he advocated affording the makers every possible encouragement, and he quite anticipated that, at no distant date, an efficient machine would be met with. A well-constructed tar-paved road was as near dustlessness as they could get, while tar had splendid preservative properties. Motor cars did not cause the slightest injury to roads so treated and they were much better for traffic, both reducing vibration to a minimum and reducing noise. The greatest drawback to tar macadam was the initial cost.

Automobiles as Road Rollers.

At the meeting of the Gwyrfai Rural District Council at Carnarvon a discussion has taken place respecting the damage done to the roads by heavy motor-wagon traffic, and it is satisfactory to find that the surveyor to that body recognises that motor-wagons are equally entitled to the use of the roads with ordinary vehicles. Personally, he said, he was inclined to think that motor-wagons did more good than harm to the highways, for during a certain portion of the year they acted as steam-rollers. This view is not often officially represented to the local authorities, but it is one that should not be overlooked by advocates of motor vehicles, and we should be pleased to hear from any of our readers in districts where local surveyors take a similarly reasonable view of the matter.



The Manchester Motor Club's Hill Climb.—Mr. Henry Hollingdrake at the wheel of his 35-50-h.p. De La Buire Car, the winner of the over £550 section.

Police Methods.

At the Kingston Police Court, Superintendent Marks, whose name has a familiar sound about it, has mentioned that his officers are now abandoning the timing of cars by stop watches in many places owing to the activity of the scouts warning motorists as to the presence of traps and pitfalls by the way. The police, therefore, are relying upon "estimating" the speed at which cars are travelling, and in several cases before the court the policeman gave the speed, adding the words "in my opinion." This adds another terror to the motorist, for, while the police trap was often unfair in its operation, it is absolutely impossible for policemen to gauge the speed of cars travelling upon the road with any degree of accuracy. Fortunately the police in all parts of the south are not so vindictive as those of the Kingston district have shown themselves to be, and the instance of reasonableness given by our correspondent "Rover" on another page is a welcome exception to the general rule. We

congratulate the motorists of Brighton, as we recently did those of Ipswich, on the possession of a chief constable who introduces common sense into his methods of administration.

Irish Roads.

THAT there is need for the work of the Irish Roads Improvement Association is acknowledged by everyone who has ever travelled over the highways of the Emerald Isle. At the same time, all must recognise the assiduity with which the Association is promoting public opinion favourable to local authorities devoting money as well as attention to the improvement of the roads of the country. Considerable work has been done in acquainting surveyors of stretches of roadway which were in a deplorable state, and these have in many cases been improved in consequence. We understand that an appeal will shortly be made to Irish owners of motor-cars urging them to take greater interest in the work of the Association, which is certainly one of the most promising factors in the outlook for better ways in Ireland.

A National Question.

SUCH a view is interesting, as coming from the other side of the Irish Sea, for it is practically a reflex of the view that is growing in this country, viz., that the road question will have to be treated as a national matter, and, instead of the local and parochial tinkering with short stretches that has hitherto been the rule, whole mileages across counties will have to be under the supervision of specially-appointed men or authorities with power to look at the subject from a wider view. Such a proposal is now an accepted plank in the motoring platform, and is one of the points upon which practically all are agreed.

A Rector's Charitable (?) View.

THE Rev. E. M. Gibson, vicar of Charlwood, who is chairman of the Reigate Rural District Council, has on several occasions condemned motoring. At the last meeting of this authority a communication was received from the Kingswood Parish Council stating that a serious motor accident had occurred at the corner of the main road leading to Mogador, owing to some trees inside a fence having grown to such a height as to block the view of the road. The Parish Council asked that some steps should be taken to prevent further accidents occurring. It was suggested that if the finger-post was moved to the north side of the road it would meet the case. To this a councillor disagreed, and said if a small committee was appointed and met some of the gentlemen owning land, and who were motorists, they might give a small strip of land, and so widen the road at the corner. The Rev. E. M. Gibson opposed the suggestion, saying if people would go motoring round dangerous corners at a fast pace they would have to take the risk. He thought the finger-post should be removed, but nothing else done. Mr. C. H. Harrold opposed any alteration which would give further facilities for motoring at a high speed, and, better than the reverend gentleman, added he only hoped all the motorists would kill themselves. He was against spending a penny of the ratepayers' money in facilitating the motor traffic. The roads were all right, and therefore he thought nothing should be done.

"Killing no Murder."

FORTUNATELY this view is not the universal opinion of chairmen of rural district councils, nor is it expressed by many clergymen. Really, we should have thought that the maiming of limb or the destruction of life would have been abhorrent to these gentlemen, who seem to believe, with those of earlier centuries, in "killing no murder"—provided, of course, that the person slain is a motorist. We condemn, with no uncertain voice, the conduct of those who rush through narrow lanes scattering poultry and people and devastating the

country side, and would view their progress to the police court—even that at Haywards Heath—with a feeling that both justice and motorists would be done. But surely the horseless and the motorless users of the roadway have the right to live. And if the safety of all sections is likely to be increased by lowering hedges, rounding corners, and setting up warning boards, it ill becomes an advocate of peace and goodwill to hope—as did Mr. C. H. Harrold at that meeting—that “motorists would kill themselves.” They are not likely to do that; but we trust Mr. Harrold will keep on the grass of the sidewalk.

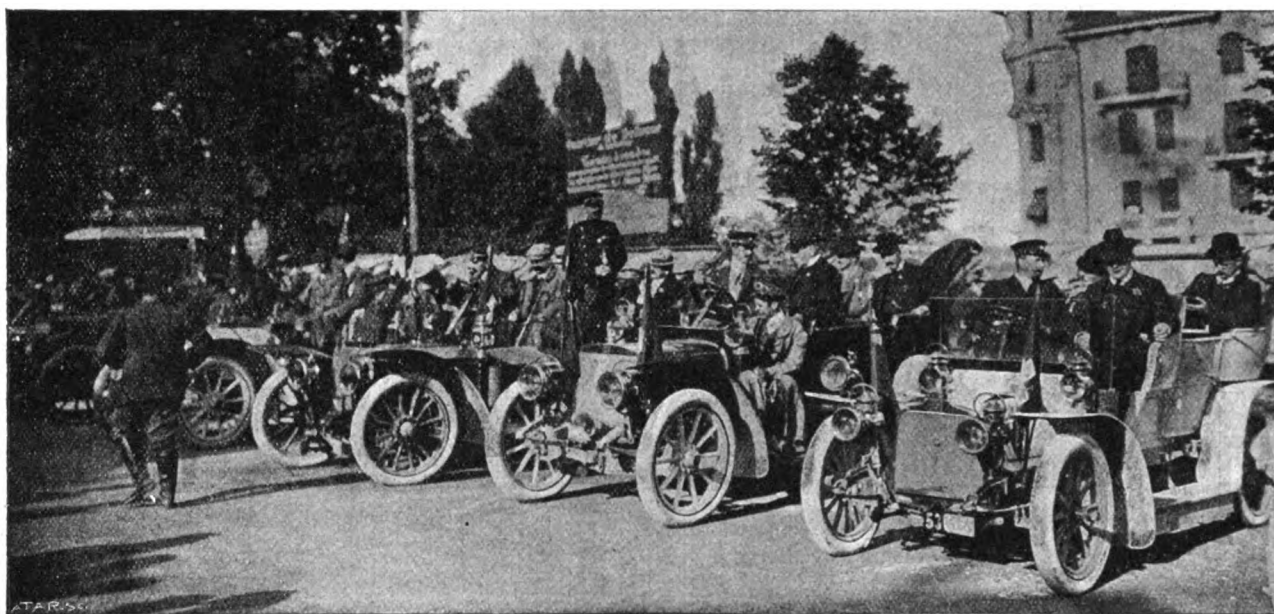
Associated Touring.

ONE or two interesting developments in connection with the touring of private owners of motor-cars have lately been brought to our notice, and seem to suggest the possibility of economy and pleasure combined. A motorist of only moderate means has had a good time recently by letting his car on hire, with himself as a kind of gentleman-driver, for a month's tour in the Lake district and the Highlands of Scotland. Others have arranged with gentlemen wishing to see the Continent that they should accompany them on their cars, the sharing of ex-

the existing thoroughfares into districts which have recently been opened up. What is wanted is that the Government should take over the main roads from the local bodies and supervise their control. It seems strange that a local shire, naturally very parochial in its acts and intentions, should have charge of a national highway. The municipalities have had from the Government vast sums of money for works of a national character—main roads and bridges, &c.—but it has been shown that the money has been used as often for local improvements, which saved them direct taxation.

Disgusted.

WILLIAM PORTER, of Birmingham, was summoned at the Sparkhill Police Court for driving a motor tri-car at Greet without having the rear identification plate illuminated. Defendant said the car had been in an accident, and the lamp was broken. He was merely fetching it for a gentleman. He had been in trouble twice, and had decided to give up motor driving. He had come to the conclusion that it was better to work in a factory than drive outside. He would be more safe. Asked to produce his driving licence, the defendant said he had



The English Commission at the Recent Swiss Military Manœuvres, near Fribourg.

[La Suisse Sportive.

penses materially assisting the motorist to an extended holiday. The outdoor pleasure of motoring lends itself to this sort of thing, and with a little enterprise several motorists have been able to add to their pleasures during the recent season. This is even better than the suggestion of our correspondent last week, that motorists should invite the public to occupy vacant seats on their cars.

The Outlook in Australia.

TOURING by the motor-car is not indulged in to the extent it should be, writes our correspondent at Melbourne, because of the general bad state of the roads. Once off the main highways the going is very patchy, and if the cars happen to be caught in the rain there is trouble. Unfortunately for the State, the condition of the roads has been deteriorating for the past twenty or twenty-five years, owing to the faulty methods of the local bodies—municipalities—adopted for their repair. Anything above twenty-five miles an hour on the most of them is ruinous to the springs and, sometimes, to the under-carriage, if the latter has not sufficient clearance—say nine inches at least. The Government promises to introduce a Main Roads Bill into the House during the present session, but, from what can be gathered, it will, probably, be for the extension of

torn it up. He was determined not to do any more motor driving for anybody. His licence had been endorsed for fast driving, and on the present occasion he was fined 20s. There is a good deal of sound philosophy in the decision, and we would sympathise with Mr. Porter. The system of endorsing licences for merely technical or minor offences is discouraging to men and should be revised.

In Skye.

NOT by airship, but by car and steamer. Elsewhere we give some comments of a motorist who has been to the Isle of Skye. He noticed that all the horses in the island gave trouble at sight of a motorist, and that stray cattle and sheep abounded on the roads, to say nothing of herds of deer. Dogs, too, were an unmitigated nuisance, and unusual care was necessary in driving through villages. A good plan with regard to petrol is for intending visitors to communicate with Mr. J. C. Mackay at Portree and arrange with him for supplies, or to secure the help of the manager of the Sligachan Inn in the matter. Roads vary with the weather in the Isle of Skye to a greater extent than in most other places, but fortunately the experience is that they dry quickly after the heavy rains.

MOTORING AROUND LYNMOUTH.

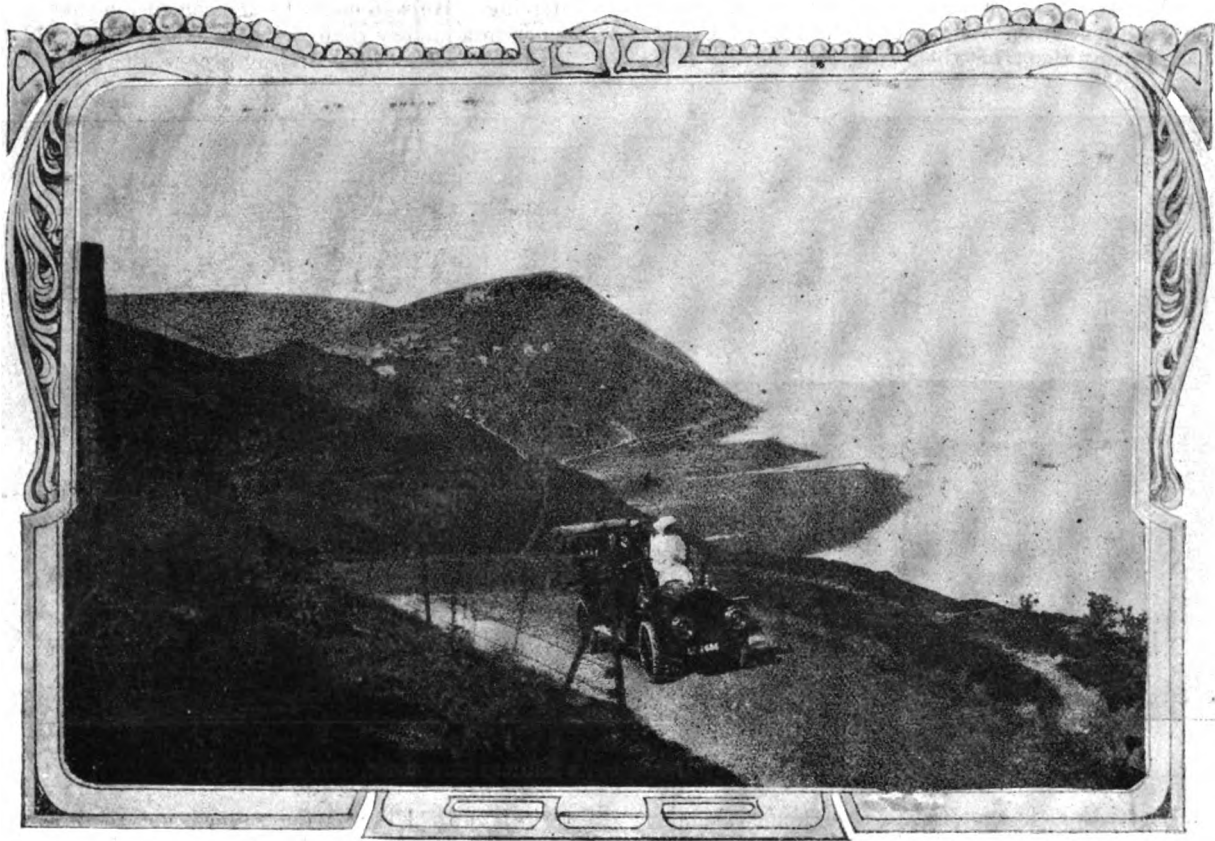
SOONER or later in the course of their experience all motorist get, or should do, to Devon. And then the way is naturally made to Lynton and Lynmouth—two lovely spots, which every lover of fine scenery should see. In fact, the north coast of Devon is a delight to all who appreciate natural beauty, especially when—as in the case of the motorists shown in the accompanying illustration—a 30-h.p. White steam car is the vehicle on which the journey is made. The car is seen coming up the famous Lynmouth Hill, the town lying just out of sight down on the sea level behind the cliff, over which the road leads, as shown in the photograph. The illustration gives a very good idea of the long climb it is necessary to negotiate in taking the main road to the eastward out of Lynmouth.

During the summer the question of motoring has been well to the fore in the district. At one time the proposal was made

bury. That successfully overcome, the road is considerably easier thence to Porlock, ten miles distant from Countisbury. The way should be very carefully taken, for the descent to Porlock is a stiff drop with nasty twists that have to be watched for all the way down. Once again on fairly level ground there is a good road to Minehead, which is about as far from Lynmouth as that delightful spot is from Barnstaple.

Many motorists who have faith in themselves and their vehicles return to Barnstaple by the reverse way—thus becoming familiar with the district from the two points of view. The interest of the Barnstaple country is as varied as the scenery, historic associations crowding at every point of view, while the architecture of the county, both domestic and ecclesiastical, is full of quaint points and features, that give new impressions to the visitor at almost every turn.

THE advantages of the motor fire engine are certainly becoming more widely recognised, as is evidenced, by the



Touring in Devonshire.—A White Steam Car on Lynmouth Hill.

to close Countisbury Hill to such traffic, but that has been vetoed, and, as we were able to recently announce, it has now been practically decided to make a new road between Lynmouth and Minehead, which will obviate the necessity of the long pull associated with Countisbury and Porlock hills. Both these steep hills have long been familiar to those who follow the motor movement. Only three or four years ago the news of an ascent of these gradients by a motor-car was a matter of public interest and importance; now it is regarded as almost a commonplace proceeding.

A few directions may be useful to those who go that way. Barnstaple is a convenient centre for the excursion. From thence it is six miles to Loxhore Inn, another four and a half to Blackmoor Station, with gradients of 1 in 7 to negotiate, and then a run of nearly eight miles brings the traveller to the scene shown in our illustration.

From thence we commend the trip to Minehead to those who wish to test the power of their cars and their own capacities as drivers. It is an ascent all the way—two miles—to Countis-

bury. That successfully overcome, the road is considerably easier thence to Porlock, ten miles distant from Countisbury. The way should be very carefully taken, for the descent to Porlock is a stiff drop with nasty twists that have to be watched for all the way down. Once again on fairly level ground there is a good road to Minehead, which is about as far from Lynmouth as that delightful spot is from Barnstaple.

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The Present Position of the French Motor-Car Industry.

(Concluded from page 652.)

THE question is, are the present conditions in France indicative of merely a passing wave of depression, or is it the downfall of the French? Not a single Frenchman will be found to admit the latter, and, indeed, from present indications, it would be hard to give a definite answer in the affirmative. Depression there certainly is, and this is a result more of lack of business instinct at home, and of relative falling off in foreign demand, than of any possible turning point in the history of the trade or the cessation in the everyday utility of the motor-car.

To get a comprehensive idea of the situation the export trade must be considered in the light of recent statistics. France, undoubtedly, got a long pull in the world's trade in

United States, regarding which French constructors were hoping against hope that fashion and reputation would maintain their lucrative trade in high-powered cars to that country. Figures unofficially circulated seem to show a falling off equal to 30 per cent. in the number of cars. The quantity of cars sent to the United States, however, has never been very important, although the value of components has been, and is still, a large source of trade between these two countries. Exports to Germany have barely increased in proportion to those of previous years, but to other European countries France is increasing her exports. The situation as regards England is well known in that the number of exported cars is decreasing, but the individual power and likewise the average value of the cars is increasing. The main



One of the Cars employed in connection with the recent Military Manœuvres in Holland.

[De Auto.

motor-cars, owing to special conditions which are no longer ignored by those desirous of obtaining a portion of this lucrative trade. The issue of the attempts of trade rivals has been watched at home and abroad with the keenest interest, which has been enhanced by the ever growing needs of the market. Month by month the actual trade figures and their import have been placed before the public and the manufacturers in such a way as left no room for doubt in the minds of the constructors regarding the trend of the future trade in motor-cars. Last year it was evident that Italy was about to make an effort to wrest from the French agencies the best part of the Italian home trade. Italy has succeeded in this desire, for during the present year French exports to Italy have largely decreased, due to the increase in the Italian output. Exact figures established by the French authorities are rather late in appearing, but from indications to hand it would seem that the French exports to Italy have decreased over 50 per cent. during the first eight months of 1907. A similar tale is told in respect to trade with the

increase in net sales to Great Britain is, of course, in parts, and the French constructor who did not seize upon these facts in the early days would almost deserve that his trade would suffer in consequence.

Inasmuch as Great Britain is noted as the great exchange of the world as well as a prodigious consumer and producer, it was scarcely likely that the ratio between British imports and exports in the motor-car trade would be allowed to pass unnoticed. It has been dinned into the ears of French makers by the private efforts of the Société d'Encouragement de l'Industrie Automobile, as the trade association is known in France, as well as by the Press, that however great an *eclat* might be given to the French Salon, its relative importance as a centre of trade was, if anything, inferior to the British shows, and if French constructors have not paid this fact the attention it deserves, it is that their trade returns have hitherto been satisfactory.

There is another phase in French automobile trade which is steadily making way, and will probably become as important in

B

value of trade done as the motor-car factory. This is the specialist in parts, such as carburettors, radiators, wheels, frames, &c. French factories rarely fit bodies to their chassis, the coachwork being ordered outside. Up to now, however, they have largely supplied their own forms of carburettors, coolers, wheels, frames, etc. The demand for low and high tension magnetos brought about the specialist in this line, and from present appearances the carburettor will soon be supplied by similar firms. Clutches, crank shafts, gear-sets, ball bearings, wheels, &c., are mostly in the hands of part makers, and the tendency is still stronger towards this cheapening of production. This year especially several firms have had reason to find their own make of carburettor insufficient for the service demanded, and are changing either to others of their own or outside design. This movement, however, would not in any way affect the prosperity of the trade, but is a sign that competition is beginning to have its well-known effects in the automobile as in other trades.

From the preceding it will have appeared that there are large stocks of high-powered machines on the French market, and that these are mostly in the hands of agents, owing to contract conditions. The constructors have suffered as regards the failure of certain agents to relieve them of their product, and in several instances new trade conditions have been set up as the result of bad faith on the part of the agents. However slack the



A Reminiscence of the Pekin-Paris Run.—The arrival of Prince Borghese on his Itala Car in Turin.

year may have been, it must be admitted that there have been no big failures or bankruptcies in France, which is a plain indication that the growth of the factories, until recently, at least, has not been at the expense of prudence. The general feeling among the public is now, and has been for over a year, that no one should invest in automobile securities or promote new concerns with the hope of large returns. The French capitalist is now a shy bird as regards the automobile business, and the proof is in the fact that several firms—and some of these the best known in France—have appealed to the British Stock Exchange when reconstructing their company by increasing capital or otherwise. The market price of the shares of the French companies quoted either on the Paris Bourse or the London Exchange is 30 to 50 per cent. above par, if we except the electric vehicle combines, which are not in the same flourishing state as their competitors.

Some credit must be given to French makers for the way they are tackling the industrial motor trade in France. The industrial application long lagged behind in France, and even now requires all the careful nursing of the military authorities to instil life into the trade. French commercial firms outside Paris have not been quick to appreciate the economical value of motor vehicles in their business, and inside Paris there is the

eternal question of the artificial price of fuel—at present well over two shillings a gallon—about a shilling of which is municipal and state tax. The keenness of commercial life and practice as known in Great Britain is not so paramount to French methods, and the trader reflects well about such an important step as the acquisition of industrial cars, when the crying need really does not exist. The same thing applies to professional men. Tyres for light cars generally cost in France—good as the roads are—about £40 per annum—that is, a complete set at £10 per wheel. For this sum, in the country, a smart turnout can be kept, and country labour for driving is infinitely cheaper than the specialist in motor-car driving as imported from a city. Doubtless, when French makers seriously study the small and cheap car, and give up their notions in respect to making them copies of their larger vehicles, a demand will arise the end of which would be difficult to foresee, but a practical and cheap small vehicle is only at present produced in a limited quantity by one or two very prosperous firms. Had French makers been ready with good small cars, there would have been no cry of dull trade in France.

To summarise the situation, it must be admitted that this year the slump in prices is the result of general slackness of trade, owing first to the disregard of French makers to the needs of their home trade; secondly, to the changing conditions of French export trade, which has nothing in it at present to justify a hoped-for return to the old conditions. Thirdly, the changing demand for small cars, in spite of the large production of high power vehicles, has completed the trouble of French makers. The redeeming feature of the situation is the immense demand for taximeter cabs both for home and abroad, whereby many of the chassis intended for touring cars have been turned over into the hired cab ranks. Even four-cylinder cars of 16 and 20-h.p. are to be found in their place on the ranks, and, to entice the wary client, it is boldly stated that the tariff is the same as that for the 8-10-h.p. cabs which do such excellent service both to their owners and hirers.

Another detail which adds a cheerful note to the situation is the undoubted demand for industrial cars, omnibuses, both for city and rural service, for which latter the field is immense in France, whereby a slackness of trade in touring cars is somewhat counterbalanced by the brisk business in commercial vehicles. At the tenth annual Paris Salon, the only official exhibition held in France, special effort will be made to give the desired *eclat* to the industrial aspect of the trade, the space devoted in 1906 to this branch of the trade having been largely increased for this year.

It is also believed that the well-known French genius and inventiveness will go far towards keeping France in the van as regards design and construction of motor-cars, and even if the quantity does not largely increase, the quality will be there and the French factories will do well even on present lines. Moreover, if worse days come, there will probably be witnessed a further effort on the part of French makers to produce the *car de luxe* at a high price and in limited numbers, the actual factory cost being high, but the profit being larger still. *Articles de luxe* are well known in France, and the sales of such product can well stand a high rate of profit. True, the reputation for luxury stands the Frenchman in good stead at times, for his *de luxe* is often only what is known as comfortable by his near neighbours.

The large stock of this year's models will probably be gradually sold to agents, and will most of them find their way into agents' hands either in Paris or pleasure resorts on the sea coast, and will do good service for years to come by being let out on hire at prices which may or may not be maintained at the present rather prohibitive rate. And then again, in view of the fact that the coming Salon will not alter the design of cars to a very large degree, the changes being essentially in detail rather than in principle, it is certain that many cars will be dubbed 1908 pattern after the various novel details have been added. But this brings up the question of what the next Salon has in store for the world, and on this point all mouths are mute, which may or may not indicate that extraordinarily good things are in store for those who wait.

ELASTES-FILLED TYRES.

JUST about a year has elapsed since Elastes as a filling for the inner tubes of pneumatic tyres, in place of air, was placed on the British market. Since that time Elastes, Ltd., the company responsible for its introduction and manufacture in this country, have naturally gained a large amount of experience with their special product, as a result of which some changes have lately been made in the mixing of the chemical components of Elastes. The modifications are but slight, but have, we are informed, brought about a considerable

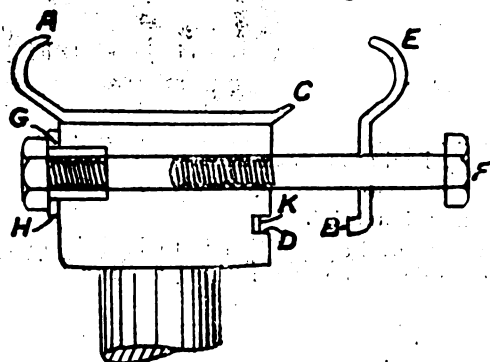


Fig. 1.—Section of Elastes Detachable-Flange Rim.

amelioration both in the resilient and durable qualities of the material.

The most important improvement, however, which has been effected has been the adoption of a detachable flange rim, by means of which the work of mounting the Elastes-filled tyres is not only considerably facilitated, but enables the owner of a motor-car to have outer covers readily changed on his own premises should they sustain any bad cuts, or show any signs of wear. Furthermore, in the old method of mounting with the fixed rim not only were the covers subjected to considerable strain in levering them over the rim edge, but it was also found that in some cases the outer beads of the tyres failed to bed properly in the rim, but wedged themselves into the filled inner tubes in such a way as to subject the latter to a permanent distortion which considerably curtailed their useful life. The utility of the new detachable rim, which is shown in section in Fig. 1, thus finds demonstration in several ways. The fixed portion of the rim A is an ordinary standard one, with the outer edge cut away to the shape seen at C. The detachable flange consists of a weldless steel ring of the section illustrated at E, B being what is termed a return piece which fits in a groove D in the felloe. A ring of rubber, K, is laid in the groove to form a water-tight joint, so that no damp can find its way inside the tyre. The flange is secured in position by twelve equi-distant bolts, F, which pass through holes in the felloe. A noteworthy feature of the construction is that to detach the flange the bolts, and not the nuts, are removed. The latter are of the special form shown in Fig. 1, and are fitted into the inner side of the felloe, and held rigidly in position by means of feather keys G engaging in corresponding slots cut in steel washers H permanently secured to the felloe. This plan of fixing the detachable rim has been adopted to facilitate the mounting of the tyre, as it enables the bolts to get a hold of the threads in the nuts while the removable flange is still some distance from the felloe. One of the illustrations of the group (Fig. 2) shows the method of inserting the *boyreau* in the outer cover; when fully inserted the tyre can be placed on the rim by hand, although it may be necessary to ease the last part of the bead into place by means of ordinary tyre levers. The detachable flange is then secured by starting two or three of the bolts, after which the others are inserted, and as they are screwed home the tyre is gradually pushed into the proper position.

While the detachable flange might be secured by a smaller number of bolts, the Elastes Company prefer to divide the strain over a dozen, and point out that the time occupied in attaching

the flange in the case of Elastes is no greater than that taken in the case of removable rims with a smaller number of bolts and inflating an air tube. As regards adapting present motor-car wheels to the new detachable flange, which is equally well suitable for use with ordinary pneumatic as with Elastes tyres, the main alteration necessary is the provision of a slightly deeper felloe on which the groove D has to be formed. The Elastes Company have found by experience that the use of security bolts in connection with their filled inner tubes are unnecessary, and they, therefore, have ceased to employ them. The holes for the same, as also for the valve, are, however, provided in the felloe, and while usually plugged up, the plugging can readily be filled up should the motorist desire or find it necessary to return to air-inflated inner tubes.

The adoption of a detachable flange has also brought out an improvement in the methods of manufacture. When exposed to the air, Elastes-filled tubes tend to permanently expand, so that it is necessary to stock them enclosed in outer covers fitted on duplicate rims. The mounting of these has hitherto necessitated the employment of special tools and plant, and has been accompanied by the consequent straining of the fabric of the covers to get the beaded edge into its place. The operation is now performed entirely by hand by using a special detachable "storage" rim (Fig. 2), which really consists of two half rims held together by clamps, and on which the *boyreau* is held in place until required. Although the Elastes Company, Ltd., will still continue to undertake the fitting of Elastes tubes to motor-car wheels, it will be possible in future, where it is not feasible to send the latter to the factory, to despatch a *boyreau* on a "storage" rim to the motorist, who, after he has had the necessary alterations made to his wheels, can have the tyres

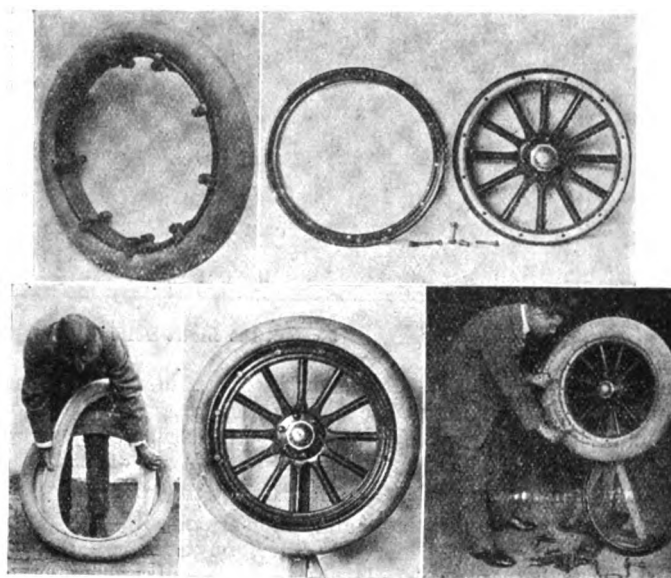


Fig. 2.—The above group of illustrations show respectively an Elastes-filled tyre mounted on a "storage" rim; a wheel with moveable flange detached; inserting a "boyreau" in an outer cover; the complete wheel and tyre; and the method of easing the last part of the beaded edge over the lip of the rim.

fitted on his own premises and renewals effected with a minimum of trouble and delay whenever the same are required.

THE new Lord Mayor of London (Sir John Bell) and the Sheriffs (Mr. David Burnett and Mr. C. C. Wakefield) were formally chosen amid much quaint ceremonial at the Guildhall on Saturday. Mr. E. Newby asked Sir John Bell a few questions prior to his election, including one asking him to unite with the mayors of the boroughs of the Metropolis to try to do something to protect people on the King's highway from being run down by motor-cars. Sir John Bell answered in the affirmative.

CONTINENTAL NOTES.

Military Motor Roads in Germany.

It is announced from Berlin that the German War Department is considering a project which cannot fail to be of the highest strategical importance, that of connecting the principal towns in Alsace-Lorraine by a new high-road, specially designed for military motor-cars. A start would be made with a road between the river Main and the frontier, Frankfort, Kaiserslautern, Sarrebruck, Metz, and Strasburg being the principal towns *en route*. Later it is proposed to build a road between Strasburg, Karlsruhe, Mannheim, and Wurzburg, and a third between Cologne and Mayence.

A Russian Motor-Car Race.

A motor-car race between Nicolaieff and Odessa, South Russia, a distance of seventy-eight miles, was held on the 21st ult. Twenty-seven entries had been received; only seventeen started, however, and of these thirteen succeeded in covering the whole distance. In the light car section the winner was Luchesi, on a Lion-Peugeot, who covered the distance in 3 h. 7 min. 54 sec. The best time in the section for cars of

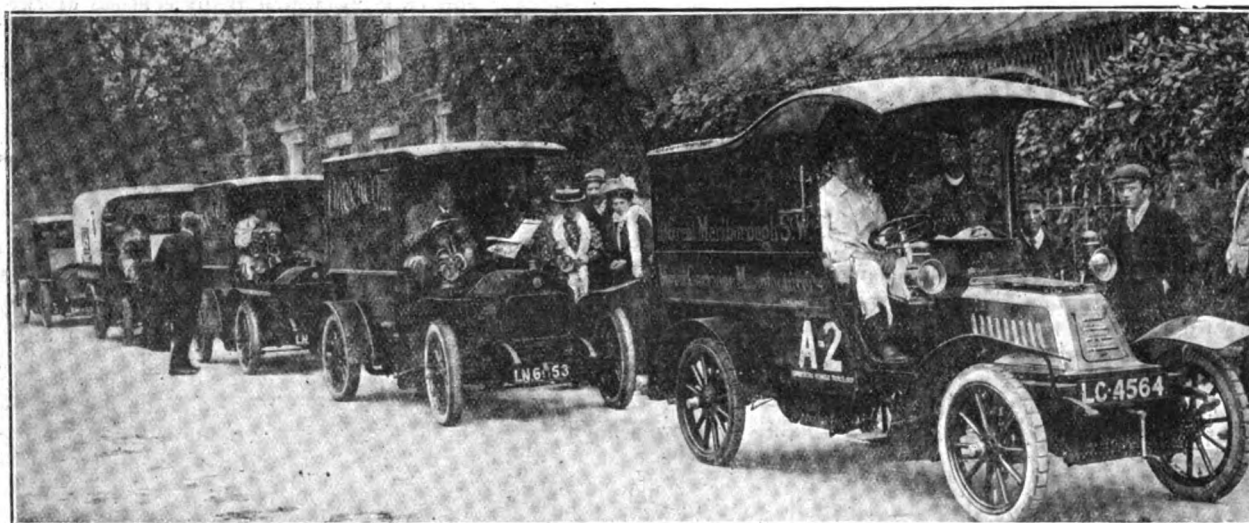
of the principal sections in the touring car class were as follows:—Single-cylinder vehicles from 101 to 125 mm. cylinder bore Sizaire (Sizaire-Naudin), 2 min. 42 2-5 sec.; ditto over 125 mm. Guippone (Lion-Peugeot), 2 min. 35 4-5 sec.; four-cylinder cars over 141 mm. cylinder bore Paul Faure (Mercedes), 1 min. 14 3-5 sec., this being the third best time of the day; six-cylinder cars up to 90 mm. bore Busson, on a Busson-Dedeys (a new French-built six-cylinder car), 2 min. 25 2-5 sec.; ditto from 91 to 110 mm. Van Dick, on a Rossel, in 2 min. 10 1-5 sec.; and ditto over 111 mm. bore Jennes, on a Rossel, 1 min. 23 3-5 sec.

A Motor Racing Track for Belgium.

The Automobile Club of Antwerp is interested in a scheme for the establishment of a motor-car race track in the Campine district of Belgium. It is proposed that it should be about five miles long and elliptical in shape. Negotiations for the purchase of the necessary land are now in hand.

A Fuel Consumption Trial.

A somewhat novel competition is to be held in the neighbourhood of Bordeaux on the 13th inst. The event, which is



Some of the Light Delivery Vans taking part in the Commercial Vehicle Trials.

from 12-h.p. to 18-h.p. was made by Pettrilo on a Rochet-Schneider, 1 h. 56 min. 16 sec., and in the heavy car category by Jourevitch on a Mercedes in 1 h. 57 min. 18 sec.

The Chateau Thierry Hill-Climbing Competition.

The annual hill-climbing competition organised by "L'Auto" was held at Chateau Thierry, France, on Sunday last. The contest was held over a mile course on a hill known as the Chesnay, which averages 1 in 10. The hill begins right in the town, and becomes steeper and steeper as the summit is reached. The roads at the turns had, however, been improved and repaired, so that the cars could get round without it being necessary to slow down to any appreciable extent. The best time of the day was made by Olieslagers, who on an Albatross motor-bicycle climbed the hill in 1 min. 7 4-5 sec., equal to a speed of fifty-three miles per hour. In the category for cars built in accord with the rules of the Criterium de France the winner was Blaizot (Martin-Lethimonnier), 1 min. 47 sec. Of the cars of the Kaiser's Prize Race type the honours fell to the Pipe, driven by Jespers, 1 min. 12 sec., the second best time and the fastest in the car section; Emery, on a Benz, being second in 1 min. 16 4-5 sec. The Targa Florio car class was won by Metargy, on a Darracq, in 1 min. 30 3-5 sec., and the category for Coupe de la Commission Sportive vehicles by De Langhe, also on a Darracq, 1 min. 28 sec., Cozic, on an Italian-built Hiss car, being second in 1 min. 45 4-5 sec. The winners

known as La Coupe de l'Autoloc, will be opened to all classes of petrol vehicles. One kilogramme of spirit will be served out to each competitor, and the exact distance run on this quantity of fuel will be carefully measured. The awards will be made on a handicap basis by multiplying the weight of the vehicles in running order by the distance covered, the winner being the car which shows the highest figure. Close on a dozen entries have already been received.

Miscellaneous Items.

A public service of Darracq-Serpollet steam vehicles for the transport of both passengers and goods is being established between Epernay and Pierry and between Moussy and St. Martin d'Ablis, in the Marne district of France.—Already fifty-seven cars have been entered for the reliability trial of voiturettes and light cars which is to be held in France this month.—A public service of motor vehicles is being started between Hofheim and Okriftel, in the Taunus district of Germany.—M. Michelin, the head of the well-known Clermont-Ferrand tyre firm, has just taken delivery of an 18-h.p. Germain chainless car for his own personal use.—The Automobile Club of Marseilles is organising a hill-climbing competition for the 13th inst.—A demonstration of Miraculum, the new puncture stop, was given in Paris last week.—An automobile exhibition was opened in Copenhagen on the 28th ult.—Some trials with motor-buses are now being made in Brussels.

MR. J. MELDRUM, of the Esplanade, Dundee, is letting cars on hire, and has a H. F. vulcanising equipment for dealing with tyres.

THE Urban District Council of Sittingbourne is making an appeal to motorists to drive with consideration through their town, the entrances of which are marked by caution boards.

THE County Council of Kent is about to erect signposts, similarly designed to those in use on the French highways, on the road from Dover and Folkestone to London. These should be appreciated by French motorists on tour.

A MEETING of the Society of Engineers is to be held on the 7th inst., at the Royal United Service Institution, Whitehall, S.W., when a paper will then be read entitled "Liquid Fuels for Internal Combustion Engines," by Mr. Robert W. A. Brewer, A.M.I.C.E., A.M.I.M.E.

THE Essex and Suffolk Foxhounds recently had an unfortunate experience with a motor-car. The pack met at Ardleigh for cub-hunting, and were returning to the kennels, after killing, when the hounds were run into by a motor-car. A valuable dog-hound was killed on the spot.

TELESCOPIC guides and supports, instead of hinges or joints, which can work loose, are used for the wind screen shown in the two photographs produced herewith, so that the upper half of the screen can be raised and lowered like an ordinary window sash, without risk of fouling the steering wheel or any other

HERE AND THERE.

IN the Victoria Road, Swansea, Messrs. Pryce, Trow, Ltd., have a motor garage, where they are stocking motor accessories, petrol, &c.

MESSRS. GEORGE ACE, LTD., of Wind Street, Swansea, are

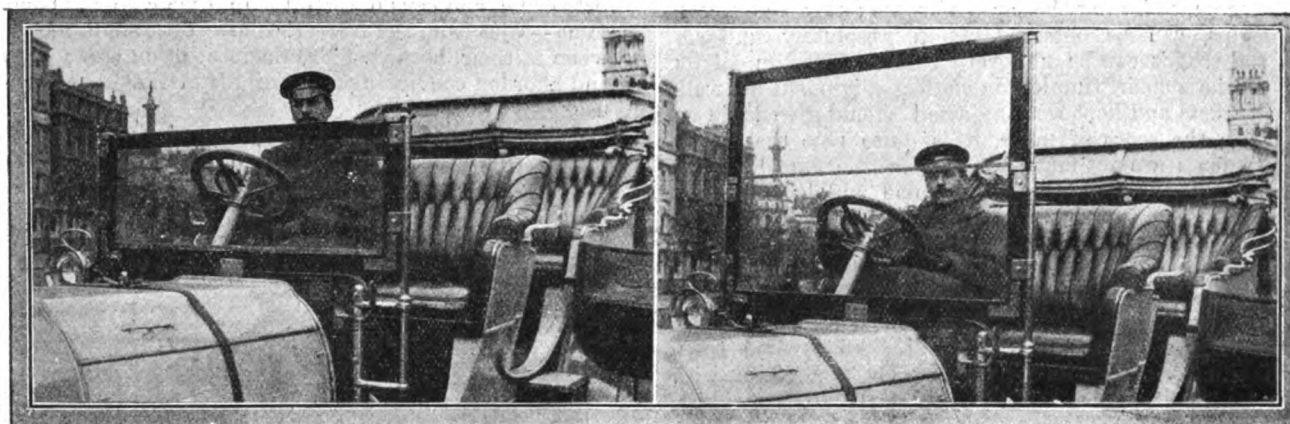
hiring cars to visitors and also rendering assistance to motorists in trouble with their vehicles.

THE most powerful motor-van employed in the work of newspaper distribution in this country is now being daily used by "The Liverpool Courier." The vehicle, which is a 30-h.p. Daimler, forms a rapid and effective means of distribution.

THE imports of motor-cars and parts into South Africa, according to the returns of the South African Statistical Bureau, amounted during the first seven months of the current year to £69,344, as compared with £66,357 in the corresponding period of 1906.

HENRY COPSEY, a chauffeur, residing at Islington, has been committed for trial at Bromley, Kent, on a charge of the manslaughter of Edward Akers, aged 19, at Peckham. It was alleged that the deceased, while cycling, was knocked down by a motor-car driven by the accused, and witnesses stated that the car was travelling from thirty to thirty-five miles an hour.

A SHANGHAI correspondent reports that motor garages and repair shops are springing up in all directions, and that the number of motor-cars and motor-boats in use, which are mostly in charge of native chauffeurs, is rapidly increasing. Shanghai



ittings in the neighbourhood of the dashboard. The car to which this particular screen is attached is one of those which the Waterloo Motor Works, of Chicheley Street, York Road, S.E., let out for hire to clients, and the body and screen have been made by them.

AT Ascot, a few nights ago a Chobham doctor was re-filling the petrol tank of his motor-car when a lamp held near ignited the spirit, enveloping the car in flames. The owner's son, who was in the car, was badly burnt about the face and hands, and the doctor was also burnt about the hand.

TWO Napier six-cylinder engines, one of 38.4-h.p. (R.A.C. rating) and one of 60-h.p., the cylinder bores being respectively 4 in. and 5 in., were recently submitted to a fifteen minutes' test on the bench at the Napier works. The certificates issued by the Royal Automobile Club, under whose observation the trials were made, show that the 38.4-h.p. engine developed 64.2-h.p. at an average speed of 1,748 revolutions per minute, and the 60-h.p. motor 94.3-h.p. at 1,588 revolutions.

A THREE THOUSAND mile test of a 40-h.p. six-cylinder Napier using Simcar benzol, a British fuel with a specific gravity of .880, and which can be sold retail at the factory for about 1s. per gallon, was commenced on Monday last under the auspices of the R.A.C. with the view of seeing whether the fuel has any bad effect on an engine, or whether it leaves any abnormal amount of deposit. The car is running a daily distance of 150 miles out and home from Hatfield, on the Great North road.

is the only other port in China, besides Tsingtau, where motor-cars can be used with any success. The roads in the settlement are excellent macadam and run for twenty miles into the country.

THE fire-brigade authorities at Berlin have for some time past been making experiments with two motor fire-engines, one being electrically driven and the other operated by steam. As a result of the trials, it is stated that both systems are suitable for the requirements of the German capital, and that the electrical vehicle in particular, on account of its readiness, comes into consideration in the first rank as a substitute for the engines drawn by horses.

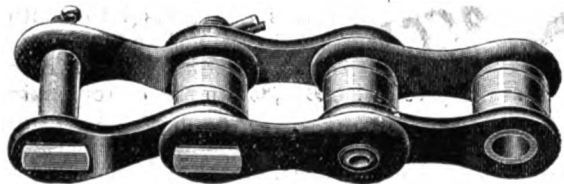
USERS of cars fitted with accumulator ignition will be interested in the news that after much experiment the City Ignition Company, of Spencer Street, Goswell Road, London, E.C., claim to have produced a coil which will satisfactorily ignite the charge in petrol motors in conjunction with a two-volt instead of the usual four-volt battery. The makers claim that the new "Voltoo" coil, as it is known, only takes 1.5th of an ampere, giving at the same time a better spark than the majority of four-volt coils. Furthermore, owing to the extremely small volume of the primary current, the difficulty of pitting of the platinum is done away with, thus reducing to a minimum the expense and trouble of constantly renewing, trimming and adjusting the platinum points. We hope to practically test the new coil at an early date.

A SWANSEA solicitor has successfully prosecuted a lad for throwing missiles at his car.

OWING to the improved methods of manufacture and to the increased plant put down at the works in Hanover and Willesden, the Continental Company announce a substantial reduction in the price of motor tyres as from the 1st inst.

A J.P. CAUGHT in the Fenstanton trap asked the police who stopped his car, "Don't you think you can find something better to do than lying in a ditch watching motor-cars?" and was fined £6 and costs by the St. Ives Bench on Monday.

THE Coventry Chain Company (1907), Ltd., Coventry, have lately introduced a new motor roller chain, the feature of which, as will be seen from the accompanying illustration, is the worm



roller. In the ordinary type of chain the rollers are drilled from the solid bar of metal, and, being intact hollow cylinders, are stated by the Coventry Company to have a natural ringing noise, which is claimed to be destroyed by making them of spirally-wound strip steel. Not only is the new departure said to result in an exceedingly quiet-running chain, but also that it affords other advantages, viz., that the rollers being made of strip steel, there is less likelihood of fracture, owing to the grain of the metal following the circumference; that the metal, being in strips, can be obtained of an absolutely uniform character, and that it can be uniformly case-hardened on all its surfaces. While a chain running in perfect alignment on well-designed sprockets and kept well adjusted should give little or no trouble on the score of noise, it is quite true that when these requirements are not met, especially in the case of worn chains, some cars have a tendency to become unduly noisy, and any new attempts to overcome the difficulty are well worthy of attention. The behaviour of the Coventry Company's new chain in actual use will consequently be watched with interest.

A 24-HOURS road race was held on the 7th ult. on the reconstructed racing track at Morris Park, New York. The event was won by Bernin, on a 35-h.p. Renault, who covered 1,079 miles in the time; Smelser, on a 40-h.p. Lozier, was second, with 972 miles to his credit; Kilpatrick, on a 35-h.p. Hotchkiss, third, with 892 miles; and Campbell, on a 35-h.p. Allen-Kingston, fourth with 681 miles. The five other cars which started failed to finish.

THERE will shortly be placed upon the market, states the 'Industrial Motor Review,' a new field motor designed for ploughing, mowing, reaping or hauling. Ploughing, however, will be performed on the double engine system, a master device having been patented which permits of two motors weighing not more than five tons negotiating a heavy four to six furrow balance plough without possibility of the motors being pulled out of position.

AN innovation in motor auctions will be made on Saturday, the 26th inst., when Messrs. Hampton and Sons, of Cockspur Street, London, S.W., will inaugurate a series of sales on the Brooklands track at Weybridge. We understand that the firm only intend accepting cars for sale when they have satisfied themselves that they can be recommended to purchasers, who will also be given an opportunity for the trial of vehicles on the already famous course.

THE receipt of a catalogue of heating stoves from Messrs. Walter Berry and Sons, of Downing Street, Manchester, reminds us of the approach of the winter season, when in frosty weather special attention must be devoted to the heating of the motor-house to prevent troublesome and costly additions to the repair bill owing to burst cylinders. Messrs. Berry make a variety of stoves; a speciality, however, is their combination of a gas-heated hot-water boiler and radiator, the former being located outside the motor-house and the latter inside.

A FIRE has occurred at the motor body works of Messrs. Harper, in Broad Street, Wolverhampton.

THE Tasmania Motor Company, Ltd., is erecting new premises at Launceston, and is developing its automobile business generally.

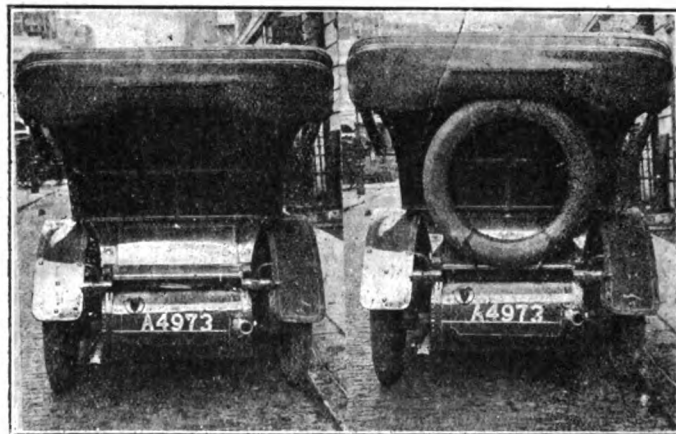
THE first motor auction sale at Doncaster has just taken place in the hall erected by Messrs. Jackson and Co., of the Hall Gate Motor Garage.

THE ancient and interesting Eastern counties borough of Beccles is the subject of an illustrated handbook recently published by Mr. A. E. Mickleburgh, of the Waveney Press of that town. The picturesque gabled houses, the winding river, and the general environment of Beccles are illustrated in a series of well-executed half-tone views. There is also chronicled a well-written history of the town from the time of the borough's charter in 1584.

THE latest bulletin of the White Company deals largely with the progress made in the works during the last seven years. It also contains a description of the new factory where the well-known White steam car is made. The illustrations give a graphic idea of the extent and equipment of the works, everything being of the most modern description. An account of the technical features of the car is also included in the list, which, like the vehicle it represents, is about as good as it can be.

AT the R.A.C. Exhibition, Aston Lower Grounds, Birmingham, on the 17th ult., a series of tests were made with the New Era petrol fire extinguisher. The trial took the form of the extinction, in from four to twenty seconds, of huge blazes produced from such highly inflammable materials as shavings, tar, petroleum, and cans of petrol. In each case the result was the same—a jet from the New Era utterly annihilating the flames when at their hottest. The demonstration was a great success, and afforded convincing proof of the merits of the appliance in use.

THE accompanying illustrations show a neat spare tyre carrier equipped with a 36 by 5 in. tyre and fitted to a six-cylinder "Thames" car. The chief feature of the arrangement, which has been devised by Mr. W. T. Clifford-Earp, is the absence of unsightly arms and stays when the carrier is not actually in use. The position in which it is placed has a decided advantage over the standard side fixing, which prevents access to



the driver's seat from the off side, and interferes with the easy manipulation of the gate change speed, besides detracting from the general appearance of the car. It will be noted that the lower stays are folded down and are quite inconspicuous when no spare tyre is carried; the upper stay is hidden by the Cap's cart hood. No part of the tyre is in contact with the back of the car, so that damage to paint and varnish is impossible. The carrier is being fitted to all standard six-cylinder "Thames" vehicles.

ALAS! Gloucestershire has fallen into line with Surrey, Sussex and other police-ridden districts, the first trap in the county having been set on the day that the Auto-Cycle Club recently intended to have a competition on Birdlip Hill.

THE CLOTHIER AND THE CAR.

WHEN on the memorable run to Brighton which awakened our people to the knowledge that the legal restrictions on the automobile had been removed by a tardy Legislature there was much amusement at the eccentric appearance of those who occupied seats on the cars, whether as drivers or passengers. Many of the wayfarers resembled bears and other animals favoured by nature with hairy coverings to keep out the cold. Others appeared clad in leather raiment, and stiffly walked about shiny and strange to the spectators, who grinned and gaped at the curious medley of men and machines.

The wonderment they caused has quite subsided; motoring has become one of the orthodox methods of progression, and those who delight in its joys resemble other men. Especially is the fact apparent at such a time as the present, when the motorists' clothiers are relegating dust coats to the rear and bringing out "warm winter clothing" that shall protect those who motor from the stress and storm of our English climate and yet be unobtrusive to the public. In short, the motorist wishes



The Dunlop Rubber Company's Latest Style.

to appear as other men, clothed in garments that shall not attract the notice of small boys in November.

Now that leading sartorial firms have come to his assistance in this matter the motorist may congratulate himself. He is well provisioned in this respect; and not only are the houses that originally set out to supply accessories looking to his wants with regard to clothing, but the fashionable tailors are becoming equally solicitous to supply him with specially designed clothing. Their advent to the industry has probably had something to do with the displacement of leather and furs from the early favour, although both are still used, and large quantities of fur garments can be seen in West-end showrooms. Latterly Irish frieze has been most in favour for gentlemen's clothing, and liveries in meltons have been the rule. In each case this is an advance for master and man.

But perhaps the best method of illustrating this development is to mention one or two leading designs of some of the principal firms engaged in the business, reserving to next week reference to other well-known houses that have contributed to the improvement in design that has been so noticeable during the last season or two.

THE DUNLOP RUBBER COMPANY, LTD.

THE Dunlop Rubber Company, Ltd., of Manor Mills, Birmingham, have become specialists in motor clothing, and an inspection of their goods reveals the fact that all the productions in the way of raiment have been designed by a practical motorist. We all know the weakness of the local tailor in attempting to design clothing really protecting from inclement weather. He is apt to give his mind solely to the provision of ample amounts of material, on the principle that if there is the quantity of cloth in a coat it must be



A Speciality of the Dunlop Rubber Company.

warm. The cutters of the Dunlop Rubber Company, however, while never stinting their material, do not give a garment an ounce of unnecessary weight. Even the stoutest, most weather-repellant coat they build is pounds lighter than many garments of similar design and warmth. Everything they produce has been designed, cut, and put together by people who know just how loose, how tight, how warm, and how heavy it is needed to be to afford maximum protection, yet be free from any suggestion of encumbrance of movement or limitation of freedom, walking or riding.

A. W. GAMAGE, LTD.

MESSRS. A. W. GAMAGE, LTD., whose motor department is one of the chief features of the great building in Holborn, have brought out a



The lining of Gamage's "Motura" Coat ready to attach. Attaching the lining and finishing the operation.

new coat known as the "Motura" for the season. This is made in real Irish frieze and has a taking cut and finish. An important point in connection with this garment is the detachable lining, this being attached by a very convenient form of fastening by means of which the coat can be made complete with the leather lining fixed inside the coat in less than a minute. It is as easily detached in mild weather,

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and, without the lining, the coat will then give sufficient warmth. In these changeable days, when warm noons are succeeded by cold and chilly nights, the idea of the detachable lining is one to be recommended, and the way in which it is worked out in Messrs. Gamage's speciality is certainly admirable. The "Motura" coat is also made in light-weight Scotch homespun. Another excellent garment is the firm's "under-coat," made in camel fleece, tan leather and chamois leather. This is suitable for either lady or gentleman. It is easily put on or taken off and can be regarded as a wrap to give protection against colds and chills without the appearance of being a motor-coat. In addition to other lines of motor clothing for adults, including Russian foal skin coats, special attention is devoted to juvenile attire, in which several good styles can be seen in Holborn. Those in grey goat and cheverette goat skins are notably effective both from the points of utility and appearance. A large department is also devoted to motor clothing for ladies, the various garments all being cut and designed by experts. The "two-in-one" coat is specially designed to combat the piercing wind and rain. This is made in a choice selection of Scotch and Irish tweeds and showerproof covert coating. It is warm and comfortable and light in weight. Messrs. Gamage's list contains illustrations of these clothes and the book will be of interest to all ladies.

AUTOMOBILIA.

In the heart of the West End is the establishment of Automobilia, Ltd., with finely-positioned showrooms at 532, Oxford Street, W., nearly opposite the Marble Arch. Here is a fine show of clothing of high degree for both ladies and gentlemen. The department is under the sway of an expert, a man who has seen the evolution of the motor garment as already referred to, and who has, moreover, ministered to the change in a very marked degree. We illustrate two of his most effective and latest designs in ladies' clothing, combining ideas of shapeliness, comfort, and lightness, with the wind and rain-rejecting qualities that go to make up the perfect garment. The "Mercedes" coat is leather lined to the waist, and presents a handsome appearance, while the ladies' coats generally are made in good serviceable cloth, although one particularly striking pattern in green leather is so well worked up as to look almost like cloth—a novel idea that will be of interest to many of our fair readers. In men's clothing the "Auto" coat first deserves mention, this being a type which is of remarkably good value and design. It is made of Irish

frieze, and is lined with chrome dressed leather, fitted with Prussian collar and gauntlet cuffs. The collar can be quickly and easily manipulated to allow the coat to be used for ordinary walking purposes, and is only equalled in popularity by the "Brookland," which is of somewhat similar design, but has a special detachable lining, such as is being successfully introduced into clothing. Thus the coat can be equally serviceable in spring, autumn, or winter—a range of adaptability that gives it favour among a large section of motorists. In liveries for drivers, Automobilia, Ltd., have several good suits in superior blue or green Meltons, and their cleaning suits and overalls are excellent for use in the garage. In addition to the wide range of motor garments, such as coats, the firm have many good styles of caps, &c., all made under personal supervision, and embodying fashionable ideas with regard to the head-dress. Reverting again to the coats as a distinct feature, which has given Automobilia, Ltd., such a high position among tailors, we may mention that advice is freely given both with regard to the owner's garments and the chauffeurs' livery.

CHAS. BAKER AND COMPANY, LTD.

At the Motor-Car Exhibition, Messrs. Chas. Baker and Company, Ltd., were able some years ago to make a successful debut to the motoring public with designs of clothing that indicated practical knowledge of the requirements of the man who drove and the man who rode on cars. The styles with which they commenced have been well maintained in design and finish; the experience of the recent seasons having enabled them to keep well abreast of the time in this respect. Irish frieze has undoubtedly merits in the eyes of motorists, withstanding rain and inclement weather. One design for the winter is lined with tweed and introduced to the public at a reasonable rate that should command attention from those of an economical frame of mind. Tweed coats lined with leather and designed so that they have somewhat the appearance of ordinary garments when walking are another line in which the firm excel. Chrome leather linings of the detachable order are a feature of the goods for the new season, and both for quality and style Messrs. Baker and Company, Ltd., have come well to the front, their establishments in Holborn and also in the Tottenham Court Rd., W., being well-known to motorists.

Not only is the firm meeting requirements of gentlemen motorists but their ladies' coats present features that should appeal to lady motorists. Among these is a chrome leather three-quarter coat in cream or brown, of stylish appearance. In other sections of the business will be found special lines in liveries for drivers, which have the merit of being neat and serviceable, without the ostentatious display that was once associated with chauffeurs' clothing. The new designs in these liveries in blue or green army cloth, have distinctive styles likely to be appreciated. Heavy overcoats for the winter are also made to match.

ROBINSON AND CLEAVER.

In their large establishment in Regent Street, W., Messrs. Robinson and Cleaver have a special department for motor accessories and clothing. The latter is of interest as illustrating what skill and enterprise can do for the motorist when combined with the practical knowledge without which no tailor can bring out a garment that shall be thoroughly satisfactory in all its details to the modern motorist. They, too, recognise the value of Irish frieze as a material for clothing, and have been able to introduce various little ideas giving a distinctive character to their garments. An attractive design shown us on the occasion of our visit was a frieze coat of special value with a storm collar and wind cuffs, securing ample protection from the weather. These are made in a quality and pattern suitable for drivers. For wear under the ordinary overcoat an attractive chrome leather garment has been devised. This is double breasted and loose fitting and will solve a problem of some difficulty to motorists. A chamois waistcoat with sleeves has had considerable vogue and is likely to continue its popularity. Liveries and clothing for boys are also in the range of production of Messrs. Robinson and Cleaver, whose association with the motor industry is a matter of considerable importance.

MOTURING IN SKYE.

RECENTLY the secretary of the Scottish A.C. supplied a member with information regarding access to the Isle of Skye with a car. Two possible routes were suggested:—

1. *Via Glenshiel to Dornie*, and thence by ferry to Lochalsh, and by ferry to Kyle Akin.

2. *Via Dingwall to Strone*, thence by ferry to Strone Ferry—thence to Lochalsh, and by ferry to Kyle Akin.

One or two comments on these may be of service to other motorists going thus far north. *Via Glenshiel*.—I tried this, but the weather was shocking, and the road up the glen soft and difficult, so I turned back. The objective should be Totaig not Dornie, since the latter place is hilly and dangerous, whereas that to Totaig is only undulating and has no steep ascents. There is a good ferry-boat plying between Totaig and the Kyle of Lochalsh. The ferry-boat from the latter place to Kyle Akin is not a large one; my car has a 9 ft. 6 in. wheelbase, and it was only just accommodated; the transport of a longer car would be at some risk to the car. *Via Dingwall to Strone*.—Undoubtedly the better route, road fairly good all the way. From Strone Ferry to the Kyle of Lochalsh the road is soft and sandy in stretches—and there is a very steep ascent with a dangerous descent.

The route to Skye *via Kyle Rhea* is impossible, as the road from Glenshiel, after leaving the Totaig road, passes up the extremely dangerous hill called Mam Ratachan; it passes up with five acute elbow curves, and I am told it is unfit for vehicles of any kind.

The Skye roads are of the second variety, with occasional stretches of good surface. The road from Kyle Akin to Portree has generally a fair surface, but, with one exception, the hills are not worse than those on the mainland. The exception is a hill between Broadford and Sligachan called Druim nan Cleochd. This has a stiff gradient with one right-angled turn; by themselves they would present no difficulty, but the surface is made of loose sandy gravel, two or three inches deep on the steeper parts. My car has been up twice without trouble, and has thereby become notorious, as I understand that lately no other cars have got up without assistance. (Anyone who wishes to avoid the road should take the mail steamer from Lochalsh to Portree; it sails daily at 2 p.m.) The ascent of the hill from the Sligachan side is stiff, but any car could manage it.

Sligachan to Dunvegan *via Struan*.—Good road, probably the best in the island.

Portree to the Quirang.—Second class to Uig—thence rough, with a long ascent, not severe gradient, but very heavy going, owing to the peaky nature of the "Formation." It is astonishing how these peaky roads delay a car. The same kind of road is found when driving from Sligachan to Glen Brittle, fourteen miles, the first three for four on a main road, then into the moorland type, streams to ford, doubtful wooden bridges to cross. One very steep descent into Glen Brittle, dangerous.

On the whole, I was agreeably surprised with the roads, and do not regret taking my car over. At the same time I recognise that it is too heavy for some of the roads (26 cwt. unladen) and that with a 10 or 12-h.p. modern car I should have had an equally good time and been able to travel much faster and more easily. A single-cylindred car would do well.

I went to climb, and for that purpose the Glen Brittle road is the route, as it leads into the heart of the island. Any other climber who wishes to use a motor should bring a 10-12-h.p. light car. The only doctor in the island flies about on a 10-12-h.p. Humber.

Correspondence.

[Letters to the Editor should be addressed to the offices, 87-88, Charing Cross Road, London, W.C.]

RACING AT BROOKLANDS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—On opening my morning paper a few days ago I was considerably startled by a headline announcing that "Mr. Edge Defies the World." On reading the announcement I saw that Mr. Edge, in despair of finding anyone to race against him for the sum of £1,000, had decided to increase the stakes to £10,000 on each side. My friends assure me that Mr. Edge does not seriously mean to race anyone but is only amusing himself by issuing challenges to the world, and that I shall find that some impossible conditions are attached to this challenge, that he does not mean to compete against racing cars but only against touring cars. I cannot, however, believe this, and I take his challenge as seriously meant, and in the same spirit I am willing to accept it.

I am quite willing to race him for one mile and for 500 miles, the stakes in each race to be £5,000 a side. In the one-mile race I believe that Mr. Edge has only one really fast car, therefore I am quite content to race Mr. Edge with one car only. If he prefers to have three, he can do so, and if any one of his three can beat my one I am quite content to lose. For the race for 500 miles I have only three cars, therefore I would ask Mr. Edge to limit his team to the fastest three cars. The only conditions that I must insist on being adhered to are that both races are run under the recognised International Racing Rules, i.e., the rules that are laid down for the principal continental races. The three principal races on the Continent this year, the French Grand

Edge that he has not won almost the whole of the events competed for at Brooklands. He has devoted much time and trouble, not only to the preparation of his cars, but to advice as to the best method of classification, which Mr. Edge is clever enough to realise is of infinitely more service in winning races than is the actual preparation of the cars. He is certainly to be sympathised with on the failure of the 90-h.p. Napier to win the biggest event so far competed for at Brooklands, viz., the Montagu Cup, value £2,000. Even the nicest calculations sometimes go wrong when one remembers that the maximum dimensions allowed for this race were 235 and that Mr. Edge's Napier car came in at 234.6, having therefore an advantage of about 20 per cent. over other competitors before the start, and that also the only car which was certain to beat Mr. Edge's Napier, because it had always beaten it, viz., Mr. Lee Guinness' Darracq, was debarred from competing because it happened to be slightly in excess of the dimensions allowed for the race, which were very considerably closed immediately the Napier car was let in. Now all this was very considerate to the English manufacturer, and it must have been a source of much annoyance to Mr. Edge that after such nice calculations had been made in regard to the dimensions allowed for the race his car should have the misfortune to break down and a foreign car to win the event. Possibly when the car can be induced to go fast again we shall then have the second long-promised Montagu Cup race.

When the proposal was first mooted to the various competitors of making classes for standard sizes of cars to be competed for each



The Meet of the Lincolnshire Automobile Club at Cleethorpes.

Prix, the Circuit des Ardennes, and the Brescia Race, were all run under the conditions laid down by the French Automobile Club for this year's Grand Prix.

The French Automobile Club is the recognised head of International racing affairs, and as such I cannot think that Mr. Edge can have any objection in racing under the conditions as laid down by them for this year's Grand Prix. If Mr. Edge considers that his six-cylinder cars are at a disadvantage owing to their petrol consumption, I am quite willing to revert to last year's International Racing Rules which governed the Grand Prix, and which, as he knows, were restricted by the weight of the car only. These rules were practically the same as governed the Gordon Bennett Race.

One of my friends tells me that Mr. Edge wishes to race on the conditions which governed certain races which have been held at Brooklands, and in which races the Napier cars, it is hardly necessary to say, have been successful. If this is all Mr. Edge's challenge consists of, then in my opinion it is no challenge at all, but if Mr. Edge seriously wishes to have a race I am quite willing to meet him as stated above, and it may also comfort Mr. Edge to learn that I am quite content to run in the long distance race three of what he is pleased to term obsolete four-cylinder cars. I may also inform him that these cars are not even new cars, but were built for last year's French Grand Prix. The whole of the four cars that I would race against Mr. Edge would be Darracq cars, and I think the event, if Mr. Edge is agreeable to my proposal, would settle once and for all the question of whether or not the Napier or the Darracq car has the best justification for claiming to be the fastest racing car in the world.

This letter is not written in any spirit of disparagement of either Mr. Edge or the Napier cars. My sympathies are entirely with Mr.

meeting, which classes were to be 26-h.p., 40-h.p., 60-h.p., and 90-h.p., the proposal was unanimously agreed to, but it was on the understanding that these classes were only intended to come into force next season, by which time everyone would have had a chance to build cars to compete in these classes, and therefore there could be nothing unfair in whatever sizes were selected, but it was never anticipated that these classes would be immediately put into force and be competed for during the present season, as it was apparent to everyone that barring Mr. Edge no one had cars which could compete with any chance of success in either the 40-h.p. class or the 60-h.p. class, and that any events run under such heading were practically in the form of a free gift to Mr. Edge.

Although I myself entered cars in each of these two classes at the last meeting I only did so to support the same and to try to prevent the classes falling through. I protested to the secretary at the time of my entry, stating that I did so with the full knowledge that I had no chance of success owing to my cars being so much less than the Napiers. I informed him that both events were foregone conclusions for the Napier cars on the formula adopted, and also that the five mile handicap was a gift to the same vehicles.

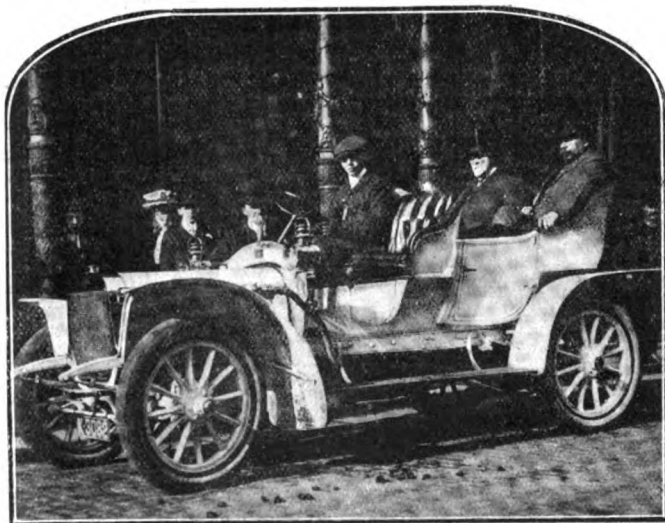
Commendable as is the idea of favouring the British manufacturers, surely it is not sport when carried to such extremes as this. Capital entries were secured for the opening meeting and several of the best known Continental drivers came over to compete and everyone seemed anxious to give the venture their support, but what do we find as the result after several meetings? Almost all the principal people have withdrawn from supporting the meetings. Surely there must be something wrong when the Daimler Company abstain from competing. Again, Mr. Jarrott did his best in supporting the meetings with his De

Dietrich cars, but he also is now abstaining from competing. Again, the Fiat Company, who have won all the big Continental races this year, supported the first meeting, and sent their best driver over, but since then they no longer compete. In the face of all this we again see the extraordinary mistake made for the last meeting of the year keeping to these same classes. It will astonish me very much if either the 40-h.p. class or the 60-h.p. class obtain any entries outside the Napier cars.

As a member of the Brooklands Club, and I think I may justly say a good friend of the club, I have supported the meetings in every possible way, and, apart from Mr. Edge, I have entered more cars and paid more in entrance fees than anyone else, but without the knowledge that Mr. Edge always had that many of the races for which he was entering were practically gifts to him. I have tried to explain to the gentlemen who frame these classes that this is not the way to achieve success, and that, however anxious they may be to please Mr. Edge, by overdoing so they have caused the rest of the competitors and the trade to hold aloof.

Next year, of course, there will be nothing unfair in having these classes, as by that time other manufacturers will have been able to build cars to come up to the maximum dimensions allowed, and I do not think we shall then have quite so much of the Napier successes. It is sincerely to be hoped that the classes will not then be altered.

If Mr. Edge agrees to my conditions, I am quite willing for the race to take place any time during October, and that the stakes be immediately deposited with Lord Lonsdale, the president of the Brooklands Club, and all questions of details left absolutely to the discretion of, say, Lord Lonsdale and Colonel Holden, two of the stewards of the Club. In regard to the time-keeping for the short distance speed race I would suggest that we have the official timekeepers of the French and English Automobile Clubs. To conclude, should Mr. Edge consider



Mr. Chas. McArthur, M.P., on the 26-30-h.p. Argyll Car supplied by Argylls Liverpool, Ltd., for use during the political campaign in the Kirkdale division of Liverpool. Mr. McArthur is seated immediately behind the driver.

he is placed at the smallest disadvantage by the conditions stated by me I am willing that he should pick out his fastest cars and I will do the same, and we will waive all question of rules or conditions whatsoever and let the race be unconditional, the fastest car to be the winner irrespective of either petrol consumption, weight, or engine capacity. I do not know that Mr. Edge can possibly wish anything fairer than this. —Yours truly,

A. HUNTLEY WALKER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with interest "Spectator's" letter in last week's Journal. I was a witness of the terrible accident that occurred at Brooklands, and from my point of view I think that the driver of the Napier car who caused the accident ought to be severely censured for failing to stop on the proper side, according to the regulations. If the driver of the Napier covered two-thirds of the track without a tyre surely he could have gone a few yards further and stopped without getting in the way of the cars behind him. —Yours truly,

A LOVER OF FAIR PLAY.

PETROL IN MANCHESTER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should like to put your readers on their guard against some of the stuff that is sold in Manchester under the name of "petrol." I was in Manchester early last week with a 40-h.p. Weigel, and on applying at the garage which I used for petrol, my mechanic was told

that the only spirit he could obtain was some local brand, none of the well-known brands being available. I do not quite know what this particular spirit is, but it has a very peculiar odour, something like naphtha, and on pouring some of it into the hand it does not evaporate but lies there like paraffin oil.

I found that in order to start the engine on the several occasions that we had stopped it in a journey of about 600 miles all the air had to be shut off from the carburettor, and that the air supply port had to be stuffed with a sponge cloth in order to get the engine to fire. Not even when the motor was warm would it start readily with this peculiar spirit, and next morning, on examining the low tension plugs, I found they were covered with a peculiar scale, rather light in colour and resembling lava.

The odd part of it was that this petrol was sold to my man in tins painted the colour of and bearing the name of a very well-known brand of petrol. I hold no brief for any individual brand, but certainly think that, as a matter of public interest, your readers ought to be warned of the facts that I have stated above. —Yours truly,

C. E. WHITTAKER.

TYRES AND TYRE INFLATION PRESSURE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—No doubt we are to believe the motoring public owe a debt of thanks to Mr. Edge and the Dunlop Company, for the interesting experiment regarding tyres recently conducted at Brooklands. The results, however, are so obviously what might have been expected that, except for the advertising value to the two firms interested, they can carry no weight.

We have learned nothing more than what we already knew, and it is only logical to assume that the highest speeds would be attained with the front tyres as hard as it is possible to inflate them, and the rear tyres just hard enough to allow a sufficient adhesion for driving purposes. The road adhesion on the front tyres is so much lost power, consequently, if the tyres could be shaped like a V with the point in contact with the road surface, the traction effort necessary to propel the car would be very small, especially over a surface such as the track at Brooklands. Consequently the speed would be greater.

The reports I have read do not say whether square and round tread combinations were tested for their relative merits. The ideal combination for a touring car, which after all is of much more consequence and real interest to the average motorist, is a square tread on the driving wheels and a round tread on the front wheels, all pumped to the highest pressure recommended by the tyre makers for that particular size.

With the round tread tyres on the rear driving wheels whilst travelling at such high speeds as were used in the trials the "slip" due to road vibration is very noticeable if the tyres are hard, consequently it was found advantageous to reduce the pressure to 90 lbs. This had the effect of cushioning the shock and allowed the driving wheel to remain in contact with the road surface a longer time, thus permitting a more even and more constant transmission of useful power. If a reasonable speed had been tried in conjunction with a car of moderate power, fitted with a heavy touring body, I am convinced the results would have been very different to the conclusions which the originators would have us believe they arrived at. From a racing point of view no doubt the test was regarded as necessary in order to verify an opinion already arrived at, but for all practical purposes the published results are misleading. —Yours truly,

CECIL LAMB.

A STEAM CAR ENTHUSIAST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent "H. J. C." asks in your issue of 21st ult. "why there is such a prejudice about steam cars," and to show the absurdity of it he relates how he drove the purchaser of a heavily-laden three-year-old 10-h.p. White steam car from London to Grimsby in an afternoon without the slightest mishap and with a luxury of motion that delighted the passengers. Such runs, however, on up-to-date steam cars are nothing wonderful, they are done every day; but, in spite of the present perfection—I want absolute perfection—of the steamer, a certain prejudice still remains in the mind of the public that they are unreliable and not to be trusted. Why?

The advent of the Locomobile several years ago, which was thrown on the English market at an absurdly low price, £150, without any of those essentials that had to be added to make the car reliable, as they were always breaking down from want of them, poisoned the mind of the public against steam to such an extent that the petrol car makers had it all their own way, and took every advantage of the position by boycotting them in the Press and in open competition, and so the public were kept ignorant for a long time of the improvements that were being made in the steamer, and unable, therefore, to form any opinion as to the value of them.

Things, however, are gradually changing, and steam, which holds the world's records for hill-climbing and speed, is gradually forcing its way to the front, after many years of great opposition and unsportsmanlike hostility. Only last week in one of the daily papers it was stated that Mr. Lee Guinness on his 200-h.p. car did a mile at the rate of 114 miles per hour. At the end of this paragraph it certainly stated this speed was not a world's record, which stood at

127½ miles per hour, but no mention was made of the fact that the car that did that wonderful speed was a 30-h.p. Stanley steamer.

There is nothing for the public to fear now about steam cars, of which there are many fine makes on the market. There is no comparison between them and petrol cars of double the power for what they can do and the way they do it, and they do their work without "talking." There are no gears, clutches, or electrical connections to trouble about and the latest cars are practically fool proof. It is positively delightful to ride on a steam car, as those who have had that pleasure can testify. I believe that if half the money and a quarter of the brains had been spent on steam that has been spent on the internal combustion engine there would be few of the latter on the road.—Yours truly,

J. C. P. PERRY,
Major, R.A.M.C.

SUBSTITUTES FOR PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Would you or some of your readers be kind enough to give me some information about benzole? Some weeks ago, a correspondent gave some account of it, but I did not take any particular interest in it at the time, believing it unobtainable in my district. What I wish to know is, can it be used through an ordinary carburettor, what is the difference in mileage per gallon, and does it have any bad effects on valves, such as pitting badly, or inside cylinder walls?—Yours truly,

F. W. HODDER.

[Our correspondent's enquiry was apparently anticipated by Mr. B. F. Rider, of Leeds, whose experiences in the use of benzol were recorded on page 646 of the last issue of the *M.C.J.*]

MOTORISTS AND TOURING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I think members of the Motor Union have a grievance in that, whilst members of the R.A.C. can pay their customs deposit and receive their driving licence and registration numbers before taking their cars across the Channel, the Motor Union, with a much larger membership, apparently cannot give them this facility. The assurance that the Motor Union will recommend an agent who will assist members through the formalities is not much consolation now it is generally known that these agents meet the boats and will equally see members and non-members through. Nor the fact that someone, if not the R.A.C. company, will charge a commission on the deposit. That the deposit will be made in English money and returned, as the member is embarking, in foreign currency. That he will, after possibly wasting some hours, have to drive with temporary permits till the proper ones can catch him through the post, or he picks them up on his return to port of departure (if they have not miscarried in the meantime).—Yours truly,

J. M. B.

WHEELS FOR MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Re your correspondents, Messrs. A. E. Gelder's and O. Cook's letters anent wheels for motor-cars, they apparently have not yet heard that there is a solid-tyred wheel which fulfils all Mr. Cook's requirements, namely, unpuncturability, low cost, &c., and which, moreover, is guaranteed for three years so far as the wheel is concerned, and for a minimum of 10,000 miles tyre life, about four times as long as the average life of a pneumatic. The peculiarity of the combination is that the shock is absorbed at the periphery of the wheel like a pneumatic, consequently it is suitable for speeds far in excess of forty miles an hour. There are no springs or buffers of any sort, the principle of its action being entirely new. Naturally I cannot describe at length the action, as I should be trespassing too much on valuable space, but the wheel I refer to is the Lynton.—Yours truly,

ERNEST H. ARNOTT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am afraid that it would take too long to answer all Mr. A. E. Gelder's statements, and I rather think that we should be overlooking the real question at issue, viz., the necessity of providing a wheel or tyre for all-round use on a motor-car. The majority of motor users agree that something more is wanted. Speed against safety and weight is not demanded, else they would not so readily use the heavy leather bands. Comfort is of the greatest importance, because it means that vibration is diminished. Safety is another important item, so it must not be liable to bursts or side-slips. Cost must be reduced if we are to retain the average user, for, as Mr. Bryant says, "The motor-car, less expense of tyres, is the cheapest form of locomotion, plus tyres cost the most expensive."

Each year increases the need of such a tyre. Surely it will soon be produced! Will fashion allow it to be used?—Yours truly,

O. COOK.

POLICE COURTESY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have had a different experience to "A Motorist" in your last issue. My light went out in Brighton, and I was getting down to relight it when the "man in blue" hove in sight. He took my name and address and looked at the licence and was almost apologetic over it. I received a note from Mr. Gentle, the chief constable of Brighton, asking me not to let it occur again. This is only in accordance with what I always hear concerning him, but it is distinctly worthy of note that one chief constable at any rate recognises such occurrences are accidents and that we do not do it for amusement.—Yours truly,

ROVER.

A CHANCE FOR A GARAGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Knowing of the great interest you take in all matters connected with motoring, I venture to trouble you with this letter. I am anxious to start a motor business in a small place on a main road (in England), on the following lines:—

(a) To open a shop stocked with motor accessories, including covers, tubes, petrol and oils, &c.

(b) To employ a mechanic capable of dealing with small repairs and adjustments.

(c) To keep a motor-car for hiring out, with driver.

I should be so glad if you could kindly help me by indicating a place suitable for me to try my luck on the lines suggested.—Yours truly,

F. V.

[Our correspondent will probably find that most places are already served in this respect, or perhaps some reader can supply the information desired.]



Bosnia and Herzegovina has recently adopted a new postage stamp, on which a motor mail van is the subject of the illustration.

A MYSTERIOUS NOISE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or any reader of the *M.C.J.* could assist me in overcoming a difficulty experienced in my car. It is fitted with a 6½-h.p. single-cylinder engine, and when I put the car on top speed it knocks or gives a sharp clink every time it fires, no matter how much I retard the ignition. The moment I put it on the lower speeds the clinking stops. It is only on the top speed that this happens, even when the car is going full speed.—Yours truly,

KINGSTONIAN.

[The clinking noise is no doubt caused by the cardan shaft having become worn, and would only be detected when the car is on top speed, this because the engine is running much less rapidly than when on the lower gear, and, in consequence, would give an uneven transmission, which is overcome when the engine is running at its normal speed.]

A NOISY CARBURETTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be obliged if you will kindly inform me of a remedy for the air intake of a carburettor making so much noise; can I fix my carburettor so that it will work quietly, or will I have to get a new one? It seems to me there ought to be some way to silence the noise.—Yours truly,

R. J. SIMPSON.

[The air intake of a noisy carburettor may be silenced by means of a miniature silencer being fitted, this to entirely cover the present opening. If carefully fitted, this should remedy our correspondent's trouble.]

SCOTCH COURTESY.—From C. D. L. comes correspondence in reference to an incident which occurred at Braemar in August; but it scarcely seems within the limits of newspaper controversy.

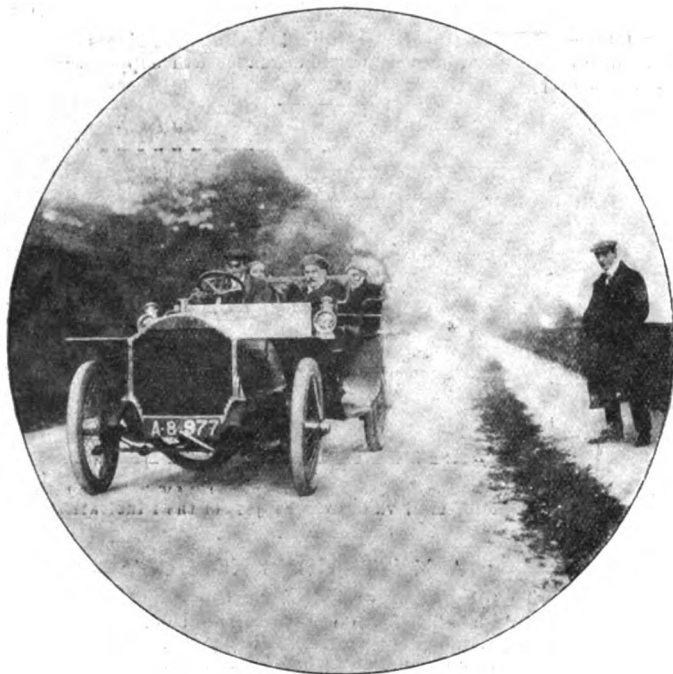
CLUBS AND ASSOCIATIONS.

JUNIOR AUTOMOBILE CLUB.

THE Junior Automobile Club's "Agnes Wood" Challenge Cup was contested for on Saturday. The conditions of the competition were that the trophy should go to the driver making an absolute non-stop run for 150 miles, except for replenishing with oil, fuel, and water at the half-distance, but the engine had to be kept running the whole time. There were three starters—Mr. C. W. Brown, Mr. Chester Fox, and Miss Agnes Wood—all driving Rover cars. The course was from Barnet to within five miles of Coventry and back, and the speed was checked at several points. The competitors were started at four-minute intervals. All made non-stop runs, and approximated so closely to the stipulated speed that it was a difficult matter for the officials to decide the winner. This proved to be Mr. Brown, who at some of the controls was only a few seconds at variance with the schedule, and whose total time in excess of schedule at various points exactly equalled his total time behind schedule at other points. Mr. Chester Fox was a close second, and Miss Agnes Wood was third.

MANCHESTER.

THERE were thirty entries for the annual hill climbing competition of the Manchester Motor Club last Saturday, at a spot the location of which need not be given in the press. The first three competitors in each class were:—



The 60-h.p. Napier which made the fastest time at the Manchester Motor Club's Hill Climb.

Class A (for two-seated cars, chassis price not to exceed £175).—1, Mr. J. Newton's 6-h.p. Rover (driver E. Ridgway) which made the fastest time and also won on the handicap; 2, Mr. J. T. Ward's 6-h.p. Rover; 3, Mr. V. G. New's 6-h.p. Siddeley.

Class B (for cars, chassis price not exceeding £325).—Mr. R. H. Carlisle's four-cylinder Argyll (T. F. Waugh, driver); 2, Mr. R. Newton's 14-h.p. Vulcan; 3, Mr. T. Garner's 14-h.p. Singer.

Class C (for cars up to £450 chassis price).—1, Mr. Hollingdrake's Talbot; 2, Mr. R. Crossley's Belsize; 3, Mr. H. D. Ashworth's Cottereau.

Class D (for cars up to £550 chassis price).—1, Mr. W. Stone's Clement; 2, Mr. J. Arrowsmith's Horbick (driver, H. W. Cranham); 3, Mr. T. Garner's Beeston-Humber.

Class E (for cars over £550 chassis price).—1, Mr. H. Hollingdrake's four-cylinder De la Buire; 2, Mr. H. Hollingdrake's six-cylinder De la Buire (Mr. Hodgkinson, driver); 3, Mr. J. Newton's six-cylinder 60-h.p. Napier (Sidney Smith, driver). The last named car, of which we give an illustration on the hill, made the fastest time.

Mr. F. C. Hunt was the judge, Messrs. J. H. Baynes and W. T. Munroe timekeepers, and Mr. J. Lowe starter.

LINCOLNSHIRE A.C.

ON Saturday the Grimsby members of the Lincolnshire A.C. entertained the other members of the club, and there was a very large assembly of motorists from all parts of the county to accept the hospitality of the Grimsby men. The beautiful park at Grimsby was placed at the

disposal of the motorists, and a space was reserved for the cars. After light refreshments the cars were drawn up in a long line, Mr. W. T. Swaby, as the first motorist in Grimsby, taking the lead, Mr. Alec Black, as the second, following him, and having the Mayor and Mayoress, Ald. and Mrs. Jacob Pickwell, on his car. A start was made for Cleethorpes, the popular and rapidly growing seaside resort.

As the cars passed through Grimsby a very large number of people turned out to see them, the display including several excellent vehicles. The entire route was well lined. At Cleethorpes, the procession was taken to the Kingsway and there cinematographed, the films being shown at the Palace at night. At the end of the Kingsway the cars turned into the Esplanade and were driven back to the park. Here high tea was served, the excellent band of the 3rd Lincoln Volunteers playing a choice programme of music.

A most pleasant time was spent, the hosts attending to the wants of their guests in quite excellent style, and when the large party broke up it was with the feeling that it was one of the most enjoyable gatherings held by the Lincolnshire A.C.

THE INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

THE first meeting of the coming session of the Incorporated Institution of Automobile Engineers will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., on Wednesday, when Colonel Crompton, C.B., R.E., will give his presidential address on "The Future of Automobile Engineering."

SOUTHERN MOTOR CLUB.

THE Southern Motor Club held a hill-climbing competition on Saturday, with the following results:—Single-cylinder motor-cycles.—J. Brodie, 1; A. Ablett, 2; W. L. Lorkin, 3. Double-cylinder motor-cycles.—C. Jones, 1; G. Aldington, 2. Passenger-cycle class.—Holt, 1; Patterson, 2; Aldington, 3. Large cars.—Goddard, 1; Patterson, 2. One and two-cylinder cars.—Carpmael, 1; S. W. Philippott, 2; Mr. Wylie, 3; Mrs. Wylie, 4. Difference between fastest and slowest time.—C. Jones, 2 min. 51 sec., 1; G. Aldington, 2 min. 19 2-5 sec., 2; J. Brodie, 2 min. 11 4-5 sec., 3; W. L. Lorkin, 59 3-5 sec., 4.

WILTSHIRE.

THE inaugural meeting of the Wiltshire Automobile Club was held at Westbury, Wilts, on Saturday, when Dr. Tubb Thomas, who has been chiefly instrumental in its formation, said there were nearly eighty members.

Mr. George Palmer, Backhouse Park, was appointed president, and it was decided to affiliate to the Motor Union and the Royal Automobile Club. The meeting was followed by a motor gymkhana.

THE Bradford M.C.C. is arranging an interesting winter programme.

AT the Essex Motor Club's gymkhana at High Beach on Saturday Miss Muriel Hind on her 24-h.p. Deasy won the first event for cars.

MR. WHALEY, of the Central Motor Garage, Long Eaton, was starter and handicapper at the recent hill climb of the Long Eaton and District M.C.C. at Woodhouse Hill, near Melbourne.

ARRANGEMENTS between the Motor Club and the British Motor Boat Club have been completed at the Motor Club House, Coventry Street, London, W., and the amalgamation of the two clubs is now *un fait accompli*.

WITH reference to the open hill climb of the Auto-Cycle Club which was to have been held at Birdlip on September 9th last, but which had to be postponed, it has now been decided to hold the event on Sharpshoe Hill, a few miles north of Luton, to-day (Saturday), starting at 2 p.m. The weighing will take place at 11 a.m., the motor-bicycles being weighed at the foot of the hill, and the passenger machines at the Great Northern Railway Station, Luton.

MR. JULES FAGARD, of Liege, the manufacturer of the Sthenos carburettor, is now in this country with an entirely new model of the well-known carburettor, which has been tested with perfect success on several makes of cars.

SPEAKING of a set of 915 by 105 mm. steel-studded tyres fitted to his 70-h.p. Mercedes, Baron Friedrich von Born, of Budapest, writes to the Dunlop Company:—"The car has a weight of some 2,000 kilos, but they have run more than 5,000 kilometres. In spite of the great speed and weight of the car and the condition of the roads they have behaved splendidly, and have worn so well that I have been able to have them retreaded in Vienna."

MESSRS. R. REYNOLD JACKSON AND Co. inform us that they have contracted for the sale of no less than twenty-two Jackson cars in four days, and arrangements are being made to double the output for 1908. We learn that these vehicles can now be obtained through the Chelsea Motor Garage, 85, King's Road, Chelsea, S.W., and on easy payments through Messrs. William Whiteley, Ltd., Queen's Road, Bayswater, W. Messrs. Jackson are open to fix up agency arrangements with enterprising and reliable concerns in Scotland and Ireland.

CASES UNDER THE MOTOR CAR ACT.

HEAVY HAULS.

The Whitley Bay magistrates have had five motorists before them on one day. Fines of 20s. and costs were imposed in each case.

A large batch of summonses against motorists has been disposed of at the Kingston Bench. For driving to the danger of the public three penalties of £10 each were imposed. For exceeding the limit on the Portsmouth road six were fined £28 and costs. For exceeding the ten-mile limit in Richmond Park four motorists were fined an aggregate of £8. On Saturday seventeen motorists were fined £73.

At Cromer several motorists have been fined in one batch for exceeding the legal limit. Six motorists have been summoned for driving to the danger of the public at the St. Augustine's (Canterbury) Petty Sessions. All were fined. Three drivers have been fined at Snaith.

Four motorists were fined £2 each on one day at Kingston for exceeding the speed limit in Richmond Park.

At the Shoreham Petty Sessions, on Monday, five motorists were fined £27 and costs.

£25 FOR THREE OFFENCES.

Sydney Collings, of West Hampstead, who was fined £25 and costs or six weeks' imprisonment, at the Lewes Petty Sessions, on September

Trentham, or round the dangerous corner from Stoke. Each defendant was fined 40s. and costs.

INFRINGING COMMONS BYLAWS.

Thomas Bannister, of Barnes, was summoned for driving a motor-car over the turf on the Wimbledon and Putney Commons, contrary to the by-laws, on the 18th ult. Keeper Arthur stated that he saw defendant driving his motor-car over the turf and told him he was infringing the by-laws. Defendant replied that he was there for the purpose of testing his car. Witness asked his name and address, which were refused. He then started to drive round the triangle at the Windmill, running on to the turf at each corner. Witness called for assistance and defendant was eventually taken to the police-station. Defendant said he was only testing his car, and wanted to see if he could turn it in 25 feet. He admitted going on to the grass once. Mr. Schwann fined the defendant 40s. and 8s. 6d. costs.

WITHIN A "LIMIT" AREA.

Harry Passant, of Coventry, was summoned for exceeding the ten mile limit prescribed under an order of the Local Government Board for Clarence Street, Kingston, on September 1st. P.c. Jones said he timed the car over a measured furlong and found the speed to be 18 miles 779 yards per hour. P.c. Beck corroborated. Defendant was placed in the witness-box and said he was a chauffeur of considerable experience. There was a tram-car ahead at the time he was stopped,



The Chateau Thierry Hill Climb.—The Scene at the Finishing Point.

27th, for three different offences under the Motor Car Act, has been released from Lewes Gaol, the money in payment of the balance of the fines being forthcoming.

At Hailsham, on the 26th ult., seven motorists were fined £51 and costs. P.s. Waghorn was a witness in each case, all the defendants having been trapped on the Eastbourne road, Polegate.

EXCEEDING LEGAL LIMIT.

At Stoke Police Court it has been stated that on August 31st an electrical apparatus for gauging the speed of motor-cars was placed over a measured quarter of a mile between Trent Vale and Newcastle-under-Lyme, and a policeman with a stop-watch was stationed at either end. As a result William J. Davies, employed by Dr. Halton, of Newcastle, and Thomas Dudson, of Hanley, were each summoned for driving to the danger of the public. Davies, it was stated, covered the distance in 46.4-5sec., equal to a rate of a little over nineteen miles an hour, and Dudson's time was given as 46.1-5 sec. Although convicting both defendants the Stipendiary pointed out that the prosecution had centred everything on the pace of the cars between the given points, and nothing was stated as to their pace over the canal bridge from the direction of

and it would have been quite impossible for him to have pulled up within the few yards he did had he been driving at eighteen miles an hour. The car was pulled up within three yards. The penalty was 40s. and costs.

DISCLOSING NAME OF DRIVER.

There was a batch of motorists before the Huntingdon Divisional Bench on Saturday, the most important case being one in which the Darracq Company were summoned for refusing to give information as to the driver of a particular car. The police had timed the car and signalled to the driver to stop, but he went on. They took the number, and finding that the car belonged to the defendants, they applied to them for the name of the driver. To this the defendants replied that it was impossible for them to comply without a number of inquiries, which they had neither time nor inclination to make. The Bench fined them £20, and agreed to grant a case if asked for.

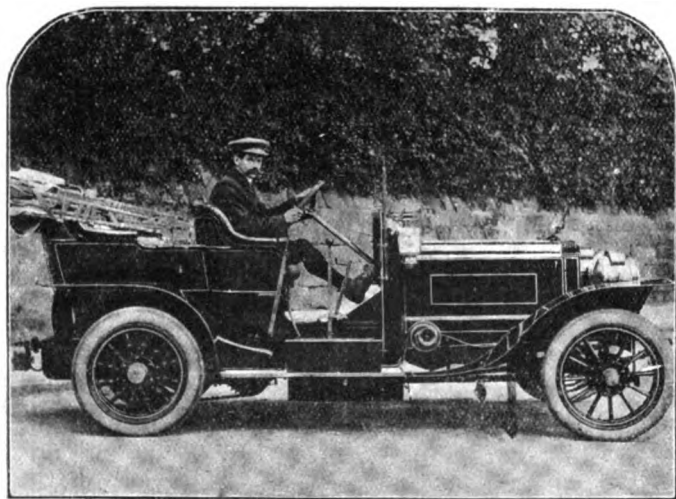
A MOTOR-CYCLIST AT BIRDLIP HILL.

Two motor-cyclists and one motor-car driver appeared before the bench last week for motoring too quickly up Birdlip Hill. Supt. Biggs (Stroud) remarked that the specific charge against the defendant

was that of having exceeded the limit of twenty miles an hour allowed for motor-cycles and cars to travel up Birdlip Hill. He believed that this was the first occasion in this county that anyone had been summoned for travelling over a measured distance at a greater speed than the Act allowed, and also that this was the first time that a trap had been set to catch motor-cyclists breaking the law. The facts were that the Auto-Cycle Club arranged for a hill-climbing competition to take place on Birdlip Hill on September 6th, but that, in consequence of the large number of complaints which the Chief Constable received from residents in the neighbourhood, Admiral Christian instructed him (Supt. Biggs) and Inspector Dennis, of Gloucester, to take proper means to prohibit the competition. In pursuance of those instructions, they went to Birdlip and measured a quarter of a mile on the hill, which at the point in question had an average gradient of about 1 in 14; it was, in fact, neither the steepest nor the flattest portion of the hill, but with a little of both. The Auto-Cycle Club met at Birdlip on September 8th, but in consequence of an intimation that the police would be there in great force on the following day to prevent the competitions, they went elsewhere to carry out their purpose. The defendant, however, appeared at Birdlip on the 9th. He (Mr. Biggs) watched him go up the hill three or four times, and, testing the pace by means of stop watches, Inspector Dennis and himself found that on one of these occasions defendant covered the quarter of a mile in 31 sec., which worked out at a pace of over twenty-nine miles an hour. A fine of 10s. and costs was imposed.

ROAD REPORTS.

DUNDEE.—The Dundee, Broughty Ferry, and District Company have had under consideration the condition of a private road through which the tramway line passes between Dundee and Broughty Ferry.



■The Earl of Craven has recently taken delivery of his fourth Daimler. This car, which is depicted above, is a 45-h.p., having a wheel base of 9 ft., and is painted dark blue with white lines.

The manager reported that the surface was being greatly damaged by motor-car traffic, and in respect that the road has to be kept in repair by the company, it was agreed that all permits for traffic should be withdrawn.

COVENTRY.—Several of the roads in the city have lately received dressings of tarmac.

WARWICKSHIRE.—New warning signs are appearing at several dangerous places in Warwickshire, notably in the village of Kineton and near Compton Verney.

WANDSWORTH.—The prolonged fine weather has enabled the Wandsworth Borough Council to continue its dust-laying experiments, and a stretch of Trinity Road has now been treated with "Ermenite," applied from one of the council's watering vans.

SUSSEX.—An important motor speed limit inquiry is pending in Sussex. The County Council for the eastern portion of the county has applied to the Local Government Board to fix the speed-limit for motors through the neighbourhood of Handcross, on the main London and Brighton road, at ten miles per hour. A public inquiry into the matter will shortly be held by a Local Government Board inspector. There is likely to be considerable opposition to the proposal.

DURING General Booth's recent motor tour the actual mileage run by the General's car was 1,728 miles. In all, nine different cars were used on the tour, and the whole of them were fitted with Moseley's detachable tyres, thirty-eight tyres being used in all. The number of miles covered by these nine cars reached a total of 19,712, and in covering this very great distance only six punctures occurred, these being of a very minor nature.

AN INTERESTING TOUR.

THE following is the story of an ambitious fortnight's motor tour as told by the winner of the August competition promoted by the Argyll Company:—In giving an account of a most pleasant holiday spent by four friends and myself on board my 10-12-h.p. Argyll car, it is not the mileage that I think calls for special comment, although this was by no means small, doing nearly 2,000 miles in fourteen days, but the consistent running day after day in a remarkably hilly country of a small-powered car very much overloaded with passengers and luggage, and over some of the vilest as well as some of the best roads possible to be found for motoring. The car was purchased in June, 1904, at the works at Bridgeton, and has done just on 30,000 miles as recorded by my Smith's speedometer. It has a large limousine body and weighs 21 cwt. stripped. To this was added 2½ cwt. of luggage and five people averaging a little over 10 stone each.

We started on Sunday, August 4th, going through Basingstoke, Winchester, Southampton, Bournemouth, Poole to Lulworth Cove and back to Poole for the night. Next day we ran through Wimborne to Salisbury and back to Southampton. Here we shipped the car to Havre, and leaving the next morning after the troublesome Custom House formalities were got through, which, by the way, were made much easier for us through the kind assistance of the Royal A.C., we sped away through St. Romains and Lilleborne to Caudebec, and from there we made a circuitous route to the South of the Seine, arriving at Rouen in the evening.

Next morning we left early and went via Louviers, Evreux, Bonnières, Nantes, Pontoise, and St. Germain, to Paris. We now spent Thursday and Friday sightseeing in the gay city, a good part of this being done on the car. On Saturday we ran to Neufchatel and Dieppe, returning next day to Paris via Longueville, Rouen, Les Andelz, and Magny. On Monday we made a circular trip via Clamont, Beauvais, Chaumont, Pontoise, to Paris. During our stay in Paris we put up at one of the finest and best managed garages it has ever been my luck to stay at, viz., the Paris Automobile, Rue D'Anjou. On Tuesday we retraced our route to Rouen and Caudebec, staying the night at the last named place, and next morning we proceeded to Trouville, Honfleur, and Havre, recrossing to Southampton on the Wednesday night. Here we lost half a day waiting for some of our luggage which was lost on the boat, but got away about 2 o'clock in the pouring rain to Bournemouth, and from there to Lulworth Cove.

Friday morning away again through Lynn Regis, Exeter and Torquay to Plymouth. On Saturday we ran to Launceston, Bideford and Barnstaple to Ilfracombe, and on the Sunday we returned by Taunton, Shepton Mallet, Frome, Marlborough and Reading to London, arriving there at about six o'clock after spending the most enjoyable fortnight I ever had. During the whole of the tour the distance covered as registered by speedometer was 1,918 miles, and not a spanner or tool of any description was used on the car with the exception of tyre levers, tyres being our only and I am sorry to say frequent cause of delay, owing to the extreme heat whilst touring in France, but fortunately we had one of those most useful accessories with us, viz., a H. F. car vulcaniser, without which I don't think any motorist ought to venture on tour. On the whole the roads might be described as good, but for the first ten or fifteen miles out of Paris in every direction we took I have never met with such villainous surface, and also the cobbles through every village in France are terrible, and it is a marvel to me how the car, loaded as it was, got through without broken springs. Then again the hills we met with after leaving Rouen and again in crossing Devonshire were frequently one in seven, and on no single occasion did we have any trouble in getting up them with full load of luggage and passengers. The petrol consumption for the whole tour worked out at 26½ miles per gallon.

MOTOR-CAR-IST v. MOTOR-CYCLIST.

BEFORE the Newport (Mon.) county magistrates Wm. Muston, of Newport, was summoned by J. J. Galloway, of Cardiff, for obstruction on the highway by taking the wrong side of the road. Prosecutor said when he told defendant he ought to keep to the right the latter replied, "I left you plenty of room to pass." Prosecutor, who was in a motor-car, said he would summon him. Defendant now said he had no intention of obstructing. He was cycling to St. Bride's to take photographs, and in passing over Ebbw Bridge turned to the right side to get water for his apparatus. He was fined 10s. and costs.

THAMES CONSERVANCY REGULATION.

AT Feltham, on Monday, John D. Campbell, of Sutton, was summoned at the instance of the Thames Conservancy for unlawfully striking a match whilst on a petrol motor launch in Molesey Lock on August 31st, contrary to the Thames Motor Launch Bye-laws, 1906. He was further summoned for navigating the launch after sunset without carrying the regulation lights.

The Chairman: But how is a man on a motor-boat to light his pipe if he is not allowed to strike a match?

Mr. Ernest Glenshaw (for the prosecution): It is only in a lock, sir, they are not allowed to strike a match.

The Bench fined the defendant 20s. for striking the match, and 10s. for having no lights.

COMPANY NEWS.

PATENT FLEXIBLE MOTOR SYNDICATE.—£5,000. To acquire from Mr. C. J. Montgomery the benefit of an existing invention relating to improvements in petrol or gas internal combustion or steam engine driving gear, &c. No initial public issue. 25, Castle Street, Liverpool.

GROSVENOR MOTOR COMPANY.—£10,000. To take over the business of a garage keeper and motor-car repairer carried on at Old Post Office Yard, Chester, by Mr. E. France-Hayhurst. No initial public issue. First directors: Messrs. W. S. McDowell, R. H. Storey, E. France-Hayhurst, and Captain J. E. Alkin.

CONNAUGHT MOTOR AND CARRIAGE COMPANY.—£12,000. No initial public issue. First directors: Messrs. P. P. Ness and S. C. Godfrey.

SABELLA MOTOR-CAR COMPANY.—£2,000. Agreements (1) with Mr. F. Sabel, (2) with Mr. F. Sabel and Mr. J. D. Pattullo, and (3) with Mr. A. T. Warne. No initial public issue. First directors: Messrs. F. Sabel and J. D. Pattullo. 5, Cowley Road, Leytonstone.

A. DARRACQ AND COMPANY (1905).—The dividend on the preferred ordinary shares has been declared for the half-year ending September 30th, 1907, at the rate of 7 per cent. per annum, and a further dividend of 3 per cent. per annum has been declared (making 10 per cent. for the year) by reason of the payment of 10 per cent. per annum on the ordinary shares having been made.

STEPNEY SPARE MOTOR WHEEL.—The directors, in submitting the balance-sheet showing the results of the company's operations for the nine months from November 23rd, 1906, to August 31st, 1907, state that under the purchase agreement the business was deemed to have been carried on for the benefit of the company for two calendar months prior to the registration. The accounts show a net profit of £20,930. The directors recommend that a dividend be paid at the rate of 20 per cent. per annum, calculated from the date of the incorporation to the end of the financial year, which will absorb the sum of £13,528, that the sum of £5,000 be carried to a reserve account, and that the balance, namely, £2,401, be carried forward. The directors see no reason why the demand for the wheels should not continue to increase. A branch company has been registered in Germany, with headquarters at Lindowerstrasse, Berlin, under the title of the Stepney Auto Reserve Rad, G.m.b.H. Stepney wheels are now being manufactured at the Berlin works as well as at Llanelly.

AUTOMOBILE ACCIDENTS.

A CORONER'S jury at Bournemouth returned a verdict of "Accidental death" in the case of Mr. George Montray Verschoyle, a Dublin resident, who was thrown out of a motor-car near the town and expired in hospital. The car belonged to Mr. J. Ewen, and the accident was caused through a tyre becoming detached, causing the motor-car to run up a bank and overturn. Mr. Ewen told the Court he arranged to put two cars on public service in the town. Witnesses for the corporation stated that the cars were examined in a general way, and not by an expert. In returning their verdict the jury recommended that all mechanically-driven vehicles plying for public hire in the borough should first be examined by a fully-qualified motor-engineer.

Mr. HANCOCK, secretary to Lord Portsmouth at Guisachan House, Inverness-shire, has almost recovered from the effects of the Affric motor accident, reported in our last issue. The chauffeur has also recovered. Many people cycled to Affric to visit the scene of the accident. The motor-car remained for some days where it fell, twenty feet below the embankment.

As a motor-car belonging to Mr. T. Shackleton, of Heaton, was being turned from Oak Lane into the Keighley road, the wheels skidded on the greasy setts, and the car swerved into the front of a tramcar. The front of the motor-car was badly damaged.

On the Ashbourne road, near Derby, a serious accident to motorists has occurred owing to the bursting of a tyre. The accident occurred at Mackworth, and resulted in the car turning a complete somersault, the rear portion of the car being hurled forward and pinning four of the unfortunate occupants underneath. The fifth, who escaped uninjured, hurried for assistance, and his companions were extracted from their terrible position with all possible speed. All were more or less injured. Soon afterwards a car belonging to Mr. H. H. Raphael, M.P., arrived on the scene, and the chauffeur placed this at the disposal of the unfortunate victims.

An inquest was held on Monday at Rushden concerning the circumstances attending the death of Mr. Frank Whitworth, who was killed in a motor accident. The evidence showed that he had travelled by motor-car on Saturday night from Wellingborough, and when entering Rushden he passed two pedestrians. In front of them were two other pedestrians, whom he apparently did not see. After passing the first couple safely he ran into the second couple, both of whom were knocked down and seriously injured. Mr. Whitworth was thrown off his machine and fractured his skull, death resulting on Sunday. A verdict of "Accidental death" was returned.

A CORONER'S jury at Chester has found that no blame was attributable to the driver or occupants of a motor-car which knocked down and killed a child named Walter Smith on Saturday night. An eye-witness stated that the child ran immediately in front of the car, which was being driven at a speed of six miles an hour.

A MOTOR accident occurred near Firsle last week. Mr. Cecil Chandless, of Sherrington Manor, was leaving home for a tour in Lincolnshire. Just after leaving Firsle he saw in front two horses being exercised by a groom—one ridden and the other led. Mr. Chandless suddenly steered into the gateway of the road leading to Glynde from Pay Gate Cottage. Being confronted with the gate he seems to have endeavoured to turn into the road again. There was insufficient room to do this, and the car crashed into the cottage, knocking the wall in, and finally coming to a standstill with half of it inside the house, on top of the debris. In fact, the car practically took off a big corner of the building.

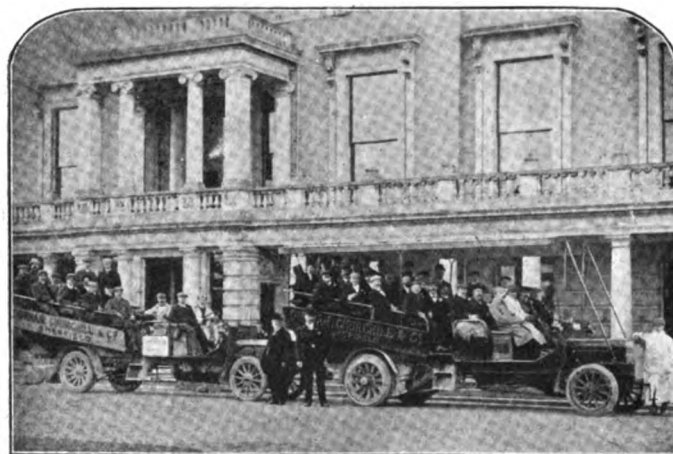
AUTOMOBILE INSTRUCTION.

SUPPLEMENTING the information we gave in our last issue with regard to the various opportunities for instruction in motor-car work that now exist, we give the following:—

Mr. J. F. Ronca is the teacher of motor-car engineering at the G.E.R. Mechanics' Institution, at Stratford. The syllabus is of a very practical character, embracing steam and electric vehicles as well as petrol cars.

The Institute of Chauffeurs, Ltd., of 94, Victoria Street, S.W., have made a feature of automobile instruction for the last four years, during which time some 2,000 men have qualified as chauffeurs and motor-car drivers, not to mention a goodly number of lady pupils who are now in a position to take entire charge of their various cars.

The National Motor Academy, of which Mr. George Sherrin is the secretary, has a well-equipped school in the Boundary Road, Notting Hill, W.C. In addition to lectures in the schoolroom it has a private track for practical instruction in driving and a workshop for acquainting pupils with practical repair work. Day and evening classes are held, and an hour daily is devoted to practice in tyre work. The scheme of tuition includes a fortnight's course of instruction, a private tuition course, and a thorough knowledge of garage repairs.



On the occasion of the recent visit of the Provincial Grand Lodge of Freemasons to Henham Hall, Suffolk, the seat of the Earl of Stradbroke, two Churchill charr-a-banc were employed to convey the guests.

The Paddington Technical Institute is holding two classes weekly in motor-car instruction. Last year they had more than 130 students and Mr. W. Hemingway, the teacher, had a very successful course.

New classes in automobile instruction have been started at the Woolwich Polytechnic, meeting on Mondays and Thursdays. These will follow the City and Guilds of London Institute syllabus and be conducted by Mr. W. Hemingway, who is a pioneer instructor in automobilism, his teaching experience dating from 1898.

As showing the satisfaction which these cars give their owners, the Daimler Company have sent us a photograph in which is shown a fleet of a private gentleman who runs no less than five Daimlers. The first glance at the photograph would convey the idea that it was one of a club meet, but this is not so, every car having been purchased by the same gentleman.

THOSE who have once tried using a petrol strainer between the tank and the carburettor are not likely afterwards to dispense willingly with its aid; but it is not often such clear and definite proof of the utility of any fitment is available as that secured recently by the E. M. Bowden's Patents Syndicate, Ltd. One of the trade clients of that firm, a large motor dealer in the Midlands, finding that the Bowden petrol strainer fitted to a car no longer worked freely, returned the offending article to the works, where an examination showed it to be completely choked—not only the straining gauzes but the body as well—with the sediment intercepted on its way from the tank to the carburettor. The number of involuntary stops saved to the driver of the car in question by means of this useful little attachment must have been considerable.

FORTHCOMING EVENTS.

OCTOBER.

- 7th (M.).—The L.G.B. Order for the restriction of the speed of motor-cars to ten miles an hour when passing through Ilford comes into operation.
- 12th (S.).—Close of the Commercial Vehicle Trials. Final run from Baldoek to Dalston, London, N. Southend M.C. closing run of the season to Witham. Brooklands A.R.C. meeting.
- 17th (Th.).—Demonstration of Commercial Motor Vehicles in Glasgow, under the direction of the Commercial Vehicles and Industrial Committee of the Scottish A.C.
- 19th (S.).—Auto-Cycle Club's quarterly trial.

NOVEMBER.

- 13th (W.).—Annual Dinner of the Motor Union.

DECEMBER.

- 7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.

MARCH, 1908.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

PUBLIC MOTOR SERVICES.

THE F.I.A.T. Motor Cab Company, Ltd., has made satisfactory arrangements with regard to its garage, which is situated in a most central position close to Victoria Station. The first delivery of cabs is expected to be running early in December next.

Primarily formed to provide Folkestone with an up-to-date motor service, the South Eastern Motor Supply Company will also establish a garage in that town and undertake a general motor trade. The directors are Messrs. J. W. H. Dew, R. S. Currie, C. A. Lloyd, and F. W. Ediss. The capital is £10,000 and the registered office is at King's House, King Street, E.C.

AERONAUTICS.

MR. JOHN DUNVILLE and Mr. C. F. Pollock ascended from Chelsea in the former's balloon La Mascotte at one a.m. on Saturday, and having passed to the north of Oxford, over Upton-on-Severn, the Malvern Hills, Hereford, and the wildest parts of the Welsh mountains, descended near Lampeter, Cardiganshire, at 8.20 a.m., having travelled about 190 miles in 7½ hours.

THE balloon Satellite, with Mr. Philip Gardner and Mr. Short on board, which ascended from Battersea on Thursday night last week at 10.15, descended three miles from Ellesmere, at a place called Knolton Bryn, Flintshire, at 5.30 a.m. on the Friday morning, the distance covered being about 200 miles.

A DISMISSAL.

AT the Tonbridge Petty Sessions, David Broomhold has been summoned for driving a motor-van at a speed which was dangerous to the public. After the police evidence the defendant said he had for nearly two years driven motor-buses in London, and had for four years driven motor-cars. On the day in question he was drawing 5 tons 10 cwt. and his motor-van was geared up to twelve miles an hour. He went into the town at about five or six miles an hour, and he slowed down to four miles. When he got to some sheep he had to slow down to two miles an hour to get by. He passed four constables and one sergeant in the High Street, and not one of them spoke to him. Mr. Gregory, in addressing the Bench, remarked on the unfairness on the part of the police in not stopping the car and giving the defendant an opportunity of protecting himself. The Bench dismissed the case.

POLICE TRAPS.

NEAR the Mile House, on the Chichester road, at Arundel, is a measured distance.

THERE are several traps on Bury Hill and on the Worthing road, in Ferring parish, near Arundel.

THERE is a police trap within the ten-mile limit at West Kilbride, (Ayrshire).

A POLICE trap of 440 yards at Thornholm village, on the Bridlington and Driffield road, has been discovered to be 455 yards long. That is in Yorkshire—not Sussex.

THERE is a police trap just outside Colchester, on the main road to Clacton.

AMONG the Kentish villages in which police traps have been laid are Chislet and Sturry.

AT Ratley and at Pillerton Priors are traps leading to the Kington Petty Sessions.

THE High Road, Hayes (Middlesex) has its motor trap.

BETWEEN the police station and the National Schools at Llandrindod Wells is a measured stretch of road 330 yards long.

MESSRS. MILLION-GUIET, a well-known Parisian firm of motor body builders, have opened an English depot at 48, Old Bond Street, London, W.

AUTO-CYCLE CLUB.

IN order to meet the wishes of some of the clubs eligible to compete in the final of the Penalty Run of the A.C.C., which was to have taken place on the 28th ult., the Auto-Cycle Club has postponed this event until Saturday, October 12th. The competition will be run off over a course in the neighbourhood of Derby. The length of the route selected is about thirty-eight miles, and this will be traversed three times.

BUSINESS NEWS.

PRICE'S PATENT CANDLE COMPANY, LTD., forward from their Belmont Works at Battersea, S.W., interesting souvenirs in commemoration of the Tourist Trophy events of 1905, 1906 and 1907. In addition to providing interesting photographs of the winners as well as the result of the Tourist Trophy races, the souvenirs also draw attention to the part played by Price's Motorine in connection with these events.

ADMIRAL FOLEY, who has just been appointed to take charge of the Home Fleet, has purchased a 15-h.p. Humber car from the Motor Supply Company, Ltd., of 111, Piccadilly, London, W., which he intends using in connection with his official duties.

DURING the past year the Hele-Shaw clutch has rapidly increased in popularity with the British and French trade, and its use is now spreading to the other side of the Atlantic. To develop this branch of the business, arrangements have been concluded whereby the sole American rights are vested in Mr. Powell Evans, of the Merchant and Evans Company, Philadelphia. The manufacture of all types of clutches has already commenced, and from present indications it appears that the Hele-Shaw clutch will have a good vogue on American cars for the 1908 season.

THE COVENTRY CHAIN COMPANY, LTD., write us as follows:—"You will be glad to hear that, owing to the notice you were good enough to put in your paper concerning the cigarette case we were giving away, we have had applications for between 4,000 and 5,000, and we should be glad if you would apologize for us for the delay which is bound to occur in despatching the cases to some of the applicants. We have plenty more for distribution, but must ask that future requests be accompanied by 2d. in stamps for postage."

MITCHELL'S GARAGE, in Wardour Street, London, W., has been quite a rendezvous for American tourists during the season now closing. Calling there the other day we noticed at least half a dozen American cars in addition to a large number of British and Continental vehicles.

IT is interesting to note the advantage which is being taken by members of the medical profession, who now fully realise the usefulness of the motor-car, of the present flooding of the second-hand car market and the consequent low prices obtaining—so writes Mr. H. Waymouth France, A.I.E.E., consulting automobile engineer, of 39, Westbourne Gardens, W., who makes a speciality of carrying out expert examinations of second-hand cars.

FOR 1908 season three sizes of Weigel cars are to be made, viz., 25-h.p., and 40-h.p. four-cylinder and 60-h.p. six-cylinder. The 25-h.p. and 40-h.p. models will each be made in two lengths of chassis.

MR. WALTER WELLMAN, of the Wellman Chicago Record-Herald Polar Expedition, just before he started on his voyage towards the North Pole, wrote to the De Dietrich Company, Ltd., expressing his great satisfaction with the 70-80-h.p. Lorraine-Dietrich motor supplied for the polar airship "America." He reports:—"We find the motor economical in its consumption of petrol, and it would be difficult to design or to desire a better motor for the propulsion of a great airship, in which safety, endurance and economy are greater desiderata than lightness of weight."

To ensure more harmonious action on the part of drivers after having passed the winning post at the completion of races the Brooklands authorities have issued special instructions, and cancelling those formerly issued, which requested drivers to pull up as soon as possible after crossing the finishing line and to remain standing until all cars had completed the race. Under this new scheme there will always be a width of 50 feet available on the track should a car come along the banking under the members' bridge passing towards the railway side of the track at full speed. Certain hours will be reserved on each of the practising days which precede a race meeting for the purpose of affording competitors an opportunity to familiarise themselves with the new limit line.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, OCTOBER 12, 1907.

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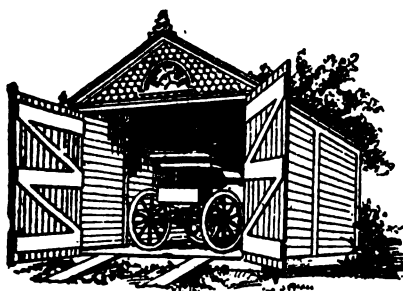
“THE INDUSTRIAL MOTOR REVIEW.”

“THE INDUSTRIAL MOTOR REVIEW,” which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

“The Industrial Motor Review” is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



THAT the motor-car is effecting considerable alteration in the social life of the nation is a truism. The late Sir Francis Jeune was one of the first of the public men in the early days of the Motor Movement to draw attention to the enlargement of the radius of social pleasure that was being made by the automobile. Now every country

house is possessed of its automobile—not, perhaps, the latest model of the car, but some reliable vehicle that can make its two or three journeys to and from the station for the conveyance of guests, while the “old grey mare” is plodding along with a single consignment of luggage. The mansions of greater extent are now having added to their outbuildings substantial garages for the accommodation not only of the owner's, but also for the visitors' cars—a development of countryside architecture which was probably pioneered by the Hon. Evelyn Ellis in the first completely-equipped building of the kind that he erected at his place near Windsor. The importance of design in a garage will be recognised by motorists even more than by architects and builders themselves. Many details have to be considered, and the exact location in relation to the exits and entrances from the estates is not the least essential factor in the whole scheme. In this connection we may mention that the additions made to the Royal stud of automobiles, and the popularity of the car among those who visit the King at Windsor, has made the provision of an extensive garage there an urgent matter. As a first practical step, the Crown has purchased a number of properties in Park Street, Windsor, leading to the Long Walk and adjacent to the Castle precincts. The tenants have been given six months' notice to quit, when the houses will be demolished, and others, as they are acquired, to make room for a number of improvements about the Castle, one of the most important being the provision of a Royal garage for motor-cars.

A Case for Appeal.

THE nervousness of a couple of women was apparently the cause of a motorist, Mr. R. F. Williams, being brought before the Westminster magistrate last week charged with reckless and negligent driving of a motor-car. Mr. Williams was driving in the Brompton Road when the ladies in question left the side walk for the road, necessitating the brakes being put on suddenly in order to avoid a collision. Of course, a crowd assembled when the car skidded and the French mechanic, in his excitement, jumped out. The policeman, who could not have seen the original occurrence, then said he should charge the motorist with drunkenness and with driving to the common danger. Mr. Williams was taken to the police station, detained in the cells for several hours, and ultimately let out on bail. On the case being tried the charge of drunkenness was dismissed, the only evidence that was heard on his behalf being his doctor, although he had seven other witnesses, five of whom he had never seen before, to testify to his sobriety at the time. The charge of reckless driving was then proceeded with. A hairdresser's boy estimated the speed at thirty miles per hour, and a fine of £20 and £10 costs was imposed. The case is certainly one that should be carefully considered by those who act for the protection of motorists, with a view to an appeal.

A Good Word for Drivers.

MUCH of the success that has attended the development of the industrial motor vehicle must be attributed to the drivers, who have been responsible for the manipulation of the automobiles through the streets as well as their care in the garage. Firms employing motor-vans in their business have generally been able to attract a good class of steady men, who have continually endeavoured to improve their knowledge of their vehicles, so as to be able to deal with any emergencies that have arisen. We are glad to know that there is also full co-operation in this matter between the Army authorities and many commercial leaders who are associated with the motor movement. The scheme recently instituted by the War Office for training time expired soldiers in the driving of motor vehicles is now in full swing, and there are busy times in store at the Clarence Barracks, Portsmouth, which are the headquarters of the motor training section. Recently a second-hand 12-16-h.p. M.M.C. car was purchased, and this is now being examined by a class of twenty-five men. Local motorists are also invited to extend the men's knowledge by occasional demonstrations with their cars of other types. At the end of the training the pupils undergo an examination for regimental certificates as to their ability as drivers, and all also enter for the Royal Automobile Club driving certificate examination.

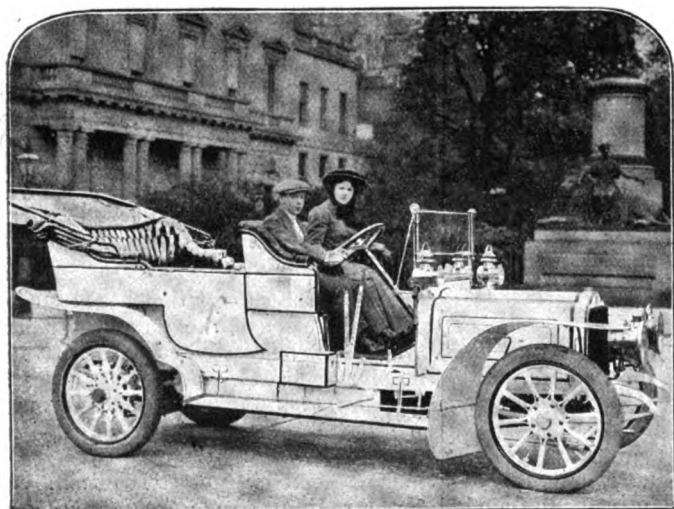
A Society of Pilots.

OR the making of societies there is apparently no end, and it has remained for Mr. Bryan Scurfield, of Manchester, to inaugurate one which certainly has novel features, although the necessity for its organisation may be doubted in many quarters. He notes that no vessel is allowed to cross the bar of the Mersey without a pilot in charge, and having seen that small children and others are often in “abject terror” when crossing the road, he seeks to adopt the idea of the Mersey pilot, and

form a society of pilots to help people to cross the busy streets. The "Society of Pilots" would be for men and women. There would be no subscription and only one rule, viz., to assist children and infirm persons in the streets to cross. This he regards as more useful in the present development than the mere abuse of motor-cars, and hopes in a few weeks to be able to report considerable progress in the idea thus indicated.

Exaggerated Reports.

EVIDENCE at two or three recent inquests on the victims of accidents in which motor-cars were alleged to be concerned, proves that the old habit of the general Press in carelessly ascribing most of the unfortunate mishaps on the highways to the presence of automobiles has not been entirely departed from. Occasionally the spirit of fairness prevails, as was shown by a Manchester journal which recently published an account of a motor-car mishap, which was modified the next day into a statement that "a wheel of the motor-car stuck for a few minutes in a hole in the road; neither the vehicle nor its occupants were injured." We had hoped that the state of mind indicated by such reports was no longer in the public Press. The practice of exaggeration may be easy to follow, but it is often harmful in its results.



Mr. and Mrs. Percy Woodland on the 45-h.p. Mors car they have recently acquired.

Liquid Fuels.

ON Monday, Mr. R. W. A. Brewer gave a paper on Liquid Fuels for Motor-Cars, before the Society of Engineers, in which he pointed out the advantages of the adoption of large "heavy oil" engines for marine purposes, as compared with gas-producing plant and gas engines. A synopsis was given of what has been accomplished by makers of heavy-oil engines and paraffin engines, and the two methods of carburating air by means of paraffin were discussed, necessity being urged for an accurately-measured feed of oil for each working stroke, as distinct from the utilisation of a spray carburettor. He showed that the specific gravity of petrol has increased during recent years, and said that carburettors should be modified to satisfactorily utilise petrols of even a greater density than those now on the market. The advantage of the adoption of a spirit of a greater specific gravity than 0.720 was clearly demonstrated. Tables were given showing the results of the author's experiments upon the rate of evaporation of various petrols and the effect of heat and air currents. These proved that higher temperatures materially affect the rate of evaporation of petrols of greater density, whilst the effect of air currents is less marked. Results of road tests upon carburettor loss and strength of explosive mixture were

compared with those put forward theoretically and as the result of laboratory experiments. The necessity for some alternative fuel was admitted, and Mr. Brewer showed that the results of the benzol tests are very satisfactory, the distance covered by the car per gallon of fuel being a marked increase as compared with various brands of petrol. Alcohol was tested when mixed with a proportion of another liquid fuel and without any alteration to the engine. The results obtained show great promise for this fuel, and enabled the author to refute statements which have been made with regard to alcohol being an impossible fuel for a motor-car engine.

The Use of the Camera.

MANY motorists are photographers; in fact, the car has done much for the camera—or rather the makers of the same. But not often has the camera proved so useful to the car as in the case at the Holt (Norfolk) Petty Sessions, when Mr. F. R. Horne, of Reigate, was summoned for driving through a "measured distance" at Bodham at a pace exceeding the legal limit. The defendant said the trap was thirteen yards beyond the quarter of a mile alleged by the police, and Mr. T. B. Wood, Professor of Agriculture at Cambridge, said he took a photograph, which was produced. The camera was placed on the gate where the sergeant stood. The witness said it was impossible to see the end of the trap from where the sergeant stood, and the Bench retired to consider. Upon their return the chairman said the Bench had decided to dismiss the case.

Motor-car Imports and Exports.

A VERY appreciable decline took place last month in the importation of foreign motor-cars and parts into this country. The number of complete vehicles which reached the United Kingdom during September was 286, their value being given at £143,835. Parts were responsible for an additional £133,556, which gives a total of only £277,391, as against £314,625 in the corresponding month of last year. For the first nine months of the current year the figures are:—Number of cars imported, 3,838; value of same, £1,675,224; imports of motor parts, £1,935,602; total, £3,610,826. For the similar period of 1906 they were:—4,821 cars of a value of £2,009,533; parts, £1,430,097; total, £3,439,630. Turning to the exports of British motor-cars and parts, these continue to show a steady expansion, September's total of £136,478 forming a new record. The number of vehicles shipped during the nine months ending with September last was 1,578, of a value of £575,509; to this have to be added parts estimated at £360,245, which gives a combined total of £935,754, as contrasted with only £510,266 in the corresponding period of 1906.

Horses on the Highway.

HORSES straying on the highway are a source of danger to motorists—perhaps more so to them than to any other users of the highway. An instance has occurred at Rushton, when a motor-car, owned and driven by Mr. T. F. Spencer, a veterinary surgeon of Kettering, and having as a passenger Superintendent Hooper, the chief of the Kettering Divisional Police, crashed into a drove of horses while descending the steep hill leading from Desborough to Rushton, flanked on the west side by the wall surrounding Rushton Park, and on the other by a high-banked hedge, whilst the overhanging trees almost completely shut out the wan light given by the rising moon. Half-way down the hill is a gateway leading to the farm premises belonging to Rushton Hall, and it is supposed that the horses must have either inadvertently strayed from those premises or from a field on the opposite side of the road. At all events, the car was running down the hill at a fair speed, when the form of a horse suddenly loomed in front of the vehicle. The narrowness of the road made it impossible for a collision to be avoided, and the front of the car struck the animal with great force, bowling

it over and over along the road. Unfortunately the car swung round, and, colliding with the Park wall, turned topsy-turvy. The occupants were fortunately thrown clear of the car, but not without injury.

The Military Airship.

ON Saturday we were interested in the spectacle of "Nulli Secundus" passing in front of the office of the M.C.J., after paying respects to the War Office, and on its way round St. Paul's. The Royal Engineers are to be congratulated on the success of their enterprise, and Colonel Capper's initial voyage from Aldershot marks a new era in aerial navigation that should cause a renewal of interest in the subject. While the airship remained at the Crystal Palace it was visited by Colonel Templar, Professor Huntington, the Hon. Mrs. Assheton Harbord, Mr. Harold Perrin, and other well-known aeronautical experts. About noon on Monday preliminary preparations were made for the ascent. The propeller blades, which had been removed over-night, were re-attached, and the engine was set in motion. The

number of individual vehicles dealt with. At the same time the comparative solitude of some of the City streets compared with a few months ago is proof of the serious character of the police attack on noisy buses. But the emptiness of many of the vehicles along main routes suggests a continuance of the present unsatisfactory financial position.

The Commercial Vehicle Trials.

AFTER their long pilgrimage, those engaged in the R.A.C.'s Commercial Vehicle Trials return to-day (Saturday), and will, doubtless, be welcomed by an interested crowd at the motor-bus garage, Shrubland Road, Dalston. According to the provisional record, the cars which had made non-stops since the beginning of the trial on September 9th up to Saturday last were:—A6, Unic Van; B12, Lacre Box Van; C13, Halley Van; C19, Thornycroft Lorry; E30, Hallford Lorry; E32, Siddeley Canvas Tilt Wagon; E33, Straker-Squire Open Van; E43, Commercial Cars Lorry; E45, Thornycroft Lorry; F52, St. Pancras Lorry; F53, Yorkshire Steam Lorry, and H59, Wellington Steam Tractor. On Monday the vehicles



The British Military Airship "Nulli Secundus" rounding St. Paul's Cathedral in the course of its flight from Aldershot to London on Saturday last.

propellers, acting as fans, had the effect of drying the structure, which continued rapidly to lose the moisture that accumulated. Colonel Templar was, however, of opinion that it would hardly be possible for the ascent to take place owing to the heavy state of the atmosphere, and after efforts extending over two hours, the attempts to resume the journey were abandoned for the day.

Motor-Buses in the Metropolis.

THE Commissioner of Police for the Metropolis has lately addressed a letter to the Borough Councils with regard to the alleged nuisance from motor traffic in the streets. He emphasises the views expressed in our recent issues, and says that it would be "unreasonable to hold out any hope of anything he could do in doing away with noise. He could only keep on applying pressure, but he thought that they must trust more to the evolution of the machine than to police measures." Apparently some confusion has arisen with regard to the 6,211 omnibuses which had been "put off the streets," this being really a record of the number of complaints which the police had brought against vehicles, and as such notices were served on some motor-buses on several occasions, it clearly does not represent the total

proceeded from Nottingham to Leicester; on Tuesday to Northampton; on Wednesday to Bedford, where they were on exhibition during Thursday; on Friday to Baldock, and to-day they will come to London.

In Wild Donegal.

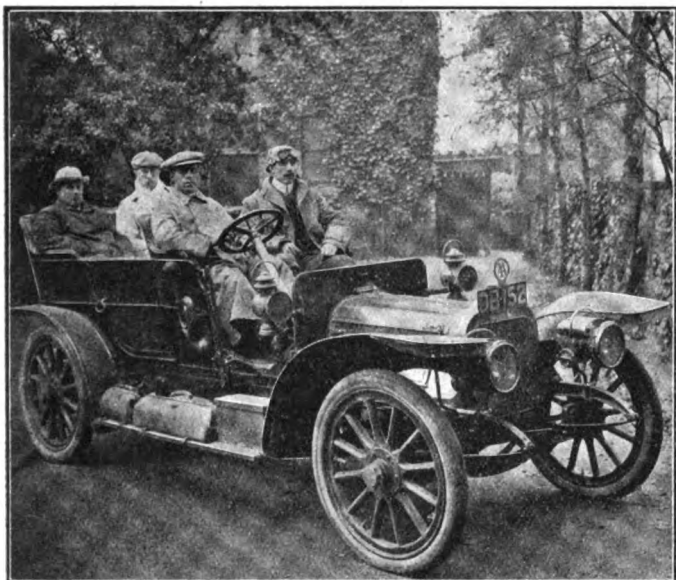
THE many motor visitors who have during the past season tasked the hotel accommodation in the Donegal Highlands have apparently convinced some of the local people of the necessity of setting their roads in order without delay. They are realising that those who go by motor-car are not the least valuable of the clients at hotels, and a list of motorists who have lately visited Donegal includes a Japanese Viscount, a German Baron, the Governor of Kassala, several members of Parliament and American tourists. Unfortunately, however, they could not speak with universal favour of the roads over which they travelled. A motoring party from Kent recently declared that six weeks on the Donegal roads had been more destructive on the tyres than a year's run in England. Points like these we are glad to notice are being taken up by the Irish Press, and if they will emphasise the lessons to be learned some mitigation of the present unsatisfactory position may be secured.

A LITTLE TRIP IN ESSEX.

I THINK it is Raleigh who says:—

Abused mortals, did you know
Where joy, heart's ease and comforts grow,
You'd scorn proud towers,
And seek them in these bowers,
Where wind sometimes our woods perhaps may shake,
But blustering care could never tempest make.

And such an old-world country lies, now that the motor-car has come, at our very door, and, what is more, we have often probably passed it by, in seeking more distant scenes and thinking merely of distance overcome and police traps evaded. Chance, or rather a troublesome friction-driven water pump, necessitated a halt on the main Colchester road not far from Chelmsford, and as, when a new fibre had been fitted and trued up in the lathe, it was too late for the journey I had had in view, and mine host had told me of lovely country bye roads, I wandered where Oliver Goldsmith once lived, through Springfield, claimed to be the original of that author's famous Deserted Village. Here I branched off past the inn to the right and so by Cuton Hall, turning off to the left on reaching the Great Baddow road, and so gently ascending amid beautiful surrounding scenery to the site of the old Danish Camp, Danbury. At



Mr. H. Hollingdrake's 15-h.p. Talbot Car which proved the winner of the under £450 Class in the Manchester Motor Club's recent hill climb.

the top of the hill is an ancient church, with a lofty wooden tower, from whence the ships can be seen passing in the Thames and Crouch, in the south the Kentish hills, on the north the fine cathedral of Essex—as the inhabitants like to call the old Thaxted Church—and on the west the Palace of the Bishop of St. Albans. The inn here, "The Griffin," is mentioned by Sir Walter Scott in the preface to "Waverley."

The Little Baddow road, which turns off to the left, can now be followed; for about a mile and a-half it is well wooded, beech, and a tree often taken for it—the hornbeam—being numerous. A turn to the left leads to the Chelmer, where good pike fishing can be had. Boreham House and Hall merit a visit. In the Great Hall—now a chapel—are the initials of Henry VIII. and Anne Boleyn, sculptured with love-knots. The road now crosses the main Colchester route, and should be followed to Brent Hall, and from there to Little Waltham across the Roman road to Great Waltham. The Norman church in this old village, which is one of the largest in Essex, contains many interesting frescoes and brasses, and in the vicinity are many fine old mansions. If time permits, a turning on the left at How Street can be followed to Pleshey, the old

town of the Tumuli, once the seat of the High Constables of England. Old Roman entrenchments surround the place, and a mound marks the site where in ancient times a castle stood. To the right, near the Mount, leads by Ringtail Green and Hartford End to Felstead, a pleasant village overlooking the Chelmer Valley. An old house has some quaint wood carvings, one setting forth the name of the builder and date—1594. There is good accommodation in the town; but, as Little Dunmow was near, and I was keen on seeing the scene where the flitch of bacon is presented, the journey was continued there. A most comfortable inn was found, and I soon heard all about the town which Ainsworth's novel has rendered famous. In the time of Henry III. a Robert Fitzwalter started the presentation of a flitch of bacon to such married couple who had not repented them, sleeping or waking, of their marriage after the lapse of a year and a day. Kneeling on sharp stones, the applicants had to swear before the prior and convent this oath:—

You shall swear by the custom of our confession,
That you never made any nuptial transgression
Since you were married man and wife,
By household brawls or contentious strife;
Or otherwise at bed or at board
Offended each other in deed or in word;
Or since the parish clerk said Amen
Wished yourselves unmarried again,
Or in a twelvemonth and a day
Repented not in thought any way,
But continued true and in desire
As when you joined hands in holy quire.
If to these conditions without all fear
Of your own accord you will freely swear,
A gammon of bacon you shall receive,
And bear it hence with love and good leave;
For this is our custom at Dunmow well known.
Though the sport is ours, the bacon's your own.

The winning pair were then installed in an armchair, which can still be seen in the church near the east end, and then the day was given over to general festivity. The church is a very interesting one and contains an alabaster monument to Walter and Matilda Fitzwalter, the latter's head being supported by a pillow held by angels. Some remains of the old Priory can be seen, and in the neighbourhood some interesting Roman pottery has been discovered.

A return to town can be made through Hatfield forest and Bishops Stortford, the birthplace of Cecil Rhodes, or a further route may be taken through Easton, the seat of the Countess of Warwick, a glorious mansion, and so on to the Sheffield of Queen Mary's time—Thaxted—a charming quaint old town with timbered plastered houses, situated on rising ground and commanding a fine view of the valley of the Chelmer. The inhabitants are justly proud of their church to St. John the Baptist. There is a splendid tower and spire dating from 1424, and the richly-carved ceiling and ancient pulpit are specially worthy of note. A pretty undulating road leads to Debden, and, though Essex does not boast of many floral rarities, the small fruited goose grass is not to be found elsewhere, and can be seen here as well as the sickle-leaved hare's ear, and, of course, the saffron, said to have been, according to tradition, introduced hidden in a palmer's staff. Those in search of quaint old cottages should turn off at Smith's Green, and take the road through Rook End to Newport. Here Nell Gwynne is said to have lived; the house is known as the "Crown," and can easily be found. We have now come to the main Cambridge road, and a turning just beyond the Park at Shortgrove goes to Saffron Walden, of murder fame. It is on the bank of the Slade, a tributary of the Cam. Edward the Sixth's Almshouses and the museum on Castle Hill are worth seeing, as well as Lord Braybrooke's mansion, a mile to the west of the town. C. T. W. H.

SEVERAL of the local authorities in the villages of Perthshire have lately requested the chief constable of the county to consider the question of the speed of motor-cars on the main roads, and the Blairgowrie District Committee has further suggested that the police should be provided with stop watches, as is the case in many localities on this side of the Tweed.

THE NAPIER 30-h.p. CAR.

NOW that the 1907 season is practically closed announcements are rapidly being made as to the new models which the various manufacturers are putting in hand for next year. One of the first programmes to reach us is that of Messrs. S. F. Edge, Ltd., from whom we learn that the 1908 models of Napier cars will number no less than seven, as follows:—18-h.p. four-cylinder, chain drive; 45-h.p. four-cylinder,

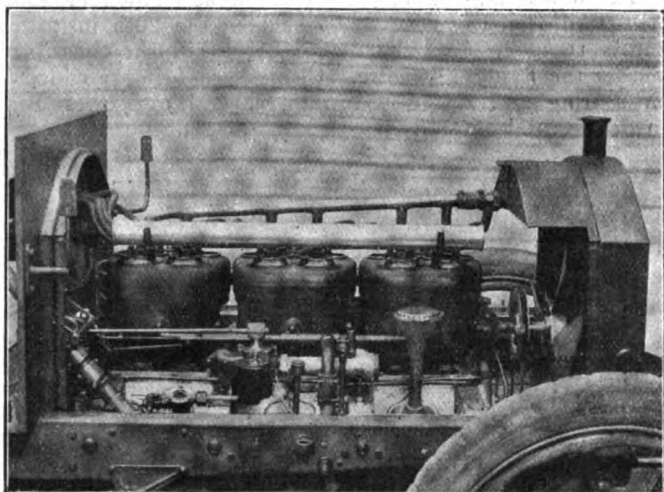


Fig. 1.—View of carburettor side of Napier 30-h.p. six-cylinder car.

chain drive; 30-h.p. six-cylinder, chainless drive; 40-h.p. six-cylinder, chain drive; 40-h.p. six-cylinder, chainless drive; 60-h.p. six-cylinder, chainless drive; 80-h.p. six-cylinder, chainless drive. Chief interest undoubtedly centres in the new 30-h.p. car which is being put on the market at such a relatively low price as to bring six-cylinder vehicles within the reach of a larger clientele than hitherto. At the same time an examination of the chassis reveals the fact that it comprises all the special features of the Napier vehicles and that the workmanship is of the usual high order associated with the makers' name.

The frame, which is supported on five springs, is well strengthened by cross members, the pair of the latter to the rear of the gear-box being additionally supported by diagonal rod braces. Fig. 1 gives a view of the motor taken from the right side of the chassis. As will be seen, the cylinders are cast in pairs, the valves being all located on the left and operated off a single cam shaft. Ample water jackets are provided, a feature being the provision of an additional circulating pipe from the valve surrounds or jackets to the radiator. The latter is furnished with a large top extension to enable a relatively large supply of water to be carried.

The mixture is furnished by a simplified form of semi-automatic carburettor, in which the centrifugal governor, hydraulic regulator, and their connections have been eliminated; it is claimed to furnish a perfect mixture at all speeds from 80 to 2,400 revolutions per minute, and is placed on the right side of the motor, the inlet pipe passing between the rear pairs of cylinders. Two air-valves are provided, one acting automatically in accordance with the suction of the engine, and the other operated by means of a lever on the dashboard. Special reference may be made to the novel arrangement of throttle control, which is so contrived that it is impossible to "race" the engine except by using the accelerator pedal. The hand lever on the steering wheel is connected to the throttle in such a way that, beyond a certain engine speed, any further movement given to it has no effect; this speed is determined by the throttle opening that will just pass a sufficiency of gas for easy starting, but no more. By this means it is impossible for a careless chauffeur to run the motor at an excessive speed, with the usual noisy roar, on starting up, and the customary rash to the steering wheel to close the throttle is

obviated. A small lever connected with a Bowden wire mechanism is provided in front of the radiator to enable the carburettor to be flooded when starting up the engine. The petrol is pressure fed to the carburettor, an adjustable valve being available for regulating the admission of the exhaust pressure to the petrol tank, and a filter is also provided to prevent any foreign matter passing. A petrol filter is similarly fitted in conjunction with the carburettor.

The ignition is of the Napier standard type of coil and accumulator with synchronised high-tension distributor. The latter is located on the dashboard, and is operated off the cam shaft through a vertical spindle fitted with a universal joint. The high-tension ignition wires are neatly enclosed in an aluminium tube which extends across the top of the engine. The advance and retard is controlled by a lever on the steering wheel, on which latter is also mounted an ignition cut out. The lubrication of the engine is effected by a small pump working in a well at the lowest part of the base chamber. The exhaust from each pair of cylinders passes by a separate pipe to an expansion chamber, whence they pass to the silencer proper.

Coming now to the transmission, a clutch of the multiple disc type is employed, a joint being introduced in the shaft between it and the gear-box to enable either part to be dismounted without it being necessary to disturb the other. A small clutch brake is also provided to facilitate gear changing. Considerable improvement has been effected in the gear-box, which is adapted to give three speeds forward and a reverse. On the top speed a direct drive is obtained, all the pinions being then entirely out of mesh. As will be seen from Fig. 2, the main shaft, with the direct drive shaft, is supported by no less than four ball bearings, the external bearings being fitted with stuffing-boxes to prevent any possibility of leakage of oil. The lay shaft is carried on three bearings; any whip of the shafts is thus prevented, while, owing to the very wide but fine teeth of the pinions, noise is reduced to a minimum when on the second or low speed. The gear is controlled by a lever working in a gate. Attached to the sector is a small lever by means of which the sprag at the rear of the gear-box is brought into action. The final drive is by a cardan shaft (provided with joints at each end) and bevel gear to a well-

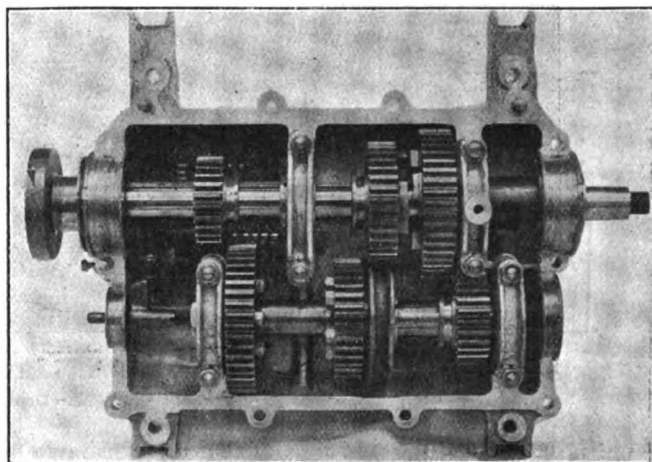


Fig. 2.—The Change Speed Gear.

supported live axle, the torque of the latter being taken by a triangular rod which extends from the differential casing to one of the cross members of the frame.

Ample braking power is provided. A pedal actuates a wide external brake at the rear of the gear-box; the hand-operated brakes are of the internal-expanding type, and are provided with an effective compensating device. The dashboard fittings are of the simplest, while the dashboard, instead of being of aluminium as usual in the more expensive Napier cars, is made of 9-ply wood (thicknesses or sheets of wood closely pressed together), which is proof against cracking and warping.

CONTINENTAL NOTES.

Belgian Motor-car Imports and Exports.

To the end of August last the imports of foreign motor-cars and parts into Belgium had this year attained a value of £120,286, as contrasted with only £103,873 in the first eight months of 1906. During the same period the exports of motor-cars and parts from Belgium increased from £258,957 to £291,143.

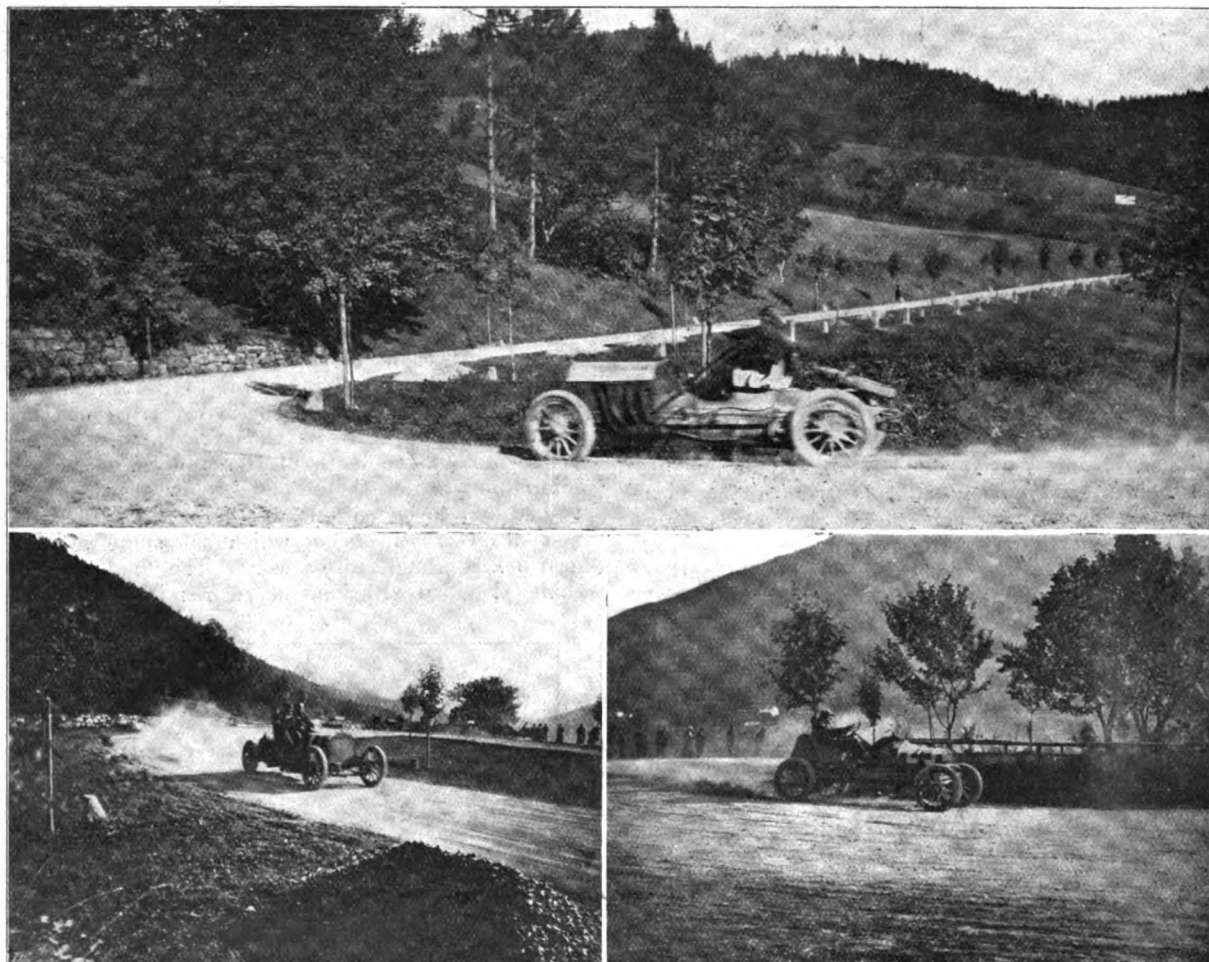
A Competition for Drivers.

As has already been mentioned in the *M.C.J.*, the "Auto" of Paris is organising a competition to test the knowledge of motor-car drivers in case of breakdowns on the road. The "Concours de Pannes," as the event will be known, has been fixed for November 3rd. A number of cars are to be purposely

hill-climbing competition and race. The usual categories for both touring and racing vehicles will be provided, and the first part of the programme will consist of a series of runs over a level kilometre with a flying start over a distance of three-eighths of a mile down-hill, the competitors being sent off one at a time. The fastest two in each class will afterwards be sent together over the same course, but in the opposite direction, the times for the standing mile and for the flying kilometre being both taken.

The Gaillon Hill Climb.

The annual hill-climbing competition at Gaillon organised by the "Auto" is this year to be held on the 20th inst. The event is to be held on the Sainte Barbe hill, the times being taken for the flying kilometre. Classes are being provided for both touring and racing machines, several categories being provided in each section.



SNAPSHOTS OF THE SEMMERING HILL CLIMB ORGANISED BY THE AUSTRIAN AUTOMOBILE CLUB.

1.—Hemery on Benz Car. 2.—Deplus on a Pipe. 3.—Klug on a Sizaire-Naudin.

(Allgemeine Automobil Zeitung.)

placed *en panne* from the same derangement, repairable by means of the tools and spares on the vehicle. The competitors, who will be unaware of the cause of the stoppage, will then each be allotted one car, and the one who gets his machine going first will be adjudged the winner, a maximum of twenty-five minutes being allowed. To further test the capabilities of the drivers, those who fulfil the above task within the time will be required to detach and refit the tyre of one of the rear wheels of the car. The two events will be separately timed, but in the event of a dead heat in either the award will go to the one whose aggregate is the lowest.

Speed Trials at Evreux.

A somewhat novel meeting is being organised by "Les Sports," of Paris, for the 27th inst. The event, which is to be held near Evreux, will consist of a combination of speed trials,

A Trial of Two Cycle Engines.

A trial of two cycle patrol engines suitable for use on motor vehicles commenced on Wednesday at the laboratory of the French Automobile Club at Levallois-Perret. Seven motors have been entered, viz., two Tony Huber-Peugeot, a Billard, a Chastanet, a S.V.U., a Legros, and a Picot.

Miscellaneous Items.

An automobile club has just been formed at Freiburg-im-Breisgau, Germany.—The fifth annual motor-car exhibition in Turin is to be held from January 18th to February 2nd next.—The Touring Club of Italy proposes to organise a trial of motor-buses at Plaisance.—The trial of industrial motor vehicles organised by the German Imperial Automobile Club commenced in Berlin on Monday. Fifty-two entries were received, and of these forty-nine started.

FRENCH PREPARATIONS FOR THE 1908 SEASON.

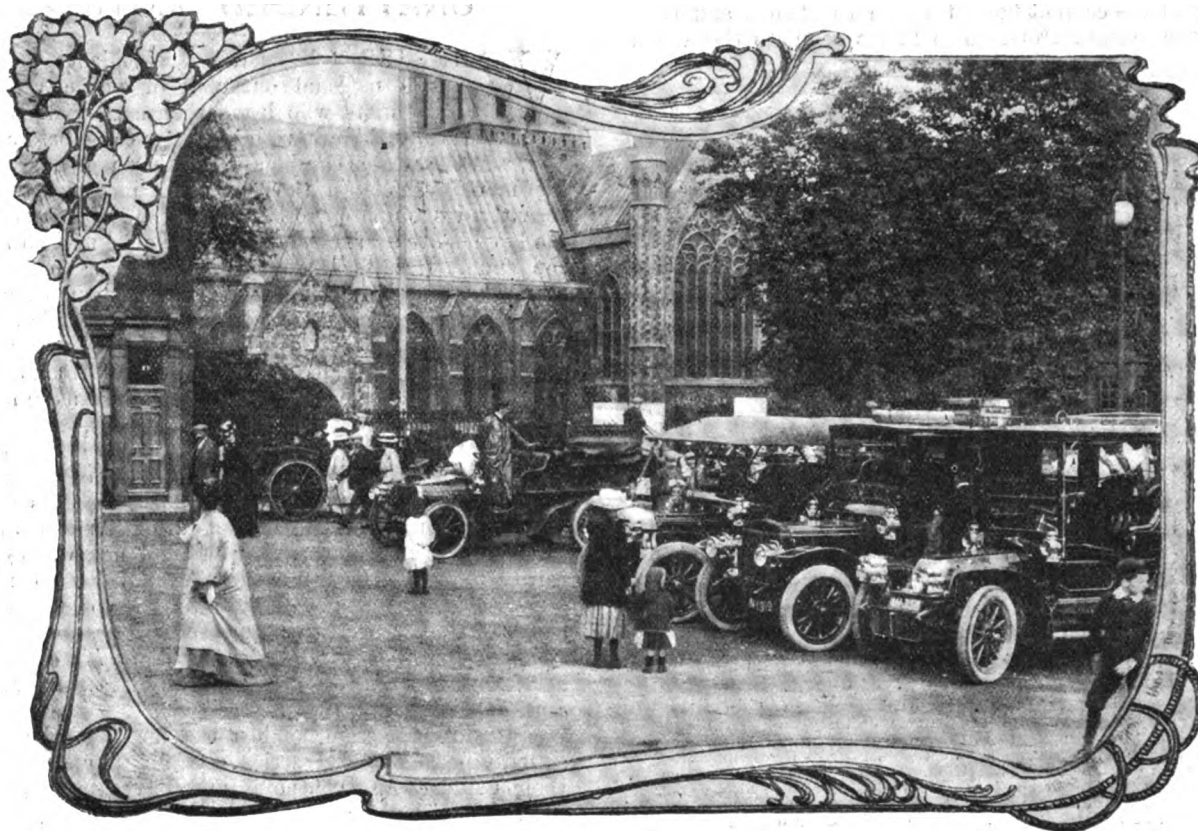
(FROM OUR OWN CORRESPONDENT.)

THE French *Salon*, as it is popularly termed, will open its doors early this year—the 12th November, as at present fixed. It will remain open until the 1st December, and it is expected, as the tenth annual show of a mighty industry, to surpass all other efforts from a spectacular and commercial aspect. The coming of the show brings up the annual question regarding the novelties which will be on view. Year by year these novelties have decreased in relative importance and numerical strength, as the excellent productions from the best French firms neared perfection, as at present conceived, of the motor-car and its allied industries. A year or two ago it was recognised that no very great changes could now be sprung upon an amazed world on the opening of any particular show, but nevertheless the details offered to examination do not present

trade, and, secondly, to defeat the weapon of cheapness which it is expected will be used by the Italians in the coming season. The French certainly are awake to the fact that competition is to be feared in both these quarters.

A novelty which should be looked for at the Paris Show is that relating to a perfected carburettor for heavy oils, and also for the use of denatured alcohol. In view of the increase of price of *essence*, and the probable rarity of this fuel in the near future, French makers have been studying the application of heavy oils and alcohol in larger numbers. Further, it will certainly be found that increased and detailed attention has been given to the matter of engines for motor-boats. The perfected car has left the boat far in the rear, and the marine engine has been receiving increased attention by some firms of repute, in order to bring the motor-boat into line with its dry land confrère, and make the motors worthy of the hull.

There will not be a few firms who will confine their 1908 output of automobiles to two or three different models, and the announcement will probably be made before the show



The Church Congress at Yarmouth.—A Group of the Members' Cars outside St. Nicholas Church.

less relative interest to the client who warms up to the tiring trudge through avenues of motor-cars as his knowledge of automobile mechanism becomes more pronounced.

French makers are usually and comprehensively reticent regarding the good things in store at each successive *Salon*, but were any great change anticipated it is probable that the usual muteness would be somewhat relaxed in ratio to the importance of the novelties embodied by any particular maker.

It is known that at this year's *Salon* there will be held a competition of automatic starting arrangements. This was a novelty at the 1906 *Salon*, but little practical application of the proposals then put forward appear to have been made. This year, however, in response to a well-expressed desire on the part of several French and foreign makers, the matter of automatic starting arrangements will take the form of an open competition among the exhibitors.

As regards the cars themselves a further effort will be made to simplify existing models with a two-fold object in view. First to fight the anticipated extension of the American export

that certain firms have determined to take the bull by the horns and establish the nucleus of a factory in other countries for the manufacture of cars according to their design, the exportation of parts being, of course, a part and parcel of the policy of these attempts to obtain new business. French firms recognise that they must do this for their self-protection, and the example already set by some well-known French firms will certainly be followed by others in Italy, United States and Great Britain before very long. At present there is a stock of cars in France which will meet the demand for many months, unless the coming show brings with it a return to the brisk days of a year ago.

THE Earl of Malmesbury has recently purchased from the Daimler Company a chassis with a wheel base of 10½ ft.

THE chairman of the Carlisle Bench, in recently fining a motorist £10 and costs, said that in similar cases in future they will add to the monetary penalty the further disability of the suspension of the licences of motorists thus convicted.

CHARGING ACCUMULATORS FROM ELECTRIC LIGHT CIRCUITS.

IN our correspondence columns this week one of our readers raises a query as to the method to be adopted to charge his accumulators from the 200-volt continuous current electric light circuit in his house. As the question is one that may be of interest to a large number of motorists, we have gone into the matter somewhat more fully than usual, and have prepared a diagram, reproduced herewith, showing the necessary connections.

To charge accumulators from a house supply, it does not signify whether one or two are being charged at a time, as the greater part of the voltage or pressure is used in the lamps that must be in circuit. As only five volts are required to charge one, and ten volts to charge two four-volt accumulators, and as the house supply is 200 volts, it is necessary to guard against getting this full pressure on to the accumulators, by having lamps of the ordinary type used in the house in circuit with the batteries, so that the current flows through the lamps and then on through the accumulators. The lamps regulate the actual

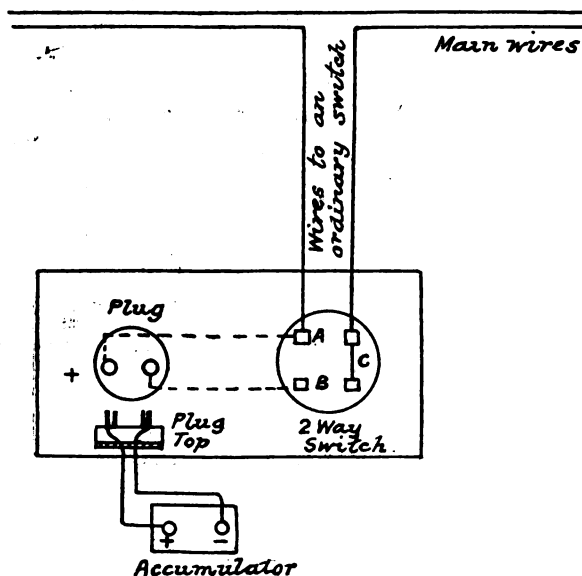


Diagram of Arrangement for Charging Accumulators from 200-volt Continuous Current Electric Light Circuit.

The switch bridges across from C to either A or B according to its position. When the switch is at A the switch is acting as an ordinary wall switch, and the current flows through the lamps as usual, but when it is at B the current can only flow to the wall plug, and from thence through the accumulator when the plug top has been fixed in position. The accumulator connections can be made before the plug is put in, to avoid risk of shock, and the plug must always be put in the same way, that is with the positive side on the side which should be marked positive. A line of paint down one side of the chime plug will make this easy.

current that the accumulator gets—that is to say, as a 16-c.p. lamp takes one-third of an ampere, you will require to have three such lamps in circuit if you wish to have a current of an ampere through the accumulators. An electrician with full knowledge of what he was doing would charge the accumulators from a switch that is controlling three lamps on an electrolier, the switch being kept at the off position, and the two wires from the accumulators being connected with the switch so as to bridge it. The accumulators then form a circuit through which the current can pass, though the switch is not on.

The best method for safe working is as follows:—Procure from an electricians' depot a small base board fitted with a two-way tumbler switch and an ordinary wall plug. These are wired up on the board, as in diagram, and two wires of different colours, preferably red and black, are wired to the wall plug top, these being provided for connecting to the accumulators. The charging board has to be inserted in the wires on one side of a circuit supplying, say, five lamps, and when fixed the positive and negative terminals should be tested for, and the wall plug marked so that the red wire is always positive when

the plug top is put in, and the black wire is negative. These are then always connected to the correct terminals of the accumulators, namely, positive to positive, and negative to negative. When the accumulators are not charging the plug top can be taken out and the switch turned to A, when the current flows direct through the circuit as usual; but with switch at B the current is deviated round through the wall plug, and with the plug top in, and the wires joined up to the accumulators, the circuit is completed through them. With five lamps in circuit the current will be about $1\frac{1}{2}$ amperes; this can be increased or decreased by altering the candle-power and number of the lamps. There is no possibility of short-circuiting the accumulators by this arrangement as the two-way switch prevents this, and the plug top, with its connecting wires, makes a safe and easy method of connecting the accumulators without risk of shock from the circuit. It would be advisable to have the work done properly by a wiring electrician.

UNATTENDED MOTOR-CARS.

WHETHER it be merely a coincidence, or whether there is a national outbreak of police vigilance against motorists who leave their cars unattended, we know not. Certainly there have been many cases before the courts of late, and the reader can be assured that it is dangerous to leave his motor vehicle in the street. A motorist residing in Bath recently drove up to a restaurant in the High Street, Bridgwater. He left his car by the pavement while he made a hurried tea in the shop. Result, a summons to appear before the Bench, charged with obstructing the traffic. Fortunately, he was able to say that a carriage and pair were also outside the restaurant, and the magistrates dismissed the case—owing to an equal division of opinion among them. At Matlock three motorists similarly called to court have been less fortunate, fines following, apparently as a matter of course.

On this matter of leaving cars unattended motorists should be familiar with the legal aspect. This is not difficult to follow. The first part finds expression in the Motor Cars (Use and Construction) Order, 1904, Clause 2 of Article IV. of which, referring to the driver, says, "he shall not, when on the motor-car, be in such a position that he cannot have control over the same, or that he cannot obtain a full view of the road and traffic ahead of the motor-car, or quit the motor-car without having taken due precautions against its being started in his absence, or allow the motor-car or a vehicle driven thereby to stand on such highway so as to cause any unnecessary obstruction thereof."

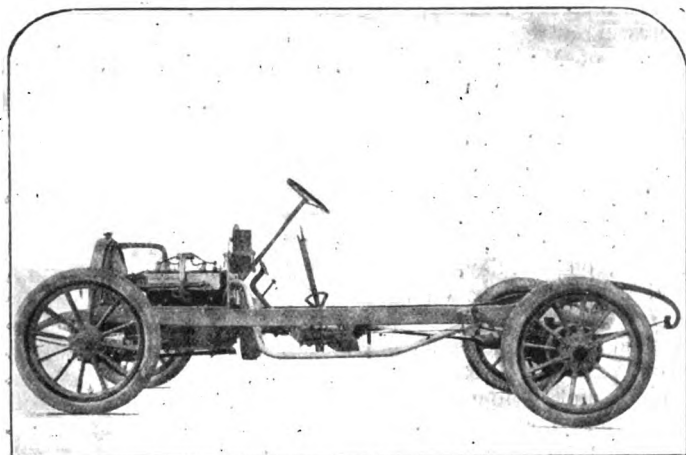
In taking action against the motorist the police should actually prove the obstruction. Often they are very careless in their evidence on such point, and if the motorist can produce witnesses who passed him on the roadway in vehicles while his car was stationary, division on the Bench may lead to his acquittal.

We had an opportunity the other day of inspecting the first of the new Badminton cars which are shortly to be put on the market by Badminton Motors, Ltd. The vehicle is of 14-20-h.p., and while following the general lines of live axle vehicles, comprises several interesting details, notably as regards the clutch and cardan shaft. The four-cylinder engine, which is 90 mm. bore by 110 mm. stroke, is provided with an automatic carburettor of the Krebs type and high tension magneto ignition. The clutch is of the disc pattern, alternate bronze and steel plates of rather greater thickness than usual being employed. The cardan shaft is entirely enclosed in a casing, which acts as the torque rod; it extends from the differential case to a crescent-shaped piece pivoted to one of the cross members of the frame. The cardan shaft and casing are thus free to adjust themselves to the inequalities of the road. The first chassis has been built in France, but we understand from Messrs. Teste and Lassen, of 9, Warwick Street, London, W., who are interested in the new concern, that arrangements are in hand for the complete production of the vehicles in this country.

NEW members of the R.A.C. include Earl Poulett, Lord Alexander Thynne, Captain H. R. Hayter, and Mr. W. Campbell, K.C.

AN order has recently been issued announcing that motor-cars may be imported into Paraguay free of import duty for a period of two years from June 26th last.

WE illustrate herewith a new chassis which is being introduced by the Hotchkiss Company for the 1908 season to meet



Chassis of the new Hotchkiss 16-20-h.p. Car.

the growing demand for a high-class car of moderate horse-power and price. The vehicle, which follows the usual lines of the Hotchkiss cars, is provided with a four-cylinder engine rated at 16-20-h.p., the bore and stroke being respectively 95 mm. and 110 mm. The ignition is by high-tension magneto, and the speed of the motor is controlled by both hand and foot levers. The transmission is through a leather-faced cone clutch, gate-controlled change-speed gear giving four forward speeds and a reverse, cardan shaft and bevel gear to a live axle. The brakes are of the internal expanding type and the pressed steel frame is narrowed at the front to give a large lock, and raised at the rear to clear the differential casing. Special attention has been devoted to the suspension, three-quarter elliptic springs being employed at the rear. The car, which has a wheel base of 9 ft. 6½ in., is mounted on equal sized road wheels, 875 mm. by 105 mm. tyres being fitted. The London and Parisian Motor Company, the British agents, inform us that the new model has been subjected to extensive trials and has proved itself to be both speedy on ordinary roads and a good hill-climber.

AN inquiry by the Local Government Board Inspector for the limitation of the speed of motor-cars to ten miles per hour took place at Bromley, Kent, on Monday; on Wednesday a similar inquiry was held at Mere, Wiltshire, into the application of the County Council to close the road to motor-cars.

MR. T. SPONG, of 205, Shaftesbury Avenue, London, W.C., is open to contract on weekly, monthly or yearly arrangements for the supply of tyres, tubes, oil, petrol, &c., for any make of car. He is also arranging for cleaning and garaging cars, and generally placing himself at the service of motorists.

A CURIOUS incident has just come to light in connection with the recent visit of the King to Perth, when he passed through the General Station en route for Advie. Two days afterwards His Majesty's motor-car, while passing up North Methven Street, was stopped by a constable of the city police. Unaware of the fact that the car belonged to His Majesty, with quiet dignity the constable inquired of the chauffeur why the car was not registered. With a smile His Majesty's chauffeur politely informed the constable that such a privilege was only extended to the King, and the constable, comprehending the situation, allowed the car to pass.

HERE AND THERE.

ST. DAVID'S FREE CHURCH, in the Ward Road, Dundee, will shortly be transformed into a motor garage by Mr. Thomas Shaw.

CAPTAIN WOOD'S 30-h.p.

Daimler made a non-stop run in the Aga Khan Motor Reliability Trial for cars driven by amateurs last month. It was also first in the Khandalla Ghat hill climb.

THE 8-h.p. Rover car employed by the Motor Union inspector for road agency work has now completed 4,000 miles in a little over six weeks.

THE Cheshire Automobile Club has passed a new bye-law to the effect that persons employed or engaged in the motor trade shall not be eligible to take part in the competitions of the club.

WE join with the Rev. Canon Barrett, of Barnet, in hoping that motorists passing through the town on Sundays will do so with as little noise, particularly horn blowing, as possible during the time the congregations are at church.

TUITION in motor tyre repairing is now a feature in the educational programme at some of the London and provincial polytechnic schools, Messrs. Harvey Frest and Co.'s vulcanisers being frequently used for demonstrating purposes. The firm are willing to loan an appliance to any established school.

MR. THOMAS STRONG is arranging for the Clifton Baths Garage, Cliftonville, Margate, to have accommodation for fifty vehicles. Private lock-ups for cars will shortly be added. At his place in Victoria Road, Margate, he stocks accessories and sundries, and undertakes all kinds of motor-car repairs as well as the letting of cars for hire.

THE accompanying illustration shows the 40-h.p. six-cylinder Napier which started on the 30th ult. on a 3,000 mile trial of Simcar benzol under the observation and supervision of the Royal Automobile Club. The distance run on each day



The Car starting from the Red Lion Hotel, Hatfield.

since the commencement of the trial is 150 miles, the consumption of fuel on the first day being 7 gallons of benzol; on the second 6 gallons 4 pints 14 oz.; on the third 6 gallons 3 pints; and on the fourth 7 gallons 5 pints 8 oz., giving an average for the four days of twenty-two miles per gallon.

AN excellent garage with accommodation for a score of cars is run by the Monmouth Motor and Cycle Company, Ltd., in Priory Street, Monmouth. An attendant is to be found on the premises by night as well as by day.

MR. H. GARNER, of Nantwich, has joined Argylls (Midlands) Ltd.

IN the London Road, Derby, Mr. H. Butler has opened a new garage and motor works.

DURING the month of September 164 motorists joined the Motor Union directly as individual members.

IN connection with the centenary fund of the Primitive Methodist Churches a motor-car campaign for the county of Lincolnshire has commenced at Crowle, a car having been placed at the disposal of the deputation by Mr. T. R. Watkinson, J.P., of Grimsby.

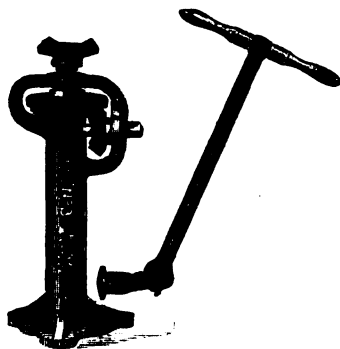
COLONEL R. E. CROMPTON, C.B., has given his opinion that the Dust Committee of the R.A.C. has learned a great deal as the result of the recent experiments at Brooklands, and they will be able to place a definite report before the manufacturers which will be of great service to designers.

SUBSCRIPTIONS of 50 guineas and 20 guineas have been given by the R.A.C. and the Motor Union respectively towards the appeal on behalf of Mr. Joseph Taylor, of Maidenhead, whose work in connection with the freeing of the Maidenhead and Windsor tolls is well known to motorists.

THE Relations Committee of the R.A.C. is to be called together on the 23rd inst. to investigate the situation arising out of the controversy between the Motor Union and the Automobile Association in so far as the club is affected by that controversy. It is being asked to report to the first meeting of the club Committee, to be held in November.

WE illustrate a new jack known as the "Duco" No. 3, which has lately been put on the market by Messrs. Brown Bros., Ltd. The tool, which is fitted with a patent universal handle joint, has a body made from best hematite iron, and annealed; the screws are of steel, and the other parts of malleable iron. The jack, which is fitted with hand adjustment, and will lift a ton, weighs 5½ lbs.; its height when down is 10 in., and when extended 16 in., giving a range of 6 in.

ON the invitation of Mr. Turpin, the work's manager, we recently made a tour of inspection of the Panhard Works at Acton, W. Since acquiring the new premises a considerable extension has taken place in all branches, the firm being now able to undertake repairs to any make of car, Spyker, Horch, Humber, Decauville, Austin, and other vehicles being under treatment at the time of our visit. A special feature is made of the lengthening of chassis and conversion of the now obsolete rear-entrance vehicles to the more convenient and roomy side-entrance type; as this alteration requires coach-builders' work, a very complete installation has been put in, comprising body-building, upholstering, painting and enamelling and wheelwright departments. Another important branch is the manufacture of the Dunlop detachable rim, and the adapting and fitting of the same to the present type of road wheel. Repairs to cylinders by the acetylene-oxygen welding process were also in operation, while other departments include those devoted to the repairing of ignition magnetos, lamps, &c.; there is also a very complete smith's shop in which all patterns of forgings are turned out and axles straightened. With such facilities the Panhard Works are able to make any part not procurable from the original makers, and thus guarantee a date of delivery for any repair work undertaken. In addition to this important side a very large stock of spare parts for Panhard cars is kept on hand, this section requiring four floors of the building to accommodate them. Mr. Turpin has shown the keen interest he takes in the well-being of his large staff by providing very fine mess rooms and recreation rooms for the employees, while the neatness and order evident throughout the whole establishment points conclusively to the fact that the system employed under his direction is complete in every detail.



A MAIL motor service is to be started between Cosham Petersfield, and Haslemere.

MR. W. SMITH, of Eton Stret, Richmond, has a garage for sixty cars at his works in the Quadrant Road, near the railway station.

THE attempt of Lieut. Graetze to cross Africa by motor-car has been quickly frustrated, the car being at present stranded about 200 miles from the starting point, with four cracked cylinders.

THE Scottish A.C. have agreed to appropriate £500 for the erection of road signs and to remit to the Touring Committee to consider the matter fully and submit a scheme to the next meeting of the General Committee.

IN a recent number, the New York "Motor" published an interesting article on the equipment of a private garage, from the pen of Mr. Wesley Hawkes, a condensation of which will be found elsewhere in the present issue.

BENZOL, as a fuel for petrol motor vehicles, is now being supplied by Messrs. Sadler and Co., Ltd., Middlesbrough; the Staffordshire Chemical Co., Chatterley; and the Simon and Carves Bye-Product Coke-Oven Construction and Working Co., Ltd., Manchester.

A FINE of 40s. and costs was imposed, at Feltham Petty Sessions, on Monday, on the navigator of a motor-launch in Teddington Lock cut on a recent Sunday, without special care and caution, and at a speed and in a manner so as to endanger the safety of such vessels. Waves set up by the launch washed into a punt and wetted the occupants, soaking the carpets, cushions, and clothing lying at the bottom of the craft.

AT the recent Notts A.C. Hill Climb, held at Hazlewood Hill, Daimler cars made the first, second and third fastest times of the meeting. This makes the twenty-fifth time during the past season that Daimler cars have made fastest times of all cars competing at club competitions, and the second occasion on which they have made first, second and third fastest times. The majority of the wins were made by privately owned and driven cars of standard pattern.

DURING the stay of the commercial vehicles in the R.A.C. trials in Sheffield, a visit was paid to the works of Messrs. W. Jessop and Sons, Ltd., at Brightside. About twenty of the leading representatives of the motor industry following the trials went down in a motor-bus, and spent a very enjoyable morning. Messrs. Jessop have paid great attention to the requirements of motor manufacturers, and have successfully applied their efforts to the production of the special steels which the industry calls for.

AT the testing station of the British Fire Prevention Committee, Regent's Park, N.W., an interesting demonstration was given on Wednesday last week with petrol tanks fitted with safety devices to prevent explosion in case of fire. The display was arranged by the Safety Non-Explosive Reservoir Company, Ltd., of Alderman's House, Alderman's Walk, E.C., who provided vessels fitted with the safety device made in accordance with the Henze patents. This consists of a metal safety plug and an interior wire gauze safety tube, constructed on the well-known principles of the wire gauze cylinder in the Davy miner's lamp. A metal petrol tank, similar to that carried on many motor-cars, was surrounded by wood and other inflammatory materials, forming a huge bonfire. The tank was half-full of petrol, and the bonfire was lighted, petrol being poured on it to increase its intensity. After some minutes the fusible plug in the tank melted, and was blown out by the gas accumulated in the tank. In the ordinary way an explosion bursting the tank would have happened, but, instead, the gas simply lighted and was easily extinguished. A further demonstration was given by placing an ordinary motor-spirit tin filled with petrol and a safety petrol tank in the bonfire together. The can of spirit, after being in the fire for some time, blew up 30 ft. in the air, and landed some twenty yards away. The safety tank, on the other hand, behaved admirably, the plug and gauze tube allowing the gas to burn quietly, no explosion taking place. The new invention is one worthy of the close attention of all interested in the safe storage of petrol and other inflammable liquids.

SOME USEFUL NOTES.

IN a single or even a double-cylinder motor it is very easy to determine whether there is a freedom from leaks and whether the proper compression pressure is attained, by the "feel" of the starting handle when the latter is turned over, with the ignition switched off and the throttle partly open. If, when the handle is being pulled against the compression stroke, there is a constantly increasing resistance transmitted to the hand through the starting handle up to the time that the dead centre is passed, no matter how slowly the handle is turned, one may feel confident that the compression is good. If, on the contrary, there is no such springy resistance, unless the handle is rotated suddenly and energetically, and if the compression stroke may be completed with very little effort when passed slowly and gradually, the compression is faulty.

GOOD modern petrol motors, when in condition, operate practically without any knocking sounds. The motorist's ears should, therefore, be on the alert for any unusual noise proceeding from the engine. When a knock that is evidently not attributable to a too advanced ignition begins to develop, the danger signal which it conveys should be at once heeded. If such sounds develop rather suddenly it is a fairly sure sign that the engine has become hot from lack of oil or of water circulation. If the cause is pre-ignition, due to incandescent carbon deposits in the combustion space, the trouble will probably have been noticed before and will cause no immediate anxiety. The difficulty may be due to a loosening of the connecting rod bearings on the crank pins or to a loosening of some other mechanical fastening about the motor.

If the cylinders of a petrol engine become more than normally hot and the pistons move with difficulty and squeak, the trouble is probably lack of cylinder lubrication, while, if the cylinders are very hot and the radiator is comparatively cool, the difficulty is presumably one of lack of water or of defective circulation. A hot engine, if attended to at once and allowed to cool gradually, will probably not be seriously injured by the experience. The copious feeding of oil to the heated parts and a very cautious supply of cold water to the engine jackets, so long as they are intensely hot, are advisable.

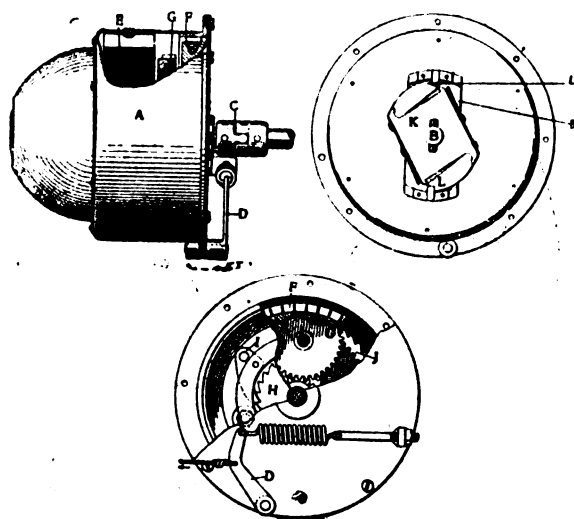
"KNOCKING" due to the engine's overheating and self-igniting its charges is of a peculiarly sharp, almost metallic, clanging nature, and is generally accompanied by considerable smoke arising from the burning off of oil from the outsides of the cylinders. There is usually, too, a very offensive and pungent exhaust produced from the incomplete combustion of the charges, when the motor runs after the current is switched off. A knock produced by mechanical looseness is of a less sharp nature, but louder, and shakes the car more noticeably.

IMPERFECT inflation is responsible, to a greater extent than anything else, for tyre "bursts" and quick disintegration. When a tyre is not sufficiently pumped up the walls are continually bending backwards and forwards as the car moves, with the same result as when a wire or piece of metal is bent backwards and forwards, that is, heat is engendered in the threads, as a result of which they soon weaken, and in a short time the inner walls are no longer strong enough to support the air pressure multiplied by the weight of the car, and "bursts" result.

LACK of lubrication in a particular cylinder may sometimes cause so much friction at that point that the cylinder will lag, and, especially at low throttle openings, will add little or nothing to the power of the engine. Under such conditions the particular cylinder will probably heat excessively, and may become so hot as to develop pre-ignition and "knocking." Conditions such as these are, however, likely to be detected during the operation of starting the motor, or by a squeaking sound when the engine is running.

A NEW AUTOMATIC ENGINE STARTER.

IN connection with the recent correspondence on the subject of engine starting devices the following particulars of a new arrangement which has lately been put upon the market by the Auto Improvement Company, of Hudson Street, New York, U.S.A., may be of interest. The starter, which is known as the "Ever Ready," is designed for attachment to the front of a car in the place usually occupied by the starting handle. The device, which is enclosed in a brass casing, consists of a spiral spring of considerable weight. Pre-supposing the spring E to have been wound tight, it is released for starting by a slight rotation of the lever D about its spindle, which releases the clutch band or shoe F, through a toggle linkage, from engagement with the disc, upon which are mounted the pawls I (Fig. 3), engaging with the ratchet wheel H mounted upon the spindle with the forward member of the jaw clutch C (Fig. 1). The inner end of the spiral spring E is positively connected with the internal ratchet J, and the engagement for starting is thus accomplished through J and its pawl, which are mounted on the disc with the pawls I, and the ratchet and pawls



H and I. The lever D, through the action of a spring shown in Fig. 3, normally holds the brake band F in engagement with the disc, it being released by a pedal on the driver's footboard, and connected to D by a wire or rod. After the engine has been started the pawls L, which are enclosed within the spherical shaped part of the casing, engage, as shown in Fig. 2, with a member attached to the spindle, upon which is carried the inner pinion of a set of planetary gears. With the spring wound to the limit set by its adjustment, the pawls L are shifted endwise on the spindle by a thread-actuated device until they are released from engagement with the pinion. When the spring is unwound they are again brought into engagement by the screw. The spring is rewound by the engine through the jaw clutch C, the pawls L and the planetary set, with a reduction of motion of 10 to 1 from the engine shaft, and is held in a wound condition by the brake band F until that band is again released by the pedal through the movement of the lever D. The forward end of the device is provided with a clutch for the engagement of a telescopic starting-handle with either the rewinding pawls or the engine shaft direct through the clutch C. Should the device, through failure of the engine to start owing to imperfect carburation or ignition, become unwound, it may be readily rewound by hand with only a small expenditure of energy on the part of the operator.

THE British Consul General at Constantinople reports that the importation into Turkey of petrol motor bicycles and cars has been authorized by a recent Customs circular. Their use in towns is, however, prohibited.

THE CLOTHIER AND THE CAR.

FOLLOWING what we wrote last week with reference to the clothing of motorists, we would now emphasise the position that Irish frieze has taken in connection with the subject, while the introduction of the detachable lining is another point of interest. In fact, this latter development is one of the most noticeable features of the present position. They both arise from the desire to secure motor clothing that shall appear as not out of the ordinary when the motorist is walking, and to have one garment always available, no matter what the weather may be like.

A. DUNHILL, LTD.

Among those who have specialised in motoring equipment, Messrs. Alfred Dunhill, Ltd., of Euston Road and Conduit Street, London, early attained distinction, which they have maintained through succeeding seasons. The desire has been to bring out raiment for motorists which can also be worn when not on the car without attracting undue attention to the wearer. In this connection mention may be made of



The "Hillingdon" Coat.

the "Hillingdon" coat, a stylish garment of specially close woven Irish frieze, which is one of the most practical motoring coats we have lately inspected. The wind, which in many garments is not wholly excluded from the chest when the wearer is in a sitting position, is effectively kept out in the Hillingdon coat by the introduction of a wind flap buttoning on to the same buttons as those which close the coat over the chest. An extra wide skirt is given to the coat, rendering it comfortable when the wearer is sitting, and, in fact, it acts as an apron. Being pleated at the back, so that it can be taken in by a short belt, an ordinary appearance is given to the garment when walking. The style of buttoning the collar to give security to the neck from wind and rain is ingenious and effective, and the firm are to be congratulated on the success of their efforts in this direction. "Umbrella" coats and other distinctive motor costumes are also included in the stock of clothing for gentlemen. In the ladies' department are many fashionable garments, some striking novelties being shown in leather costumes, notably one in soft green leather with undervest of pale embroidered mauve suede and hat to match. There is also an excellent "slip-on" wrap in vicuna for all seasons. This is provided with ingeniously arranged collar and sleeves which can be worn in a variety of different styles. Drencher proof tweed coats, Harris spun tweed coats, the "Kennard" mackintosh, designed by one of the pioneers of lady motorists, and hats, hoods, and vells are also included in their specialities. The catalogue issued by Messrs. Alfred Dunhill, Ltd., in connection with their clothing department is one of the most complete works of the kind lately published.

HOARE AND SONS.

At their Central House, 252-254, High Holborn, W.C., Messrs. Hoare and Sons have a selection of motor clothing which will commend itself to many motorists in the reasonableness of its price. For the season they have introduced the "Smok-ett" coat, which is described as a waterproof without rubber. As a long double-breasted motor coat with ample skirt the garment should find much favour. It is light when worn, of good appearance, and amply withstands storm, wind and rain. As a new garment for motorists the "Smok-ett" should attract considerable attention and become a recognised fashionable garment. Mention must also be made of other standard styles designed and executed in the workshops of Messrs. Hoare and Sons. The "Rex" can be supplied with all-wool or leather lining as desired, and affords adequate protection against all weathers. It can be worn on or off the car without exciting the notice of the man in the street. The fur-lined motor coats which the firm supply combine a high grade of cloth with choice fur, and should satisfy the most exacting patrons of such goods. As an advance on the original parapluie the "Storm smock" brought out by Messrs. Hoare and Sons is a distinct success, securing the same immunity from wet, but, dispensing with the rubber neck, having an efficient substitute in a new plan of closing the neck and chest, by a protector which adds to the protection from the weather. Motoring "slip overs," a patent motor cloak with telescopic sleeves, and other garments testify to the firm's good work as motorists' tailors. They are also specialising on liveries, in which department the same regard to reasonable prices is shown.

WHOLESALE FUR CO.

Although men have not increased their partiality for fur garments when motoring, ladies seem to have naturally retained their liking for raiment of that description. A reference to the specialities of the Wholesale Fur Co., of 201, Regent Street, W., is proof of such a fact, for there are to be seen several types of fur-lined motor coats, handsome in appearance and evidently warm and comfortable to wear. An elegant model is that known as the Panhard. This has a large storm collar, to turn up or down, and, made in the firm's specially selected dark natural musquash, lined with grey and white squirrel, is a most effective coat. The Darracq coat, in mole grey squirrel, is a stylish and graceful model. This is trimmed with silver pointed fox, and can be had lined rich quilted or plain satin. Lined with the latter material and made in natural musquash, the coat is indeed a striking garment. Recognising that garments of this description have to be worn on diverse occasions, frequently over a dinner gown or ball dress during an evening drive, when warmth combined with lightness in weight are so especially desirable, or at other times over tailor-made gowns and coats and similar garments whilst hunting, driving, motoring and travelling, it is important that there should be ample room for all such contingencies. With this important point in view special attention has to be given to the arm-holes and sleeves, so that the coats slip on readily and are worn with comfort, without sacrificing elegance of style; also the appearance of unnecessary bulk is avoided. The firm have also brought out a new automobile coat known as the Brooklands, produced in elegant shades of heather mixture, tweeds, Cheviots, &c., in various fur lining.

LOVEGROVE'S.

Messrs. Lovegrove's, the well-known motoring tailors, are removing from 175, Piccadilly, to the first floor of 169, Piccadilly, London, W., where they are showing a comprehensive selection of clothing of the latest styles, both for ladies and gentlemen. Among the specialities are very smart ladies' leather boleros in several colours; skirts of leather and cloth skirts trimmed with leather intended to be worn with the bolero, a combination which makes a useful and stylish costume; ladies' leather motor coats lined with fur or camel fleece. An excellent waterproof overall is another good line. In motor hoods the firm has several good types, the "Sandringham" being a very interesting accessory. This is made in coloured leather trimmed and lined with various furs as required. By bonding a wire lying within the rim the shape can be altered for variety. In gentlemen's clothing are some fashionable garments in Irish friezes, tweeds, etc., including a travelling coat which has been much appreciated by medical motorists, who have recognised the hygienic principles upon which it is constructed. It is made from frieze cloth lined with camel fleece, and interlined with a special woven material. It has large pockets to hold bulky cases. A section of the business in which Messrs. Lovegrove's have attained much distinction is concerned with liveries. In these we noticed a special landaulet livery, designed specially for use in town. The collar, cuffs, and hat are trimmed in bold contrast. A chauffeur's livery is also made in velvet cord reefers, friezes, and meltons, in colours to match the car. In addition to the garments we have enumerated, the firm have a large selection of caps, gloves, &c., and are able to clothe the motorist in the latest styles, based upon a practical acquaintance with the requirements of motorists.

MESSRS. HENRY ANGUS, SANDERSON AND Co., of Westgate Road and Percy Street, Newcastle-on-Tyne, have been appointed by Messrs. S. F. Edge, Ltd., sole agents for the six-cylinder Napier cars for Northumberland, Durham, and Cumberland.

WE learn that the Samson Non-skid Company have installed an up-to-date vulcanizing plant at their factory at Hythe Road, Willeston Junction, and are now able to undertake all classes of repair work as well as the re-rubbing of tyre covers.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

MOTOR-CAR DESIGN.

To THE EDITOR OF *The Motor-Car Journal*.

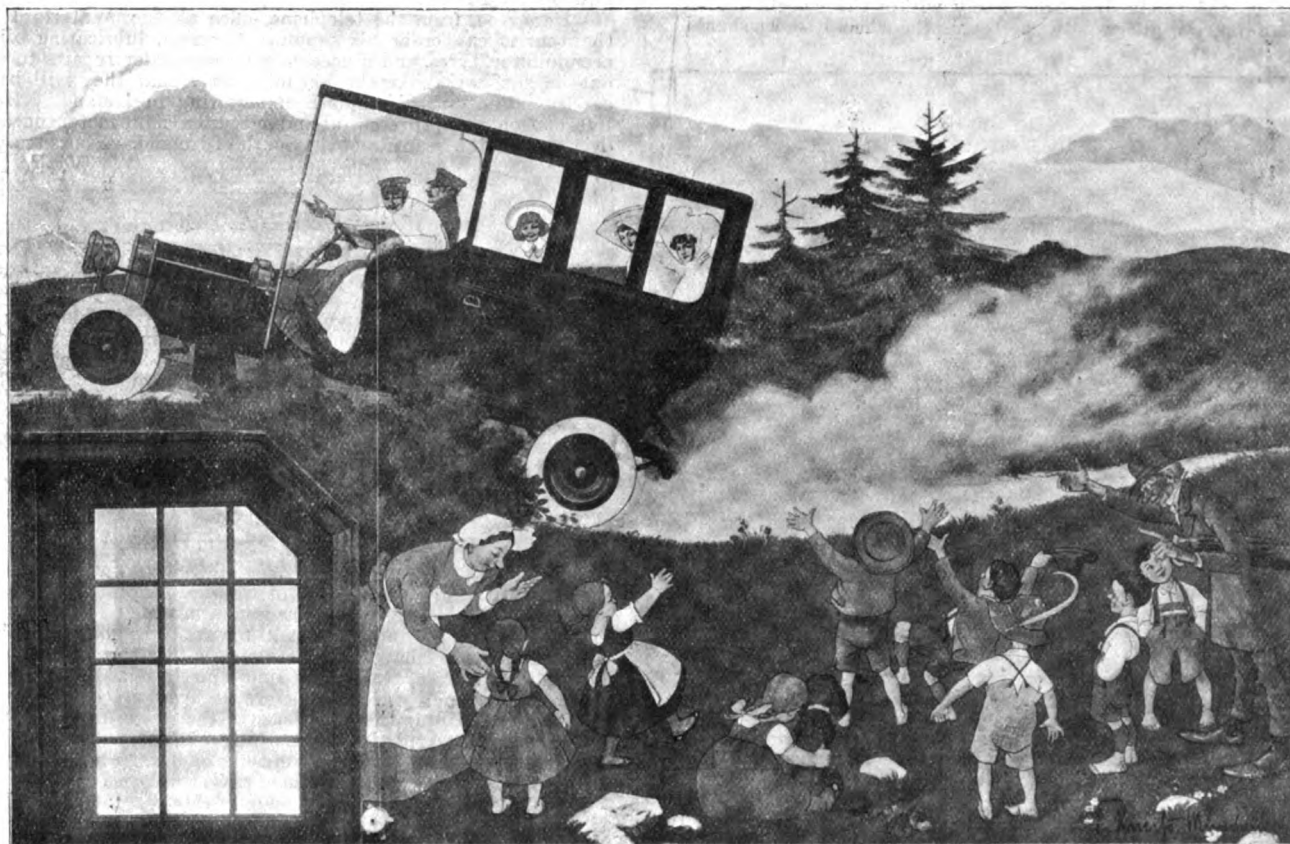
SIR,—A considerable amount of discussion took place at the recent meeting of the Institute of Carriage Manufacturers, as to the ideal type of motor-car. The discussion was taken part in not only by carriage builders but also by engineers; and while obviously, so long as the present standard type of car is so enormously in the majority, the average motor-car engineer is fairly well tied to uphold that type, it was equally obvious from the discussion that not only most of the carriage builders were dissatisfied with the present type but that also many engineers recognised its faults and desired to see radical improvements.

A very interesting paper was read by Mr. Baillie dealing fully with the various types of cars which are manufactured. He was kind enough to refer to the N.E.C. cars at considerable length. It seems to us that whatever view is held as to future development, it is a subject on which could be based a very interesting discussion in your paper,

and theatre work, and for doctors. It must take the place of the train for ever increasing distances, and all this besides being a mere speed vehicle for sporting purposes.

It goes almost without saying that for a car to fulfil all these purposes it must be thoroughly reliable and stoutly built, besides being as free as possible from complication, easy to keep in order, and simple to drive. This standard has been pretty well attained by all cars of repute. Given a careful driver, there are many cars on the market which can be depended upon as consistent performers. No new type of car which does not possess these features can hope to succeed. These points were scarcely mentioned in the discussion by the Institute of Carriage Manufacturers; instead, the points raised were those we had in mind five years ago when we designed our cars. They are perhaps best put by giving the faults of the standard type of car. These are lack of comfort, convenience and accommodation and poor appearance.

In short, the engineer in perfecting his part has disregarded the passenger, the *raison d'être* of the car. He has failed to realise that



The Adler Fahrradwerke Gesellschaft, the makers of the Adler Cars, have recently established a large open-air motor-driving track in Frankfurt-am-Main. Among its features is a series of panoramic pictures, one of which is reproduced above, representing the humorous side of motoring and cycling, by Herr Emil Kneiss, a well-known artist of Munich.

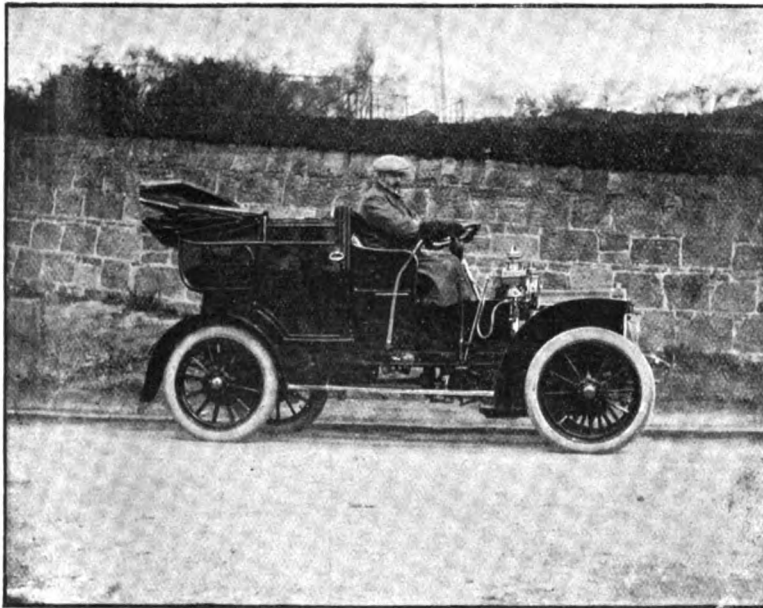
one which would be of real value to manufacturers and to the buying public as well; for even the strongest advocate of the common type of car of to-day must admit that there is a great probability of newer forms establishing themselves in a strong position. We ourselves have devoted five years to the production of an uncommon type of vehicle. We set out to secure advantages which we believe an ideal car must have, and in our opinion we have completely succeeded.

The general outline of our cars was arranged at the very commencement. If any of your readers will carry their minds back to the early days of the movement, they will recollect what dreadful things were the motor-cars of that period, small, uncomfortable, uncouth, things apart, scoffed at as the competitors of elegant luxurious carriages. So that, without wishing to boast, we really were a long way ahead when we drew, five years ago, the outlines of the cars which we are actually building to-day. Between that time and this the motor-car has changed enormously in its uses and in its fitness. It is, nowadays, a necessity, the private Pullman of the wealthy and the greatest source of pleasure of the well-to-do. Every day sees its influence spreading. The horse for carriage purposes is on the very verge of extinction, so that now the motor-car must take the place of the elegant town carriage for the park, for shopping, for calling, for dinner

as his part was perfected so it could be modified, that its general outlines were the outcome of early imperfections. Besides this, in overcoming certain defects he has very materially made other faults still worse. The bonnet is certainly the outcome of first, faulty engines which required to be constantly got at, and secondly, ill-considered and faultily designed motors, which were intended to occupy positions other than under the bonnet. The six-cylinder engine has very much increased the disadvantage of the bonnet. The bonnet being in existence, it follows that comfort, convenience, accommodation, and appearance must all suffer from serious limitations. Once the body is driven back over the rear axle, there must be unduly stiff springs to prevent the body and axle bumping together; this means discomfort from road vibration. Then, the back seat being behind the axle instead of in front of it, its movement is magnified, adding to the discomfort. Furthermore, to get the carriage a reasonable height from the ground, small wheels must be used, since the body cannot be lowered unless the axle is lowered. Then the rear wheels coming far forward in relation to the back (or main) portion of the body, there is great difficulty in securing a really convenient door. Also the body is high, to avoid hitting the axle, two steps have frequently to be arranged, and getting in and out of the car becomes quite difficult.

By throwing the body back indefinitely behind the rear axle any accommodation can be secured, but owners object to the discomfort which must be incurred or the accommodation curtailed. Appearance is a matter of personal taste and habit, but a fairly safe rule is that what is evidently best suited to the purpose will have the best appearance; and this applied to motor-cars means that the more carriage there is and the less machinery, the more there is obviously comfort and convenience and good accommodation, the better will the appearance of the car be.

The two facts which in our opinion are becoming more and more obvious every day are that the only object of the car is that it shall minister to the enjoyment and comfort of its owner, and that the early mechanical imperfections are so far eliminated that the design of the machinery can be radically altered to secure the improvements of a car in the sense of a carriage. To-day, in the light of experience, it seems quite obvious that the reason why some bonnetless cars have not succeeded better is that their designers have not understood the real reason why the bonnet must go. Almost invariably their great ambition has been to secure a short wheel base. In our opinion this is a very minor consideration, and, since a short wheel base means unquestionably loss of comfort, it is a feature that would tell rather against than for a car. In the case of our own vehicle we score to the extent of nearly 3 ft. in length by suppressing the bonnet. Our car has a wheel base of 10 ft. 6 in., which corresponds exactly with the wheel base of any similar vehicle with a bonnet. By keeping this wheel base we get the body slung completely within the wheels and so secure extraordinary comfort. By shortening the wheel base we should



Mr. Chas. MacIver, of Messrs. David MacIver and Co., Liverpool, and Beechfield, Heswall, at the wheel of his 10-12-h.p. landaulet, which he constantly uses for running across the Wirral peninsula to Birkenhead twice a day, and frequently to Chester and the surrounding district.

turn in a somewhat smaller circle, but the car would be even more uncomfortable to ride in than the one with the bonnet.

The difference between the ordinary type of vehicle and our own is well brought out in the following table, which shows how easily we can get our body "within the wheels" and how impossible it is when the engine is under a bonnet:—

Car.	Wheel Base.	Distance from dash to front of rear wheel.
Fiat	10 ft. 6 in. ...	5 ft. 8½ in.
Napier	11 ft. ...	5 ft. 3½ in.
Delannay-Belleville ...	10 ft. 6 in. ...	5 ft. 8 in.
New Engine Co.	10 ft. 6 in. ...	8 ft. 4½ in.

Briefly, what we claim for our type, and what we believe all designers will have to endeavour to secure, are that the body is completely within the axles and slung low, so that we can get the maximum comfort possible and have convenience of ingress and egress, for we are not hampered in the position and design of the door, and the step and floor of the car are low. We also secure greater accommodation on the same wheel base; and since the whole space is given up to the carriage body, and since the car is very obviously a comfortable and convenient carriage, it has therefore an improved appearance, as compared with a vehicle with a bonnet.—Yours truly,

J. C. MORT.

New Engine (Motor) Co., Ltd.

THE NEW ROUTE TO IRELAND.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been following with much interest the series of letters which appeared recently in your widely-read Journal re the excellent Fishguard-Rosslare passenger route between England and Wales and the South of Ireland. In a business connection I really cannot understand why the Great Western Railway Company do not advertise or make known to motor-car owners the splendid facilities offered by the route for the conveyance of motor-cars, inasmuch as to my mind it is one of the most perfect routes in that respect I know of, having excellent and up-to-date methods for the careful shipment and the discharging of all cars committed to their charge.

By booking their cars by this route, owners have one hour to rest themselves and to see their cars transferred safely from the direct boat to the main road, this work being carried out under the supervision of Inspector Davies, who always sees to the discharging of motor-cars personally, and has, I may add, about ten years' experience of this class of work. The freight charged on motor-cars up to one ton is £2 3s. 1d., and up to fifty cwt. £2 13s. from Fishguard to Waterford (direct steamer). A magnificent cross Channel steamer leaves Fishguard every night, Sundays excepted, at 11.45, arriving in Waterford at 7.35 the following morning, while owners themselves can take the mail passenger steamer leaving Fishguard for Rosslare and Waterford 2.20 a.m., and arriving at the latter place at 6.25 a.m., and are thus actually in Waterford before their cars.

Here, too, from the telephone office at the Waterford terminus, the tourist can order his supplies of petrol, lubricating oil, charged accumulator, tyres, and if necessary he can order repairs to be carried out on his car and make his mind easy that they will be carefully carried out in "the birthplace of motoring in Ireland." Hoping this information may prove useful and encourage more motor tourists to come over and see the beauties of the South of Ireland.—Yours truly,

W. F. PEARE.

"ONLY A DOG."

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can any of your readers help me to find out the owner of a car which on Saturday last, at 3.25 p.m., near my residence, "Villacot," Laleham Road, Staines, ran over and killed my valuable fox terrier dog? Apart from being a great pet, he was very highly bred, and a prize-winner at recent shows, and his loss to me is considerable. The chauffeur would have stopped, but his master made him go on. The car was a nearly new one, with hood and glass wind shield, and was painted a royal blue with red lining. Unfortunately I was not near enough to see the number, but I should know the car again, as would six others who witnessed the occurrence.—Yours truly,

HAROLD S. BARRETT.

WHEELS FOR MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your valued issue of October 5th, Mr. O. Cook utterly ignores my two letters in previous issues, in which I point out in detail that the various advantages he asks for are to be found in the "K.T." tyre. Personally I have no desire to turn this correspondence into an advertising medium, but I think I may justly ask Mr. Cook to read my earlier letters more carefully before he again states that we are overlooking the real question at issue. Of course, until Mr. Cook does reply to my statements there is nothing more to be said. I have made certain propositions which I claim to be demonstrable, Mr. Cook is at liberty to leave them or assail them as he thinks fit.

With respect to your correspondent—Mr. E. H. Arnott—I have had an opportunity of seeing a diagram of the resilient wheel he mentions. As far as I can see, the whole value of this idea lies in permitting the base of the rubber tyre to spew, and so, to some extent, change its shape. If I am wrong Mr. Arnott will perhaps be good enough to correct me. Now practically the same result is achieved in theory in the Swinehart tyre, which has a narrow neck of rubber below the tread, and in the De Nevers, by the slats cut right through the tread of the tyre at intervals. In other words, Mr. Arnott depends in his tyre on the elastic property of rubber, unaided by air. May I point out that, theoretically, this cannot give the desired results. The rapidity of action of the best steel springs is about eighty-six times per minute, the rapidity of action of the best commercial rubber, such as is used in high-class solid tyres, is about ninety times per minute, but the rapidity of action of air is approximately 1,800 times per minute.

Under average road conditions, the rapidity of action of rubber alone allows a speed of about eighteen miles an hour, although it can be "overdriven" above that speed, but beyond this the atoms of rubber cannot be compelled to vibrate; consequently beyond this point it is impossible for either steel springs or rubber, or any combination of the two, to absorb vibration, which brings us back to the statement in my last letter that the only conceivable means of absorbing vibration, as distinct from shock, lies in a combination of rubber and air, until someone discovers some material which has a rapidity of action very greatly exceeding that of either steel or rubber.

When I stated that a pneumatic tyre would run at forty miles an hour under average conditions without inducing rolling, I did not

mean to say that this was by any means the limit for either the ordinary pneumatic or the "K.T." tyre, but only stated forty miles an hour as being, in my opinion, quite a big enough speed for any reasonable man on the public roads at any time.

I can, if necessary, give you the results of many tests both in the laboratory and on the road, which verify the figures and theory which I have enunciated, but, unfortunately, it would take many times the length of this letter to lay same out completely, and would, perhaps, be outside the scope of this controversy.—Yours truly,

A. ERNEST GELDER.

TYRE TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is little doubt that your correspondent Mr. Roberts is correct in stating that the heating of a pneumatic tyre when in use is chiefly due to the concussion of the blows struck by the road against the tyre, which is in the direct line of force between these blows and the rim of the wheel. The rim acts as the anvil upon which the tyre is pounded. It is to avoid this action that the Lynton tyre and wheel are so designed that the tyre is never in the direct line of force referred to, and I attribute the remarkable coolness of the new tyre when in use and its consequent long life, almost entirely to the elimination of the hammering action.—Yours truly,

ERNEST H. ARNOTT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I think if your correspondent "Galen" (in your issue of September 21st) will use tyres filled with "Elastes" with non-slipping treads, he will greatly diminish his tyre troubles. He should also have the Elastes moveable-flange rim fitted to his driving wheels. If he will refer to the correspondence columns of "The Lancet" of September 21st he will find further information on this subject. I have no financial or other interest in the Elastes Company.—Yours truly,

C. E. ABBOTT.

WIRE VERSUS WOOD WHEELS FOR MOTOR-CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—A serious motor-car accident happened recently near King's Lynn owing to the collapse of the wheels. In all probability the car was fitted with wooden wheels; the natural inference is that this kind of wheel is not always safe. Could such a mishap occur if a car were fitted with wire wheels? In the 60-h.p. race at Brooklands on the 14th ult., one of the tyres on a Napier car, which was fitted with wire wheels, came off almost at the start, but the car went right through the race minus one tyre, travelling towards the finish at over eighty-five miles an hour. The strain on the wheel must have been terrific, yet it held up and was only shaken loose in the process. This raises a question as to the relative value of wood and wire wheels for motor-cars. Can any of your readers express an expert opinion on the point?—Yours truly,

H. F. TRIPPEL.

Major, Army Motor Reserve.

AN ACCUMULATOR CHARGING QUERY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you could give me some information as to the method to be adopted to charge my ignition accumulators from the electric lighting installation in the house of the apparatus necessary in connection therewith. The supply according to the meter is continuous current 200 volts 30 amperes. I may wish to charge the accumulators singly or two at a time. Any information you can give me will be greatly appreciated.—Yours truly,

R. J. BENTLEY.

[The question raised by our correspondent being one of general interest, we have prepared a diagram showing the necessary connections. This, together with an explanatory article, will be found elsewhere in the present issue.]

A STEAM CAR ENTHUSIAST.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In furtherance of my letter of the 21st ult. and Major Perry's reply to same, I note that that gentleman points out that a 30-h.p. Stanley did 127½ miles per hour, and a 200-h.p. Darracq 114 miles. Now I wonder what would be the speed of a 200-h.p. Stanley. I observe that a White steam car enthusiast presents us in the *M.C.J.* with an interesting little account of a steam car tour around Lynmouth. We want to hear just a little every week about steamers, if it is only just to let the "petrolians" know that they are still extant. Personally, as I said in my previous letter, I should like to see some technical analysis of steam cars published now and then; accounts of their construction, accomplishments and failings, would tend to familiarise people with steamers and show the great possibilities of steam as the motive power of road vehicles. Many admit their superiority in hill-climbing, but maintain that the cars cannot keep up the pace, are soon worn out, and are a great deal of trouble. I could never see it, but my opinion

is only one, and is simply the result of dealing in all makes of steam and petrol cars. I certainly think that the maximum power and speed, the minimum weight and complication, the least destructive effect on the driving tyres, and the most luxurious riding, is attained in the steam car.—Yours truly,

HERBERT J. CHAPMAN.

A DIFFERENTIAL GEAR TROUBLE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In running my car up hill the other day the collar at the end of the main shaft of the differential broke, allowing the shaft to slip back and the teeth to come out of mesh. I got home—about a mile—with difficulty, and found several teeth broken. I should be glad if you could inform me whether the shaft slipping would be likely to have caused the breakage of the teeth?—Yours truly,

R. JENNINGS.

[The fact of the shaft slipping back and allowing the teeth of the differential gears to come out of mesh would be quite sufficient to account for the broken teeth, as stated by our correspondent. In fact, it is a wonder that he was able to get home on his own power at all, as all the driving strain is taken on the teeth of the differential pinions. It was, no doubt, due to the pinion becoming jammed that the drive was transmitted, as the car generally remains stationary if these wheels become broken.]

THE Motor Manufacturing Company, Ltd., writes:—"Some little time back we received a telegram money order from Twyford, Berks,



The first State public motor-car service has lately been established between Neumarkt and Predazzo, in the South Tyrol. The illustration shows the old horse-drawn conveyance at the side of its modern rival.

asking for three piston rings to be dispatched, but no name was mentioned, and we have not been able to trace the sender. If this meets the eye of the sender of the money order, perhaps he will communicate with us, when we can execute his command."

GARAGE IN BOMBAY.—We have an inquiry from a Bombay firm anxious to be introduced to a manufacturer or seller of motor-cars in England, who would be willing to assist in opening a garage there.

A STEAM CAR ENTHUSIAST.—Major J. C. P. Perry writes:—"In today's issue of your journal I notice there is a slight error in what you so kindly inserted for me. The sentence, "I want absolute perfection," should read "I won't say absolute perfection."

MR. EDGE'S CHALLENGE.—Considerable correspondence has passed this week between Mr. A. Huntley Walker and Mr. S. F. Edge with reference to the latter's challenge to match his team of Napier cars against the world. In reply to Mr. Huntley Walker's letter, Mr. Edge pointed out that it was a condition of his challenge, when increased from £1,000 to £10,000, that it was to be accepted during September, but Mr. Walker's challenge was not issued until after that date. Expressing his willingness, however, to overlook this omission, Mr. Edge also agreed to race under the 1908 international conditions, or under the Grand Prix 1907 rules. He suggested that the races should take place on the Brooklands track on the 19th inst. In a further letter from Mr. Walker, the latter states that the Brooklands track is not suitable for a long distance race, and suggests that the 500 miles' race should form part of one of next year's international races. He is willing, however, to run the short race at Brooklands to-day (Saturday). The copy to hand of the last letter from Mr. Edge states, "I see you now wish to back out of the long distance race by pretending Brooklands is not a suitable place to hold a long-distance race. On this point I do not agree with you, and I would be willing to race you there, neither of us to use removable wheels or rims."

CLUBS AND ASSOCIATIONS.

AUTO-CYCLE CLUB.

FINE weather favoured the annual open hill climb of the Auto-Cycle Club, which was held at Sharpenhoe, near Luton, on Saturday. The event was originally fixed for Birdlip, but was prohibited by the police. Sharpenhoe did not prove so severe as Birdlip, the smallest powered machine being able to ascend without pedalling. The positions, according to time taken, zero representing fastest in each class, were as follows:—

CLASS I. (machines weighing not more than 110 lbs. and not exceeding 2-h.p.).—W. Smith (1½-h.p. Motosacoche).

CLASS II. (80 by 80).—J. P. Legrand (2½-h.p. Matchless), zero; H. S. Catling (2½-h.p. Anglian), 22 3-5 sec. slower.

CLASS III. (85 by 85).—W. Pollard (3½-h.p. Quadrant), zero; G. Le Evans (3½-h.p. Rex), 1 3-5 sec. slower; E. S. Myers (3½-h.p. Triumph), 9 1-5 sec. slower.

CLASS IV. (twin cylinders, total capacity not exceeding 750 c.c.).—O. C. Godfrey (5-h.p. Rex), zero; F. Applebee, jun. (5-h.p. Rex), 1 sec. slower; W. H. Wells (5-h.p. Vindec Special), 4 1-5 sec. slower.

CLASS V. (any sized engine).—O. C. Godfrey (5-h.p. Rex), zero; G. Le Evans (3½-h.p. Rex), 3-5 sec. slower; F. Applebee, jun. (5-h.p. Rex), 2 1-5 sec. slower.

CLASS VI. (Variable Gear Competition). Two runs up the hill.—H. S. Catling (2½-h.p. Anglian), 2 min. 1 2-5 sec. and 2 min. 11 4-5 sec., total, 4 min. 13 1-5 sec.; C. A. Potts (3½-h.p. Phelon-Moore), 2 min. 41 2-5 sec. and 2 min. 27 1-5 sec., total, 5 min., 8 3-5 sec., 2.

CLASS VII. (Passenger Machines).—Wilbur Gunn (10-h.p. Lagonda), zero; F. Applebee, jun. (6-h.p. Rex Litette), 30 2-5 sec. slower.

The following receive silver medals on A.C.C. formula:—Smith, 872 marks; Catling and Legrand, tie, with 1,020 marks; Pollard, 875 marks; O. L. Summers, 5-h.p. Vindec, 1,005 marks (Class IV.); Lee Evans, 836 marks; S. Riley, 5-h.p. Riley, 870 marks (Class VII.)

NORTHAMPTONSHIRE.

A MEETING of the committee has been held at the George Hotel, Northampton, Mr. F. Bostock presiding. The secretary reported that owing to the Kettering carrier, whom the committee decided to prosecute for obstruction, having sold his business, the prosecution was withdrawn. The following were appointed a sub-committee to consider the question of road signs throughout the county:—Dr. Hope, Dr. J. C. O'Rafferty, Mr. S. Yarde, Mr. Humphrey Bennett, Dr. Simpson, Mr. J. C. Hipwell, Captain Sowerby, and Lord Lilford.

The secretary reported that Dr. Henshaw had written saying that whilst driving his motor-car along the Weedon Road, on September 17th, he had been obstructed for a considerable time by a motor mail van, the driver not allowing him to pass. Captain Goacher, representing Messrs. Mulliner and Co., the owners, and the driver of the van concerned, attended the meeting. The driver, on being questioned, stated that he was not aware he had prevented Dr. Henshaw from passing. As soon as he knew a car was behind he drew to one side. If there had been an obstruction it was quite unintentional, and he was sorry for it. He admitted, however, that when driving a motor mail van it was almost impossible to hear the horn of a car approaching from the rear. Captain Goacher, on behalf of his firm, said he would consider whether some contrivance might be fixed on the vans to enable drivers to see vehicles approaching from behind. The chairman expressed the committee's opinion that the driver in this instance was not to blame.

BROOKLANDS.

IN addition to the races already announced for to-day's (Saturday) meeting at Brooklands, a private stakes has been arranged between Lieut-Colonel Carleton-Smith (40-h.p. Napier), Capt. G. Llewellyn Hinds-Howell (35-h.p. Iris), and Mr. J. Dennis (40-h.p. Dennis). This event will be of the nature of a handicap over a distance of about five miles.

The starts for the Medium Handicap are as follows:—C. Hobson (Brasier), 0; A. Goldschmidt (50-h.p. Pipe), 74 yards; O. Cupper (50-60-h.p. Metallurgique), 269; S. F. Edge (40-h.p. Napier), 432; E. W. Lewis (35-h.p. Deasy), 586; E. de Wilton (30-h.p. Ariel), 644; Capt. W. E. D. Owen (40-h.p. Junior), 718; A. Huntley Walker (30-h.p. Darracq), 925; H. P. MacConnell (24-h.p. Rapid), 1,120.

HERTFORDSHIRE.

THE closing event of the Hertfordshire County A.C.'s season, a meet at the Bull Hotel, Redbourne, Herts., took place last Saturday, when a fair number of members mustered, considering the time of year and the uncertain weather prevailing.

Among those present were Mr. and Mrs. E. Webster, Miss Webster, Mr. and Mrs. Hinshelwood, Mr. and Mrs. E. Baker, Mr. S. F. C. Baker, Miss Orchard, Mr. and Mrs. T. Williams, Mr. and Mrs. F. Peterson, Mr. and Mrs. H. C. Harper and Miss Harper, Mr. D. K. Hal, Messrs. H. W. and A. H. Collier, Mr. H. Oakley Smith, Mr. N. V. C. Turner, Miss Verrey, Mr. and Mrs. Edwards, Dr. H. A. Rudyard, Mr. J. van Hooydonk and Mr. Lowry.

INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

IN view of the fact that the opening meeting of the session of this society clashes with one of the most important days of the Commercial Vehicles Trials, it has been thought advisable to postpone the meeting of the Institution from the 9th inst. to November 20th. This meeting will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James Park, S.W., at 8 p.m., when Colonel R. E. Crompton, C.B., R.E., will be in the chair, and will give his presidential address on "The Future of Automobile Engineering."

SCOTTISH.

WITH a view to interesting the commercial public in commercial motor vehicles and demonstrating the advance which has been made in these, it has been arranged to have a parade of commercial vehicles in Glasgow, on the afternoon of Thursday, October 17th. Vehicles will meet in Blythwood Square at a quarter to two o'clock, and it is intended that they will be driven through the principal streets in and around the city between two and four o'clock. The Club committee have agreed to offer prizes to the drivers of the best kept vehicles as under:—Steam vehicles, two prizes of 20s. and 10s.; petrol vehicles with a carrying capacity exceeding 26 cwt., three prizes of 20s., 10s., 5s.; petrol vehicles with a carrying capacity not exceeding 26 cwt., three prizes of 20s., 10s., and 5s. The judges will be appointed by the Trials Committee of the Club.

The committee appeal to the owners of all commercial vehicles to assist them in making this demonstration and parade a success. They have fixed upon the Thursday as being more likely than a Saturday to suit the convenience of the majority of the owners of such vehicles. They hope that, for the short time involved, a large majority of the owners will be able to allow their vehicles to take part. Manufacturers and dealers are invited to send vehicles, but these will not be eligible for the award of a prize. The matter of carrying loads is optional.

The committee propose having similar parades in other centres at later dates, and Mr. R. J. Smith, the secretary of the Club, 163, West George Street, Glasgow, will be pleased to supply information to intending entrants of vehicles.

MOTOR-CYCLE UNION OF IRELAND.

THE members of the Dublin centre of the Motor Cycle Union of Ireland wound up their competition season with a series of speed trials at Portmarnock on Saturday last. Some very fast speeds were accomplished, S. Findlater on an 8-h.p. twin-cylinder machine covering two miles with a turn in 2 min. 55 sec. He won the handicap very easily from scratch. Mr. E. Drewry on a 5-h.p. twin was second in the two miles and won the twenty miles race; C. B. Franklin, the holder of the cup offered in the latter, being fourth. In the latter race Findlater's belt slipped badly, and he had to retire. Mr. T. W. Murphy acted as starter and timekeeper.

Mr. T. H. RYLAND has resigned from the hon. secretaryship of the Midland A.C. Mr. F. H. Cerrito has been elected as his successor.

THE result of the 100 miles Petrol Consumption and Reliability Trial held on the 18th ult. by the West Essex A.C. has been announced:—First, G. Baddy, 15-h.p. Darracq; second, W. E. Gunnnett, 3-h.p. Triumph; third, A. Ainsworth, 1½-h.p. Motosacoche.

PLACE FOR A GARAGE.—The many replies received to F. V.'s inquiry in the M.C.J. of the 5th inst. have been forwarded to that gentleman.

ARIEL MOTORS (1906) LIMITED, have sent us photographs depicting the interior of one of their showrooms and the entrance to their garage at 101, New Bond Street, W. The showrooms are among the finest in London and cover an area of 8,711 superficial square feet. We understand that the company are now in a position to undertake all kinds of repairs to Ariel-Simplex cars at their London headquarters.

EXTENSIVE improvements are being made in the showrooms of the Deasy Motor Car Manufacturing Company, Ltd., at 10, Brompton Road, S.W. They are coupling up with their present premises those known as 3 and 4, Park Mansions Arcade, which, when completed, will give the company accommodation for about twenty cars, besides providing excellent offices, and a large basement for adjustments, &c.

MESSRS. J. KEELE AND CO. will shortly be moving into their new and larger premises in New Bond Street, W. Owing to their increasing business during this last season, they found it necessary to take premises in Hanover Square, in addition to their present place at Brook Street, and also at Highgate. By the end of November they hope to be in the new establishment, bringing all West-end departments under one roof. The premises selected are in one of the best positions in London, with a showroom measuring 170 ft. long by 30 ft. wide; where Messrs. Keele and Co. will be able to make a large display of the Darracq Enfield, and Belsize cars, for which they are the sole London agents. At the back of the showroom will be workshops and garage. Messrs. J. Keele and Co. have no intention of closing their works at Canston Road, Highgate, as they have a large business in the north of London.

THE EQUIPMENT OF A PRIVATE GARAGE.

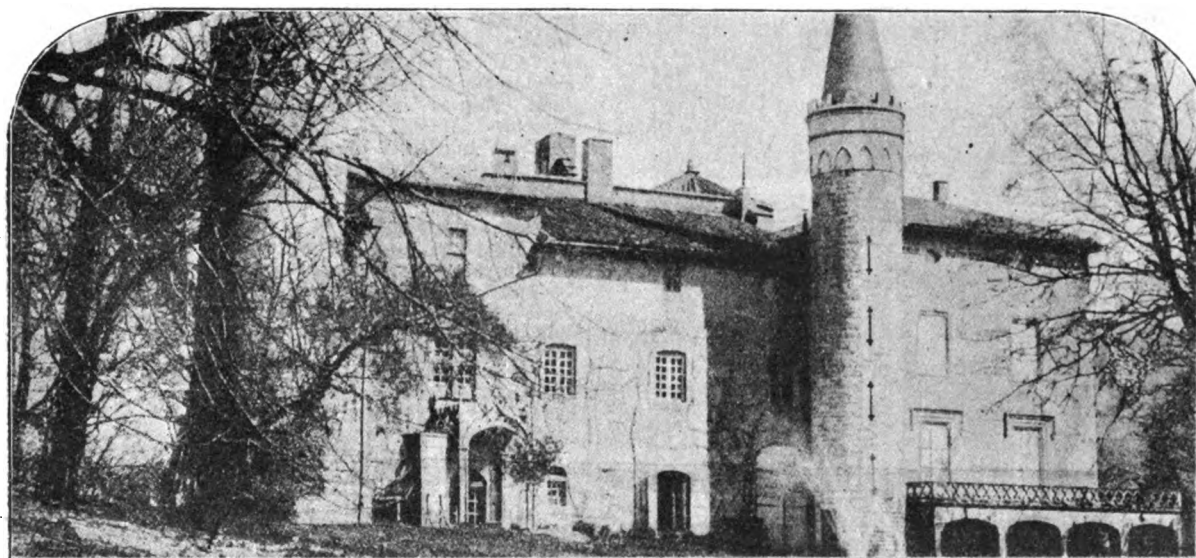
In a way, the outfitting of a private garage, or motor house, is very like furnishing a house. There are certain essentials to be provided, and certain definite principles to be followed in their arrangement. Beyond this there is an almost infinite range of possibility in which utility and convenience and comfort may be supplemented by luxury. There are certain essentials which must be procured, and certain methods of arrangement which tend to the greatest convenience in actual use. And, on the other hand, there are a thousand and one things which may be useful sometimes, but which add one more item to the cost of the whole, take up a portion of valuable space, and hence may be classed as luxuries. The main point to be taken into account in considering any problem of the sort is, of course, the kind of occupancy to be provided for. That is to say, is the use to be permanent or transient, or, in the case of the garage, is it to serve merely as a repository, or must provision be made for a certain amount of repair work? And if so, how much?

In coming to a conclusion on this point, a good deal depends upon the owner, perhaps more upon the type of vehicle which is to be housed, and most of all upon the location and degree of isolation from motor repair depots. For while some owners are possessed of a desire to do, or at least to be able to do, all that is required in the permanent upkeep of the car, others are quite willing to get on with as little mechanical work as possible. Moreover, when cars are kept at some distance from the factory or agency, the owner should have on hand at all times a more or less complete stock of spare parts, and

hose, or, better still, an overhead washer of the swivel type. In addition to this, there must be several water pails, a good soft carriage sponge or two, they being now obtainable so fitted in a retaining device that the water from the hose runs through them while they are being used, and a long handled narrow brush suited to the purpose of cleaning inaccessible parts of the gear. Such a brush may be purchased, and should be chosen with an eye to securing the most pliant and yielding bristles possible, so that the painted surfaces shall not be marred by its use. For filling the tanks, suitable funnels fitted with strainers should be provided, those used for petrol, water, and oil being, of course, provided with filtering gauzes of different mesh. For cleaning and polishing several soft chamois skins should be procured, those which are used in cleaning the brass work being kept, for obvious reasons, religiously separated from those which are used on the body surfaces.

It will be found to be a great convenience in caring for the rugs and such motor clothing as is to be kept in the garage, if a closet be provided for this especial purpose. This should be furnished with several deep shelves as well as plenty of hooks, and if there be room on the floor for a trunk or camphor chest, its utility will be apparent when the coming of warm weather compels the laying aside of furs and heavy rugs. In addition to this, and also, in the event of no such provision being deemed needful, it is well to have a long horizontal pole mounted along one wall in suitable brackets, which keep it several inches from the sheathing, over which rugs and dust covers may be thrown for drying and safe keeping.

In connection with the ordinary maintenance of the rolling stock, there are several articles which are very desirable, if not quite essential, to the owner. For instance, there should be some sort of a turntable, or a substitute. This will may be a portable turntable, and, indeed, where it will become necessary to shift the machine or machines about to any



Touring in France.—Lamartine's House at St. Point, near Macon.

space must be provided for them. Hence, taking it all in all, the task has about it quite as large an element of choice as has that of selecting the car itself, or even that of picking out a route for an afternoon's run. There are, however, certain necessities which, in any event, may be set down as a sort of basis for the ultimate choice, and these may be supplemented at the owner's will.

On coming into possession of a motor house the first point for the owner to consider is the degree of provision which has been made for the daily care of the car, and the storage of running supplies. If the building has been designed especially for the purpose, it is to be supposed that a washing place has already been provided, supplied with plenty of running water, and properly drained, and also that some method of storing and handling motor spirit has been installed. For the storage of lubricants, cotton waste, brass polish, varnish cleaner, &c., a suitable closet should be arranged, and handily located. This need not be very large, and requires no elaborate fittings, except that the shelves which are to hold greasy or inflammable materials should be lined with sheet zinc. The metal forms a protection which, besides being kept clean very easily, will not absorb oils as does wood, and hence is far safer than the latter alone. In this closet space should be provided for the storage of all funnels used in refilling the tanks and hooks for the polishing cloths. The closet should be ventilated at the top and bottom so that any fumes may pass out readily. In this way what fire risk there is may be brought entirely within a limited zone, and the danger from accidental or spontaneous combustion thereby greatly reduced, especially when the door is stoutly fastened, and the key habitually carried by the owner or his driver.

As to the equipment required for the other portion of the garage, for the washing process itself there must be at least a good length of

extent, some device of this sort will be found a great saving both in time and labour. Another utility, and one which may be obtained without difficulty, is a set of jacks, four in number, of such a height that when mounted on them the wheels of a car will clear the floor by at least an inch and a half, with the tyres fully inflated. These should be staunchly made, with as narrow a base as possible, stability being secured by a good length on the floor, and should be fastened together with bolts running from side to side, rather than by nails or screws. Also, a fairly large-sized double-acting tyre-pump permanently mounted in an accessible location, or a power pump with air-tank attachment, and furnished with a good length of hose, will be found to be a relief over the common foot pump, when tyre troubles have to be wrestled with. In the case of cars using accumulators for ignition purposes, some sort of charging outfit will have to be provided. This may be a mercury arc rectifier or some other device such as are now on the market for this especial purpose. Current-measuring instruments, such as the voltmeter and ammeter, will be found to be valuable in testing batteries, which it is always wise to do before the car is taken out.

In locating and erecting a work-bench, which is absolutely necessary, even though no great amount of repair work be contemplated at the outset, two factors are of the utmost importance, namely, strength and stability. For probably nothing can contribute more of anguish to the heart of the workman than to be compelled to labour on a rickety bench. And as the nature of the work which is to be done cannot be foretold in the beginning, it is best to build for all time, making the structure as rigid as possible, rather than to risk annoyance later. The uprights should be spaced not more than five feet apart, and should be of well seasoned 3 in. by 4 in. timber. The front of the top should be made of a straight

grained hardwood plank—birch or maple being good woods for the purpose—and should be fastened down by means of through bolts countersunk, or by wood screws, put through from beneath. This should be not less than $2\frac{1}{2}$ in. in thickness, and should be as wide as possible. The remainder of the top may be $1\frac{1}{2}$ to $1\frac{3}{4}$ in. in thickness, but the heavier the structure in all respects, the greater the degree of satisfaction granted to the user. A facing board should be run along the front of the top, the edge plank overhanging it by at least two inches, and a couple of drawers, heavily made, and conveniently placed, should be let into it.

Another absolute essential in addition to the bench is a good vice, which should be of ample size, and preferably of the swivel type, which permits of considerable latitude of use. It should be mounted near one end of the bench and directly over one of the uprights, where it will best withstand the shocks to which it must be subjected. It is essential that the location of the bench, and especially the vice, should be such that ample light is available at all times, and there should be plenty of room all around the vice for the handling of large parts upon occasion.

As to the tool equipment itself, as has been said, it is largely optional with the owner; it may range anywhere from the furnishing of a miniature machine shop, including a small lathe, which is very useful, and small upright drilling machine, down to the most trivial addition to the regular touring equipment furnished with a car. In selecting a tool equipment the chief thing to be considered is that the tools which make it up shall be substantial and adequate to easily cope with the work to be done. Nothing is more trying to the patience and wasting of strength than an attempt to work with tools which are not fitted for the task on hand. Considering, then, the essentials for ordinary repair work, a fairly complete set of bench tools will be found useful at all



The Lorraine-Dietrich six-wheel Petrol Wagon which took part in the recent Military Manœuvres in France.

times. These may comprise a half dozen files, ranging from a heavy bastard down to a heavy smooth cut, of various lengths, and including the round and half-round types, and a warding file for cleaning the contact points of tremblers, &c.; a couple of wrenches, one large enough to take the heaviest nut on a car, which usually is the hub cap, and the other an ordinary bicycle wrench; a heavy machinist's hammer, and a light babbitt or copper hammer, the latter for driving finished parts without injury; a breast drill, together with a set of drills ranging, say, from 1-32 in. to 1-4 in., by thirty-seconds, and from 1-4 to 1-2, or the largest size which the drill chuck will hold, ranging by sixteenths; a small wrench capable of handling round pieces; a hack saw, a pair of 8 or 16 in. gas pliers, and a pair of screw-drivers, one large and one small, to say nothing of a set of socket wrenches. In addition to these, a blow torch, together with a soldering iron and stock of hard and soft solder, will be found almost indispensable, while a good combination volt-ammeter, of the bench type, will soon pay for itself. If heavy parts are to be handled to any extent, or if much overhauling is to be done, a portable crane, or a differential hoist well placed, will be found a great labour saver. It is possible to purchase certain combination tools, and complete sets of tools ready made, some of which are most alluring, owing to their completeness and compactness.

It is always desirable to have on hand, ready for service when needed, a substantial tyre repair outfit, consisting of jacks, levers, &c., and cement and patches in liberal quantities. In making repairs of this nature a small vulcanizing outfit will be found to lend permanency to the finished job.

With all the tools, as with the other portions of the equipment, provision should be made for a neat and orderly arrangement, which shall combine convenience and security to the articles themselves, and economize space, yet without sacrificing anything to efficient

working. By the judicious use of shelves, drawers, and racks on the walls, however, this can be accomplished to such advantage, that from a spare tyre stowed away in its box or bag, down to the very last grain of valve grit or emery powder, nothing shall be mislaid or injured, and any work which is to be done can be carried on to the best possible advantage, even in comparatively unpretentious quarters.

COMPANY NEWS.

NORBURY.—£10,000. Dealers in and agents for motor-cars, wagons, &c. No initial public issue. First directors: Messrs. F. J. Norbury, S. Norris and R. Hilditch. 19, Cooper Street, Manchester.

ANGLO-ITALIAN AUTOMOBILE SYNDICATE.—£10,000. To carry on the business of agents for motor vehicles, and to adopt an agreement with Mr. G. A. Reid and others. No initial public issue.

BRUHN'S TAXAMETER.—£1,000 (£1). As title. No initial public issue. Registered without articles.

BRAMPTON BROS., LTD.—At the general meeting of Messrs. Brampton Bros., Ltd., to be held on the 16th inst., the directors' report will be presented. The profit and loss account shows a profit brought from trading account of £15,931, and after making allowance for depreciation, &c., the available balance is £12,287, from which the usual 6 per cent. dividend will be recommended on the preference shares and a dividend of 5 per cent. on the ordinary shares.

CAPE CART HOOD COMPANY.—£1,000. To take over from Mr. A. McCurd the business of a manufacturer of and dealer in Cape cart hoods, glass wind screens, and other screening devices for motor-cars carried on by him as the Cape Cart Hood Company, together with the lease of the premises in the rear of 3, Willow-Walk, Kentish Town, N.W. No initial public issue. Registered without articles.

SUNBEAM MOTOR CAR COMPANY.—In their report for the year ended August 31st the directors propose a further dividend of $7\frac{1}{2}$ per cent., making 10 per cent. for the year, to write off the whole of the goodwill of £2,000, and to place £2,000 to reserve, making it £4,500, carrying forward £1,315.

ARGYLLS (MIDLANDS).—£10,000. To adopt an agreement with Argyll Motors, Ltd., to act as selling agents of that company in Midland counties and elsewhere, &c. No initial public issue. First directors: Messrs. H. Garner (chairman and managing director), E. H. Watson, and W. A. Smith. 24, New Street, Birmingham.

SOUTHSEA AUTOMOBILE COMPANY.—£2,500. To adopt an agreement with Mr. G. Vereker for sale to company of Granada Motor Company, Limited, recently purchased by him. No initial public issue. First directors: Messrs. H. G. Vereker, G. H. Cox, and E. B. Cornford. One hundred shares.

SIMMS MANUFACTURING COMPANY.—£60,000. To acquire the business of the Simms Manufacturing Company, Ltd., in connection with motors, motor vehicles and accessories, magnetos, and the like, &c. No initial public issue. First directors: Messrs. F. R. Simms, H. J. Donkin, and J. W. P. Peters.

ROAD REPORTS.

BEXHILL.—A question of importance has been argued before the county magistrates at Bexhill, relating to the proposal to make up De La Warr Road and Dorset Road, Bexhill, under the Private Street Works Improvements Act, with tar macadam. Mr. T. E. Rodgers, Town Clerk, explained that it was proposed to make up 1,332 yards of road, and Mr. Willett represented only 423 yards. The cost of tar macadam would be only slightly heavier than ordinary macadam. Mr. George Ball, Borough Surveyor, said the difference in cost between a foot run on the road in macadam and tar macadam was as 7s. 6d. to 8s. 8d., and the latter material would save much expense in scavenging, &c. The Chairman (Mr. E. E. Hurst) said the magistrates had agreed that the apportionment should be reduced by the cost of tar macadam above the cost of ordinary macadam. The case was adjourned for the Surveyor to bring up an amended apportionment.

NORTH BERWICK.—At a meeting of North Berwick Town Council Provost McIntyre moved that the Council make a request to the Secretary for Scotland for the restriction of the speed of motor-cars within the burgh to the rate of ten miles per hour. The caution post erected, had, the Provost said, frequently been entirely ignored. It was agreed to request the ten miles restriction.

THE GREAT NORTH ROAD.—The Great North Road runs through the areas of no less than seventy-two highway authorities, of which number forty-six are actually engaged in its maintenance, but all the seventy-two have some share in its administration.

WORCESTER.—The roads around Worcester have been in splendid condition for motoring. The steam roller is working towards the city. The road from Droitwich to Worcester is uneven, but the main road from Hartlebury to Worcester has improved.

AYRSHIRE.—The state of the roads in the county has been engaging the attention of the Ayrshire County Council, the convener stating that he was under the impression that most of the roads were in good condition, but he confessed that a ride over them in a motor-car had altered his opinion. It was a matter for the District Committee to take up, and if they could see their way to improve the roads he thought it would do a great deal of good to the district.

WORK is approaching completion on a large extension to the works of Messrs. Clement Talbot, Ltd., at Notting Hill, W.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING SPEED LIMIT.

For driving motor-cars on the Nairn and Inverness public road beyond the speed limit three different charges were heard before Hon. Sheriff-Substitute Lightbody in Nairn Sheriff Court. Thomas Bischoff, Ditton Hill, Surrey, at present residing at Loch Coruisk House, Nairn, pleaded guilty to driving at the rate of thirty-one miles per hour. Charles Lumsden, chauffeur to Mr. Grace, of Battle Abbey, Sussex, at present at Dalcross Castle, Inverness-shire, pleaded guilty to driving at the rate of thirty-seven miles per hour. Each was fined £5 or one month in prison. In absence, Arthur Nicholson Stuart, of Harrow, lately residing at Golf View Hotel, Nairn, was found guilty of driving at the rate of twenty-nine miles, and was sentenced to pay a fine of £5, or one month's imprisonment.

EXCEEDING LEGAL LIMIT.

Before Sheriff Begg, at Aberdeen, Ralph Eglin, of Oldham, has been charged with having driven a motor car at a greater speed than twenty miles an hour on the 11th ult., on the north Deeside road, between Mannofield and Culter. Detective-Inspector William Smith stated that on the date libelled, acting on instructions from the chief constable, he went to the north Deeside road to take observations as to the rate of speed at which motor-cars were being driven, and the accused's car was travelling at a speed exceeding twenty miles an hour. The Sheriff found the charge proven, and characterised the case as an extremely bad one, because the car had to pass through two villages at which there were rather dangerous curves. If the car was being driven at excessive speed in order to advertise the possibilities of the car, that was no excuse. He thought the full penalty ought to be inflicted, namely, £10, with the alternative of sixty days' imprisonment.

FURIOUS DRIVING.

At the Leeds City Police court, Frederick Clarke, of Belfast, was summoned for furiously driving a motor-car. The evidence showed that on July 14 the defendant was driving a car along the Harrogate Road at Moortown, and he was timed over a measured distance of 220 yards. The speed attained by the car worked out at 40 miles 1,600 yards per hour. In reply to the Stipendiary Magistrate (Mr. C. M. Atkinson), Mr. Arthur Willey, who defended, stated that that speed was a record as far as the Leeds police were concerned. His Worship stated that under ordinary circumstances he would have imposed a fine of £7 and costs, but as the defendant had volunteered to come over from Belfast, and as he had to pay his expenses, he would only fine him £5 and costs.

The Mayor of Newport (Councillor Frederick Phillips) answered two summonses returnable against him at the Newport County Police Court. The summonses were literally for "driving a certain motor-car recklessly on August 15th at St. Mellon's," and for "driving a certain motor-car in a manner which was dangerous, having regard to all the circumstances of the case," at that time. After hearing the evidence, Mr. Moore, for the defence, contended that there was no case to answer, and the bench, after retirement, concurred, and dismissed the case. The second summons was withdrawn.

At Birkdale, Benjamin Maddox, a motorist, was summoned for driving a motor-car at a speed dangerous to the public over a dangerous piece of road known as Oxford Crossing, at Birkdale. The defendant was fined £2 and costs. When the case had been disposed of Inspector Foster stated that the Birkdale Urban District Council had received a petition from gentlemen residing in Lulworth Road and Westcliffe Road respecting excessive speed of motor-cars. The Urban Council had in consequence petitioned the police, and it was hoped that after that case the ground of complaint would be removed.

REAR LIGHTS.

At the Handsworth Police Court, William Roberts was charged with driving a motor-car in Soho Road without a rear light. Defendant said he was certain the lamp was alight a few minutes before he met the police officer. The chairman (Col. Wilkinson) said that as a motorist he sympathised with the defendant. He knew from personal experience how difficult it was to keep the rear lamp burning, but at the same time the law required that a light must be shown at the back of the car. Defendant would not be fined, or his licence endorsed, but he would have to pay the costs, 5s.

A DISMISSAL.

At the Buckrose (East Riding) Sessions at Norton, on Saturday, fifteen motorists were charged with driving beyond the speed limit and other offences, the large capture being the result of a trap set by the police on the main road running between York and Scarborough, near Malton. The case to which most interest attached was that of David Stoner Crowther, of Rooklyn, Huddersfield, against whom two charges were preferred—of driving beyond the regulation speed, viz., at thirty-one miles, sixty-one yards per hour, and of driving to the danger of the public. Mr. C. Fowenthall, barrister, who appeared for the defendant, asked that the charges should be taken separately, which was done. After the police had stated that the offence was committed on a dangerous part of the road known as Potter Brompton, where three roads meet, and had admitted that there was no traffic on or near the road at the time, the barrister urged that there could be no conviction because nobody had been endangered. He pointed out that the section of the Act required the circumstances with regard to traffic, &c., to be taken into consideration.

The Bench dismissed the charge on the ground that there was no evidence of the defendant having driven to the danger of the public.

In the second case, for exceeding the speed limit, the defendant did not deny what the police had stated, that he had gone over thirty-one miles an hour, but the barrister raised the point of law that the defendant having been tried on one case in which the facts and the circumstances were the same, and having been acquitted, he could not be convicted on the second charge. The Bench said they dismissed the case on the point of law only.

After this decision the superintendent of police withdrew the charge of driving to the danger of the public against all the other defendants, but thirteen of them were fined for exceeding the speed limit.

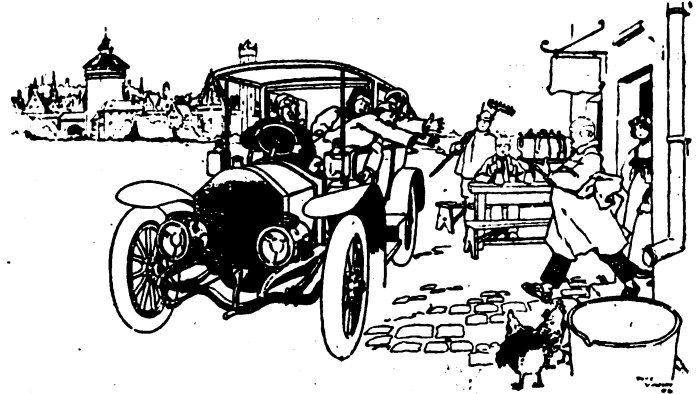
"TRAP" OR "MEASURED DISTANCE."

At Lancaster, on Saturday, Mr. William Robley, Blackburn Road, Accrington, was summoned for exceeding the speed limit at Ellel. Sergeant Summerfield, speaking of the measured distance of a quarter of a mile on the Garstang road (which he said the defendant covered at the rate of twenty-five miles an hour), referred to it as "the trap." He was told by the Chairman (Mr. E. Barton, Carnforth) not to say "the trap," but "the measured distance." A letter was read from Mr. F. W. Ogden, solicitor, Manchester, an occupant of the car, to the effect that Mr. Robley was driving carefully and at a reasonable speed all the way, that there was no idea of and no need for scorching, as they had plenty of time, and that if the speed limit of twenty miles an hour had been exceeded it could only have been momentarily. A fine of £2 10s. and costs was inflicted.

MOTOR DAY AT ARUNDEL.

On Monday, at the Arundel Borough Bench, four motorists were fined £15 10s. and costs.

Before the County Bench seven motorists were summoned and all fined, the aggregate gain to the county being £31 and costs.



Touring in Germany.—A Halt en Route.

From a Sketch]

[Published by the Berliet Company.

HEAVY HAULS.

Reports from many of the courts show that heavy hauls of motorists have lately added to the revenue at the Bearsted (Kent) Petty Sessions, and the courts at Grantham, Christchurch, Malton (Yorkshire), Ripon, and Carlisle.

SUPERINTENDENT MARKS AGAIN.

ON the 3rd inst., at King-ton Petty Sessions, a summons was gone into by which Mr. E. G. Drabble was alleged to have driven at a speed dangerous to the public on the Hershaw road at Walton between the "Barley Mow" and Mole House. Mr. T. W. Staples Firth defended. Inspector Marks gave evidence that on September 10th he was standing in the gateway of Mole House looking over the wall when a motor-car came into his view round the corner 70 yards away. When he first saw it it was travelling at thirty-five miles an hour. The road itself was a very dangerous one, having three very sharp turns within a distance of under 200 yards, and two market garden carts had just passed out of his view, going in the opposite direction to the car. After hearing some witnesses for the defence, the Bench intimated that the evidence for the prosecution was very unsatisfactory and dismissed the summons.

FROM Messrs. Rubery, Owen and Co., of Darlaston, we have received a copy of their new catalogue of motor vehicle frames, which are made both of hydraulically pressed and rolled channel steel. The firm was one of the first to take up this branch of the industry, and the new list has been compiled with a view to it being found useful for reference as a standard work, as they now have a large quantity of dies, whereby they are enabled to provide almost any design of frame required. No less than sixteen pages are devoted to illustrations of different designs of frames, but if these do not meet requirements, Messrs. Rubery, Owen and Co. are prepared to make dies to customers' exact needs, or even smith such frames by hand should the quantity needed not justify the expense of dies. Frame-ends, springs, and spring carriers, nuts and bolts, &c., are other specialities of the firm dealt with in the catalogue, copies of which may be had on application.

FORTHCOMING EVENTS.

OCTOBER.

- 12th (S.).—Close of the Commercial Vehicle Trials. Final run from Baldock to Dalston, London, N.
 Southend M.C. closing run of the season to Witham.
 Brooklands A.R.C. meeting.
 Motor Cycling Club members' petrol consumption tests, starting from the Bull, Gerrard's Cross.
- 15th (Tu.).—The "Industrial Motor Review" will be published, with a full report of the Commercial Vehicle Trials.
- 17th (Th.).—Demonstration of Commercial Motor Vehicles in Glasgow, under the direction of the Commercial Vehicles and Industrial Committee of the Scottish A.C.
- 19th (S.).—Auto-Cycle Club's quarterly trial.
- 23rd (W.).—Annual dinner of the South Devon A.C. at the Royal Hotel, Plymouth.
- 26th (S.).—Scottish A.C.'s hill climb near Fintry, Stirlingshire.

NOVEMBER.

- 11th (M.).—Opening of Olympia Exhibition.
- 13th (W.).—Annual Dinner of the Motor Union.
- 22nd (F.).—Stanley Show.
- 30th (S.).—Annual dinner of the North London A.C. at the Midland Grand Hotel, London.

DECEMBER.

- 7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
- 18th (M.).—General Committee of the Motor Union.

MARCH, 1908.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Oct. 12th—6.14	...	14th—6.9	...	16th—6.5	...	18th—6.1
" 13th—6.12	...	15th—6.8	...	17th—6.3	...	19th—5.58

PUBLIC MOTOR SERVICES.

IN returning a verdict recently in the case of a fatal accident at Bournemouth, the jury have recommended that all mechanically propelled vehicles plying for hire in the town should first be examined by a fully qualified motor engineer.

THE Coroner's inquiry into the circumstances of the motor-car-a-banc smash at Moscar, near Sheffield, on August 25th has been concluded. Albert Frudd gave evidence that the car got into the gutter in endeavouring to pass a carriage travelling in the same direction, and crashed at a speed of ten miles an hour into the telegraph pole. The jury, after deliberating for forty minutes, returned a verdict that the four persons fatally injured met their deaths through an accident. They added an expression of opinion that in future all intended drivers of public motor-cars should be conversant with the district before driving.

THE seventeenth volume of London Statistics just issued by the L.C.C. gives the number of motor-buses in London at 783 and of horse omnibuses, at 2,964.

AFTER being the subject of numerous complaints, motor-omnibuses have ceased to run in Birmingham. The last service was withdrawn on Saturday.

THE Hagley Road motor omnibuses have been taken from the road as the result of pressure brought to bear on their owners by the Birmingham Watch Committee. We understand that the Birmingham and Midland Motor Omnibus Company have arranged to replace them by a service of horse 'buses.

POLICE TRAPS.

WE hear of several traps having been successfully worked by police operators within the borough of Godalming.

MOTORISTS going near the Menai Bridge should beware of police traps on the various cross roads in that locality.

THE trap at Kingston, between Carlisle and Glasgow, is again in active service.

ON the Arundel road at Durrington is a motor trap.

THE village of Raglan has its police trap—a measured distance of 354 yards.

IN the Charlton Road, Charlton, the police are now timing motorists.

THERE is a police-trap in Kingston Road, Ham.

SEVERAL police traps have lately been set in some of the roads about Walton-on-Thames.

THE police are often watchful at the Muddleswood cross-roads, near Haywards Heath.

BROMLEY Common has become a favourite trapping ground with the police. These are generally in operation on Sunday afternoons.

ELECTRIC timing arrangements have been introduced into Yorkshire, being used in connection with the traps on the Scarborough road, notably at Potter Brompton.

CLAIM AGAINST MOTORIST.

AT the County Court, last week, before His Honor Judge Tindall Atkinson, Ernest Broyd sued Preston Cooper, motor engineer, Halstead, for £3 damages for negligence in driving a motor-car, whereby he ran over a black spaniel dog.—Plaintiff stated that the driver of the car, after running over the dog, did not stop. The car was travelling at a rate of about eighteen to twenty miles an hour.—Defendant maintained that the dog rushed in the way of the car, and that he was not going above fourteen miles an hour.—His Honor found for the plaintiff, and awarded £3 damages and costs.

OBSTRUCTING A MOTORIST.

A SUMMONS was brought by Mr. W. A. Calvert, J.P., of Broomells, Capel, at the Dorking Petty Sessions, against Percy Goddard, of Isleworth, for obstructing the highway at Capel on September 14th by neglecting to keep the horse and van which he was driving on his left or near side of the road. Complainant said that he was being driven in his motor-car. At Hoyle Hill, near Beare Green, he overtook a furniture van. There was a man lying on the top of the van, just behind the driver, watching the car. As the van was not on the proper side of the road witness's chauffeur sounded the horn. The man on the top of the van looked back twice, but the van did not move on to the proper side and there was no room for the car to pass. Defendant, who now said he did not hear the horn, was fined 10s. including costs.

AUTOMOBILE ACCIDENT.

A SERIOUS motor-omnibus accident occurred on Saturday afternoon at Liberton Brae, near Edinburgh. The omnibus, which had a full complement of passengers both inside and out, was going downhill when it swerved to one side and overturned. Twelve of the passengers received injuries of a more or less severe nature, while five persons were so seriously injured that it was found necessary to remove them for treatment at the Royal Infirmary.

BUSINESS NEWS.

THE "Ever Ready" automatic engine starting device illustrated elsewhere in the present issue is made by the Auto Improvement Company, of 316, Hudson Street, New York.

FROM Mr. John Roper, of the Gear Works, Dudley Road, Wolverhampton, comes a descriptive list of the bevel and mitre gears he is making suitable for the differential gears of motor-cars.

THE Sheppey Motor Company, of Thomas Street, Lawrence Street, York, have just issued a catalogue of the various specialities they are turning out for steam cars and launches. These include single-acting horizontal four-cylinder engines, double-acting high-speed engines, generator feed pumps, throttle valves, regulating valves, feed water heaters, relief valves, &c., all designed for use in connection with superheated steam.

MR. HUNTLEY WALKER has retired from his position as managing director of Messrs. Huntley Walker and Company, and the name of the firm will in future be the "Times' System" Automobile Company, Ltd., with Mr. Chas. Gulliver as managing director.

THE proprietors of the National Motor Academy and Exchange, Ltd., wish it to be made clear that they are not, and never were, in any way connected with "The Academy of Motoring." They have in the last month made considerable extension of their premises in Boundary Road, Notting Hill, W., renovated the whole of the class-rooms, made material extensions and additions to the equipment of their workshops, and have raised the "stud" of instruction cars to seven, of which no less than five have modern four-cylinder engines.

THE Vulcan Electrical Speed Indicator, of which many thousands are now in use, has been recently considerably improved, the result being to render the instrument still more independent of skilled attention and care. As is already well known, the instrument consists of a small electro-magnet of some four to five inches in length, having a rotating iron armature, there being no moving coils, wires or commutator. This is connected by a flexible wire to an indicating dial, which is a small hot wire voltmeter, entirely dead-beat and yet immediately responsive to variations in the speed. In the older type, the bearings of the magneto were quite plain and required rebrushing from time to time as well as greasing. If this was not done, inaccuracy sometimes appeared after considerable use. In the new pattern which Messrs. Geipel and Lange are now sending out, the bearings have been redesigned and the highest class steel cone adjusting ball-bearings are fitted. These are filled by the makers with sufficient lubricating grease to last many thousands of miles, and may reasonably be expected to wear considerably better than in the older pattern. Messrs. Geipel and Lange also inform us that they are now prepared to supply a recording speed indicator which can be fitted to the dashboard of a car and, while indicating at any moment the speed at which the car is travelling, will record on a chart, clearly in view of the driver, the speed at any moment. At the end of the run, therefore, the chart can be removed from the instrument, and a view taken of the whole day's running. The mechanism is extremely substantial and reliable; it can be set to give a record 1 in. long in twenty-four hours, or, if required, an arrangement can be made to give a record of 1 in. per hour.

THE Motor-Car Journal.

VOL. IX.]

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"THE INDUSTRIAL MOTOR REVIEW."

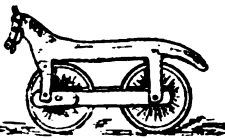
"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



IT was a frequent cry of the opponents of railways in the early days of the last century that the coming of the locomotive would lead to the extinction of horses. Something of the same kind has been heard with regard to the motor-car, but more enlightened public opinion has convinced even the most rabid opponents of mechanical traction that it is not desired to oust any particular form of locomotion but to do the best that is possible for the country. This fact is apparently recognised by veterinary surgeons, for Professor G. D. Lander, at the opening of the winter session of the Royal Veterinary College, pointed out that the power of the motor-car as a source of injury to their profession in general had been considerably overstated, and that, apart from the horse practice, there were other established and prospective avenues open before them. There still remained the farm and other domesticated animals, and he urged veterinary surgeons to extend their work in that direction. This is certainly a reasonable attitude to assume, for, whilst the automobile may displace activities in certain directions, these will find avenues for employment if diverted into other ways.

Motor-Cars in Barracks.

THE following instructions have been issued officially for the information and guidance of all in possession of motor-cars for which storage accommodation is provided in barracks. A copy of these instructions is to be placed in a conspicuous position in every petrol store or where any motor-car, public or private, is housed in barracks:—Smoking strictly prohibited; no matches or light of any sort to be brought into this store under any pretext whatever. Petrol tanks must be filled in daylight, and at a distance of not less than ten yards from this store; petrol taps and petrol tank covers must be kept closed while in this store. Examine carefully daily for leaks of every sort, especially at junction of petrol feed pipe; do not flood carburettor in store. Engine never to be left running in the vicinity of the store unattended. Spark not to be left on, nor spark tested while in store. No empty or partly empty tins to be kept in the store, nor any tins that have been opened, nor any leaky tin. Not more than three tins of petrol to be kept in this store, and the seals of these must not have been broken. A box of dry sand of not less than five gallons capacity to be kept in the store to extinguish fire; water is never to be used where petrol is concerned. No paraffin or other mineral oil (petrol excepted) is to be placed in this store. Cars are not to be run into this store by their own power; they must be run in by hand.

Automobile Instruction.

IN connection with the Polytechnic motor-car body and carriage building schools at Balderton Street, Oxford Street, London, W., which we recently referred to, a Day School has been established, intended for the use of the sons of coach makers and others. Special arrangements have been made for those who can only spare two or three afternoons a week, thus including the practical work with the technical training so essential to the young man entering upon the business of motor-car body or carriage building. We are glad to learn that opportunities for combining practical and theoretical instruction are growing both with regard to engineering and carriage work. Doubtless the time is coming when it will be generally recognised that a few hours spent each week in a technical school will be an advantage to the young fellows engaged in such industries as those associated with the automobile, in whatever department they may be. Private enterprise, such as the National Motor Academy, has provided ample opportunities with regard to the engineering section, and it is gratifying to learn that the carriage work is not being overlooked.

Trimming Hedges.

THIS is the time of year when owners of land in the country, as well as residents in the suburbs of large towns, are trimming their hedges and lopping their trees. We trust that in doing so occupiers and owners of property will take care that all cuttings and trimmings are immediately removed from the road, so that users of the highways, including motorists, will not be inconvenienced. In Andover the Rural Council is advertising in the local papers calling attention to the high hedges at the cross roads, and appealing to occupiers to keep those adjoining the same as low as possible. Although, of course, there is no legal obligation for owners to observe such a request, a general response to the suggestion conveyed would add considerably to the safety of the road. If the local authorities throughout the country would systematically indicate, through their surveyors, where hedges could usefully be lowered and the way made clear for advancing traffic, it would be a national advantage.

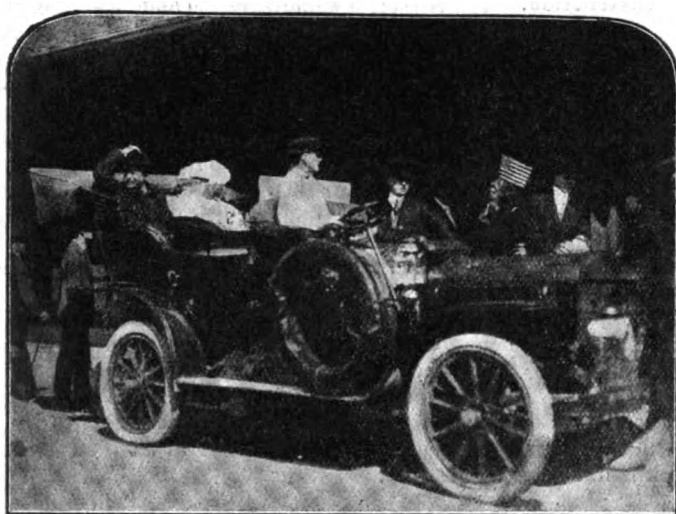
Caution in Court.

AN interesting incident occurred recently at a Stipendiary Magistrate's Court. A motorist had been charged with driving to the common danger, and the magistrate, in his summing up of the case, expressed an opinion that it is very hard on motorists to suddenly find themselves in a dangerous

place, there being no indication that extra caution is necessary, and mentioned several danger spots in the district near which caution boards should be erected. It happened that Colonel Bosworth, Chairman of the Automobile Association, was in court to give evidence in the case, and, addressing the magistrate, he observed that his society was always glad to prevent persons from unconsciously breaking the law, and that he would therefore be happy to erect the signs indicated by his worship. The magistrate asked Colonel Bosworth to convey his thanks, on behalf of the public, to the Automobile Association, and directed the chief inspector to confer then and there with the chairman, the result being that the necessary caution boards will be erected forthwith.

The Popular White.

◆ ◆ ◆
In the Town Carriage Competition in this country, and at many of the leading social events of the United States, the White steam car has proved a fashionable vehicle. When leaving Oyster Bay, at the conclusion of the season, for Washington, President Roosevelt and his wife—seen in the accompanying photograph—left their house for the station by one of the Government's White steam cars. In previous years the departure of the President from the famous resort has taken place by ordinary carriage, but President Roosevelt preferred to make



the journey by automobile instead of horse vehicle. Another distinguished American who has lately shown marked partiality for the White car is Mr. J. D. Rockefeller, who has purchased one of the first 1908 30-h.p. model limousines, after two years' experience with a White car also of the limousine type.

Tramways and Public Safety.

◆ ◆ ◆
CORRESPONDENCE has lately taken place between the Highways Committee of the London County Council and the Motor Union with regard to three ideas of some importance so far as the safety of pedestrians in the streets of the Metropolis is concerned. The result has been to establish three points, to which we give publicity, so that infringements or omission to comply with these may be notified to the authorities. It appears that at busy times of the day officials are placed on duty at the entrance to all the Council's tramway depots to control outward and inward traffic, and to hold these up when cars are about to enter or leave the depots. Then, again, the Council's conductors are instructed to warn passengers of the dangers of passing traffic when they are leaving the cars; while the Highways Committee are now considering what further steps they can take to enforce this warning upon careless members of the public. An important point with regard to the stoppage of tram-cars on the up and down routes when side by side and effectually blocking the road, has also

been raised by the Motor Union, in reply to which the Council said that the stopping places on their tramways are so placed that there shall be a clear distance of about a length of a car between the two vehicles when they are at a standstill on different tracks. Moreover, the police are also taking steps to prevent two tram-cars from stopping alongside one another at busy points of the main routes. This latter is an important point, and when motorists find it is being disregarded they will be acting in the public interest to call the attention of the nearest policeman to the fact.

Motoring on the Great North Road.

◆ ◆ ◆
THE question of furious motor driving on the Great North Road was again brought up at a meeting of the Standing Joint Committee of the Kesteven (Lincolnshire) County Council last week. The Chief-Constable of the county (Capt. Mitchell Innes) said he was doing all he could with his very sparse and widely-spread force to check the nuisance. The police had stopped 124 motor-cars on the road and cautioned them for driving at an excessive speed. He took action in twenty-one cases, which resulted in sixteen convictions; two he withdrew, and three were dismissed. He believed the nuisance had been distinctly diminished, and he had received tremendous support in checking it from everybody who was concerned and interested in decent driving, including motorists and motor organisations. For the slack season he hoped to be able to carry on with the force of police he had available, but when the time came round for him to make arrangements for the busy season he would ask the Committee to appoint a small sub-committee before whom he could lay his complaints and his suggestions with regard to obtaining extra police. Without more police assistance he could do nothing. In the course of a discussion which followed it was stated that damage had been done to the Great North Road by quick-travelling motor-cars, during the past six months, amounting to £1,000. The Committee ultimately decided to endorse any action the Chief Constable thought fit to take in the matter.

The Licenses of Drivers.

◆ ◆ ◆
"LEAVE nothing to chance" is an old proverb not without its application to the modern motor-car. A Kingston merchant has been summoned for employing a chauffeur who was not licensed to drive. The driver, of course, was also summoned for being in charge of a car without having the necessary permission. On behalf of the motorist it was explained that he was not aware that the Motor Car Act made it incumbent on him to see that the driver was properly licensed. He knows now. In this particular case the chauffeur had had a licence but it had expired; hence the delinquency. Owners of cars cannot be too careful in such matters as the registration of their vehicles and licensing of their drivers—acts for which they are legally responsible.

The Grievances of Motorists.

◆ ◆ ◆
A LETTER in the correspondence columns of the *Times*, from Mr. W. M. Acworth, is an interesting testimony to the fact that prejudice against automobiles is parochial and isolated. He has been touring on Exmoor and Dartmoor, and has come to the conclusion that there is no such general deep-seated hostility to motor-cars as is sometimes suggested by opponents. When he passes a dozen carters in succession in a Devonshire lane, and every one of them draws his cart in to the bank and stops to let him get by without difficulty, "I cannot think that he does it with hatred in his heart, in dread that my motor will damage his cart. And when to my 'thank you' he replies with a cheery smile, I am convinced that the pleasant relations between the classes which always have existed in country districts have not been upset by the advent of motors. What hostility there is to be found among the population near London and on two or three main roads within a hundred miles

er so." Then, too, as Mr. Acworth points out, motorists have grievances of their own. Roads are made to travel on, and it is not fair that, where a proper footpath is provided, a pedestrian should use the road except with the same liability which a driver takes who goes on his wrong side. If road surveyors would appreciate that neither sharp pebbles nor muddy loam are attractive to walk on, possibly pedestrians might sometimes even use a footpath by preference. Again, there are other road-hogs besides motorists, and "beery draymen, droway carriers, careless drovers," and the like, need to be once more educated up to the same standard of wakefulness and activity which they surely must have maintained in the old coaching days.

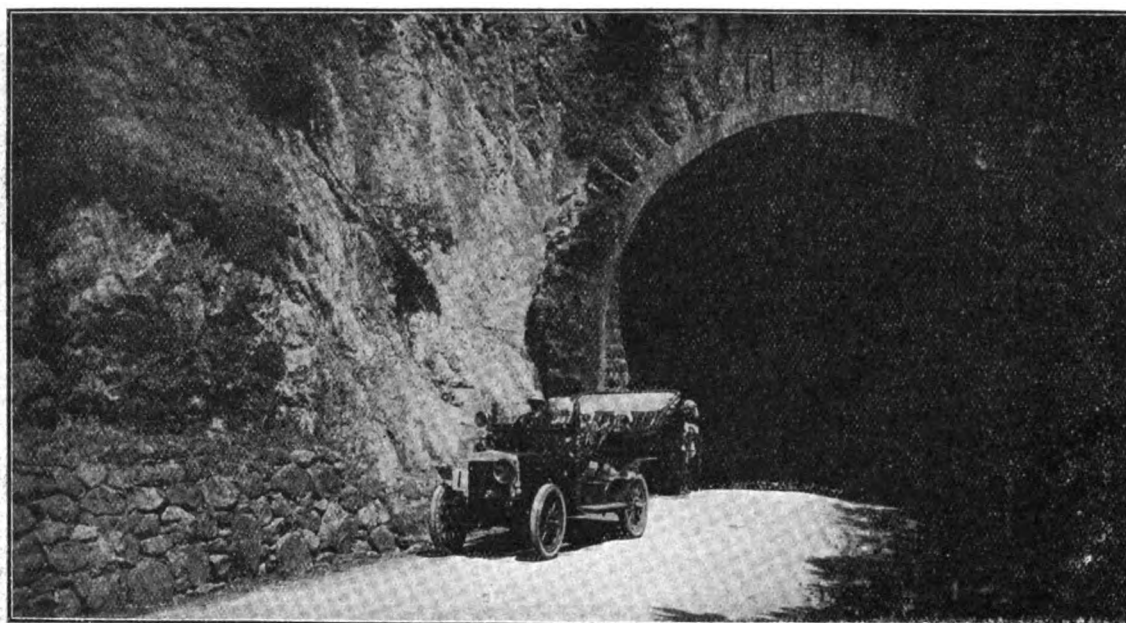
A Magisterial Warning.

THE Midhurst magistrates on several occasions have hinted to motor defendants coming before them that there was a possibility of severe measures being meted out to them in the near future, and at the last sitting of the Petty Sessions the chairman of the Bench intimated that his brother magistrates have come to the end of their tether so far as

the method of timing adopted by the police. Drivers heard nothing of the matter until two or three days had elapsed, and were therefore unable to prepare a defence. The chairman of the Bench said there was nothing in the Act to exempt medical men, although, personally, he sympathised with them, and wouldn't mind them going 60 miles an hour—he would only be too pleased. And then he proceeded to fine the doctor £3 and costs.

Traps to be Disclosed.

IN the course of a case against a motorist at Croydon on Saturday an interesting piece of information was given by Inspector Chinn. The defending motorist said he asked the constable who stopped him on the Brighton road at Coulsdon where the trap was. The reply of the officer was that he was not allowed to disclose it. And yet it was, as any ordinary person can see, very necessary that the defendant should know where the trap was, in order to check the evidence of the constable. Then the inspector announced that as the result of a case at Edgware the Commissioner of the Metro-



The Poona Motor Trials.—Captain Woods at the wheel of the 30-h.p. Daimler on which he won the Khandalla Ghat Hill Climb.

leniency is concerned. A practical example of this followed when every motorist coming before them was fined £10, these being the heaviest fines that have yet been imposed at Midhurst for offences under the Motor Car Act. Apparently no discretionary power will be recognised, uniformity in heavy fining being the magisterial rule in Midhurst.

Medical Motorists.

CONSIDERABLE sympathy must be felt with the Medical Officer of Health for Loughton, who has been four times before the Justices for speedy driving during the last three years, and only on one occasion, when the case was dismissed, had there been any allegations of reckless or inconsiderate driving. Summoned last week at Ongar, he denied that he was going at 30 miles an hour, because his car was incapable of doing it. On the day in question he attended a patient at Coopersale, and hearing that someone had been seriously injured at a farm fire at Stanford Rivers he hurried forward. If the police continued to pillory him in this way it would make the continuance of his country work almost an impossibility, because there was probably no day upon which he did not go at the rate of 23 or 24 miles an hour on some part of his journey. Further he objected to

politan Police had given orders that the exact location of the measured distance should be shown. This is reasonable—if we allow that there is any reason about a police trap—and it seems scarcely English to have gone on so long without such a regulation being made known to likely victims of police vigilance.

Brooklands.

THE last meet for the season on the Brooklands Track took place on Saturday, when the organisation of the event was admirable in every way. Evidently the inexperience of the earlier events has been an education for the promoters of the track; who have had the weather on their side at each meet they have held. This has been an important factor in the development of track motor racing in this country. On Saturday the highest speed attained was in the only long distance race of the afternoon, Mr. F. R. Fay's 75-h.p. Mercedes averaging 92½ miles per hour. Mr. O. Cüpper, too, was a successful competitor, taking premier honours in the first race, and being second in two others with his Metallurgique cars. The Napier was successful in three events, and won the most exciting event of the day, beating the Iris by six or seven feet only.

SOME NOTES ON HILL CLIMBING.

By LOUIS T. WEISS.

ONE of the great feats that is credited to almost every car by its owner is, "She'll take any hill, within almost any radius, on the top gear." It is certainly necessary for a car to get over any hill on the road, and it is, no doubt, a pleasure to surmount it on top speed; but whether it is advisable to do so is a question answered in some cases immediately by the breaking or straining of one of the parts, or later by the poor condition of all the parts of the mechanism. The most important factor in climbing hills fast certainly is in having sufficient motive power in proportion to the weight of the car which it propels. It does not follow, however, that a high-powered vehicle should climb hills on the top speed as easily as a light car with a good deal less motive or horse-power; first, on account of the difference in weight to be dragged, and mainly on account of the relation of the speed of the motor to the driving wheels.

High-powered cars are generally geared much higher than cars with smaller engines. This is done so as to be able to travel fast on the level without running the motor excessively

between the intervals of the explosion, the vehicle will jerk at each explosion, and all driving and power transmitting parts will be under a strain for which they were really not designed. While they may stand it they will certainly not last as long as they would when carefully used. To impress the importance of this subject and make it clear, let us figure just how far one explosion in one cylinder of a four-cycle, four-cylinder motor, geared at a two to one ratio, must push a car mounted on 34 in. wheels, and at the same time how many revolutions, or at what speed per minute, the motor runs when the car is travelling at a speed of sixty miles per hour.

A mile being 5,280 ft., and the circumference of a 32 in. wheel being approximately 9 ft., it takes about 587 revolutions of the wheel to cover one mile. The motor must then make twice 587 revolutions, or 1,174 revolutions per minute. As in each cylinder there is one explosion to two revolutions of the crankshaft, we get 2,348 impulses on the motor shaft in one mile, which works out at about 2 ft. 3 in. of travel of the car to each explosion.

Now, supposing we negotiate a hill with $33\frac{1}{3}$ per cent. gradient, which means one foot rise in three feet advance. If we ascend it with the car before mentioned, each explosion in the



The Commercial Vehicle Trials.—The Officials receiving the cars at Baldoak.

fast. The average relation of gearing is about three to one on the top speed on cars of from 20-h.p. to 25-h.p. In cars of from 30-h.p. to 45-h.p. the average gear is about two and one-half to one. Still higher powered cars, say from 50-h.p. to 60-h.p., have a ratio which is often less than two to one. These ratios are spoken of as the average, but there are many high-powered cars with lower gear ratios when built for special uses.

When, for example, the ratio three to one is spoken of, it means that the engine shaft turns three times in order to turn the driving road wheel once. When figuring the ratio or the speed of the motor when travelling a certain mileage per hour it is necessary to consider the size of the driving wheels, because when a car mounted on 34 in. wheels has a ratio of three to one, its engine runs slower than one of a car mounted on 32 in. drivers with a three to one gear, both making the same speed.

Consider now what the ratio of gearing has to do with the hill-climbing abilities of motor-cars. The explosions in the cylinders behind the pistons are really pushing the car up the hill. When the motor is allowed to run fast while the car goes slow, the explosions occur often, the fly-wheel will keep up a continuous, uniform speed, and the car will mount easily and without jerking. When, however, the motor runs slowly, the fly-wheel not being heavy enough to advance the car steadily

small cylinder of perhaps $4\frac{1}{2}$ in. to 5 in. in diameter, and on a crank of $2\frac{1}{2}$ in. to $2\frac{3}{4}$ in. length, must push the car with all its weight, and against all the friction, 2 ft. and 3 in. ahead, and consequently raise it one-third of that distance, which is 9 in. Consider what a tremendous strain there must be on all power transmitting parts, especially when going slowly, for then the fly-wheel at the speed it turns is not heavy enough to carry the car steadily ahead and upward. On this account it is advisable to climb hills on the lower speeds.

THE Star Engineering Company, of Wolverhampton, have sent us a photograph of a new motor-cab which they are now supplying for private and public use. The vehicle is not designed to suit the London regulations, but modifications are being introduced whereby the Star Company can construct the cab to meet the requirements of the Scotland Yard authorities. The vehicle is fitted with a 12-h.p. four-cylinder engine, $3\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke, the ignition being by magneto. The change-speed gear gives three speeds forward and a reverse, the transmission being by two side chains to the rear road wheels. A roomy body, giving comfortable accommodation for two persons, is provided, as also is an extra lift-up seat for a third passenger.

A FORTNIGHT'S TOUR IN HOLLAND AND GERMANY.

BY R. M. WRIGHT.

IN a fortnight's motor tour in Holland and Germany I have covered a distance of 2,300 kilometres, and had opportunities of sampling various roads in different parts of the Continent, and my experience may be of assistance to others who may contemplate visiting Holland and Germany by motor-car. I left Lincoln on Saturday, August 31st, on a 12-14-h.p. Argyll fitted with hood and screen and every other accessory to make such a tour a success. The first part of the journey was to Harwich *via* Ipswich, at which latter place the night was spent. The following day through Felixstowe to Harwich, and on board the Great Eastern steamer "Dresden" for the Hook of Holland. At this point I was joined by two friends, who accompanied me on the trip. The Hook was reached at 5 a.m. on Monday morning, and, the car safely landed, we made straight for Rotterdam, that town being reached after a very rough journey over the vilest roads it had ever been my experience to drive. The roads were very narrow, and paving stones of very large dimensions constituted the surface. This journey took us an hour and a half. After light refreshment we made our way to Utrecht, where we arrived for lunch. During this distance the roads were very bad, with the continuance of paving stones. After lunch, we continued the remainder of the day's trip to Arnheim, where we arrived at 5 p.m., just prior to a heavy thunderstorm. Arnheim is a town of picturesque dimensions, and is a typical Dutch centre.

Leaving Arnheim on the following day at 8.30, we made for the German frontier, a distance of some sixteen miles, where we got our Dutch money back as duty paid on the car at the Hook, but had to pay it out again to the German Customs some 200 yards further ahead. Here we got on some good road, and, making our way to Cologne, we had a lovely spin, the only interruption during this trip being one puncture. The condition of the road during the day was much appreciated after the previous experience, and we anticipated that if the remainder of our trip was to continue with such good roads, we would not think too much of the bad condition of those in South Holland; but our experience the next day, on leaving Cologne for Frankfort up the Rhine, was not equal to the previous one. Still, we could not term the roads bad; they were moderate. The scenery up the Rhine from Cologne to Frankfort was quite equal to all that has been said of it, what with the beautiful river and the mountains on each side.

We arrived at Frankfort at 7.50, having made a good trip. The town is a magnificent spectacle of beautiful buildings, wide streets, and very clean delightful suburbs, and we would compare it really to Edinburgh, with the exception that it is not hilly, and the buildings are of a richer character. Leaving Frankfort at mid-day on the Thursday we made for Heidelberg, the beautiful University town, and on to Karlsruhe, where we put up for the night. The following morning we left Karlsruhe for Kippenheim, a distance of seventy miles, which was the home of one of the occupants of the car, and, after taking dinner at the residence of a family in that small village, where we received a hospitable welcome, we journeyed to Baden-Baden, possibly the most fashionable spa watering-place in the whole of

Germany, arriving at five o'clock. At this place I had decided to stay for two or three days, and visit the various interesting places round about with the car, which up to this point had not given the slightest trouble. During my stay at Baden-Baden, which is one of the most lovely spots it has been my lot to see, I visited most of the pretty and interesting places in the neighbourhood, each day finding myself amidst charming scenery with fine old castles situated on mountains, thickly wooded, and approached by long avenues of trees.

On Wednesday, at three o'clock, I and my friends bade adieu to lovely Baden and made our way to Mannheim, there to visit some friends and the large exhibition open at that place. This we found a very large open show like Earl's Court, splendidly illuminated, with all sorts of amusements going on, and was well worth a visit. The next morning, after a most beautiful run to Mainz, where we took lunch, we went along the

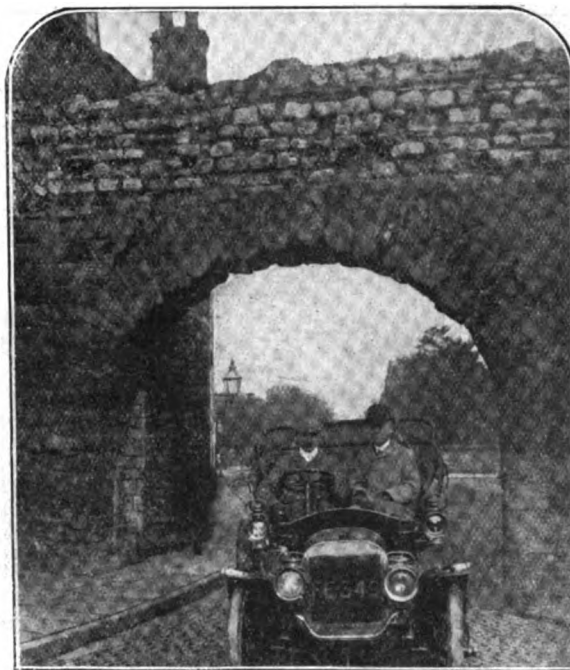
Rhine to Cologne, which was the finest run of the tour, the weather being excellent and the scenery charming. We arrived at 6 o'clock, and, putting up at the Du-Nord Hotel, made arrangements to make an early start next morning, as we had a long journey before us, and the usual order of Customs to encounter before reaching Amsterdam, where we wished to arrive in daylight. This was satisfactorily accomplished after a very interesting run *via* Zanton, Beck, Arnheim, Utrecht, the distance, 172 miles, being completed by 5.30 o'clock.

Saturday being the last day on the Continent, we spent the morning seeing the sights of Amsterdam, and afterwards ran to Scheveningen, the famous Dutch watering place on the North Sea, near the Hague. Continuing our journey to the Hook of Holland we made all arrangements to get the car on board the "Dresden," the same boat that we went over on. After the usual order of Customs and getting our duty money back, the car safely landed on the boat, and everything done, we put ourselves up for the night, and before the boat left the quay we were fast asleep and nothing

more troubled us until our call next morning at 5.30 o'clock.

At Harwich, after breakfast on the boat, and seeing my friend off to London by train, I got the Argyll ready for my journey to Lincoln, where I had wired to say I should be home for lunch. Starting punctually at 8 o'clock and making my way towards Mannington, Bury St. Edmunds, Downham Market, Wisbech, Long Sutton, Holbeach, Sleaford, I arrived home at 2 o'clock, a distance of 147 miles, non-stop. This, I consider, was a very good finish, the little car behaving in a manner that does credit to the firm who made it, it having covered 1,500 miles in all in a fortnight, and for the most part over terrible roads. I had not even to touch a sparking plug during the whole journey. The petrol consumption averaged 22 miles for the gallon, which is not bad for a four-cylinder car.

There are a few points I should like to mention which may be of interest to other motorists taking a similar tour. The slow vehicular traffic is drawn by oxen, which are very stupid, and mostly on their wrong side of the road, and the drivers are nearly always asleep. The lights at night on all heavy slow-moving carts are carried underneath the vehicle at the back of



Mr. R. M. Wright at the wheel of the 12-14-h.p. Argyll on which he recently made a tour in Holland and Germany. Seated at his side is Mr. W. Lilly, the new Sheriff of the City of Lincoln.

The photograph from which the above illustration is reproduced was taken at Newport Arch, Lincoln—the oldest Roman arch in the country.

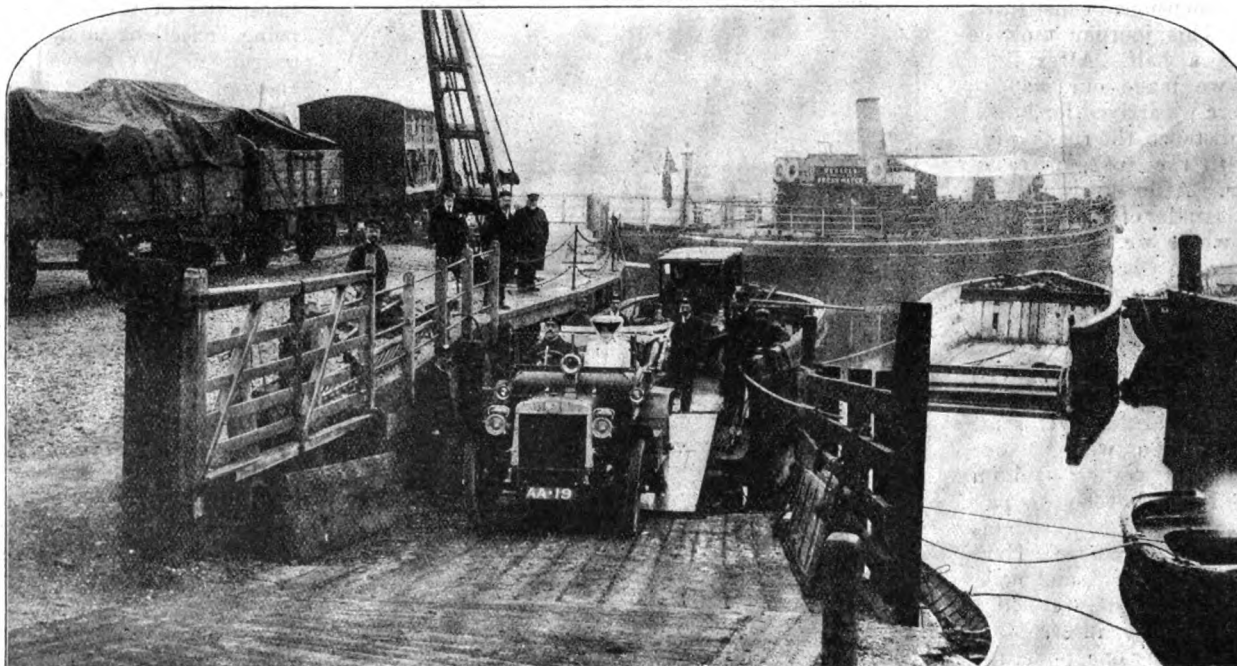
the horses and oxen, which is very misleading. The roads in Holland are all brick paved, some very badly indeed, and quick travelling is not conducive to comfort. The German roads are very indifferent, and for the most part very bad, nothing like the roads we have in England, and the worst feature is the cobble stones in the small towns and villages, which are terrible. The deep "grips" which run across the streets are most dangerous, being very liable to break the frame springs and axles. The railway lines are most numerous, and have to be crossed many times during a day's run in most districts. The warning signs such as "Drive slowly" and "Automobiles 15 kilometres," &c., are very numerous, and this I consider a step in the right direction, and should be more liberally done in the villages and main roads in this country, for there would then be less complaints than we have at present.

Taking the trip as a whole, it was one that I can thoroughly recommend to motorists, or even non-motorists, as they can hire cars at a reasonable price, and get a holiday that cannot be equalled in this country. I would advise intending tourists, however, to take a good whip with them, to keep the boys from

TO THE ISLE OF WIGHT.

MOTORISTS are not content with the exploration of the roads and bye-ways of their own countries; and British tourists are no exception. They are often found wandering in islands adjacent to Great Britain. This year some crossed to the Emerald Isle to follow the Reliability Trial there; others ventured to Douglas and attempted enthusiasm in connection with tourist trophies. Profiting by the experience of recent seasons, many journeyed southward and revelled in the delights of the Isle of Wight. The advantage of such a trip is that the whole island can be finished in one attempt, and the visitors become quickly familiar with all its charms.

How to reach this favoured spot—separated from the mainland and unreachable by motor-car. The London and South Western Railway Company has two routes to suggest; that via Lymington has found advocates among a large number of motorists since the facilities for dealing with cars at that place have been made generally known through our columns and elsewhere.



A Motor-Car Landing from the Ferry at Lymington.

sitting on the back wings and hanging on to the hood behind the car, as they have a strong weakness for this kind of thing.

At a recent meeting of the Long Island Automobile Club (U.S.A.), an interesting paper was read by Mr. Louis T. Weiss on the subject of "Hill Climbing," an abstract of which is given elsewhere in the present issue.

THE Industrial Motor Company, of Windsor, have just completed a 1-ton van for Mr. Harry D. Sillito, of Golden Hill. The vehicle is the first of three which it is intended to use for the delivery of bread between the central bakery and Mr. Sillito's various shops and stores. The motive power is supplied by a 12-h.p. two-cylinder petrol engine.

THE Empress Motor Company, of Stockport Road, Manchester, have sent us a copy of the catalogue giving a full description of the Empress 14-20-h.p. car. The vehicle is fitted with a four-cylinder engine, and, while following the general lines of live axle machines considerable care appears to have been taken in working out the details. Mr. Frank Smith, the manager of the Empress Company, has lately devised a new automatic carburettor, which we hope to illustrate in an early issue.

Last summer 130 large automobiles went to and from the Island by this route, and a considerable growth in the traffic is officially anticipated in the 1908 season. At Easter this year more than forty motor-cars were taken to the island via Lymington, an experience that persuaded the L. and S. W. Railway Company to treat the Whitsun and August Bank holidays as ordinary weeks, so far as that class of traffic is concerned.

In addition to the favoured Lymington route, the joint South Western and Brighton companies have a tow boat service between Portsmouth and Ryde, which is run all the year round.

Unfortunately, there have been numerous complaints of inconsiderate driving in the Island by some of the drivers of the heavy touring cars which were there during the season. It is stated that some of these were driven regardless of the dangerous character of the roads there, which are very narrow and twisting, with very bad corners and steep hills. Conduct of this kind does great harm, causes public prejudice against motorists generally, and is the more unfair to the resident motorists because they have done all that is possible to keep on good terms with the police and the local authorities. The Chief Constable has informed Mr. Clarke, the hon. secretary of the Isle of Wight Motorists' Association, that if this reckless driving continues he will be driven to enforce the speed limit by timing.

CONTINENTAL NOTES.

An International Conference on Roads.

The French Government has authorised M. Barthou, the Minister of Public Works, to take the necessary steps towards the holding of an International Congress in Paris next year to consider the question of the preservation of roads deteriorated by motor traffic and their adaptation to meet the requirements of the new mode of locomotion.

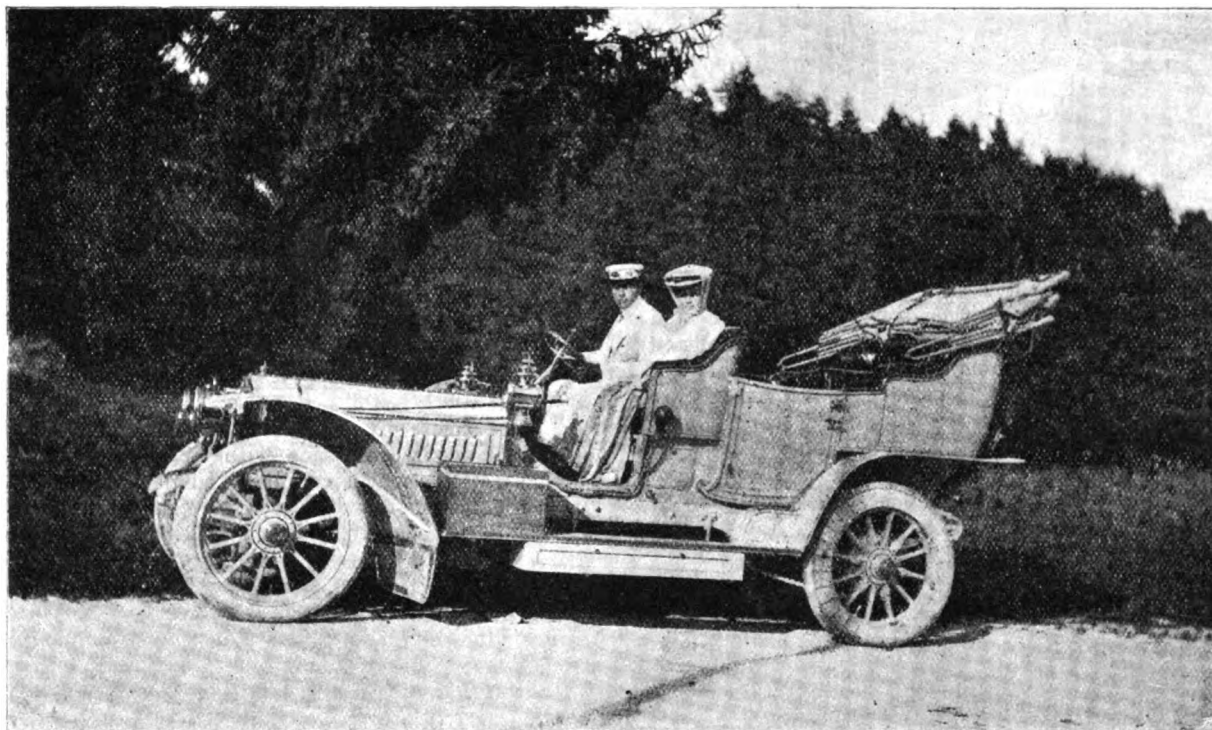
French 1908 Models.

Announcements are coming to hand with regard to the different models the leading French motor-car builders are putting in hand for the 1908 season. Thus the Delaunay-Belleville series will include 15-h.p. and 20-h.p. four-cylinder with live axles, 28-h.p. four-cylinder, a 40-h.p. six-cylinder with chain drive, and a 15-h.p. six-cylinder live axle vehicle. The Panhard series comprises eleven different models—8-h.p. chain drive, 10-h.p. chainless transmission, one with three and the

days, the first six being devoted to trials with daily stages of about 150 miles (seven circuits), and only those vehicles which come successfully through the trials will be eligible to compete in the speed race on the seventh day over a distance of about 200 miles (nine laps). During the trials the cars must attain a maximum speed of about eighteen miles an hour, and all the parts will be officially sealed and stamped so as to provide against the possibility of their being replaced during the contest. In addition to the prize offered for the winning car another trophy, known as the Coupe de Régularité, will be awarded to the firm whose team of three cars makes the best performance throughout the trials.

Miscellaneous Items.

The Belgian Automobile Club proposes to organise a trial of industrial motor vehicles.—M. Henry Deutsch de la Meurthe has written a letter to the French Minister of War, offering to make a gift of his airship, the Ville de Paris, to the French army.—The Automobile Club de Nice is busily engaged in drawing up the programme for next year's Nice Automobile



Herr Friedrich Wagemann, of Vienna, at the wheel of his Brasier 50-60-h.p. Six-Cylinder Car on which he has lately completed a lengthy tour in the Tyrol. [Allgemeine Automobil Zeitung.]

other with four speeds; 15-h.p. with chain or chainless drive, 18-h.p., 24-h.p., 25-h.p., 35-h.p., and 50-h.p., all with four-cylinder engines and chain drive and a 60-h.p. six-cylinder vehicle with side chains. The new price list shows a reduction ranging from £20 in the case of the 15-h.p. to £280 as regards the 50-h.p. Considerable interest will be shown in the new live-axle cars, this being the first time the Panhard Company have made vehicles of this type.

La Coupe des Voiturettes.

Interest in French motoring circles is just now centred on the reliability trial of light cars which is to be held from the 21st to the 27th inst., and for which no less than sixty-seven entries have been received. The vehicles will be divided into two classes—(1) those with single-cylinder engines with a maximum cylinder bore of 100 mm., and (2) those with two-cylinder motors having a maximum bore of 80 mm. Each car must be completely equipped for touring, and carry not less than two persons, the total weight varying in accordance with the cylinder bore. The event, which is to be held on a 33·8 kilometre triangular course near Rambouillet, will extend over seven

week.—A public service of motor vehicles is about to be inaugurated between Vich and Manresa, Spain.—The Automobile Club de la Sarthe of Le Mans proposes to hold a trial of industrial motor vehicles early next year. The event will probably extend over a fortnight and comprise a section for public service vehicles.—The monument in memory of the late M. E. Levassor, which is being erected near the entrance to the Bois de Boulogne, Paris, is to be officially inaugurated during the course of the forthcoming Salon.—A 350 kilometre race for light cars is to be run off on the Florio Cup course, in Sicily, on Sunday next.—A company has lately been formed in Upsala, Sweden, to establish a public service in the district.—The Touring Club of Italy proposes to organise a trial of motor-buses at Plaisance.—The proprietors of the "Frankfurter Zeitung," of Frankfort am Main, have lately put an electric delivery van in operation, while the "Abendzeitung," of Augsburg, is employing a Renault motor vehicle for the rapid delivery of newspapers.—No less than sixty-seven entries have been received for the annual hill-climbing competition at Gaillon, which is to be held on Sunday next. Two Napiers are included in the list.

TYRE VULCANISING BY ELECTRICITY.

A NOVEL and interesting apparatus for vulcanising repairs to motor pneumatic tyres by means of electricity has lately been introduced by the Union Rubber and Chemical Company, of Unity Works, Shaw Street, Ashton New Road, Manchester, and is attracting considerable attention in motoring circles in the north. The apparatus, which is known

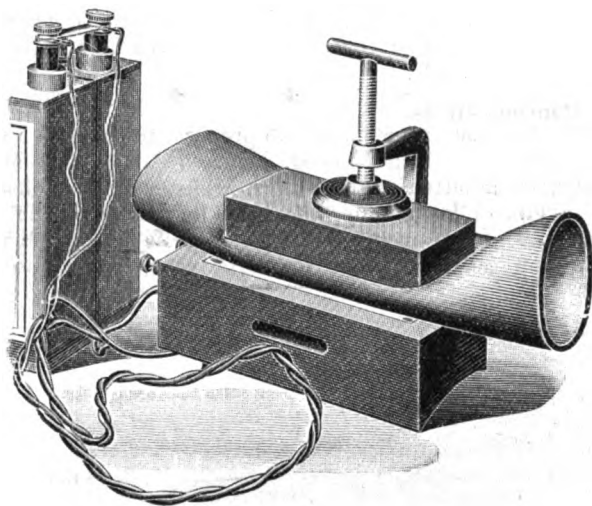


Fig. 1.

as the Turco, is exceedingly simple, comprising as it does a small wooden block, to one side of which is attached a curved plate of aluminium and a flat plate to the other. The plates are heated in the same way as an electric heater by means of a coil fitted within the block and through which a current of electricity for an ordinary accumulator is caused to pass. Three terminals are provided on the vulcaniser; only two are, however, used at a

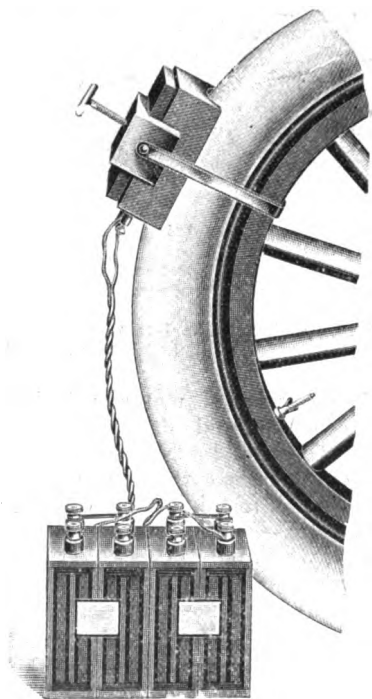


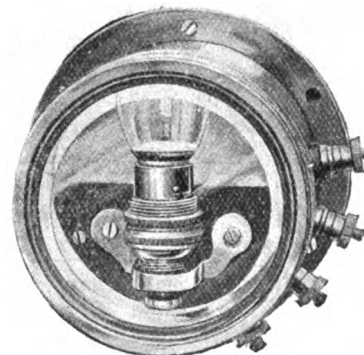
Fig. 2.

time, the pair varying in accordance with whether the flat (for air tubes) or curved (for outer covers) side is being used. The *modus operandi* is exceedingly simple; the cover or tube to be repaired is made ready in the usual manner, clamped on to the vulcaniser, the necessary wires are attached to the terminals on the block, and to those on the accumulator—that on the car sufficing, provided it is fully charged.

It is then left for about twenty minutes, at the end of which time the repair will be found to be perfectly vulcanised, no attention having been necessary in the meantime. A special claim for the apparatus is that it cannot be over-heated; as soon as the requisite temperature is attained it remains absolutely stationary, the danger of excessive vulcanisation being thus avoided. Two sizes of the vulcanisers are at present being made. Fig. 1 depicts the No. 1 4-volt type in operation upon an air tube. It is designed to deal with nail holes and small bursts up to $1\frac{1}{2}$ in. in extent in tubes, and the superficial cuts and gasches up to the same extent in all types of outer covers. The machine is fitted with flat and concave vulcanising plates, both $1\frac{3}{4}$ in. by $1\frac{1}{4}$ in. The tube repairs are vulcanised on the flat plate, the necessary pressure being exerted by means of a convenient pressure clamp, while outer cover repairs may be vulcanised without removing the tyre from the wheel, in which case the concave surface of the machine is securely fastened on to the cover by means of a convenient strap provided for the purpose. The current absorbed is at the rate of, approximately, only $2\frac{1}{2}$ amperes per hour, but the apparatus should not be coupled to anything smaller than a 20 amp. hour accumulator. A large apparatus (Fig. 2), designed for use with an 8-volt accumulator, is also being made. This is designed to deal with much more extensive repairs, the flat plate measuring 4 in. by $2\frac{1}{2}$ in., and the concave one $3\frac{1}{4}$ in. by 3 in. The amount of electric current absorbed is at the rate of (approx.) 3 amperes per hour at 8 volts. This voltage is readily obtained by coupling two 4-volt accumulators in series, the makers recommending that these should not be of less capacity than 30 ampere hours each. The vulcaniser is put up with its necessary tyre-repairing accessories, and the whole outfit, in the smaller size, weighs under a pound, and about twice that weight for the larger one.

A NEW DASHBOARD FITTING.

THE accompanying illustration depicts a useful dashboard fitting for use in connection with electric tail lamps. It represents a tell-tale which can be fixed in any convenient position upon the dashboard. The idea of a lamp placed in series with the tail light has already been tried, and, being always alight,



has been found an annoyance by some drivers, and if 4-volt lamps are used an 8-volt accumulator becomes necessary. With the C.A.V. device, which has just been put on the market by Messrs. C. A. Vandervell and Co., of Acton Vale, W., the lamp is held out of circuit so long as current is passing through the tail light circuit; but, should this be interrupted from any cause, the electro-magnetic device in the indicator completes the other circuit and lights up the indicator lamp, thus warning the driver that the rear lamp is out. A further refinement is a push-button on the steering wheel, so connected that the lamp in the indicator may be lit up at will, quite independently of the tail light, enabling the lubricators, speed gauge, clock, &c., to be inspected while driving. The device was originally intended for fitting to the side of the cupboard of cars with the Daimler type of dashboard; a special bracket, however, can be supplied so as to ensure the light being thrown across the fittings of any type of dashboard.

THE Peterborough City Garage, Cowgate, Peterborough, have been appointed the sole agents for Brown cars for the Peterborough district.

MESSRS. W. WILSON AND SON, LTD., of Cambridge Street, Sheffield, have supplied a fine Roi des Belges body to a 40-h.p. Fiat car belonging to Mr. Rossiter Hoyle, of Ecclesall.

HERE AND THERE.

MESSRS. MANN AND OVERTONS, LTD., have lately supplied Unic petrol motor delivery vans to the "Daily Mail" and the "Evening News."

MR. PHILIP SAYERS has severed his connection with the firm of Sayers and Co., who have attained prominence in the motor-body building industry these last few years.

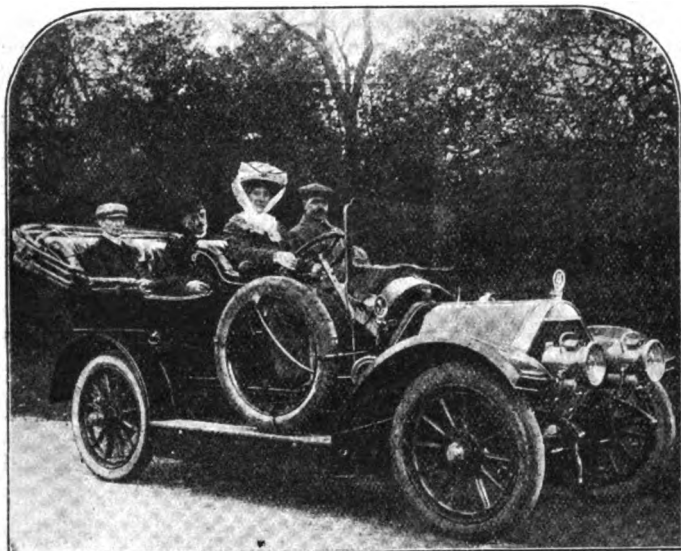
ELSEWHERE in the present issue will be found an interesting account of a fortnight's tour in Holland and Germany, made by Mr. R. M. Wright, the well-known Lincoln motor agent.

WE learn from the South Metropolitan Gas Company that they are meeting with an increasing inquiry for Benzole as a fuel for motor-cars in place of petrol.

MESSRS. MONNET PLASSE AND Co., of 20, Store Street, W.C., have been appointed agents for the Rapid America two-cylinder tyre inflator. By means of this pump, which occupies but a small space, it is claimed that only two minutes are required to inflate a 120 mm. tyre.

MR. D. W. BARNETT having relinquished his connection with the firm of Barnett, Pembroke and Slater, Ltd., has secured some excellently designed and roomy premises at 2, 4 and 6, Milner Street, Cadogan Square, Chelsea, where he is carrying on business under the title of the London Automobile Supply Company, and more especially pushing the sale of the Belgian "U. S. B." cars, for which he is sole agent. Mr. Barnett has latterly been employing his inventive faculties, and a new high-tension distributor, a new sparking plug with automatic detector device, and an apparatus permitting the use of high-tension current with low-tension magneto are shortly to be placed on the market.

WE illustrate herewith the first of the new Sheffield-Simplex 45-h.p. six-cylinder chassis, which will make its debut at the forthcoming Show. The photo was taken on the occasion of the initial road trial, a matter of ten weeks ago. During the time



Mrs. Hudson, the winner of the Manchester Motor Club's Speed Judgment Competition, at the wheel of her 30-h.p. Beeston-Humber. The test was to drive at seventeen miles per hour over a distance of nine miles, Mrs. Hudson being only 8 sec. out.

Photo by]

[H. Wade.

THE new motor ambulance wagon supplied by the Argyll Company to the Sheffield Corporation arrived in the city on Monday. Two bodies have been supplied with the chassis.

THE Belmont Motor Works Garage has been opened at 42, Streatham High Road, London, S.W., by Mr. Edwin Burchett, who will keep the establishment open practically day and night for the convenience of motorists.

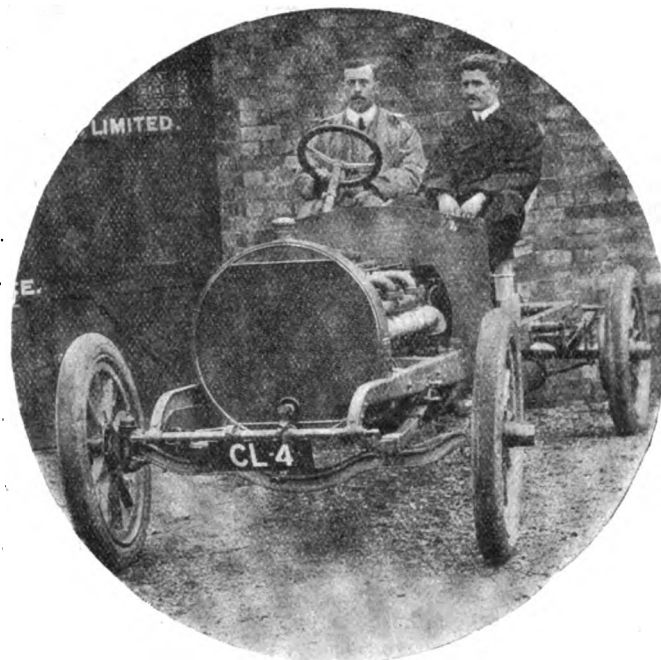
THE Unic light delivery van has done exceedingly well in the Commercial Vehicle Trials. It has a clear record as regards depot and mechanical troubles, the only delay encountered during the five weeks test being 78 min., due mainly to tyre troubles.

AT a meeting of the council of the Cyclists' Touring Club, held at Birmingham on Saturday last, Mr. W. A. Russell, M.A. (Aberdeen), was elected secretary to the club, and Mr. A. W. Rumney, M.A. (Cantab.), was elected editor of the "C.T.C. Gazette."

ON Saturday, the 26th inst., Messrs. Hampton and Sons will hold an auction sale of motor-cars on the Brooklands track. All the vehicles offered will be passed by the firm's expert, and will be on the track for trial on the morning of the sale. More than thirty cars of the best-known makes will be included in the auction.

MR. WM. LONG, the proprietor of the Lion Hotel, Buckden, writes that the photograph reproduced in our last issue of the Napier car at present undergoing a 3,000-mile trial on Simcar benzol was taken outside his hostelry, and not at the Red Lion, Hatfield. Mr. Long has a well-equipped garage, and keeps a stock of petrol and lubricating oil.

IN Oxford Street, Swansea, Mr. J. S. Brown has a motor garage and a motor body building establishment of considerable extent. In the latter department he is now building an ambulance body for the Panhard chassis which has been subscribed for locally in connection with the fund organised by the Chief Constable of Swansea to provide a motor ambulance for the town.



Mr. Percy Richardson, Managing Director, and Mr. A. Rainforth, Works Manager of the Sheffield Simplex Motor Works, Ltd., on the first of the new Sheffield Simplex 45-h.p. Six-Cylinder Cars.

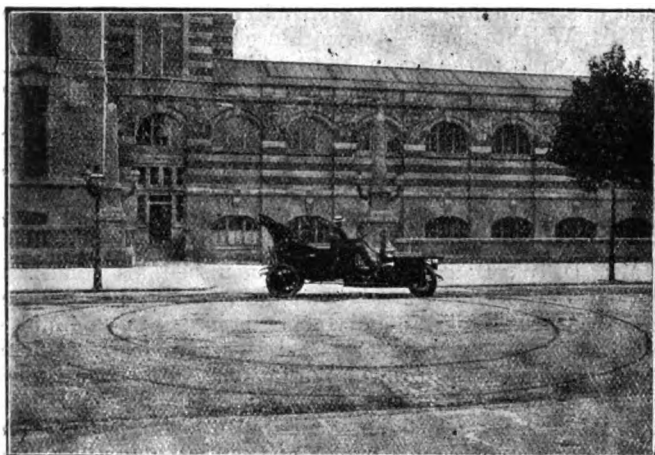
that has elapsed the car has been constantly on the road undergoing the usual preliminary tests, through which it has come out perfectly satisfactorily. The vehicle is fitted with a 45-h.p. six-cylinder engine, $4\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke, and live axle drive. Like its predecessor, the Brotherhood, it embodies a number of very important and novel improvements, both in design and construction.

MR. A. WHALEY has a garage and repair shop in Bridge Street, Forres.

MR. C. J. THORNHILL, J.P., of Castlebellingham, has lately ordered a 14-16-h.p. Argyll car.

MESSRS. J. GAIEN AND CO. have a motor-body building establishment in Annandale Street, Edinburgh.

LORD LEITH OF FYVIE has lately acquired a 24-30-h.p. Leon Bollée car from the Victoria Carriage Works, Ltd.



The above illustration depicts the capability of the Mors 15-h.p. Live Axle Car to turn round in a road of ordinary width.

The wheelbase of this car is 10 ft. 8 in., and the diameter of the inner circle shown in the picture is 22 ft., and of the outer circle 32 ft. 3 in. These figures show how ample is the wheel lock on this car, and how suitable it is for town driving.

THE British and Colonial Daimler Mercedes Syndicate, Ltd., have despatched a specially-fitted 30-h.p. Daimler-Mercedes car to the Central Motor Store and Garage, Lisbon.

THE magistrates of Eastbourne have intimated that they will insist upon the appearance of all motorists summoned before them, otherwise warrants may be issued for arrest.

MORS (ENGLAND) LTD., have issued a little pamphlet on *Motoring on Perfect Roads*, which will be of particular interest to those who reside in East Anglia; they will send copies to all applicants to 45, Great Marlborough Street, W.

AN organ grinder at Blackpool has recovered in the county court the sum of £6 4s. on account of damage done to a barrel organ by a gentleman running into it with a motor-cycle. The "musician" declared that the organ was sent spinning five yards, and the tunes, by reason of the concussion, were all mixed up.

IN his evidence before the Royal Commission on Vivisection, which has just been published, the Hon. Gilbert Coleridge said he regarded the Vivisection Act of 1876 with the same contempt that he regarded the Motor Car Act as regards speed limit, for "every motorist who has a motor-car, of course, breaks the Act."

MANN'S PATENT STEAM CART AND WAGON CO., LTD., Leeds, have secured a further order for a 5-ton steam wagon from Messrs. W. Hancock and Co., Ltd., The Brewery, Cardiff, this being the third order secured from this firm this year. A second 2-ton steam wagon has also just been completed for the Barnsley British Co-operative Society, Ltd.

MESSRS. H. MAWER AND STEPHENSON, LTD., house furnishers and art dealers, of Fulham Road, South Kensington, S.W., have in service a motor delivery van which takes the place of four horses. They are unable for the moment to give the mileage per week and the cost of operation and upkeep, but inform us that they find it very useful in the saving of the carriage of the goods by railway. They add: "We have every reason to believe that not only are we saving this expense, but the cost of operation and upkeep is not more than the four horses, &c., which it supplants. It is also a great convenience to both ourselves and our clients, as we are able to deliver direct to houses further afield."

MESSRS. HOWARD AND CO. have a garage in the London Road, Coalville.

H.M. THE KING OF ITALY has recently purchased a new Fiat 25-40-h.p. car.

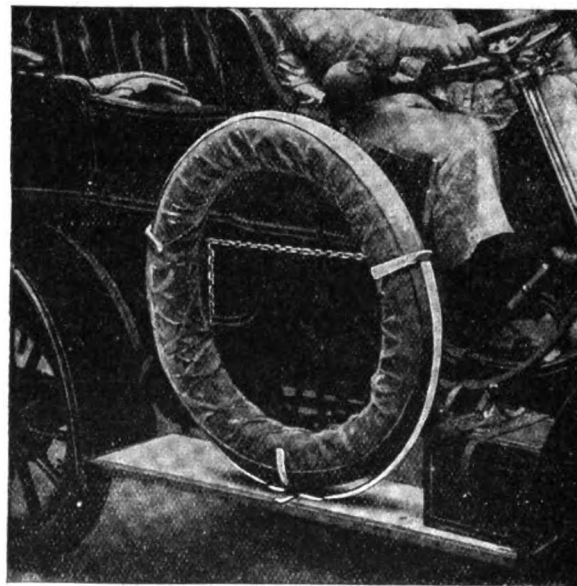
GRANTOWN-ON-SPEY is a charming Highland town, in the High Street of which Mr. R. S. Ross has a motor garage, and from which he lets cars on hire to visitors.

AN advertisement has appeared in a Guildford paper calling upon electors only to vote for candidates who will promise to vote for (1) limiting the speed of motors to ten miles an hour, (2) for imprisonment instead of fines after first offence, (3) for the punishment of owner and all the occupants of the car as well as the driver, (4) for the prohibition of insurance against damages to outsiders.

MR. ADAM has, with the assistance of friends of the Scottish A.C., taken out a number of the members of the Lower District Committee of the Lanarkshire County Council in order that they might have experience of motor-car driving at various speeds, and special demonstrations have been given at one particular place at speeds varying from ten miles per hour upwards.

UNDER the guidance of Mr. Percy Richardson we had an opportunity a few days ago of going over the large new works of the Sheffield Simplex Motor Company, Ltd., at Tinsley, Sheffield. During the course of our visit we learned that a new industrial motor vehicle is in course of preparation for next year. We are precluded from giving full details, but may mention that the simplicity of control will be one of the features, and that the engine will be adapted to run on either petrol, alcohol, or paraffin.

UNITED MOTOR INDUSTRIES, LTD., have sent us copies of the wiring diagrams of the various patterns of "Castle" coils which they are now placing inside the lid of the respective coils, so that purchasers can always see at a glance the correct way to wire up the particular type of coil they have to deal with. They inform us that they will be pleased to send on the correct wiring diagram to any user of their coils who wishes to place the same inside the lid, on receipt of particulars as to the coil they have, and the car to which it is fitted.



The Patent Spare Tyre Cradle lately put on the Market by Messrs. William Cole and Sons, Ltd., of Kensington, W.

WE have received a sample of a new iron cement which is being introduced by Messrs. Kirlow Bros., Ltd., of 215, Pentonville Road, N., for repairing slight cracks or defects in iron and steel castings, water-jackets of petrol motor-cylinders, &c. When mixed with water to a thick paste, this cement sets hard in twenty-four hours, without heating. When set, oil, steam, and water have, it is claimed, no effect on it, and it can be filed, hammered and polished.

THE EARL'S COURT GARAGE.

APPEARANCES are often deceptive, and the motorist near-ing Earl's Court Station, S.W., would not imagine that the modest gateway opening near the station led the way to such a spacious establishment as that of the Earl's Court Motor Garage Co., Ltd. The entrance is a few doors from the railway station, which the rear part actually adjoins. On the occasion of a recent visit we proceeded through the gateway under cover for some distance and then found, to the left, a large showroom for the accommodation of new cars, among which the six-cylinder "Standard" occupied a well-favoured position. To the rear of this department is the repair shop, with inspection pit and a wide range of modern tools, under the direction of an expert engineer, whose knowledge of cars of various types is particularly extensive. Retracing our steps through a yard devoted to the washing of cars, and in the corner of which was a petrol store, we came to the time-keeper's box, in front of which is a starting "gate," always lowered until a car approaches for ingress or exit, when it is raised and the time of the particular vehicle duly entered. This is a distinctly good detail of organisation that makes for the ease of control and direction which should characterise such establishments.

We were now between two rows of private "lock-ups," above which were signs of domesticity not often found in a garage. But the premises originally belonged to a West End livery stable keeper, and have been adapted to the purpose of motor-car accommodation by the present proprietors, Mr. A. Powell being the managing director and Mr. A. W. Hemmings the manager. The rooms above what were the stables are now occupied by chauffeurs and their families, thus providing a great convenience in housing cars and drivers each within reach of the other. In founding this chauffeurs' colony the Earl's Court Garage has made an excellent innovation. For the relaxation of the men a clubroom has been furnished and fitted, and those owners who have been able to secure these private houses for their cars and house room for their chauffeurs have been provided with a distinct advantage.

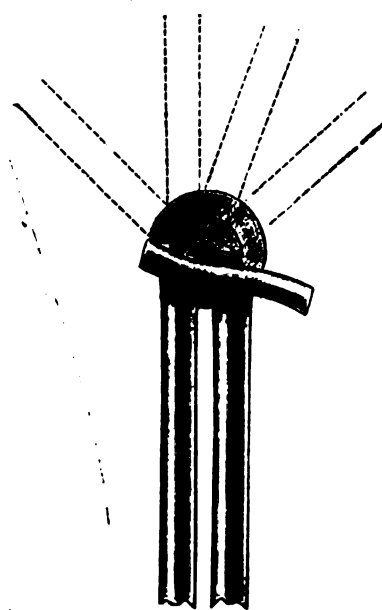
Further rearward is the general garage, a well-lighted establishment that is evidently well disciplined, judging by the way the vehicles were lined up, to be easily accessible when wanted. The storerooms for accessories, the paint-shop, and other departments are replete with modern fittings and stock, so that the private owner who garages his car there is never at a loss for spare parts or accessories of any description. The modern building and general disposition of the various departments enables everything to be done "decently and in order," to the advantage of the motorist who likes to see the work in progress. The electrical plant for the charging of accumulators is complete, and tyre repairs are also undertaken, while those whose vehicles are under repair can hire others from stock, so that professional men who are clients of this establishment are never inconvenienced by the temporary waywardness of their vehicles. In addition the firm are sole London agents for the "Standard" car already mentioned, which has become well known during the past season, particularly the 15-h.p., 24-30-h.p., and 30-40-h.p. sizes.

Some idea of the extent of the Earl's Court Motor Garage may be gleaned from the fact that the depth from the entrance to the end of the main garage is 350 ft., the width being 56 ft. The depth of the showrooms is about 150 ft., the width being more than 40 ft., thus giving opportunity for the display of cars for sale and exchange—in both of which branches the company have been very active of late. They make a special point of thoroughly overhauling cars, and trust to the efficiency of their work as the keynote of a success which is as real as it has been rapid.

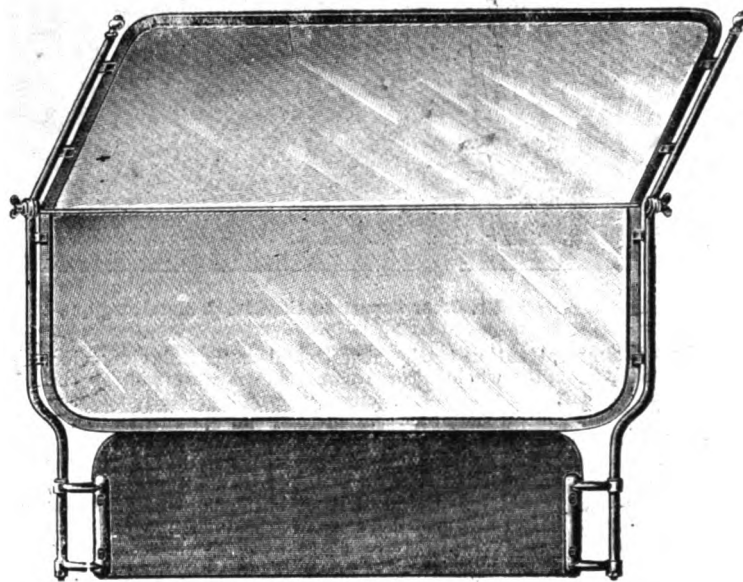
THE Daimler Motor Company issue an interesting pamphlet on the adjustment of their vehicles, which will be of service to those who drive or own Daimler cars. They also send a neat calendar reminding us of the flight of time as well as of the automobile.

THE "EDOUARD" WIND SCREEN.

WITH the advent of rain and cold winds our thoughts naturally turn to the question of the various devices that are from time to time being introduced by the many caterers for the comfort of motorists, and one of the most necessary and comforting things is the wind screen. There are many of these on the market, one of the latest being the "Edouard," manufactured by Mr. E. W. Willard, of 32, Paradise Street, Birmingham. It possesses several good features, notable among them being the ease with which it can be adjusted to the various positions—six in number. We notice that provision is made for adjusting this screen at 30 and 40 degrees towards the driver, the object being to enable the standard screen to be fitted to any type of car without having to worry about the distance of the steering wheel from the dash, which distance varies considerably. The screen is made to fold down away from the driver. The locking arrangement is simplicity itself, there being a steel screw attached to a



curved handle, as shown in accompanying illustration. This binds the joint together and gives a positive lock, so that it is impossible for the screen to rattle—unfortunately a common fault of screens. The device we have inspected was fitted with a solid metal frame, the glass being firmly embedded in rubber and the



frame itself being lined with felt stripping three-eighths of an inch thick. It certainly has a very smart appearance, contrasting with the ordinary casement style of window frame often seen. Mr. Willard is also making the screen with mahogany or walnut frames.

The firm are also supplying under licence the well-known "Gordon" wind screen with mahogany, walnut, or solid metal frame. Any of these screens can be fitted with Pilkington's patent wired glass if desired.

A CAR for breakdown work is always available in the garage of the Ashton Motor Company in Chester Square, Ashton-under-Lyne.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-28, Charing Cross Road, London, W.C.]

RACING AT BROOKLANDS.

TO THE EDITOR OF *The Motor-Car Journal*.

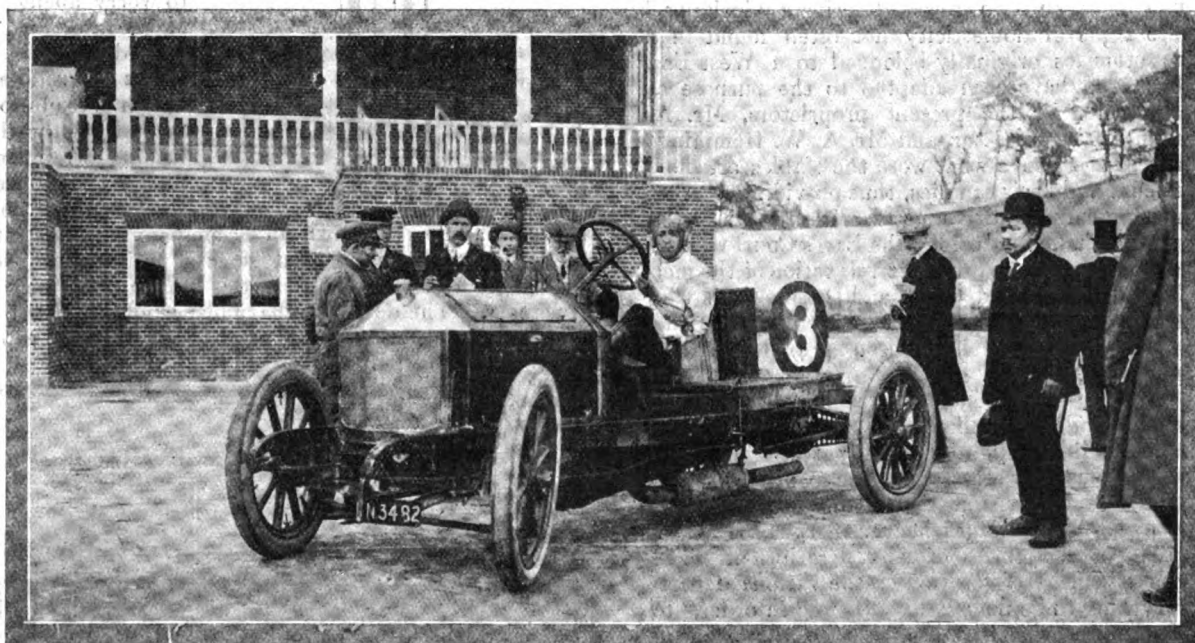
SIR,—In my recent correspondence with Mr. Edge it has been suggested that I have made certain innuendoes and accusations against the committee of the Brooklands Automobile Racing Club. It is difficult for me to understand how such an interpretation could have been put on my remarks. I should have thought that the manner in which I have always tried to support the club was sufficient proof that I was incapable of making any such innuendoes or accusations against the Brooklands Club; but, inasmuch as my remarks have evidently been misconstrued in certain quarters, I wish to take the earliest opportunity of entirely dissociating myself from any such expressions of opinion, and to withdraw unreservedly any comments of mine which could possibly be misconstrued in this manner.

What I meant to infer and what I still think is that a vital mistake has been made in commencing the standard classes during the present year, as in my opinion by doing this, much, if not all, interest has been taken out of the same owing to the fact that only one manufacturer had cars ready to compete this year in the three lower classes. I do not think any further comment on this is neces-

subservient to the engineer, and must design his work in accordance with the chassis supplied to him. The wheel basis, the height from the ground, suspension, and many other details are already laid out for him by the chassis builder. I have for some months been using for town work a front-driven town carriage built by the Pullcar Motor Company, of Preston.

This type of vehicle gives the coach builder an opportunity of carrying into effect designs impossible with the rear-driven machines, either of the chain or cardan type, as the whole of the machinery in this new type is carried in the space between the front axle and the driver's seat. The chassis, in reality, does not extend beyond the driver's seat, the whole of the carriage work with the back axle and spring suspension being attached by edge-plates to the front mechanical portion; thus the carriage portion is entirely free from mechanism. It is easy to conceive with this arrangement the opportunities which exist for elegant carriage work. One feature is especially remarkable, and that is the nearness of the entrance to the ground.

A few years ago it was not possible to produce a front-driven vehicle which could be accepted as a commercial proposition. To-day, however, under improved methods of construction, such a vehicle as I have described is in existence, and is bound to find considerable favour



Mr. Oscar Cupper on the 48-h.p. Metallurgique on which he won the Medium Handicap at Brooklands.

sary than to draw attention to the results of last Saturday's racing at Brooklands, when the whole of these three classes were won by the same make of car, i.e., the 26-h.p. class, the 60-h.p. class, and the 40-h.p. class, the latter of which failed to fill originally and was transformed into a private sweepstakes.

The idea of having standard classes I quite agreed with at the time it was proposed, and I still agree with, but I and others certainly understood that these classes would not come into operation until next year, when by such time all manufacturers would have had an equal chance of constructing cars to take part in these classes.—Yours truly,

A. HUNTLEY WALKER.

MOTOR-CAR DESIGN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with very great interest the paper and discussion at the recent meeting of the Institute of Carriage Manufacturers at Chester, and also the contributions which have since appeared in the Press relating thereto. It is very evident that the carriage builders of this country have taken up in a thoroughly serious manner their fair proportion of the development of the motor industry, and have done quite as much as engineers to popularise the use of motor carriages. However, I think I am correct in saying that up till now no motor vehicle has been introduced which has given the carriage builder a free hand in the execution of his work, but there are signs that such a vehicle is coming into use, at any rate for town work.

With the usual form of rear-driven chassis, the carriage builder is

for town work, which, it is fair to say, will be increased by the co-operation of the carriage builder. In fact, the vehicle will probably be more appreciated by reason of the excellence and suitability of the carriage work than for the advantages of its mechanical construction.—Yours truly,

J. S. CRITCHLEY, M.I.Mech.E.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We notice in your last issue a letter from the New Engine Company relative to some remarks made by Sir William Angus at the meeting of the Institute of British Carriage Manufacturers. Sir William, speaking to a meeting of coachbuilders, expressly stated that motor-cars had come to stay, and pointed out some of their special advantages. His opinion that horse-drawn carriages still had a use, and a future seems to be generally accepted by the almost universal approval of the Press. That he did not speak in antagonism to motors may be well believed from the fact that we have two very large factories, one of which is entirely confined to the manufacture of motor bodies, and hold several valuable agencies.

Sir William Angus and the other directors of this firm have always felt that there was tremendous scope for the first-class coachbuilder in the motor body trade, not only as regards external finish and comfort, but in the general lines and proportions. It has always been our endeavour to incorporate in our motor bodies the best traditions of the coachbuilding art, and not to adhere slavishly to the conventional lines.—Yours truly,

W. ANGUS, SANDERSON AND COMPANY.

THE BRITISH AIRSHIP AND FOREIGN ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I saw it stated in a contemporary that Colonel Capper, as a Britisher, regretted the fact that the engine of the Army airship was of French construction, but hoped that this nation would be able to compete with the French in constructing that part of the airship's mechanism. This is a direct challenge to British engineers, and everyone will appreciate Colonel Capper's sentiments. It is now an indisputable fact that, as far as motor-cars are concerned, the best type of British engine is superior to any foreign make, and it only remains to be shown that British engineers can design an engine for the nation's military airships which will supersede the French machine by reason of its superior qualities. En avant!—Yours truly,

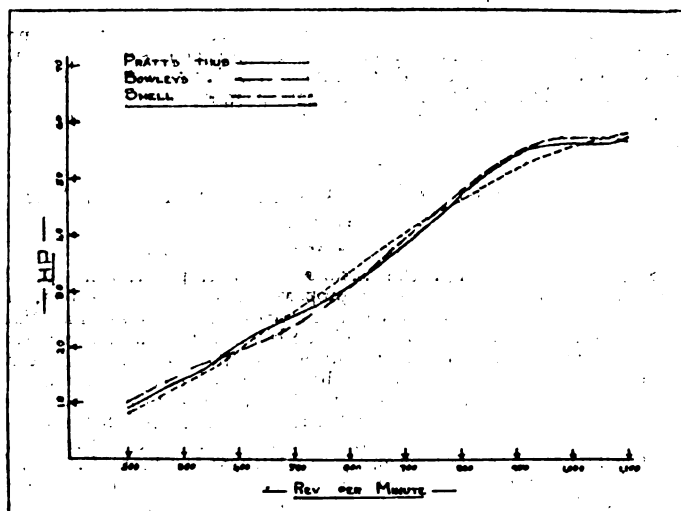
H. F. TRIPPEL.
Major, Army Motor Reserve.

COMPARATIVE TESTS OF MOTOR FUELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—So much has been stated recently in the technical journals with respect to various new fuels that are being placed on the market, and so much is said in discussions amongst motorists generally as to whether one car or another runs at its best or at its worst with various makes of spirit, that it was judged opportune by Weigel Motors, Ltd., to make a few tests with the brands of petrol that are at present best known on the market.

For this experiment, a standard 40-h.p. Weigel engine was selected, the bore and stroke being 130 mm. and 140 mm. respectively. Three tests were made with each brand of petrol, and an average was taken of each of the three tests, with the results set out on the chart we are



sending you herewith. The chart is almost self-explanatory, but it ought to be mentioned at the beginning that on Pratt's, Bowley's, and Shell motor spirit being tested with a densimeter, the difference in specific gravity between the makes was so small as to be negligible.

It will be noticed that there is practically little difference in the maximum power given amongst the three brands. What is chiefly noticeable, however, is the way in which Pratt's spirit takes a comparatively sudden upward rise at about 600 revs. per min., while the Shell spirit seems to pull very steadily throughout. The indications after 1,100 revs. per min. do not show very much, and for this reason we have not inserted them in the chart. The same engine with exactly the same appliances was used throughout the tests, and perhaps it might be of interest to you to know that the diameter of the jet was 1.3 mm., the temperature of the shop in which the tests were made 71 deg., and the temperature of the circulating water 167 deg. The tests, of course, were made electrically.—Yours truly,

C. E. WHITTAKER.

WHEELS FOR MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of the 12th inst. Mr. E. H. Gelder charges me with ignoring two letters of his in previous issues. My reason I thought was obvious. It is because there is no form of pneumatic tyre which brings the motor-car within the reach of the man of moderate means, commercial travellers and other classes who would use it but for the tyre troubles and expense. Let me mention one case:—A firm paid £40 for a set of covers and tubes. They ran them less than 4,000 miles. There were some delays due to punctures. At this price the head of the firm cannot see his way to displace any more horses. This is a typical case of many that have come under my notice. It is, in fact, the experience of most motorists. In my last letter I mentioned certain points which should be studied in the production of a

new tyre. When it is discovered (which it must be sooner or later) there will be just as many pneumatic tyres used, I have no doubt, but three times as many cars used.

In conclusion, I would remind Mr. Gelder that favourite and pet theories are continually being upset when examined under new conditions. The motor industry has now reached the stage that demands an economical, reliable and safe tyre. The greatest friends of the pneumatic cannot claim this. One thing is quite certain, we must approach the matter with an open mind if we want an improvement, and, although neither of the tyres mentioned by Mr. Gelder appeal to my mind, I have no doubt they possess features which recommend them for some purposes. It is only by allowing inventors a fair show, and by this means encouraging them, that we are likely to arrive at the desired result.—Yours truly,

O. COOK.

[This correspondence is now closed.]

WIRE V. WOOD WHEELS FOR MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We notice in your issue of the 12th inst. an inquiry as to the relative value of wood and wire wheels for motor-cars. As manufacturers of both we are of opinion that wire wheels are not so liable to collapse in case of accident, but that in actual strength there is not much difference. We have made many wood wheels to replace wire wheels, but have never yet made a wire wheel to replace a wood one, which plainly shows public opinion in the matter.—Yours truly,

ROBBINS AND SONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to Major H. F. Trippel, wire wheels are far stronger than wood wheels, but for general use not preferable, as they need care in keeping clean, and if the spokes are allowed to rust in the hubs they get brittle and break. Wire wheels are not new as applied to motor vehicles, they were used in some of the earliest cars, but the Lauchester Engine Co. made a speciality of them, and with great success, as they paid special attention, as is absolutely necessary, to the building of them.

Considering the weak rims which are used at present in the construction of wire wheels, these wheels are very strong; but if special hollow rims, such as those which were used in cycles in the past, were manufactured to suit motor vehicles, we should have wheels which would yield wonderful results.—Yours truly,

W. D. SPILLER.

TRAFFIC REGULATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was glad to see in a recent issue a reference to the blockage of traffic which occurs in several congested parts of the City of London, owing to the way in which the vans of carriers and other traders are allowed to line up by the kerbstone, often for a considerable length of time, without interference from the authorities. This is particularly observable on Monday mornings in the region about St. Paul's Churchyard, and on nearly every morning of the week along Ludgate Hill. If the police authorities could devise some plan for keeping this traffic moving, or not allowing it to remain after 8 a.m., it would considerably facilitate the moving traffic in the busy hours that follow. The advantages of motor-buses and even of motor-cabs are freely curtailed by the present system—or rather, I should say, the want of method that prevails.—Yours truly,

LONDONER.

A STEAM CAR ENTHUSIAST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is no doubt that a racing Stanley or White would be very fast indeed. I should like to see one built. Steam cars have not received the attention which has been devoted to petrol cars, and in consequence they are not popular. Nearly all steam cars have been too lightly built and lacking in the engineering department. Your correspondent mentions the White car, in my opinion the best ever before the public. I had practical experience with the 10-h.p. car, and I can conscientiously say that it gave me no more trouble than a petrol car, whilst for its rated power it could beat a greater powered petrol vehicle. Sweet running and a magnificent hill climber, it stood up well. I should think an up-to-date White car would be a tip-top vehicle.—Yours truly

W. O. S.

PETROL IN MANCHESTER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I read with much interest a letter from Mr. Whittaker, of Weigel Motors, Ltd., in regard to some local motor spirit which he got in a garage in Manchester. I fully agree with what Mr. Whittaker says, as I had the same experience as he had. I purchased the spirit in a garage in Manchester, about six or seven weeks ago,

as I was told that they had nothing else in stock, with much misgiving, as I had never heard of the same.

I started home from Manchester on my 40-h.p. Pilain and arrived in London after very much trouble; this local spirit having entirely upset the carburation of my car. It took me just about one week to get rid of the evil effects, as I had nearly to pull the engine to pieces in order to get it out.

The valves were all coated with a thick hard deposit and all the pipes were more or less choked up, therefore I think that the public ought to be warned against a spirit that has such an effect, and I think that Mr. Whittaker has performed a public service in calling attention to the matter.—Yours truly,

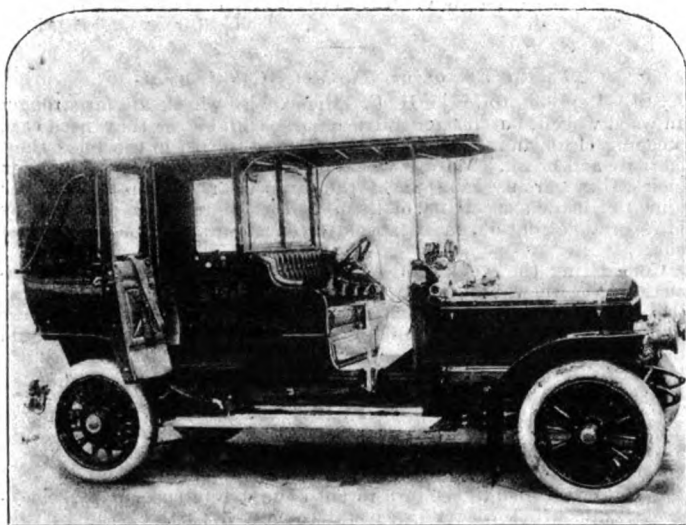
E. D. HEINEMANN.

THE USE OF FRENCH CHALK IN TYRES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad to hear the opinions of readers of the *M.C.J.* on French chalk in motor tyres. The question I wish to ask is, does it prolong the life of a tyre, say, of a 10-h.p. car? My idea is to put this into the tyre to help to get the tube into place to make it slip better and prevent nipping, not to prolong the wearing capabilities of a tyre. Of course, it will prevent chafing, but other than this will it make a tyre wear any longer?—Yours truly,

G. W. W.



The above illustration depicts the new car the Daimler Company have just supplied to King Edward, making His Majesty's ninth Daimler. The vehicle is a 104 ft. wheelbase landaulet, painted in the Royal colours, lake with black mouldings and lined vermillion. The outside fittings are brass, and the interior ones silver. The upholstery is in dark blue Cape goat hide, and the car is provided with a full complement of accessories, such as table, clock, barometer, speaking tube, electric light, &c. A feature of the car is the doors, which are fitted with special hinges made by the Daimler Company, which throw the doors back so that when open the inside surface of the door is level with the post, and not in front as is usual.

THE TRANSMISSION QUESTION—LIVE AXLE v. CHAINS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I take it that it may be taken as an hypothesis that: 1. Manufacturers build such type of cars as they think will sell, that is, as the public are likely to want and consequently buy; and, 2. the public want a car that is ideal, cheap, simple, always goes and never gets out of order. Does a chain drive fulfil these two requirements more than a live axle? If this is so, then the chain drive is an easy winner; but is it? More chain-driven cars than live axle ones should be on the market if it were so, but enquiry proves the contrary; more chain-driven cars should break down than those of the other transmission type, but once more the reply is in the negative.

Truly Churchill says:

"When fiction rises pleasing to the eye,
Men will believe, because they love the lie;
But truth herself, if clouded with a frown,
Must have some solemn proofs to pass her down."

In the live axle, chains are not needed; a countershaft is conspicuous by its absence, and the transmission is direct by bevel on to the differential sleeve of the axle, to the ends of which the road wheels are keyed. This is certainly easier to make, and what is of course important to the makers, much cheaper, but—and it is always the but—the live axle is heavier than the dead one, therefore more weight on the tyres, and, what is more, more unsprung weight, which means more liability of

shock to the bevels and also greater wear of tyres. We will take it that at the motor manufactory, as a result of great care and inspection, the bevels mesh perfectly, so that there is no undue strain, no possibility of "bottoming." There is, however, an enormous side thrust on the big bevel, which is taken up by a bearing with collars or balls; this bearing, as a result of wear, after a time allows of play, and bevel teeth may tear out, shafts break, all troubles which are beyond roadside treatment.

The transmission by a propeller shaft must be rigid; with a chain a slight error in alignment does not matter, and this seems to be so great an advantage that the abandonment of a flexible transmission is to me incomprehensible. Chains are so easily adjusted and replaced, not so bevels and fixed shafts. Still the public seem to be devoted to the live axle, and hence, I presume, the large quantity on the market. It is true, that chains are greasy, messy things to handle, but, if a greasy coat is not objected to, anyone can adjust them or put a new one on; but, from experience, I can say that to take down a live axle and bolt on a new big bevel on to the differential sleeve is a worrying, unpleasant job.—Yours truly,

T. W. H.

ROAD SIGNS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—It has been my misfortune to find myself on most impossible hills—hills that nothing would induce me to attempt. Being, as a rule, however, half-way up before realising their severity, there has been nothing for it but to continue. I would respectfully suggest that a warning board be placed at the bottom of such hills, thus:—

DANGEROUS HILL.

Steepest portion
1 in — ?

I am sure there are others who have found themselves in the same predicament and would be grateful for such warning. The two worst ascents I have in my mind are the Peak at Sidmouth and one ending at Bala, in Wales. These hills could, and certainly would, have been avoided by me had I had an idea of what I was about to undertake.—Yours truly,

PETER YATES.

LOCAL AUTHORITIES AND STEAM WAGON AXLE WEIGHTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I, through the medium of your paper, bring to the notice of such readers as are, or propose, using steam wagons, the attitude of our local authorities here in Bristol? They are insisting, to the letter, upon the observance of the law as set forth in the Heavy Motor Car Act, and, as I believe this action will soon become general, it behoves users of motor-wagons to be most careful, especially regarding loads carried. Very few wagons indeed will carry their advertised load without exceeding the legal axle weights, i.e., 8 tons rear, 4 tons front, and every buyer of a wagon should insist that the maker place the full load on the platform, and with water in tank, fuel in bunkers, weigh on a public machine. The penalty for excessive axle weights is £10, and this promises to afford a revenue equal to that at present derived from users of pleasure cars exceeding the speed limit.—Yours truly,

BRISTOLIAN.

THE SLIP OF THE CLUTCH.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is a line of Stillingfleet which, though automobiles did not exist in his time, still is most applicable, especially to the slip of a leather-faced clutch. It runs:—

"No part of conduct asks for skill more nice."

The tyre people tell you to slip your clutch over bad roads, it prolongs the life of the tyre; they omit the effect of this practice on the clutch itself. A burnt leather is hard and is fierce, and what is more dangerous, castor oil is very good for leather and in moderation for clutches, but it is not much use applying the oil to charcoal, it cannot soften it. In going down a hill it is safer to leave the clutch in, with, say, the second gear in mesh, the engine then acts as a brake; if the throttle is closed the clutch cannot get hurt and the brakes are saved for another day. The same applies for traffic and turning a corner; employ the throttle, it is much better. I met a man in Norfolk recently who thought so. In taking corners, he was the personification of carefulness; he always slipped his clutch, but did it once too often. At our encounter he was on his way to Stalham with a single horse in front of the car; there were, as well, ten useless non-four-legged ones under the bonnet, but they could not be brought to exercise their power on the wheels. He carefully took a corner with the clutch out and then let it in once more; there was a little noise and the automobile remained at rest. He slipped back to the second speed, the result was the same—then the four-legged horse. I pitied that man; I saw him again at the garage at Stalham. His gear-box was down, and the diagnosis of his car's breakdown was revealed. The bolts holding the big bevel to the differential sleeve on his countershaft had all sheared off, but the teeth

of both bevels were intact ; as a result of the six bolts shearing off, the big bevel fell right away from the small one, thus saving the teeth. He had better luck than he deserved. He was a bigger man than myself, so I did not like to preach him a sermon about letting in the clutch with care ; besides, he was too busy burring over the new bolts to listen. I feared, too, his quoting :—

"If things go wrong, each fool presumes t' advise,
And if most happy, thinks himself most wise ;
All wretchedly deplore the present state ;
And that advice seems best which comes too late."

This gentleman's trouble—I think it took him five hours to get his machine on the road again—will be, I trust, an excuse for this letter, the moral of which is "Do not slip the clutch and let it in with care."—Yours truly,

H.

WHY MOTORS LOSE POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Does not "Old Hand" in his letter of the 28th ult. omit rather an important point in his analysis of the causes for motors losing power?

I quite agree with the causes he suggests—lack of compression, bad carburation, and faulty ignition ; but what about valve timing ? It is my experience that after an engine has run for some months the distance between the valve stem and the tappet is almost certain to have increased, causing the valve to open the fraction of an inch too late and close too soon. This means that the engine in one operation loses a fraction of its power, which probably is almost infinitesimal, but which, when it is remembered that the operations are taking place at

becomes incandescent and readily fires the charge before the fixed time of ignition. As the exhaust valve also appears to get very hot, it would be very advisable to see that the water jacket around the same is quite clear.]

THE HOTEL QUESTION.

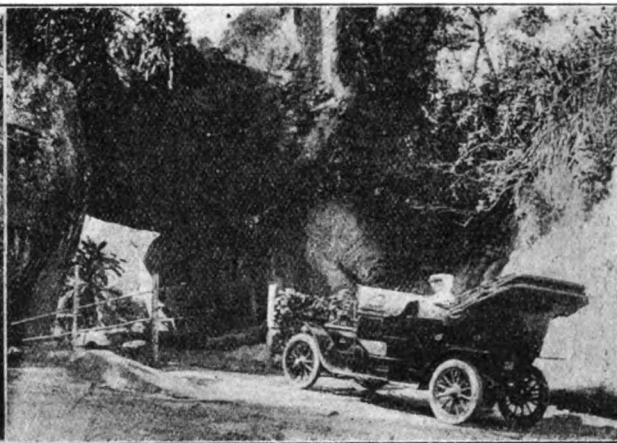
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your reference in Comments to the way in which the average hotel proprietor regards the motorist is none too strong. There are many of these folks who should be pillorised, but I suppose editors do not want libel cases. But by way of support to your contention I would offer the following instance from the "Manchester Daily Despatch" showing how the motorist is "rooked" by some hotel proprietors as compared with other travellers. Two friends, one a motorist the other a cyclist, put up together at a hotel in the Lake district. They dined together at the same table, partook of the same fare, received equal attention, and occupied similar bedrooms. But the accounts varied as follows :—

Motorist.	s.	d.	Cyclist.	s.	d.
Dinner	3	6	Dinner	2	6
Breakfast	2	6	Breakfast	2	0
Attendance	1	6	Attendance	nil	
Garage	1	6	Garage	nil	
Bed... ..	3	6	Bed... ..	3	0
Total	12	6	Total	7	6

When the motorist protested he was merely told that he was only charged the usual motorist's tariff.—Yours truly,

A MOTORIST ON TOUR.



Motoring in Brazil.

The Wolseley Motor Company have recently established a branch at Rio de Janeiro, and already the Siddeley cars have become very popular in the country. The above illustrations depict a 10-12-h.p. Siddeley in the mountains. On the left the car is seen descending from the Bamboos after taking five people up, this being the steepest gradient in the district. On the right is seen the Boulders Gavra, where the road passes under the natural arch formed by rocks fallen from 1,000 ft. above.

the rate perhaps of 15 per sec. or 900 per min., contributes very materially to the inefficient running of a car.

I do not think this point should be omitted from "Old Hand's" list of causes for motors losing power, as during the time I have been motoring I have always found it to be a point of the very greatest importance.—Yours truly,

GEO. SHERRIN.

AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 6½-h.p. single-cylinder car which continues to fire after current has been switched off. I also get premature ignition on the road and knocking on the slightest rise of a hill. The water circulation is good, the water never boiling. The timing of the engine is correct, the exhaust closing at top of stroke. I have tried advancing, also retarding the ignition a tooth or two, without result ; it appears, on taking out the inlet valve, that the top of the exhaust valve gets red hot, it being of a slightly reddish colour. The silencer is clear, also the exhaust pipe, and there is no back pressure. The compression of the engine is good. After running a few miles the engine will sometimes stop after gradually getting weaker. If you or some of your many readers can assist I should be very grateful.—Yours truly,

F. MILLER.

[The trouble experienced by our correspondent seems to be one with which many motorists are troubled. The premature firing is without doubt due to the carbon deposit in the cylinder head, which accumulates to a very great degree, if not periodically cleaned out. This deposit is formed by the lubricating oil becoming burnt and forming a scale in the cylinder head, which, after the engine has been running for a short time,

WE have an inquiry for the name and address of the makers of the "Pegasus" non-skid band.

MESSRS. C. A. VANDERVELL AND Co. inform us that a firm are advertising C.A.V. accumulators at a very low price. They have never supplied the firm in question with any goods whatever, and it is "obvious that the goods are to all intents and purposes second-hand, and cannot carry our usual guarantee."

RACING CHALLENGES.—We have received a long letter from Mr. Huntley Walker in reference to a race between Napier and Darracq cars, in which he states :—"I am anxious to end this lengthy correspondence between Mr. Edge and myself, and I make him the following very clear challenge which cannot be misunderstood :—I am willing to race Mr. Edge for one mile and for 500 miles for a stake of £5,000 in each race. The one mile race I am quite agreeable to run at Brooklands on Saturday next, the only point that I want to make clear being that it must be a race pure and simple and not complicated in any way with conditions, the fastest car to be the winner. If Mr. Edge is willing to allow the mile race to take place at Salon, in France, where it is possible to get a straight two miles, instead of the Brooklands track, and agree to the race being two miles instead of one, I am willing to give him a start of one hundred yards. In regard to the 500 mile race there is a very simple method of settling this also. Mr. Edge has stated that he is going to enter three cars in the next year's French Grand Prix, therefore I am quite willing to take the three Darracq cars which will be entered in the same race against Mr. Edge for a stake of £5,000 on each side. There is therefore no necessity to arrange a special race, let our contest form part of the big race."

MESSRS. HANCOCK, WRIGHT AND Co. have a motor garage at 23, Orville Street, High Street, Battersea, S.W.

CLUBS AND ASSOCIATIONS.

MANCHESTER MOTOR.

THE concluding competition of the Manchester Motor Club took the form of a speed judgment test for all types of motor-cars and cycles. Entries were received at the starting point, Hoo Green, near Knutsford, and a distance of nine miles was traversed in the direction of Lower Peover. A given speed was announced to each of the seventeen starters, and the prizes awarded to those covering the distance at the nearest given speed. The winning car, a 30-h.p. Beeston Humber, owned by Mr. T. Garner, was driven by Mrs. Hudson. At the conclusion of the speed test upwards of forty members sat down to tea at the Warrendale-Tabley Arms.

During the winter unofficial runs will be held at the week ends, and monthly concerts will be held at the Albion, headquarters of the club.

LINCOLNSHIRE.

THERE was a gathering of motorists at Revesby (a pleasant Lincolnshire resort), on Thursday last week, on the occasion of the last meet of the Lincolnshire A.C. Revesby is noteworthy for its picturesque inn and for the Abbey, where the Hon. Mrs. Stanhope has some of the loveliest gardens in the whole country, and which were thrown open to the members, as was the deer park, the fernery, and other enchanting places. The meet proper was at the inn, and quite a large number took tea there afterwards. We understand that it has been decided to hold a great meet at Revesby next June or in early July.

At a special meeting of the Lincolnshire A.C. the complaints as to the speed of cars on the North Road were considered and action dis-

COMPANY NEWS.

SEDAN AUTO-CAR SYNDICATE.—£10,000 (£1). To adopt an agreement between W. T. Skelding and Company, Ltd., and N. C. Gilbert for the acquisition of the Burnt Tree Engineering Works and the interest of the said company in patents (1) for an invention of T. Parker for improvements in motor-cars and (2) for an invention of L. Wirtz for improvements in variable and reversible gear, &c. 51, Lichfield Street, Wolverhampton.

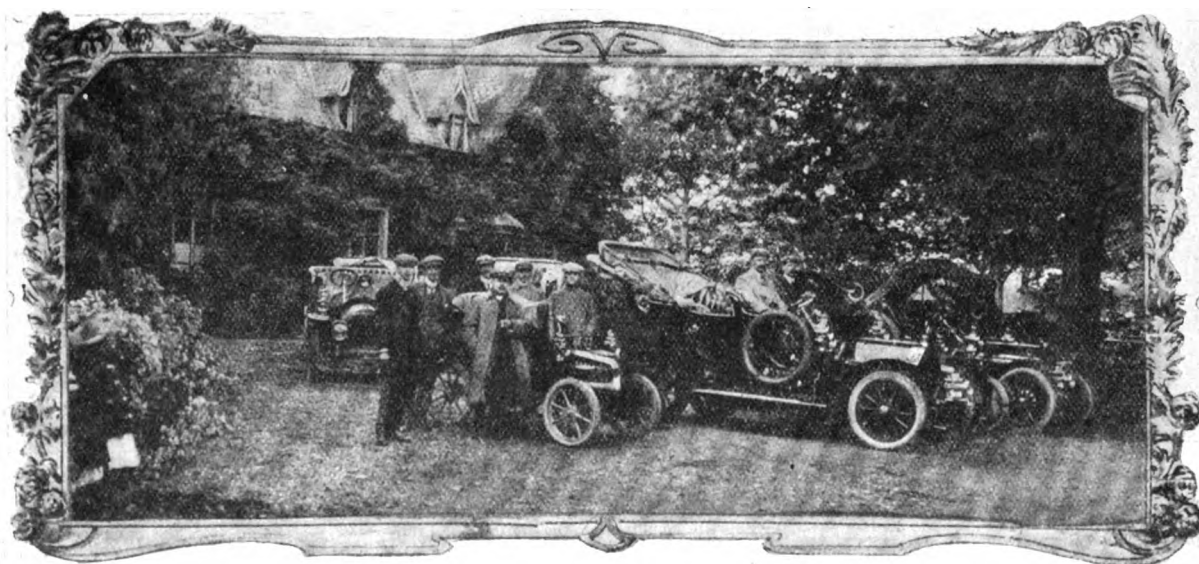
ZENITH MOTORS.—£4,000. To take over the business of motor and cycle manufacturers, &c., carried on by Messrs. W. M. Wood and W. R. Johnson at 101A, Stroud Green Road, N., as the Zenith Motor Engineering Company. First directors: Messrs. W. G. Bower (chairman and managing director), W. J. Tooley, and W. M. Wood.

ST. ALBANS AND LUTON MOTOR COMPANY.—£5,000. To acquire the business carried on by Messrs. F. A. Giffen, R. G. Byers, A. C. Tilley and F. H. Giffen at London Road, St. Albans, and at Bedford Road, Luton, as Tilley, Giffen and Co., and to enter into an agreement with Messrs. A. C. Tilley and F. H. Giffen. No initial public issue. Signatories to appoint first directors. 200 shares. As fixed by company. London Road, St. Albans.

LOWE AND WOOD.—£5,000. To take over the business of dealers in motor-cars, tyres, and accessories carried on by Mr. C. L. Lowe at 77, Broad Street, Birmingham, as Lowe and Wood. No initial public issue. Registered without articles.

WASP CARS.—£3,000. As title. Agreement with J. W. White. Minimum cash subscription, 10 per cent. of shares offered to public.

STEPNEY SPARE MOTOR WHEEL, LTD.—The first annual meeting of the Stepney Spare Motor Wheel, Ltd., was held on Friday of last week at the Midland Grand Hotel, London. Mr. W. B. Jessop, chairman of the company, presided, and referred to the points of the balance-sheet,



The Meet of the Lincolnshire Automobile Club at Revesby.

ussed. Letters were received from prominent authorities in the county cordially approving of the action of the L.A.C. committee, and complimenting them on the improved conditions. The police have been instructed to act, and rigorous action is to be taken. The letters sent out to the *M.C.J.* and other papers by the Lincolnshire A.C. have, it is said, already borne fruit.

WEST ESSEX AUTOMOBILE CLUB.

THE competitions sub-committee announce that the result of the speed judging competition held on the 5th inst. was as follows:—1st, I. C. Brown, 3½-h.p. Brown; 2nd, A. E. Dendy, 3½-h.p. Centaur; 3rd, C. D. Makepeace, 7-h.p. Phoenix Quadcar.

Mr. Makepeace is the winner of the club aggregate prize for best average throughout the season. He secured 49 points, Messrs. Baldwin and Brown being a tie for second place with 47 points each.

At a meeting of motor-cyclists held at the Grand Central Hotel, Leeds, a new organisation, to be known as the "York County Motor Cycle Club," has been formed.

A NEW patent change-speed gear for motor-cars is being introduced by Messrs. Mero, Ltd., Renton Street, Sheffield.

WE are informed that Mr. W. E. B. Schreiber is no longer connected with Messrs. Perry, Thornton and Schreiber, Ltd., and that the control of Ford cars for the British Isles is now in the hands of Mr. P. L. D. Perry and Mr. B. M. Thornton, who are the sole directors and shareholders in the company.

which was summarised on page 683 of our last issue. He mentioned the formation of the German company and also the offer of an option for the purchase of the American patent rights by an American company. The adoption of the report was seconded by Mr. R. L. Wood, who spoke of the progress made at the German branch and the possible development of business in the United States. The motion was then carried unanimously, a vote of thanks to the chairman closing the proceedings.

CLAIM AGAINST MOTORIST.

WILLIAM KNOTT, of Ford, brought an action against Henry Franklin, motor-car proprietor, Shrewsbury, in the Shrewsbury County Court, to recover £20 damages for the loss of a greyhound dog alleged to have been killed as a result of the negligent driving of a motor-car by defendant's son. On May 22nd the plaintiff was driving home from Shrewsbury, and his case was that the greyhound was running alongside his horse when the car came along at a high rate of speed, without sounding horn or bell, and ran over the dog, the animal dying immediately. The defendant and his witness contended that the greyhound ran in front of the car when it was travelling at a speed of twelve to fifteen miles an hour, and that the accident was unavoidable. His Honour said he did not consider negligence had been proved, and there would be judgment for the defendant.

MESSRS. BATEMAN AND SON have opened premises at 18, Western Broadway, King's Street, Hamm-smith, where they are giving daily demonstrations on the H.F. car vulcanizer.

RACING AT BROOKLANDS.

THE concluding meeting for the present season of the Brooklands Automobile Racing Club on Saturday proved a great advance on any that have preceded it. Evidently the officials have wisely read the papers and profited by the many hints and suggestions thrown out by practical observers of the sport. The members' enclosure was nicely patronised so far as motor-cars are concerned, and the paddock was well filled with members of the B.A.R.C. The enclosures open to the public, however, never seemed to contain a great crowd, and general interest in the events only approached enthusiasm at one point during the afternoon, viz., in connection with the private stakes, when the contest between Lieutenant-Colonel Carleton-Smith's Napier and Captain Howell's Iris proved an exciting event. The official attendance was given at 7,000.

The new arrangements for supplying petrol to the cars just outside the paddock assisted the officials to start each race punctually; in fact, on one or two occasions it seemed as though they too were racing against time. The result was that between 2 o'clock and 4.30 p.m. the six events had been decided, and many of the public were at the railway station for home. Altogether the businesslike proceedings were to the advantage of the track, as likely to secure public approval.

As we announced in our issue of the 5th inst., new regulations for drivers were contemplated by the management with the view of diminishing the risk of collision to a negligible amount. These were enforced on Saturday; brakes had to be applied and power shut off immediately the finishing line of small flags suspended across the track was passed. Drivers were then instructed to reduce speed to between

In good time the second 26-H.P. RACE was run. This was for cars of a cylinder dimension of 64 or under and brought forth six competitors. The distance was $2\frac{1}{2}$ miles, and Mr. O. Cüpper's 25-6-h.p. Metallurgique and Mr. E. J. C. Roberts's 25-6-h.p. Arrol-Johnston made the running early, but were overhauled by the Napier with the result:—Mr. S. F. Edge's 25-6-h.p. Napier (F. Newton), 1; Mr. O. Cüpper's 25-6-h.p. Metallurgique (Owner), 2; Mr. J. S. Napier's 25-6-h.p. Arrol-Johnston (E. J. C. Roberts), 3. Also ran: Mr. H. E. Hall's 25-6-h.p. Germain (Owner); Mr. H. G. Nicholson's 25-6-h.p. Britannia (G. V. Fowler); and Mr. W. Phillips's 25-6-h.p. Coventry Humber (W. G. Tuck). The Humber made a good start, but the race was really between the Metallurgique and the Napier, the former securing the victory by ten yards at an average speed of $55\frac{1}{2}$ miles per hour.

THE OCTOBER HANDICAP SWEEPSTAKES was over a distance of $5\frac{1}{2}$ miles, and was for motor-cars with a cylinder dimension of 150 or over. There were three runners, the result being as follows:—Mr. F. R. Fry's 7-59-h.p. Mercedes, 789 yds. (D. Resta), 1; Mr. S. F. Edge's 60-h.p. Napier, 1,178 yds. (C. W. Smith), 2; Lt.-Col. C. D. Carleton-Smith's 60-h.p. Napier, 1,287 yds. (C. A. Glentworth), 3. This race was never in doubt—save, of course, for the possibility of mishap to the leader—and Resta won very easily at a speed of $88\frac{1}{2}$ miles per hour. Glentworth was second in the first lap but his engine was missing badly and he was passed by the other Napier in the race.

Half the meeting was thus over and the organisation had fully justified itself. There was considerable interest in the SECOND 60-H.P. RACE, for cars with engines of a cylinder dimension of 150-1 or under. The bookmakers were particularly vehement



Racing at Brooklands.—The Scene in the Paddock.

twenty and thirty miles an hour prior to reaching the bend connecting the finishing straight with the main track. On the concrete was painted a broad black line, curving into the main course and forming a "limit line," which was not to be crossed. After making the left hand turn into the main track speed had to be further reduced until beyond the the subway tunnel the "stopping line" was reached. No car was allowed to stop until that point was arrived at. After passing the stopping line drivers turned in at the gate marked G on the plan shown on page 721, avoiding crossing the "limit line" in so doing. The way was then made to the paddock. These new regulations answered admirably, and will doubtless be repeated next season.

The first event was a MEDIUM HANDICAP SWEEPSTAKE over a distance of five miles for cars with engines the cylinder dimensions of which were 104 to 122. Of the nine entrants all faced the starter with the exception of Mr. C. Hobson, who had entered the 1905 Gordon Bennett Brasier. The result was: Mr. O. Cüpper's 48-3-h.p. Metallurgique, 269 yds. start (Owner), 1; Mr. A. Goldschmidt's 48-6 Pipe, 74 yds. (Owner), 2; Mr. A. Huntley Walker's 41-9 Darracq, 925 yds. (Owner), 3. There also ran: Mr. F. S. Edge's 41-9 Napier, 432 yds. (H. C. Tryon); Mr. E. W. Lewis's 48-6 Deasy, 585 yds. (Owner); Mr. E. de Wilton's 45-7 Ariel, 644 yds. (Owner); Capt. W. E. D. Owen's 44-4 Junior, 718 yds. (Owner); and Mr. H. P. MacConnell's 41-9 Rapid, 1,120 yds. (Owner.) After Mr. Huntley Walker passed the Rapid interest centred in the performances of the two Belgian cars, which steadily went to the front, Mr. O. Cüpper's Metallurgique giving a very good showing at an average speed of $61\frac{1}{2}$ miles per hour, and 30 yds. in front of the second.

on the event and in the public enclosure even became enthusiastic. In the paddock the solitary bookmaker was busy also. For this race there were five starters, the result being: Mr. S. F. Edge's 49-9-h.p. Napier (F. Newton), 1; Mr. O. Cüpper's 48-3-h.p. Metallurgique (Owner), 2; Mr. S. F. Edge's 60-h.p. Napier (F. Draper), 3. Also ran: Mr. G. Knowles's 60-h.p. Iris (A. Clifford-Earp), and Mr. E. de Wilton's 57-6-h.p. Ariel (Owner). The Iris was unfortunate at the beginning, and a fierce clutch seriously disturbed A. Clifford-Earp, until towards the end of the course of $3\frac{1}{2}$ miles, when it was too late to get a place. The Metallurgique made a good showing, but ultimately the 49-9-h.p. Napier overhauled the others, and won at an average speed of $77\frac{1}{2}$ miles an hour.

The next event was the best race of the day. It was a PRIVATE STAKES over a distance of $5\frac{1}{2}$ miles and resulted in a very hotly contested struggle, the issue of which was a matter of considerable doubt to the public, who watched the ding-dong running of the Napier and Iris with delight and actually raised a bit of a cheer when it was finished. The keen struggle between the two leaders rather overshadowed Mr. Raymond Dennis, who stuck well to the race to the end, his plucky endeavour proving his racing capabilities, while his car was travelling but slightly slower than the winner. Tryon got away very smartly and was a few feet ahead before many yards had been travelled. Then the cars were almost side by side as they entered the straight. At one point it seemed as though the Iris might be first under the flags, but eventually the Napier won by less than a length of the car at a speed of seventy-three miles per hour.

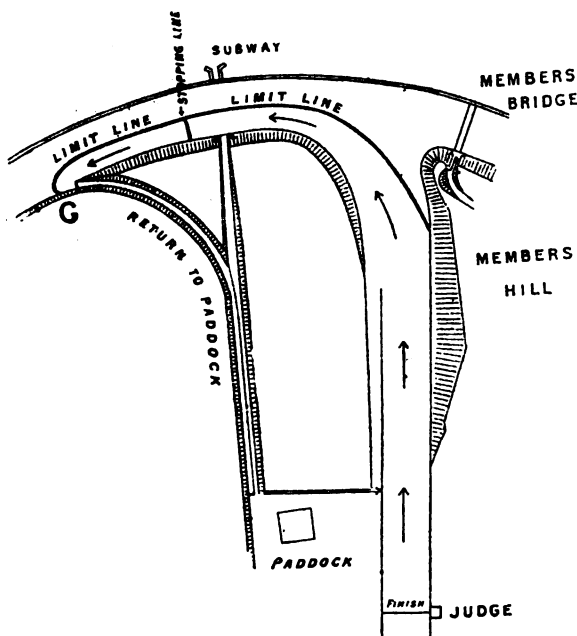
The last race of the day was the longest on the programme. This was the SECOND 90-H.P. POWER RACE of twenty-one miles, for cars with engines of a cylinder capacity of 225.1 or under. This produced a field of three, but, apart from the high speed of the winner—92½ miles per hour—the event was a procession. Resta steadily increased his lead over the Fiat, which was followed by Mr. Guy Lewin's Hotchkiss, which was missing in one cylinder until towards the end of the event, when the driver of the Fiat, instead of taking the straight, made for the outer circuit, where he was pulled up by the waving of flags.

The summarised results of the meeting give two wins to the 75.9 Mercedes, one to the 48.3-h.p. Metallurgique, the remainder falling to the Napier stable, one of whose cars, that entered in the second 26-h.p. race, was notable because of the removal of the two front cylinders of a six-cylinder engine in order to bring it within the rating formula of the R.A.C. The Metallurgique firm also took two second places.

Four of the winners were fitted with Dunlop tyres and two with Continentals, while four of the events were won on "Shell" motor spirit.

In accordance with the usual practice, a number of the cars which competed in the races were officially measured. The following is a list of such cars, with the official measurements:—Mr. O. Cüpper's 48.3-h.p. Metallurgique, engine No. 888, bore 5.49 in.; Capt. G. L. Hinds Howell's 40-h.p. Iris, engine No. 130, bore 4.998 in.; Mr. S. F. Edge's 60-h.p. Napier, engine No. 3327, bore 4.999 in.; Mr. S. F. Edge's 49.9-h.p. Napier, engine No. 3328, bore 4.563 in. (The h.p. given is according to R.A.C. rating).

Official samples of the petrol used by various competitors were also taken; these will be submitted to chemical analysis, and the results published at a later date.



Sketch plan of the new way the Competing Cars return to the Paddock at Brooklands.

At the Surrey Quarter Sessions, on Tuesday, the General Purposes Committee reported as to the public right-of-way across the motor track at Brooklands. On the advice of the clerk the court had refused to enrol the certificate for the diversion of the public highway in question. Their refusal was made the subject of an *ex parte* application to the Divisional Court by Mr. Locke King, when a rule nisi was granted ordering the Justices of Surrey to show cause why a writ of mandamus should not issue, directed to them, commanding them to direct the Clerk of the Peace to enrol the above-mentioned certificate. The committee stated on Tuesday that instructions had been given to show cause against the rule being made absolute.

A RUMOUR has been current to the effect that, owing to the alleged over-production of automobiles in America, a huge quantity of cars is being sent from one of the largest American factories to England for sale by auction. Mr. P. L. D. Perry, the representative for Great Britain of Ford cars, has just returned from the United States, where he made the fullest enquiries as to the report. The result of his enquiries is that everything would point to the fact that the rumour is entirely baseless; no firm in America have any such number of cars in stock as are rumoured to be coming over here, and no shipping arrangements have been made for sending even the smallest quantity except through various agents in the ordinary course of business. As the Ford car has been specifically mentioned in connection with the aforesaid rumour, Mr. Perry asks us to give an emphatic denial to the report so far as these vehicles are concerned.

CASES UNDER THE MOTOR CAR ACT.

A TRIPLE OFFENCE.

At Stroud Petty Sessions, Albert Hutchings, motor-car driver, of Gloucester, has been summoned for fraudulently using a mark for identifying a motor-car of which he was driver, for having used the car without the same being registered, and for driving the car at a speed dangerous to the public. Mr. A. Lionel Lane, of Gloucester, appeared for the defence and pleaded guilty to all the charges. Defendant took the car, which had been left at the garage in exchange for another, and transferred some identification plates from another car to it. The total penalty for the three offences was £16 ls. inclusive.

HEAVY HAULS.

Twenty-four motor-car cases were down for hearing at the last sitting of the West Riding Court at Doncaster. At Menal Bridge, on the 7th, four motorists were fined. Five chauffeurs have been convicted at Perth for exceeding the legal limit on various roads in Perthshire. Six motorists have been fined at St. Albans. £40 has been obtained at one sitting in fines on motorists at Norton, Yorkshire. At Alnwick, on Saturday, several motorists were fined for excessive driving. Four motorists have been fined £10 and costs at Epsom. £5 is now the usual fine in motor cases at Coventry. A batch of cases against motorists resulted in fines aggregating £20 at Retford on Tuesday.

DANGEROUS SPEED.

H. T. Rowlings was summoned at Brighton for driving a motor-car at a dangerous speed on the King's Road on September 29th. He pleaded guilty. The Chief Constable informed the Bench that on the Sunday in question defendant was driving westwards along the Front at the rate of seventeen or eighteen miles an hour. He (Mr. Gentle) did not represent this as a bad case, and intimated that defendant had been driving for about two years without previous complaint. A fine of 40s. and costs was imposed.

TAKING FRIENDS FOR A DRIVE.

G. T. Shurey, of the King Edward VII. Sanatorium, was summoned at the Midhurst Petty Sessions for driving the sanatorium motor-car at a greater speed than twenty miles an hour, at Cocking Causeway, on September 22nd. He pleaded guilty, but said the offence was unintentional. P.s. Avis said that besides the defendant there were fourteen people in the car. A fine of £10, and costs, 9s., was imposed.

The defendant said he would not be able to pay it.

The Chairman: That's nothing to do with us. You had better make arrangements with your employers. The alternative is two months' imprisonment. No doubt those people (servants at the Sanatorium) who were riding in the car can afford to pay for the pleasure. He was allowed a fortnight in which to pay.

MOTORIST PROVES AN ALIBI.

An unusual case, involving the identity of a motorist, was investigated by the Kingston Bench, when Henry Gwatkin, chauffeur, of Barnes, was summoned for driving a motor-car to the danger of the public at High Street, Esher, on September 28th.

P.s. Stringer said that at night on the date in question he saw a motor-car approaching at a speed of thirty-five miles an hour. He turned the light on the car and called upon the driver to stop, but he took no notice. As the car passed the witness he saw distinctly that the number was LN2,031.

The Defendant: You have made a mistake. I was in Esher in the morning, but not at night, and can prove it. My car was in the garage at Barnes at the time you say you saw it at Esher. My number is LN2,031.

P.c. Matthew said he also saw distinctly that the number was LN2,031. He made a note of it at the time.

The defendant repeated that he was not in Esher on the evening of September 28th, and the manager of a garage in Barnes said the defendant went out with the car on the morning of September 28th, and brought it back at half-past seven o'clock in the evening. It was not taken out again that evening.

The Bench dismissed the summons.

A WARRANT ISSUED.

Brought up on a warrant before Mr. C. R. Kemp, at Lewes Police Court, on Saturday, for failing to answer a summons for driving a motor-car at twenty-eight miles an hour at the Berwick cross-roads on August 5th, Frederick Ingram, of Blackpool, was remanded till Monday. He inquired if it meant that he would be locked up again. Mr. Kemp: Yes, I have no power to grant bail. Prisoner: I wrote a letter answering the summons and I thought the distance would be taken into consideration. Mr. Kemp: You have given the police a great deal of trouble. On Monday defendant was fined £3 and 6s. costs for exceeding the speed limit, and £2 and 6s. costs for failing to produce his licence.

THE ARIEL MOTORS (1906), LTD., have issued a photograph of the certificate gained by the 28-38-h.p. Ariel-Simplex car in the Irish Reliability Trials. The same car also secured a gold medal in the Scottish Trial with 995.4 marks out of a possible 1,000, and the fastest time in its class in all hill-climbs.

THE COMMERCIAL VEHICLE TRIALS.

THE extensive trial of commercial motor vehicles, which had been in operation for five weeks, was concluded on Saturday, when fifty of the fifty-six vehicles which started reached the Vanguard depot, at Dalston, London, N. At that depot the judges have, this week, examined the engines, steering gears, gear boxes, clutches, differential gears, chains, and wheels. The concluding stage of the trial, on Saturday, was from Baldock to London, the routes taken by the different classes varying from 34 miles for the heaviest vehicles to 71 for the lightest. All of the vehicles had mechanical non-stop runs except the 10-12-h.p. Darraq delivery van, which had to have the carburettor cleaned, and lost 71 min., the Thames canvas covered delivery van, which had to have a new petrol pipe fitted, and lost 92 min., the Churchill two-ton lorry, which had trouble with its differential gear and lost 219 min., and the Milnes-Daimler tip wagon, which lost 8 min.

During the tour the vehicles in Class A have covered about 1,540 miles, those in Class B 1,320 miles, those in Class C about 1,210 miles, those in Class D about 1,100 miles, those in Class E about 880 miles, and those in Classes F and H about 660 miles. The actual running days numbered twenty-two. The following vehicles lost no time, either in depot repairs, mechanical or other road troubles:—Lacre one-ton box van, Halley 30 cwt. van, Thornycroft 30 cwt. van, Hallford two-ton lorry, Siddeley two-ton canvas tilt wagon, Straker-Squire two-ton open van, and the Thornycroft two-ton lorry with rim sides. The Mann and Overton "Unic" van lost no time for mechanical trouble or depot repairs, neither did the St. Pancras nor Yorkshire steam lorries.

The vehicles were very severely tested in the hilly country in the West Country and the Pennines and on the rough cobbles of Lancashire and Yorkshire. It is hoped to be able to make known the final decisions of the judges about the end of the current month.

CLASS D. (carrying 40 cwt.)

Halley Platform Lorry	...	nil.	...	75	...	nil.
Straker-Squire Open Van	...	722	...	31	...	nil.
Darraç-Serpollet Lorry	...	80	...	151	...	81
Milnes-Daimler Box Van	...	316	...	146	...	nil.
Milnes-Daimler Lorry	...	148 (B)	...	50	...	nil.
Churchill Lorry	...	466	...	K	...	23
Dennis Covered Van	...	nil.	...	66	...	nil.
Churchill Lorry	...	86	...	227	...	nil.

CLASS E. (carrying 60 cwt.)

Milnes-Daimler Tip Wagon	...	236	...	93	...	12
Milnes-Daimler Pantehnicon	...	310	...	96	...	nil.
Hallford Lorry	...	224 (A)	...	nil.	...	nil.
Siddeley Tilt Wagon	...	nil.	...	nil.	...	nil.
Straker-Squire Open Van	...	15 (A)	...	nil.	...	nil.
Darraç-Serpollet Lorry	...	31	...	17	...	77
Wolsley Petrol Electric Lorry	...	548 (C)	...	223	...	nil.
Turgan Delivery Van	...	Retired on tenth day.	...		...
De-Dion Bouton Tilt Lorry	...	320	...	361	...	nil.
Churchill Lorry	...	470	...	L	...	25
Maudslay Miller's Dray	...	nil.	...	7	...	nil.
Dennis Covered Van	...	nil.	...	5	...	nil.
Armstrong-Whitworth Van	...	nil.	...	43	...	nil.
Commercial Cars Lorry	...	47 (A)	...	nil.	...	nil.
Thames Lorry	...	357	...	78	...	nil.
Thornycroft Lorry	...	nil.	...	nil.	...	nil.
Broom and Wade Paraffin Wagon	...	nil.	...	337	...	nil.
Ryknield Covered Van	...	541	...	51	...	3



The Commercial Motor Trials.—The Competitors preparing to leave Northampton.

The following is the official return (provisional) of the time lost, expressed in minutes, by the competing vehicles:—

CLASS A. (carrying 10 cwt.)

	Depot trouble.	Mechanical trouble.	Other road trouble.
Turgan Parcels Delivery Van	...	Retired on second day.	
De Dion Bouton Box Van	230	48	nil.
10-12-h.p. Darraq Delivery Van	530	288	15
14-16-h.p. Darraq Delivery Van	17	E	62 (F)
Thames Delivery Van	676	G	nil.
Mann and Overton "Unic" Van	nil.	nil.	78 (H)

CLASS B. (carrying 20 cwt.)

Milnes-Daimler Box Van	...	Retired on fifth day.	
Straker-Squire Van	...	Retired on tenth day.	
Lacre Box Van	89	116	nil.
Straker-Squire Covered Van	1239	I	2
Thames Van with Palmer Cord Tyres	37 (A)	90	228
Lacre Box Van	nil.	nil.	nil.

CLASS C. (carrying 30 cwt.)

Halley Van	...	nil.	...	nil.
Siddeley Canvas Tilt Van	...	nil.	40	nil.
Siddeley Mail Van	...	73	87	3
Darraç-Serpollet Van	...	nil.	5	18
Darraç-Serpollet Lorry	...	120	19	4
Dennis Covered Van	...	nil.	16	nil.
Thornycroft Lorry	...	nil.	nil.	nil.

CLASS F. (carrying 100 cwt.)

Milnes-Daimler Railway Lorry	...	Retired on nineteenth day.	
Milnes-Daimler Brewer's Lorry	...	Retired on eighteenth day.	
Savage Steam Lorry	...	nil.	4
Straker-Squire Steam Lorry	...	97	25
St. Pancras Lorry	...	nil.	nil.
Yorkshire Patent Steam Lorry	...	nil.	nil.
Dennis Open Lorry	...	M	N
Ryknield Brewer's Lorry	...	131	98

CLASS H. (carrying 120 cwt., including trailer.)

Burrell Steam Tractor	...	18	10	200
Foster's "Wellington" Steam Tractor	...	303	45	109
Tasker's "Little Giant" Steam Tractor	...	644	468	213

A, tyre trouble only; B, including 128 min. for tyre troubles; C, including 35 min. for tyre trouble; D, lost more than 500 min. on the third day; E, lost more than 500 min. on the third and fourth days respectively and 54 min.; F, including 50 min. for tyre trouble; G, lost 621 min., irrespective of the twenty-first day, which is still under consideration, the vehicle having completed only half the journey; H, including 40 min. for tyre trouble; I, lost more than 500 min. on the fifteenth day and 873 min.; K, lost more than 500 min. on the second day and 479 min.; L, lost more than 500 min. on the fourteenth day and 36 min.; M, lost more than 500 min. on the fourteenth day; N, lost more than 500 min. on the fourteenth day and 511 min.

A fully descriptive account of the trials appears in the "Industrial Motor Review" for October 15th, which was published on Tuesday.

FORTHCOMING EVENTS.

OCTOBER.

- 19th (S.).—Auto-Cycle Club's quarterly trial.
 Birmingham M.C.C. run to Aston Cantlow.
 20th (Su.).—Hill climb at Gaillon.
 23rd (W.).—Annual dinner of the South Devon A.C. at the Royal Hotel, Plymouth.
 26th (S.).—Scottish A.C.'s hill climb near Fintry, Stirlingshire.
 Motor-cycling conference at Nottingham.
 30th (W.).—Annual meeting of the Marine Motor Association.

NOVEMBER.

- 11th-23rd.—Olympia Motor-Car Exhibition.
 12th-30th.—Paris Motor Show.
 13th (W.).—Annual Dinner of the Motor Union at the Hotel Great Central, London.
 22nd-30th.—Stanley Show.
 30th (S.).—Annual dinner of the North London A.C. at the Midland Grand Hotel, London.

DECEMBER.

- 4th (W.).—Southend and District M.C. annual dinner.
 5th (Th.).—Exhibition at Berlin.
 7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
 18th (M.).—General Committee of the Motor Union.
 21st (S.).—Opening of the Brussels Exhibition.

MARCH, 1908.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Oct. 19th—5.58	...	21st—5.55	...	23rd—5.50	...	25th—5.46
" 20th—5.57	...	22nd—5.53	...	24th—5.48	...	26th—5.45

MR. D. M. WEIGEL'S APPEAL.

ON Tuesday, at the East Surrey Quarter Sessions at Lewes, Mr. D. M. Weigel appealed against the action of the Haywards Heath magistrates, who, in August last, ordered him to undergo one month's imprisonment and suspended him from holding a licence for two years, for driving a motor-car at a speed dangerous to the public, and for refusing to stop when called upon to do so.

Mr. Low, K.C., who appeared for the chief constable of East Sussex, said that, subject to the approval of the Court, he was instructed to make a suggestion which would have the effect of disposing of the appeal. If Mr. Weigel's licence were suspended for the long period named, and a month's imprisonment undergone, he would suffer very large pecuniary loss. Counsel was instructed to submit that the ends of justice would be met by substituting for the imprisonment a fine of £50, and suspending the licence until September, 1908, instead of for two years.

Sir Charles Mathews, on behalf of the appellant, hoped the Court would see the justice of this course. He might say that since August, as a result of the magistrates' action, appellant's firm had suffered a loss of something like £4,000. The Court could therefore imagine the result if the sentence of the Haywards Heath Bench were carried out to the letter.

After a long consultation in private, Sir Albert Bosanquet, K.C. (the chairman), said the Court had considered the matter, and the majority of his colleagues were of opinion that the appeal should be heard. On the application of Sir Charles Mathews, the appeal was adjourned until the January Sessions at Lewes.

POLICE TRAPS.

THERE is a timing arrangement in active operation in the neighbourhood of Warminster, between Bath and Warminster, and sometimes between Warminster and Salisbury.

THE Wigtownshire Standing Joint Committee is providing stop watches for the police.

POLICE activity has lately been marked at Colwyn Bay, particularly in the Conway road, in the direction of Abergelge road.

AT the villages of Woolbeding, Trotton and Cocking police traps have been established, leading to the Midhurst Petty Sessions.

AT Skellow, near Doncaster, the police are watchful of motorists.

POLICE traps have been established between the second and sixth milestones on the North Dee side road, in the parish of Peterculter.

THERE are several motor traps on the road between Malton and York, including a measured quarter of a mile on a steep gradient near the Castle Howard Reformatory.

HORRABY and Kingsmoor, two villages on the main road near Carlisle, have now their motor traps.

SLINFOLD has a new police trap, leading to the courthouse at Horsham.

MOVRIL.

WE are informed that the appeal case has just been decided confirming Messrs. Carless, Capel and Leonard's title to the trade mark Movril for motor spirit. Nearly two years ago, Messrs. Carless, Capel and Leonard introduced a motor spirit, to which they gave the name of Movril, naming it after vril, the mysterious force, which, in Lord Lytton's novel, will enable "The Coming Race" to annihilate time and space and to do a great many other wonderful things, and the root *Mo*, which signifies movement, thus the whole word meaning the vital force of the motor. Messrs. Bovril, Ltd. opposed the application to register the word as a trade mark on the ground that confusion would arise between their meat essences sold as Bovril and the motor spirit called Movril.

The appeal was heard by the registrar of trade marks in December last, and he decided to uphold the mark provided the use of it was confined to motor spirit. Messrs. Bovril did not accept this decision and appealed to the Board of Trade, which has now confirmed Messrs. Carless, Capel and Leonard's title to the word.

AUTO MOBILE ACCIDENTS.

LORD ABERDARE was driving in a motor-car on Saturday from Gloucester to South Wales, accompanied by his chauffeur, when the car skidded within a mile of Chepstow, and collided with a wall at the top of the hill leading into the town. The chauffeur, who was in the rear seat, received an injury to the left hand, but Lord Aberdare escaped with a few bruises. The car was not much damaged.

ON Saturday a motor-car belonging to the Helensburgh Motor Company collided with a lamp-post at Helensburgh, with the result that four passengers were thrown out and injured.

PUBLIC MOTOR SERVICES.

THE cabs to be placed on the road by the British Cab Company will be made by Argyll Motors, Ltd. They will be fitted with the "Garantire" tyre, and the drivers will have liveries supplied by Automobilia, Ltd.

THE statement that the motor-buses of the Birmingham and Midland Tramway Joint Committee have been taken off the road on account of pressure having been brought to bear on them by the authorities is incorrect. The reason they have been taken off is to suit the company's convenience and to be thoroughly overhauled. We may add, on the authority of the Chief Engineer, the buses have just been re-passed by the police and licensed for a further twelve months.

BUSINESS NEWS.

THE DAIMLER COMPANY have just appointed Messrs. Guthrie and Co., Ltd., the well-known firm of merchants, as their agents for the Straits Settlements and Malay Peninsula.

MR. ARTHUR SHIPPEY, of Messrs. Shippey Bros., 13 and 14, King Street, Cheapside, London, E.C., has recently made very great improvements in Rubberrine, and hopes shortly to place on the market for inner tubes an improved compound of a spongy fluid nature which will have great advantages over many puncture proof compounds, with the additional advantage that owners of cars will be able to inject and pump the new compound fluid into their tyres without sending their tyres up to the makers to be filled. A private syndicate is being formed to patent and develop Mr. Shippey's new improvements so as to be ready for the market in time for the early spring trade of 1908.

THE CAR SUPPLY CO., LTD., of 34, Knightsbridge, W., have opened a garage, with private lock-ups, in Notting Hill Gate, where repairs and vulcanising of tyres will be undertaken.

THE new list of the Dunlop Pneumatic Tyre Company, Ltd., for 1908 is now being issued to the trade. Herein are illustrated the grooved and steel-studded patterns of the Dunlop tyre as well as the solid motor tyre for commercial vehicles.

WE are informed by the Fiat Motors, Ltd., that their new works at Wembley will be in full swing in the course of a few days. At the present time the company's stores and machinery are being removed from the old works at Scrubbs Lane, Willesden, into the new building, which will be fitted with all the latest appliances. The factory is best reached from the Sudbury and Wembley station from Euston, and those interested in motoring and engineering will be welcomed by the company's works manager.

THE special car which the new Arrol-Johnston Car Company, Ltd., have built for Lieut. Shackleton's Antarctic Expedition is this week on view at the London depot of the company in Princes Street, W. The vehicle is fitted with a 12-15-h.p. air-cooled four-cylinder engine, and transmission by cardan shaft and bevel gear to a live axle. The exhaust gases are utilised not only to heat the carburettor but also a foot-warmer and a snow melter. Messrs. Stevenson and Company, of Glasgow, have supplied the road wheels, the front pair of which are shod with wood tyres and are so arranged that sleighs can be readily fitted to them. The rear wheels have also wooden tyres fitted with steel projections to increase the traction. A complete set of wheels fitted with Dunlop pneumatic tyres is also provided with the equipment. The vehicle, which appears well adapted for the work it is intended to do, is fitted with a kind of lorry body capable of holding 16 cwt. The petrol tank capacity is equal to about 300 miles running.

THE Motor-Car Journal.

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"THE INDUSTRIAL MOTOR REVIEW."

"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued, and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.

DURING the recent labour disputes at Belfast the value of the motor vehicle was demonstrated on more than one occasion, and now the threatened railway troubles have led many commercial men to think of the utility of the automobile for the transport of goods as well as the conveyance of passengers. Several of the leading furniture removers already employ

motor lorries and vans for the conveyance of household furniture over long distances, and Mr. Walter Williams, of Plymouth, promises "a frequent service of powerful motor-cars between London and Plymouth daily in the event of the railway strike." Last week Messrs. Whiteley carried out what is probably a record in furniture removal by motor-van, the whole journey of about 120 miles from Hounslow to Leicestershire being undertaken by a motor pantechicon. Inquiries among several firms in the London motor trade point to the fact that many leading commercial houses are already securing chassis for adaptation to the purposes of their business.

An Official Hint.

IN our last issue we made reference to the seasonable opportunities now provided for owners of property, land, &c., to trim hedges, and in so doing help to secure the safety of users of the roads.

Almost simultaneously with our Comment the Local Government Board have issued a circular letter to the County Councils drawing attention to the unfortunate fact that many such bodies have not exhausted their powers of erecting signposts of a warning character to motorists. They rightly point out that a more extensive use of such posts might tend to materially diminish risks attendant upon traffic on the roads, and suggest that great improvements might be effected by cutting off the corners in a road. It is frequently possible for the County Council by agreement with the owners of the property adjoining the highway to arrange the removal of such obstructions, and the L.G.B. have done well to emphasise these points in the circular which we reproduce on another page.

Sergeant Waghorn "Scouted."

SOME idea of the extent to which the Brighton road is used by motorists was gleaned on Saturday in connection with the inquiry by the L.G.B. inspector into the application of the East Sussex County Council for fixing a motor speed limit of ten miles an hour on that portion of the main road between the

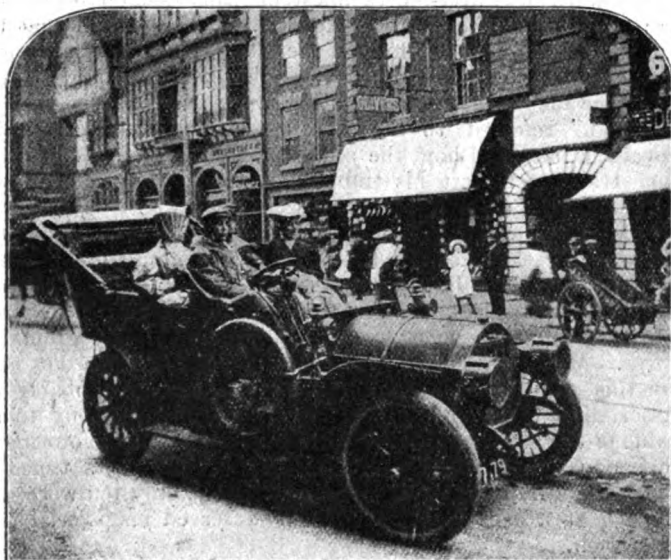
thirty-third and thirty-fourth milestones from London to Brighton in the village of Handcross. Rev. H. R. White said that the number of cars passing through the village on Sunday afternoon averaged 300. Then Sergeant Waghorn, of Lewes, who was described as "the greatest authority on timing motorists in England," referred to the working of the electrical timing apparatus, and told how the scouts of the Automobile Association tried to thwart his trapping motorists. They shadowed him at Lewes, and wherever he went they went. There were 500 yards of cable in connection with the timing apparatus, and, of course, the scouts kept a sharp look out to see when a car was stopped. But for the scouts the police would make many more captures. Mr. Rees Jeffreys said that Handcross had only one policeman, and he had nine miles of ground to cover. More police should be put on on such an important road. On this point, of course, opinions will differ, but probably the Association will reprint Sergeant Waghorn's testimony to the value of the scouts in economising the expenses of motoring in their next circular. Of 163 motors and motor-cycles timed by the sergeant at Handcross on a recent day, only ten were proceeding at a pace that he thought deserved magisterial consideration.

Successful Appeals.

THE Motor Union were successful last week in winning three appeals to Quarter Sessions against magisterial decisions. A very interesting appeal at Surrey Quarter Sessions was that of Sir Henry Norman, M.P. Summoned for driving to the danger of the public, he was fined by the Guildford County Magistrates, although the police admitted that there were neither vehicles nor pedestrians on the road when Sir Henry Norman passed over it. The police further stated that they did not know into what fractions of seconds the dial of their watch was divided. The second success was in the appeal of Mr. J. H. Armytage to the Surrey Sessions. In this case the Godalming justices had imposed a fine for driving to the public danger. The speed was given as just over twenty miles an hour, but one of the constables stated that nobody was in any danger. The officer who held the watch admitted that the only way in which anybody could have been in danger was that something might have gone wrong with the mechanism of the car. The successful appellant at Southampton was Mr. J. E. Wimshurst, a member of the New Forest and Hampshire Union. A small boy ran into the car, which was proceeding along High Street at about six miles an hour. He sustained slight bruises, and was taken home by Mr. Wimshurst. The police prosecuted upon the information of two young workmen; the parents did not interest themselves in the occurrence. Yet Mr. Wimshurst was fined £5 and costs.

The Trade Outlook.

MOTORISTS have so long been familiar with the varying attitude of the general Press of the country towards their Movement that they are not likely to be drawn into the ditch of pessimism in which the "lay" journalist would drag the motor industry. According to this very luminous person the whole business is in the nadir of despair, and the leaders of the trade are as anxious as the Irish peasant to leave their present location. Rumours of failures, arrangements and suspensions are so frequently set afloat that we open our "Gazette" with an uncomfortable feeling, and we walk along the avenues of motor-car showrooms with an air much resembling that of Macaulay's New Zealander. If the man who knows nothing about the subject is asked for his view of the automobile outlook he calls to mind something he has read in his favourite sheet, and answers "Ichabod." In fact, this attitude of mind has been so sedulously cultivated in some quarters of late that the motor industry would seem to have taken the place of agriculture as an example of national depression. We would not be so optimistic as to suggest that everything is wholly well with the industry, but we would raise a protest against the wholesale pessimism of certain sections of the Press.



A Motoring Touring Party near the East Gate, Chester.

The Hope of 1908.

THE truth is, that, guided by the prosperous expansion of the business that followed the 1906 season, the trade naturally looked for a continuance of good things. But the climatic conditions that prevailed in the early part of the year militated against any such development, and as the weather vagaries continued throughout the year the hopes of any recovery steadily receded. Many makers have accumulated stocks owing to the restricted demand, which has made the situation embarrassing in many ways. In many countries of the Continent a corresponding tendency has been noted, adding to the general perplexity of the situation. These facts have been magnified and greatly exaggerated, to the disadvantage of the industry, and, if continued without some such note of warning as we are uttering being given, are likely to cause a withdrawal of capital that will still further complicate the position. Of course business is quiet now, and those who frequent the exhibition next month are not likely to do much to infuse a more cheerful hue to the outlook. This is a waiting period, but the feeling of slackness must not degenerate into despair. Two such unseasonable years as 1907 rarely come together, and, given anything like fair weather conditions next spring, the Agricultural Hall Exhibition will, as

in former years, inaugurate the selling season in a way that will dispel many of the clouds now undoubtedly hovering about the trade—shading its prospects, perhaps, but not entirely submerging its future prosperity.

A Motor Mentor.

IRRATIONAL persons are so fond of writing to the papers with regard to the speed of automobiles, that the busy motorist is becoming less and less inclined to take notice of correspondence on his pastime in the daily press. Not often do those who rail at motor-cars express themselves so sensibly as Mr. L. T. Hobhouse has done in a letter to the "Economist," in which he sets forth a series of hostile suggestions with such a show of reason that they deserve some consideration, although no endorsement, from motorists. He suggests that motor-car accidents should be the subject of official investigation in the same way that those which take place on railways are examined, and that local authorities should have greater discretionary powers over the automobiles passing through their districts than is at present the case. Cars should, according to Mr. Hobhouse, be compelled to carry a speed indicator at the rear, which should make clear to the public when a speed of more than fifteen miles an hour was attained, such to be the general limit, to be reduced to ten miles an hour, however, in towns and villages. Apparently Mr. Hobhouse has failed to grasp two points upon which motorists are almost universally adamant in their views, viz., that a speed limit of any kind is bad from every point of view, and that there must be uniformity of administration throughout the country.

Two Essentials.

PERHAPS a re-statement of our view on these matters may be useful at the present juncture. Experience has proved what motorists believed years ago, that speed does not necessarily constitute danger. Given a long stretch of highway with a few schools and cross-roads upon it; then suggest a car of high speed capable of being throttled down almost instantaneously; in such a case the motorist might travel at twice Mr. Hobhouse's suggested limit without danger, and quickly slow down at his discretion to avoid risk at points where traffic was likely to be present. Surely that is all that is required. Why unnecessarily limit the rate of travel, and so inferentially restrain the endeavours of inventors to attain mechanical perfection? On the second point, with regard to uniformity. In traction engine practice, where licences are issued by county authorities, the difficulties have proved so great that we would regard with apprehension any proposal to allow similarly varying regulations as to motor-cars. But with one central authority and a law administered in the same degree throughout the country, the motorist would, at least, not have the excuse of want of knowledge of his legal position.

Magistrates on Traps.

COVENTRY magistrates, who have had some experience of the trapping of motorists by the police, are beginning to recognise that these methods are often subversive of justice instead of accessories to its administration. A recent big haul of victims caught in a trap at Allesley enabled the magistrates to scoop in £15 for the funds of the Court and also gave the occasion for a little lecture to the police. The chairman of the Bench said that he and his fellow magistrates had come to the conclusion that the distance measured for the purpose of checking too fast motoring should be more than a quarter of a mile. He declared that a stop watch might not be absolutely reliable for such a short distance, and went on to say that the magistrates believed that by timing over a longer distance better results would be obtained. While not committing himself or his merry men the police inspector promised

to give the matter consideration, and the magistrates will go on fining.

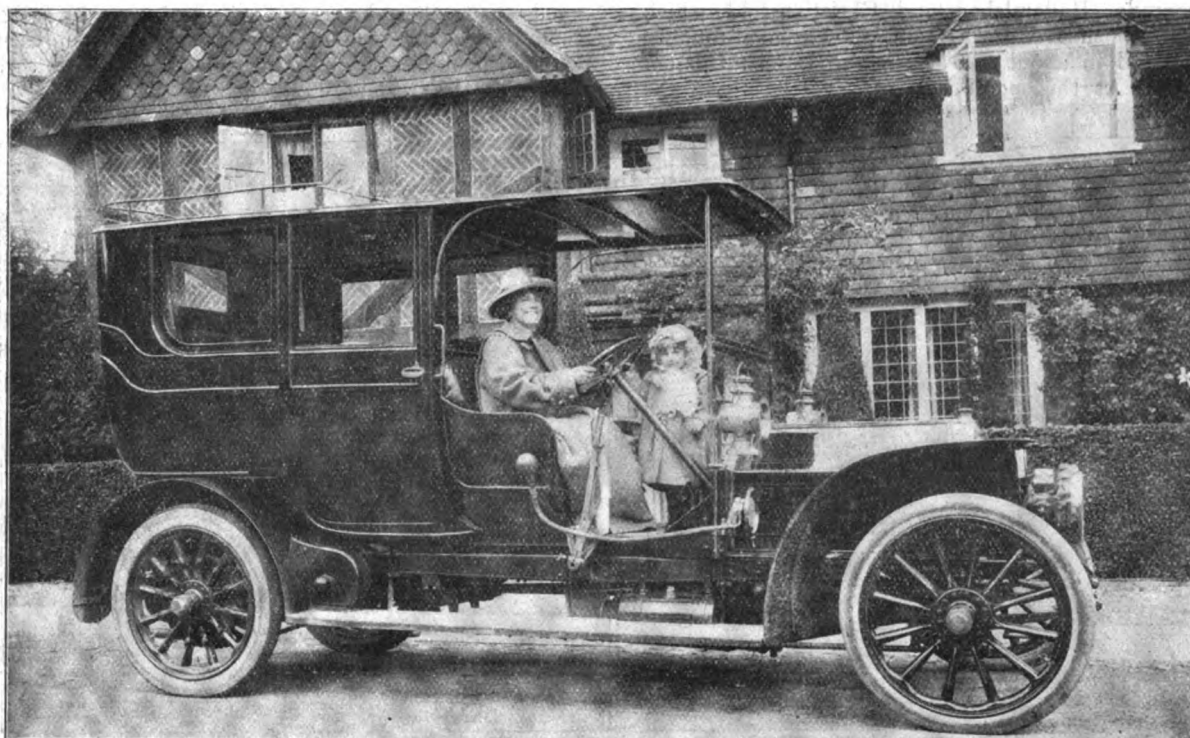
On the Great North Road.

THOSE who know the Great North Road are perfectly acquainted with the safety of many miles of the same from the public point of view. Whole stretches can be seen right ahead, and the 20-mile an hour limit reached without risk to anyone. The authorities, however, are becoming watchful, and at the last meeting of the Doncaster Rural District Council, Mr. Batty (Wadworth) proposed that the attention of the county authorities be called to the excessive speed of motor-cars, particularly on the Great North Road, and suggested that the magistrates should increase the fine from £5 to £50. Mr. Spedding seconded the motion. Mr. Butler (Askern) said a police-sergeant told him that during the race week motor-cars travelled on the Great North Road within two

brief tenure of office. He had travelled much, and had done some good work in various walks of life—literary and charitable among the number. In the latter connection he organised the matinee of the Savage Club in aid of the Lord Mayor's Crippled Children's Fund last June, and as this year's Master of the Savage Club Lodge he was gaining the esteem of an increasing circle. We offer to his family our sincere condolences on the loss of a genial and widely-respected friend. The funeral took place at Hammersmith on Thursday.

The Circulation of the Dollar.

THIS has been a record season for American motor-car tourists in Europe, according to a report recently made to the American State Department by Mr. E. R. Mansfield, the American Consul at Lucerne, Switzerland. He estimates that 8,000 motor-cars have been in use this season by Americans touring in Europe, who spent on an average £80,000 a day.



The above illustration depicts the 30-40-h.p. Fiat Car, with Limousine body, which has recently been supplied by Fiat Motors, Ltd., to Mr. and Mrs. Seymour Hicks.

Mrs. Hicks, who, of course, is better known as Miss Ellaline Terriss, is seen at the wheel. The new car replaces a 20-h.p. model of the same make which was purchased three years ago. In the background is seen the Old Forge, Merstham, the picturesque country residence of this popular couple. It derives its name, we understand, from a smithy which has been a feature of the pretty village since the days of the Norman Conquest.

Photo by

(Foulham and Banfield, Ltd.)

feet of each other at the rate of 40 miles an hour, and it was impossible to stop them. Mr. Kellett (Bawtry) said that a fine would not stop the nuisance—nothing short of six months' hard labour would do it; while yet another speaker advocated toll bars. The motion was carried. Cannot something be done to challenge the exaggerations of these irresponsible persons who would indict a whole nation on the follies and shortcomings of a few equally irresponsible persons?

The late Mr. Kingston.

ALL his old friends, as well as the many new admirers he had gained during his short period of work as secretary of the Motor Club, will regret to hear of the death of Mr. Holmes Kingston, on Saturday last, after a few days' illness. Mr. Kingston was one of the most accessible and agreeable of secretaries, his urbanity winning him a host of friends in the Motor Club, to whose fortunes he contributed greatly during his

"Each motor-car carries on an average five persons," Mr. Mansfield writes, "making a total of 40,000 Americans motoring on the Continent. The expense will average £2 per day for each person, making a daily expenditure by this class of American travellers in Europe of £80,000. The American automobilist usually spends two months on the Continent, which brings the aggregate expenditure up to £4,800,000 for the season."

THE Somerset A.C. has offered thirty-six regulation red triangle danger signs to be erected and maintained by the Somerset County Council on main roads at dangerous corners and cross-roads. The offer has been accepted.

THE value of the motor-cars and parts exported from the United States during the eight months ending with August last is returned at £950,402, as compared with only £667,284 in the corresponding period of 1906. England heads the list as being America's best customer, this country being responsible for £292,894 of the total, Canada being second with £207,258.

MOTOR TOURING IN DENMARK.

MANY ardent motorists have by now fairly well exhausted the beauty spots and places of interest in France, Germany, Switzerland, and Austria, and when a Continental motor tour is suggested they sigh for fresh fields and pastures new. Recently we had an opportunity of a most interesting chat with Consul Strelitz, of Fremantle, Western Australia, who has been touring on his 30-35-h.p. Daimler both in England and on the continent for the past four months. Amongst other countries visited, Mr. Strelitz spent a considerable time in Denmark, and speaks very highly of the roads, the beautiful scenery, and the country generally, and strongly recommends his fellow motorists not to neglect that small though interesting country at the southern end of the Baltic.

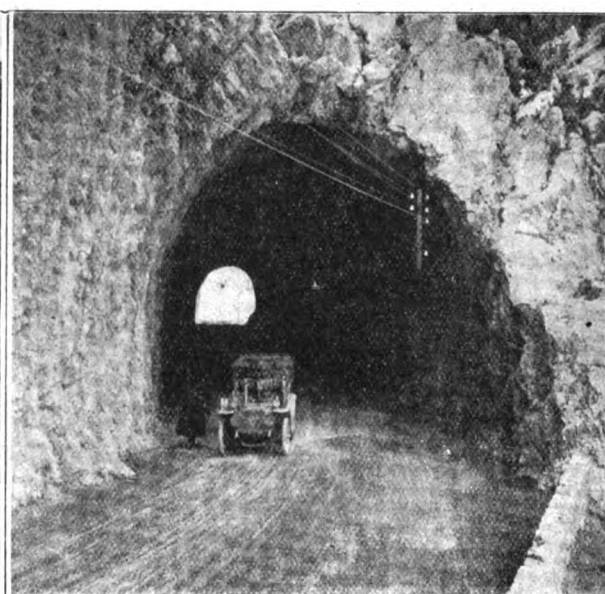
The arrangements made by Mr. Strelitz with regard to his visit to Denmark were as follows:—He shipped his car from Harwich to Rotterdam, and then motored to Hamburg, and from the latter town went north by way of Kiel, Schleswig, Flensburg, Apenrade, Hadersleben, and Christiansfeld, which town marks the Danish frontier. Here the German number plate is given up, and in about 200 yards the Danish Custom House is reached. At this point the papers relating to the

At Korsøer there are eleven sets of railway lines to be crossed and heavy sand to be ploughed through on leaving the boat, but a judicious "tip" to the sailors results in the laying down of planks in order to get the car over those obstacles easily. Great improvement may, however, be hoped for shortly in this respect, as the Danish Minister of Railways has promised that alterations shall be made.

For the return journey to Copenhagen the road through Kjøge is followed to Marnasund Station, where the car has to be put on the train, the railway company being advised the day before to have a truck in waiting for this purpose. The vehicle must be ready for shipping at 10.30 a.m., and be consigned through Warnemünde. Excellent arrangements are made for loading, and the car can be driven on to the truck. It is best for the motorist to travel by the same train as the car to ensure its despatch. The train then proceeds as far as Gjedser, where it is put on the largest train ferry in the world, and, after a trip of two and a-half hours, Warnemünde is reached. During the crossing the luggage and papers are examined by the German Customs officials. On arrival the motorist proceeds to the express goods shed, where he receives his car, pays the freight, &c., and then goes, escorted by an officer, to the main Custom House, where the necessary formalities have to be gone through before obtaining the German number.



A View of Lake Como, near Varenna, Italy.



A Tunnel on the Road near Alassio, between San Remo and Genoa.

TOURING ON THE CONTINENT.

[Allgemeine Automobil Zeitung.]

driver and the car are examined, and a printed form is given to the motorist, directing him to report himself at the Town Hall at Kolding, where a statement has to be made in writing, setting forth the length of the tourist's intended stay in the country, the engine number of the car, the horse power and weight of the vehicle, the English identification number, and the number of the English driving licence. A permit is then obtained from the inspector, with two number plates, which are fixed in the front and rear of the vehicle, for which a charge of about 4s. 6d. is made. An official seal is then painted on the car in red, and the automobilist is advised to look where this device is placed, as a favourite position is the centre of the door panel.

On these formalities being gone through, Dr. Strelitz went to Frederica, and here took the ferry to Middelfart. This crossing occupies some fifteen minutes, and the charge is about four kroner. On disembarking great care should be taken, as the way is very narrow until the main road to Odensee is joined. After this Nybourg was aimed at over a splendidly-made and wide road. From here the ferry to Korsøer is taken, and great care is needed in getting the car on board, as the approaches to the boats are bad. Alterations are, however, now in progress.

Mr. Strelitz states that no motoring is permitted in Denmark either before sunrise or after sunset; that all except main roads are closed to motor-cars, and that intending tourists should obtain the road map issued by the Automobile Club of Denmark, showing the highways on which motoring is allowed. This association, he says, is most courteous, and will help the motorist in every way possible. Our informant also advises that extreme caution should be displayed on the road between Flensburg and Nybourg, as the inhabitants are so frightened of motor-cars that at the approach of one they lose their heads, and an accident may occur if extra precautions are not taken. There is a speed limit of 30 kilometres per hour in the country and 16 kilometres in Copenhagen, and, though police traps are not unknown, little is said about any excess provided no one is endangered. The language need not deter the visitor, as English is spoken by all the officials at the frontiers, and on the ferries.

Finally, Mr. Strelitz says, "Go to Denmark; you will have fine roads, lovely scenery, some of the best motoring obtainable, and to do the country thoroughly you only require about a fortnight; and last, but not least, the hotels are excellent and very reasonable in their charges."

THE TRADE POSITION ON THE CONTINENT.

(FROM A SPECIAL CORRESPONDENT).

FRENCH newspapers, sporting or otherwise, have not published any of the details concerning the well-defined crisis through which the automobile trade is passing at the present moment. They may have most excellent reasons for not crying aloud regarding the hard times which are now upon French motor-car traders. Certainly one or two articles have appeared in which the word "crisis" is decried in favour of the word "evolution," as appeals are made to makers to find new markets, to study home conditions, or to reduce their prices as the case may be. What is more certain is that 1908 will see an immense reduction of prices all round. As a *ballon d'essai* the Panhard people have published their tariff for 1908. This fact alone might make people fairly sure that knife edge competition is to be the order of the day, since French constructors are by no means usually so ready with their prices before the Show opens.

It is only last week that rumours were made known that a well-known Italian company were in difficulties, a fact little surprising to those who know the state of things in industrial Italy. Whether the crisis in the last-named country is the result of over-production, or whether the poor state of the Italian motor-car factories is simply due to the unsatisfactory condition of trade, is a detail that will appear in the sequel, but it has been an open secret for some time that many of the Italian works would close their doors during the coming winter. It is the old cry in Italy—lack of ready cash cripples expansion just at the moment when expansion is most necessary, as in the case in point, for with their fine examples of chassis and the cheapness of labour in Italy it is certain that Italian cars would be able to find a vent in a remunerative export trade. There will be some interesting questions to study in the development of Italian trade in the near future.

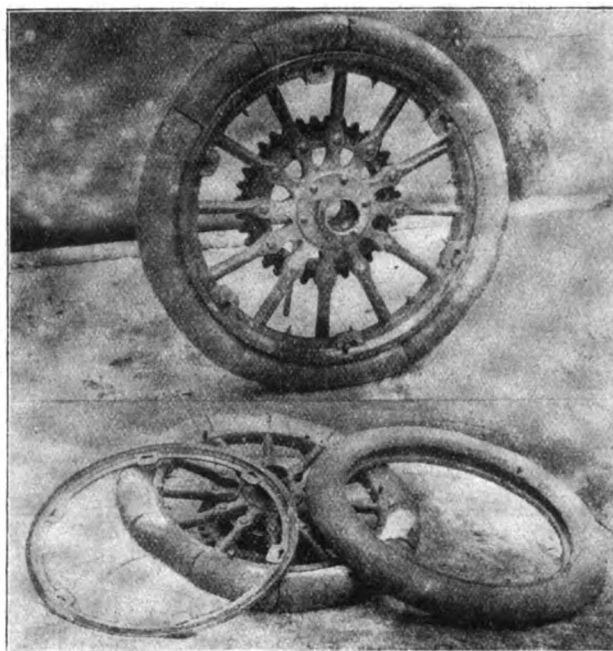
Not only in Italy is the pinch of hard times being felt, as will soon be seen. In Switzerland the few factories there are working on reduced output and very reduced personnel. German firms have been unable to increase their export; in fact, the figures show that German exports are less than in 1906. German development, however, has not presented the phenomenal character during the past two years that has occurred in France, as the recent article in the *M.C.J.* has shown. If the crisis is to be keen it will hit France hardest of all Continental countries manufacturing motor-cars or parts.

There are some commercial men in Paris who do not hesitate to foretell that the over-production in the motor-car industry will entrain a corresponding depression in the metal trade in general, and that six months will not elapse before this depression will be more than apparent. At the present moment, however, motor-car firms are doing their best to keep up appearances until the *Salon* will have run its time—the tenth, and most brilliant of all French shows to date. Thus, facts which would otherwise have come to light are being shaded as far as possible; the following are, however, among the rumours and facts which are now steadily gaining credence in the Paris clubs. The bodywork factories are working under a very reduced regime, both as regards staff and hours, and, whilst some are in actual difficulties, one at least has suspended operations. As regards the factories for chassis and motors, eight-hour days are the rule in place of ten, which are commonly worked before the Show, while, in the case of two or three firms, it is reported that operations have temporarily ceased.

MR. I. F. PALMER, of the Kingston Motor Works, High Street, Kingston-on-Thames, has a large stock of tyres and non-skid bands, from which he is prepared to send supplies to any place on receipt of news of a breakdown. His place is situated on the Portsmouth road, and this information may be of service to motorists journeying thereabouts.

THE WHITEHEAD MOTOR TYRE AND DETACHABLE RIM.

WE illustrate herewith the novel motor tyre and detachable rim which has recently been devised by Mr. A. W. Whitehead, of Glebe Terrace, Far Headingley, Leeds. As will be seen, in place of a single continuous inner air tube Mr. Whitehead fills up the circle of the tyre with a series of segmental tubes, each equipped with its own valve and enclosed in an ordinary outer cover. The segments are flat ended and abut closely against each other; as already mentioned, they are each provided with their own valve, the use of an inflator with indicating gauge being recommended in order to ensure that the segments are all pumped up to the same degree. The ends of the segments are guaranteed to withstand the air pressure even when one is punctured. In order to facilitate the removal and replacement of a damaged segment, Mr. Whitehead has also devised the new detachable rim shown below. From the latter it will be observed that the rim is provided with six key-hole slots which allow it to be placed in position by the nuts of the bolts which are fixed in the felloe being passed through the holes. On a partial turn being then given to the rim the



bolts enter the slots and on tightening the nuts the whole is held securely together in the form of a complete wheel. The felloe is provided with a series of slots to allow the valve spindles of each segment to be moved laterally into or out of position. To remove or replace a segment the nuts are slackened, a partial turn given to the detachable rim, which is then removed; the nut on the valve spindle is then slackened, when any segment can be drawn sideways out of the rim without the aid of levers. The advantage claimed for the arrangement is that when a puncture takes place only one segment is deflated, and there is no occasion to stop to repair it, as the tyre does not go down. Mr. Whitehead, indeed, states that there is no bumping even if several of the tubes are punctured; he informs us that he has given the new tyre a lengthy trial on a 30-h.p. four-cylinder Argyll car, on some of the worst roads in Yorkshire and Lancashire, with satisfactory results, and that the outer cover, detachable rim and inner segments can be taken off in seven minutes.

DURING the Olympia Show "The Motor House" will hold a special non-reserve auction sale on November 21st, starting at 3 o'clock p.m. This will be additional to the ordinary non-reserve sale that will be held on November 7th.

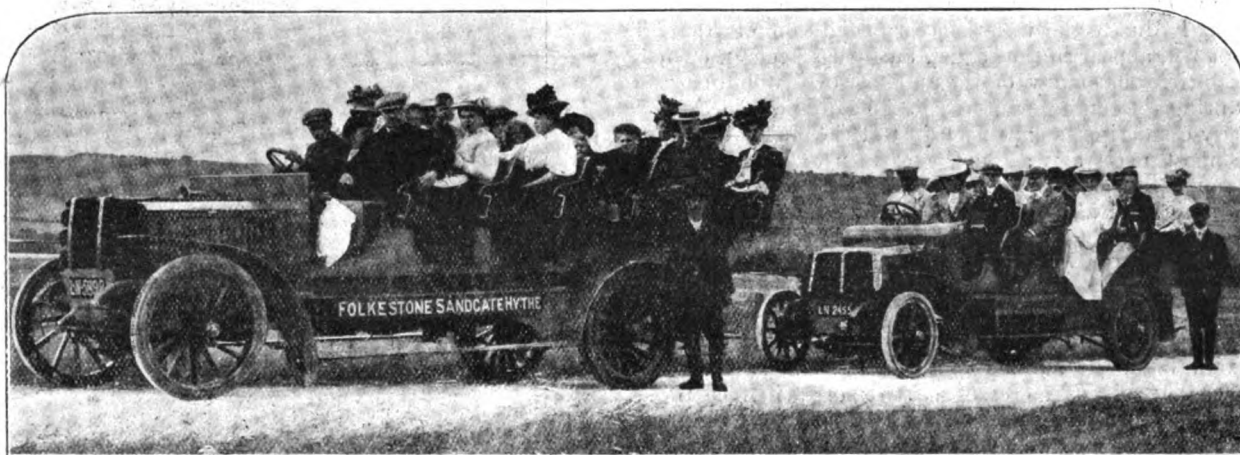
A SEASIDE PUBLIC SERVICE.

A POPULAR feature in the Folkestone district during the past summer season has been the public service of motor-cars, run by Messrs. Albregt and Mead, motor engineers, High Street, Hythe—four services per day in each direction between Hythe, Dymchurch, New Romney, and Littlestone. A regular connection has also been maintained between Hythe, Sandgate, and Folkestone, while on Wednesdays a special service was run between Hythe and Rye. We are able to illustrate two of the vehicles used by Messrs. Albregt and Mead. Special interest attaches to the machines, inasmuch as they have been built by the firm from parts of other cars. Thus the first char-a-banc in the picture was re-constructed out of a 24-35-h.p. Dietrich touring machine, using the same engine and gear-box, and building them into a new pressed steel frame of the firm's own design. The back axle is built up with nickel steel stub-ends and channel steel. The wheel base is about 12 feet, and tangent wheels are fitted. Seating accommodation is provided for 24 persons, and an important point is that the total weight is well under 2 tons, enabling the vehicle to run up to the 20-mile limit. The second car is an 18-22-h.p. Daimler, rebuilt in the same way as the other one, but having accommodation for only 20 persons. The firm inform us that they have

SOME USEFUL NOTES.

AS soon as the tread of an outer cover wears down until the fabric is exposed the tyre should immediately be removed and sent to the factory for retreading. Otherwise the fabric will soon be destroyed and the tyre permanently injured in consequence. When imbedded in rubber and not subjected to strains or weakened by bending, the fabric used to reinforce the tyre will retain its strength indefinitely. As soon, however, as the rubber is removed and moisture from the road is permitted to penetrate the fabric it begins to disintegrate and in an incredibly short time its strength and resistance is gone for ever.

BLISTERING and cracking of the finished surfaces of motor-carriage bodies is often hastened by the practice of leaving cars unnecessarily long in the direct rays of the sun, and especially is this the case when the varnish is not perfectly hard before being put into service. When a vehicle has been spattered with mud, and is then left standing in the sun for a long time, the effect is especially bad, as the mud becomes literally baked into the varnish, particularly if the latter is not perfectly hardened. In the process of washing the sun-dried mud requires an unusual amount of sopping to remove it, and is very likely to leave a dull surface beneath it. It is suggested to owners of new or newly-



Two of the Public Service Vehicles in use in the Folkestone District.

a special form of springing, which, while being very flexible for light work, is also suitable for extra heavy loads. The smaller machine has been on the road between Folkestone, Hythe and Littlestone-on-Sea since last March, and has done upwards of 10,000 miles, besides long country runs to Hastings, Tunbridge Wells, Ramsgate, &c., the day's run frequently extending to 120 miles.

AN English edition of Krausz's Practical Automobile Dictionary in English, French and German has just been issued by Messrs. Iliffe and Sons, Ltd. The work, which comprises over twelve thousand technical terms and words employed in connection with motor-cars and motoring, is stated to have achieved considerable popularity in America. While the dictionary will doubtless be found useful by many interested in automobilism in this country, careful revision will be necessary ere it can be said to thoroughly fulfil its purpose from a British point of view. For instance, such terms as advance fire, aluminum, clutch lever, gasoline, gasoline throttle, ground wire, motor case, non-slip tyre, speed lever, and starting crank are hardly terms in current use on this side of the Atlantic. The German section of the book appears to have been well done, but the French portion, like the English, might with advantage be carefully gone over before a second edition of the dictionary is put in hand.

varnished cars that they refrain from using them until the varnish is thoroughly set, and that, when the car is to be left standing, it preferably be upon the shady side of the roads, under trees, or in the shadow of buildings. After driving in the mud it is very desirable that the car should be washed before being exposed unnecessarily to the baking action of the sun's rays. When the first gloss is worn off and the finished surfaces have hardened completely, precautions of this nature are of less importance, but a little care in this direction will make the "new" appearance of the car last longer than will otherwise be the case.

Too great care cannot be taken with a new car to determine that the lubrication is working properly. The factory trial may have been made with a test body which carried the mechanical lubricator, and the apparatus supplied with the car may never have been tested more than very cursorily. There is nothing more convincing than disconnecting the oil pipes from their discharge points and observing if the lubricant is feeding all right when the engine is running.

WHEN leaving a car for any length of time unattended, or on putting it away for the night, the ignition should be switched off, the petrol cock closed, the ignition lever retarded to the proper point for starting, the change-gear lever placed in the neutral position and the hand brake put on.

CONTINENTAL NOTES.

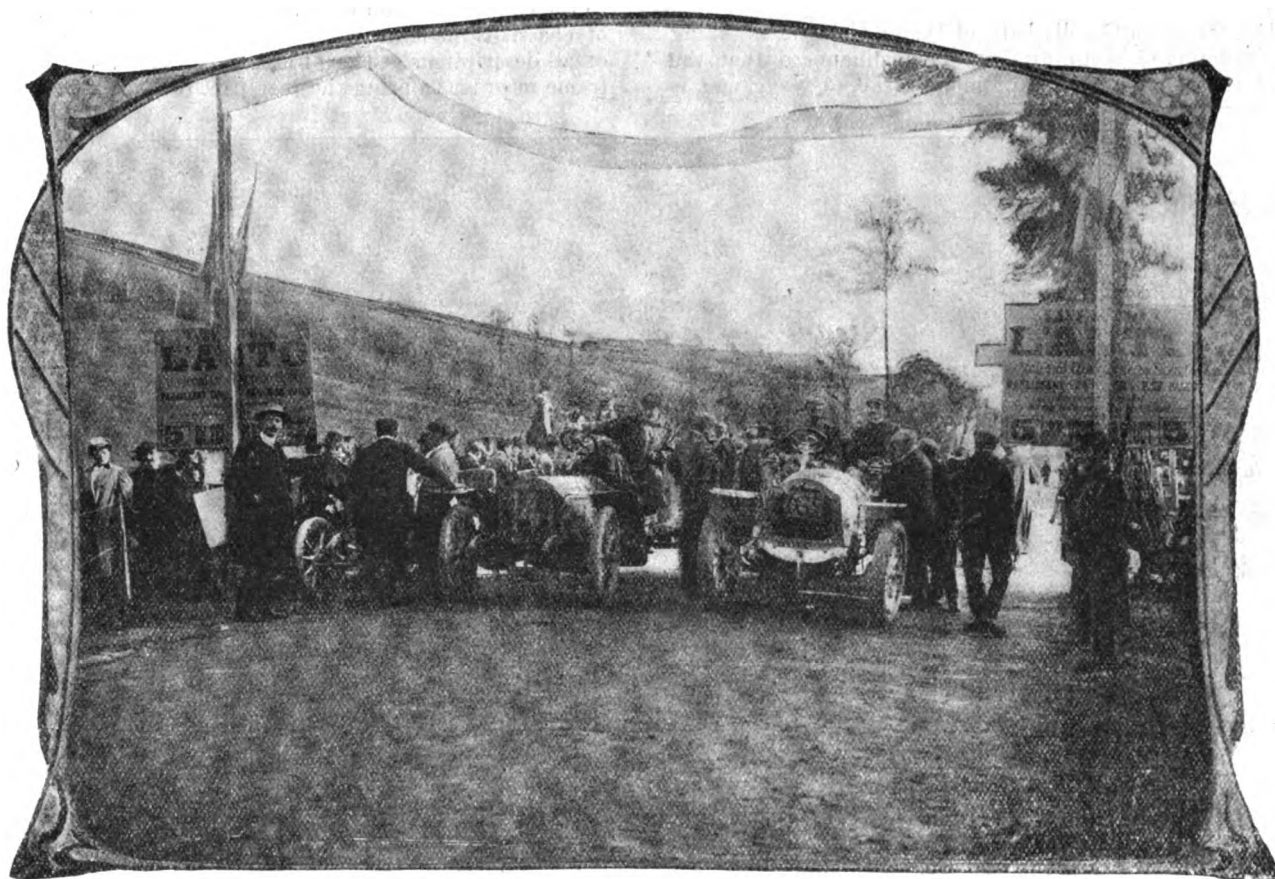
The Gaillon Hill Climb.

The annual hill-climbing competition over the flying kilometre was held at Gaillon on Sunday, the event attracting a large number of entries, of which no less than sixty-five put in an appearance. The touring class was dealt with first, three of the sections being won by British-built vehicles, all these being shod with Dunlop tyres, viz., Bright, on a 6-h.p. Rover, in the single-cylinder 125 mm. max. bore category (2 min. 51 4-5 sec.), Miss Dorothy Levitt, on a Napier, in the 91 to 110 mm. bore six-cylinder class (49 sec.), and Glentworth, also on a Napier, in the over 111 mm. bore six-cylinder section (35 1-5 sec.). In the racing section the honours went to the six-cylinder Napier, driven by Newton, the car making not only the fastest time of the day (26 2-5 sec.), equal to 84½ miles per hour, but winning the class for vehicles of any size or power. Sir R. Gore,

out of the sixty-seven entries, sixty-three faced the starters. The cars have to make seven rounds of the circuit, which is being guarded by soldiers. Eight of the competing vehicles have two-cylinder engines, the remainder having single cylinders, the majority of which are 100 mm. bore by 120 mm. stroke. As a result of the first day's trial seven cars were eliminated, the list of troubles comprising a broken cardan shaft, seized cylinder, damaged axle, broken chain, collapsed wheel, &c.

The 1908 A.C.F. Grand Prix Race.

The Sporting Commission of the French Automobile Club has now officially announced that next year's race for the Grand Prix will probably be held during the last week in June or the early part of July. The rules will be those drawn up at the international meeting of Ostend, viz., a maximum cylinder bore of 155 mm. for four-cylinder motors, or an equivalent piston surface for motors of the six or eight cylinder types. The



The Gaillon Hill Climb.—A View at the Starting Point.

on a Mercedes, was second in 31 3-5 sec., and Rigal, on a Darracq, third in 34 4-5 sec. The record for the climb stands to the credit of Mr. A. Lee Guinness, who last year drove the 200-h.p. eight-cylinder Darracq over the course in 25 sec.

Motor-Car Speed in France.

The activity of the recently-formed Societe Protectrice Contre les Exces de l'Automobisme is attracting considerable attention in French motoring circles. The chief object of the new body seems to be to secure the imposition of an extra tax on all motorists, in order to provide a fund whereby everyone who is injured or whose property is damaged by a motor-car shall receive an indemnity. Naturally considerable opposition is being shown to the movement.

The Coupe des Voiturettes.

The seven days' reliability trial of light cars, over a 33·8 kilometre course, commenced at Rambouillet on Monday, when,

minimum weight of the cars in running order must be 1,100 kilog. (2,420 lb.), without including either water, petrol, or spare parts and tyres, but with oil in engine base and gear-box.

French 1908 Models.

The Peugeot Company has just issued its 1908 programme. Eight different models are to be made, viz., 9-h.p. single-cylinder, live axle, 10-h.p. twin-cylinder, chain-drive, 12-h.p. four-cylinder with either chainless or chain transmission, 18-h.p., 24-h.p., and 50-h.p., all having four-cylinder engines and side-chains, and a 60-h.p. six-cylinder chain-driven vehicle. Except as regards the 50-h.p., which will be slightly reduced, the 1907 prices are being maintained.

Austria as a Touring Country.

After France, Austria is perhaps the finest touring country in Europe. It is full of the most beautiful mountain scenery, with pine clad hills and forests, and an abundance of picturesque

lakes and rivers. There are delightful old towns and country districts where the peasants still wear the gorgeously quaint costumes of the eighteenth century. It is also the sportsman's paradise. There is no such varied shooting within a limited area anywhere else in the world, and the fishing is excellent. Hotels and inns abound, and are always clean and well-managed and moderate in price. The food is simple, but invariably of good quality and well prepared, light and pure, and cheap, too.

French Exports of Motor Cars.

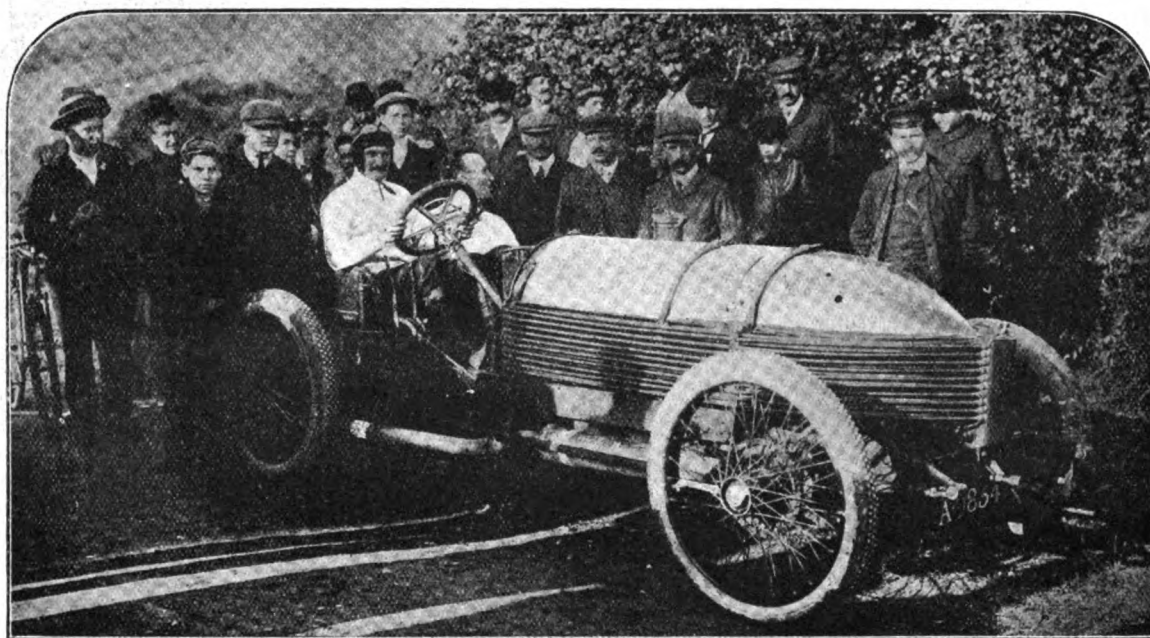
At the meeting of the French Chambre Syndicale de l'Automobile in Paris last week, the President announced that the exports of motor-cars and parts from France during the eight months ending with August last had attained a value of £4,168,640, an increase of £300,000 over the corresponding period of 1906.

Miscellaneous Items.

The Gas Motoren Gesellschaft, of Deutz, Cologne, is taking up the construction of motor-cars.—It is announced that the business of the Sud-deutsche Automobilwerke, of Gaggenau, is

THE 1908 DE DIETRICH CARS.

MESSRS. JARROTT AND LETTS, LTD., inform us that the old-established firm, the Société Lorraine des Anciens Etablissements de Dietrich de Luneville, are producing for 1908 no less than five different models, ranging from 14-h.p. to 70-80-h.p. Appended is a list of the different sizes:—14-h.p., four cylinders; 18-28-h.p., four cylinders; 20-30-h.p., four cylinders; 28-38-h.p., four cylinders; 40-50-h.p., four cylinders; 60-80-h.p., four cylinders; 70-80-h.p., six cylinders. All the features which have made the De Dietrich so successful in the past have been retained in the 1908 models, and several improvements have been added as a result of long tests and experiment. Considerable interest will be centred on the 14-h.p. car, which will have a live axle in place of the usual side chains. The 18-28-h.p. can be supplied with either chain drive or live axle to the choice of the customer. The chain-driven cars are fitted with a direct drive to the countershaft on both third and fourth speeds. Each type of chassis is made in two lengths to accommodate carriage work of all descriptions. The 14-h.p. is also made with a down-swept frame in order to bring the rear part of the car nearer the floor



The Gallion Hill Climb.—Newton on the Six-Cylinder Napier.

being acquired by Messrs. Benz and Co., of Mannheim.—A proposal to establish a public motor-car service between St. Estephe and St. Vivien, *via* Loirac, France, is at present under consideration.—No less than thirty-four motor-cars, thirty-seven motor-cycles and eighteen motor-wagons were employed in connection with the recent military manoeuvres in Italy.—A number of electric motor fire engines are to be purchased for the Fire Brigade of Crefeld, Germany.—The municipal authorities of Cambrai, France, have fixed the speed of motor-cars at seven and a half miles per hour, and have forbidden the use of sirens.—The Automovil Club de Guipuzcoa, North Spain, has been renamed, and in future, by permission of the King of Spain, will be known as the "Real Club Automovilista de Guipuzcoa." The new president is the Duke of Sotomayor.—The Dutch agents of the Fiat Company—Messrs. Verwey and Lugard, of The Hague—have lately shipped a 12-18-h.p. Fiat car to Sumatra for the transport of the mails between Deli and Tebing Tinggi.—Some trials with a Durkopp petrol motor fire engine have lately been made in Barcelona.—A public service of Darracq-Serpellet steam vehicles has just been inaugurated between Lannemezan and Magnoac, France, by La Société des Auto-Transports.

line and obviating the necessity of the usual two steps to mount into the carriage. This feature is particularly advantageous in the case of town carriages. Owing to the very great demand for the De Dietrich car it has been found necessary to establish factories in the following places:—Luneville, Argenteuil, Milan and Birmingham. These factories are all equipped with the most modern plant, specially adapted to the purpose of automobile construction, and are already organised and producing large quantities of cars. All the models are made in the Continental factories with the exception of the 20-30-h.p., which is produced in Birmingham, and has been specially designed to suit English requirements. It is fitted with a powerful four-cylinder motor, four speeds and reverse, selector gears with a gate quadrant, direct drive on high speed to the rear live axle. The frame is kept low in order to facilitate mounting into the carriage, and is upturned at the rear to give full play to the springs and back axle. The clutch in all the models is of the metallic disc type, which has been found so satisfactory in the past.

HER MAJESTY QUEEN MARGUERITE of Italy, who is the possessor of several motor-cars of various makes, has just purchased a "Wolsit" 10-h.p. car.

THE Motor Union's moral support is to be given to a member in an action against a firm for supplying alleged defective tyres.

MR. HUNTLEY WALKER'S stud of racing cars are included in the sale by auction which Messrs. Hampton and Sons are holding on the Brooklands Track to-day (Saturday).

ARGYLLS, LIVERPOOL, LTD., are organising a day trip to the Olympia Motor Show about the 14th of next month, for the drivers of Argyll cars in their district.

MESSRS. HANCOCK, WRIGHT AND CO.'s garage in Orville Street, Battersea, contains a car for the service of motorists who have broken down in the neighbourhood.

AUCTION sales of motor vehicles will be held by Mr. C. M'Adams in connection with the motor business he has taken over from Mr. W. Truscott, at Nelson Street, Bristol.

WITH reference to the Lymington route to the Isle of Wight, referred to in our last issue, we learn that more than three hundred motor-cars have been conveyed that way during the present year.

MESSRS. DENNIS BROS., LTD., Guildford, have sent us a drawing of the design they have got out for a petrol motor prison van. The body is adapted to be fitted to the Dennis standard 'bus chassis.

WITH regard to the proposed Motor Trade Benevolent Fund it has been resolved by the Council of the Society of Motor Manufacturers and Traders to recommend the committee to come to some arrangement with the cycle trade fund.

THROUGH the instrumentality of the Motor Union the tolls charged for motor-cars and motor-cycles crossing Hayling Island Bridge have been placed on a more satisfactory footing. The toll is now fourpence each way for an ordinary touring car, and one penny each way for motor-cycles.

MESSRS. ARGYLLS, LTD., have entered a 12-16-h.p. (by R.A.C. rating, 17.5-h.p.) four-cylinder Argyll motor-cab for a petrol (Pratt's Borneo) consumption test under the Club's observation. The test consists of a run of about two hours in London traffic and of about three hours in the country.

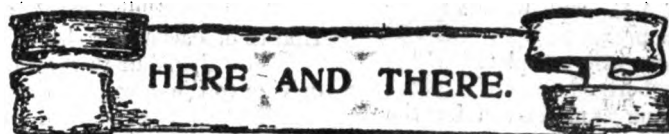
THE committee of the Bath Road Club have decided to discontinue the Ripley Roadmenders' Dinner Fund. It is proposed to devote the balance of the fund in hand as a donation to the Surrey Convalescent Home at Seaford. The entertainment of the men working between Richmond and Guildford was started in 1889.

RECENT orders for steam wagons secured by the Yorkshire Patent Steam Wagon Company include one from the Edgar Mayall Motor Transport Company, Mossley, one from the Irwell Motor Transit Company, Manchester, one from Mr. L. Winterburn, carrier, Oldham, and one from the Hoyland Nether Urban District Council.

SIR ALBERT K. ROLLIT has promised to open the forthcoming Stanley Show. The thirty-second annual dinner of the club will be held in the Hotel Metropole on Saturday, the 16th prox., and the invitation smoking concert which is annually given by the Stanley Cycling Club will be held on November 7th in the Queen's Hall, London.

A 20-h.p. Scout car belonging to Mr. R. C. Baker, of Barford St. Martin, near Salisbury, was in the Shrewsbury railway accident. On examination the car was found to be without the slightest damage, owing to the fact that it was packed so well in the fish van. Unfortunately the driver of the car sustained somewhat serious injuries. He was accompanying the car from the north of Scotland on his return journey.

Now that duller and cooler days are coming upon us, motorists will do well to consider the means available for keeping frost out of their motor houses. Messrs. C. Toope and Sons, the well-known heating engineers and experts of Stepney Square, Stepney, London, E., have given the matter much study during recent years, and are well able to advise upon the subject. Their catalogue will be of assistance in suggesting plans for dealing with the difficulty by gas, oil or coke.



CAPTAIN CRESSWELL, who has recently had his licence suspended, has no further use for his 40-h.p. Itala car, and is disposing of the same.

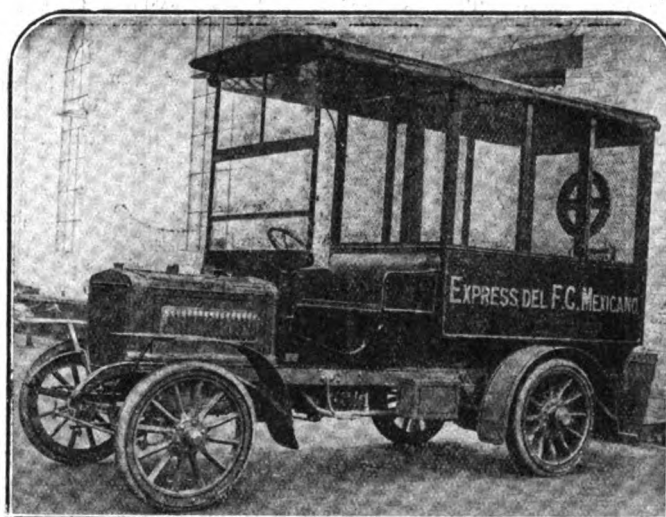
FROM the Dunlop Rubber Company, Ltd., of the Manor

Mills, Aston, Birmingham, comes an attractive catalogue of their motor clothing, to which we made reference in our issue of the 5th inst.

MESSRS. LOWE AND WOOD, LTD., automobile engineers, of Broad Street, Birmingham, have sent us a photograph of Miss Isabel Jay seated in the Spyker landaulet which they recently supplied to this well-known actress.

FIGURES taken from the New Zealand Customs statistics show that 357 motor-cars were imported into the colony in 1905. In 1906 410 cars were imported, of which 178, valued at £25,707, were of foreign construction, and 232 cars, valued at £40,335, were of British make.

THE forty acres of lawn surrounding the Capitol building, in Washington, U.S.A., are now cut by a petrol motor lawn mower, run by one man, and costing £300. Three days are required to cover this amount of ground, whereas it formerly took two weeks, employing from twelve to fifteen men.



The 16-20-h.p. Delivery Van lately completed by Argylls, Ltd., for railway service in Mexico.

WHILE the King of Spain was motoring on Sunday through the flooded districts in the province of Lerida, a temporary bridge which had been thrown across a river near Pons collapsed as the royal car was crossing it. The King fell into the water, but happily escaped with no worse consequence than a wetting.

AT the Engineering and Machinery Exhibition at Olympia, W., which closed on Saturday last, Messrs. Drummond Bros., Ltd., of Ryde's Hill, Guildford, had an interesting exhibit of their small lathes specially designed for motor repairing. The tools are so arranged that they can be readily adapted for re-boring cylinders, re-bushing gear cases, and similar work.

THE Imperial Car Cleaner is a new preparation for cleaning and renewing the surface of metal, leather, and woodwork of motor-cars. It is claimed by the American Agencies, Ltd., 38, Shoe Lane, E.C., who are introducing it to motorists, that the Cleaner is harmless to varnish, while, at the same time, renewing its lustre. Dealers in second-hand vehicles, as well as private motorists, should appreciate the merits of this renovator.

MR. J. S. BROWN, of Swansea, has rendered the Chief Constable every possible assistance in getting the chassis for the motor ambulance for the town, and kept it in his garage for some considerable time. The body is now being built upon the chassis by Messrs. Wilson and Stockall, of Bury. The ambulance is to be fitted with all the latest improvements, including heating with water and hot water basins inside, &c.

THE new car badges of the R.A.C. will be ready for members of that organisation on the 1st prox.

THE Maudslay Motor Company have just completed a fine 35-45-h.p. limousine for the Duke of Sutherland.

THE Wolseley Company are building a motor-van for the G.P.O. for service between London and Aylesbury.

MESSRS. STRAKER AND SQUIRE, LTD., have recently sold a 25-30-h.p. Straker-Squire C.S.B. car to H.H. the Maharajah of Bikanir.

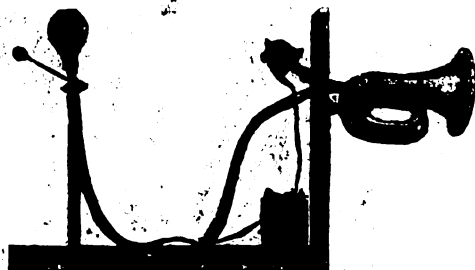
THE business of Messrs. Sayers and Co., 90 and 92, Wandsworth Road, Vauxhall, S.W., will in future be carried on by the Automobile Carriage Builders, Ltd., at the same place.

MESSRS. WELTE AND OWENS, LTD., the Liverpool and district agents for the Hotchkiss and Vulcan cars, are establishing a motor accessory department in connection with their depot at 16-20, Colquitt Street, Liverpool.

UP to Thursday last week the 40-h.p. six-cylinder Napier, which is at present undergoing a 3,000 miles trial, using Simcar benzol as fuel, had covered 2,100 miles. The amount of benzol consumed, was 93 gallons 4 pints 2 ozs., giving an average of 22.5 miles per gallon.

THE police committee of the Board of Supervisors of San Francisco, U.S.A., has directed the preparation of an ordinance requiring all persons who desire to operate motor-cars within the limits of the city and county to pass an examination as to their proficiency. The regulation will also require that all motor-cars be fitted with an apron to prevent oil or grease from dripping on the streets.

WE illustrate herewith an attachment for motor-horns which has recently been put on the market by Mr. Walter Williams, motor engineer, 79, Old Town Street, Plymouth. It



consists of an addition to an ordinary horn by means of which the latter can be operated either by an electric buzzer or the usual reed at will. The attachment is so made that it can be adapted to any make of horn.

MESSRS. ARCHIBALD GRAY AND Co., of 34, Quarry Street, Guildford, have now further extended their business by taking over the premises lately occupied by Messrs. Phillips Bros., Cycle and Motor Factors, at 94, High Street. Here they are showing a large stock of tyres and motor accessories, and have opened a booking office for the hire of cars. This branch, together with their Quarry Street depot, is open day and night, including Sundays.

MESSRS. HODGKINSON AND Co., of Devonshire Road, Bexhill, have now taken up the manufacture of the Eyre anti-skid. The device has recently been improved by the adoption of loops made of twisted hemp cable of considerable strength, and covered with a spirally-wound casing of galvanised iron wire. Should this casing, after some use, show signs of wear at any part, sufficient to expose the cable, the portion affected may be removed and a new piece of wire bound on in its place.

So much has been heard in recent years of the wonderful new battery which Edison had invented, and which was to revolutionise motoring, that a good deal of scepticism is now shown whenever the subject is mentioned. This week the daily press has announced that at a meeting of the Electro-Chemical Society a few days ago Mr. Edison stated that in the course of experiments extending over three years he had decided that a battery capable of furnishing power for 12,000 miles was not superior to the horse. Therefore, he had made a battery "with a capacity of 50,000 miles before being re-charged." We await with interest further particulars of the new accumulator.

THE Westminster Palace Hotel, opposite the Abbey and Houses of Parliament, has now its motor garage.

THE chauffeur to the Bishop of Liverpool has been fined for driving to the danger of the public at St. Helens.

TENDERS are invited by the 28th inst. for the supply of three motor-omnibuses to the Metropolitan Asylums Board.

IN North Street, Glasgow, the St. Vincent Motor and Cycle Company, Ltd., have a well-arranged and modernly equipped garage.

A HORSHAM farmer has been summoned by the police for not clearing the clipping of his hedge from the road—a salutary warning to others not to be similarly negligent.

MESSRS. MACRAE AND DICK have a garage in Academy Street, Inverness, capable of dealing with 200 cars. A newly equipped repair shop has been of convenience to many motorists visiting the Highlands recently.

THE Health Resort Bureau have published an interesting volume on Wintering in Rome, by Dr. A. G. Welsford and Dr. G. S. Brock. The reference to the facilities in the city for motorists will be of interest, and the whole book of use to those who are likely to be going to Italy for the benefit of their health.

THE Scottish Automobile Club have arranged to hold a series of examinations for driving and mechanical proficiency certificates, to be granted by the R.A.C., in the principal towns throughout Scotland, towards the end of November. Forms may be had from the secretary, Mr. Robert J. Smith, C.A., 163, West George Street, Glasgow.

NEXT year an international exhibition will be held at Shepherd's Bush, London, W., which will be known as the Franco-British Exhibition, and a strong list of officers has already been secured. Many well-known experts in various branches of science, art and industry have consented to be chairmen of the principal committees, and only exhibits of genuine British and French manufacture will be admitted. Applications for British exhibits should be made before the 15th proximo, to the organising committee, at 56, Victoria Street, London, S.W.

RECENTLY a 15-h.p. Talbot car laden with six adults ascended the Water Wynd at Fife without a hitch. Mr. Baxter, of the Dundee Motor and Cycle Company, Ltd., Dundee, had been in the district with the vehicle, when the ability of the car to take a full load of passengers up the Water Wynd, with a gradient of about 1 in 4, was challenged and accepted by Mr. Baxter, who twice made the ascent along with his driver and other passengers. On the third occasion three extra adults were taken on board, and, with a start of about twenty-five yards on the level from the foot of the Wynd, the car ran up with surprising ease. The car arrived at the top in the High Street much to the surprise of the large crowds of townsfolk who expected the vehicle to "stick in the brae."

THERE has recently been published, simultaneously in Paris (Messrs. Boyveau and Chevillet) and in London (Mr. A. Siegle), a Dictionnaire Anglais-Français et Français-Anglais des Termes et Expressions usités dans l'Emploi et la Construction des Bicyclettes, Motocycles, et Automobiles. The dictionary, which extends to 368 pages, is the work of Mr. W. E. Bayles, who has evidently devoted considerable time and trouble to its compilation, the terms in both languages, so far as we have tested them, being correctly given. Furthermore, a plan, as novel as it is useful, has been adopted, which should render the work extremely popular not only amongst those engaged in the automobile industry, but with motorists generally. Mr. Bayles' method is, in the English section, to devote the left-hand pages to a list of words and their French equivalents. The right-hand pages are reserved for a brief explanation in French of the meaning of the principal English words, and, in smaller type, short phrases showing the actual application of a particular word. In the French section the same plan is adopted, not only the equivalent but the meaning of French words being given, as well as short phrases introducing the different terms. The dictionary should form a useful addition to the reference library of motorists and motor traders, especially of those having connection in any way with France.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-28, Charing Cross Road, London, W.C.]

TRADE COMPETITORS IN CLOSED CLUB EVENTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I beg to enclose you herewith a copy of a letter I have sent round to the secretaries of the various provincial clubs, nearly all of whom have communicated with me in regard to the trade competing in closed club events. In most cases the various committees are arranging for the framing of rules dealing with the whole subject, and I am hoping that in consequence the club competitions of next year will be much more interesting to the private owner.

I am sending this copy on to you in order that you may know exactly what has taken place. I myself feel that the whole matter is one which the Competitions Committee of the R.A.C. should have taken in hand and dealt with, because a real grievance undoubtedly existed, and many secretaries were not sufficiently "au fait" with what was taking place elsewhere to know how to deal with it.—Yours truly,

CHAS. JARROTT.

COPY.

Dear Sir,—With reference to my last communication, it may perhaps interest you to learn that I have now heard from the secretaries of practically every provincial club in the United Kingdom on the question of trade competitors in the closed club events. Many clubs already have

affected, as the private owner who drives in club competitions for the sport of the thing will not continue to do so when he stands at such an unfair advantage. Signs are not wanting that such is already the case, as, though my club has a large membership, I have had the greatest possible difficulty in getting a respectable entry from my members, the reason being in every case that members had not the slightest chance against the pot-hunting trade members, and, therefore, would not enter. As you are well aware, it is an impossibility to keep a provincial club together unless you have competitions; it eventually means, unless this practice can be stopped, that provincial clubs will in due course cease to exist. The thanks of all private owners in the country are due to you for the excellent lead you have given, and I am sure the support you will get will show what a real grievance this practice has become.

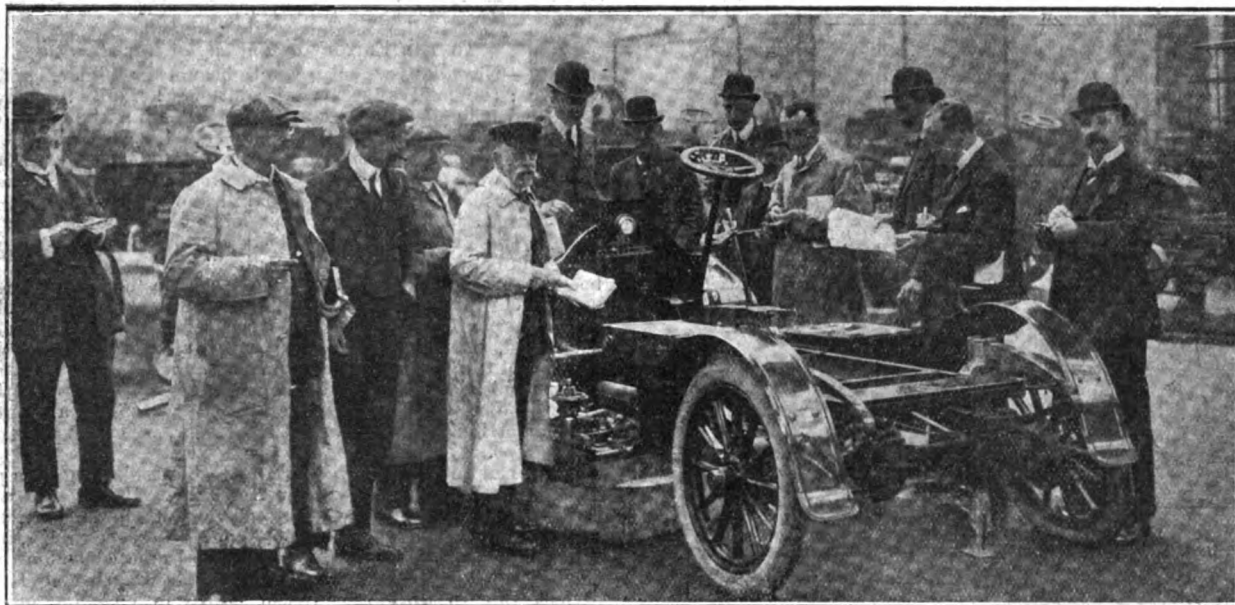
And thus, having laid the matter as clearly as I can before you, I need say no more. If, as a result of my first communication, the sporting side of automobilism is assisted, then the value of each automobile club is increased.—Yours faithfully,

CHAS. JARROTT.

RACING AT BROOKLANDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with astonishment the letter by Mr. Huntley Walker in which he states that no other car but the Napier has any



The Commercial Vehicle Trials.—The Judges Inspecting the Dismantled "Unic" Delivery Van.

rules satisfactorily dealing with the matter. With two exceptions there is a strong desire on the part of the committees that the private owner should be encouraged to take part in these club events, and as a matter of interest to you I am setting out the various methods adopted to secure this end.

1. The division of all club events into two classes:
 - (1) Private owners. (2) Trade members; or
2. The passing of a rule compelling all members to take part in, say, four club runs before being eligible to compete in any club events; or
3. The entire barring of trade members from club events; or
4. The rule that club events are open only to club members residing within a twenty-five mile radius of club headquarters.

In addition to the above, I find several clubs adopt the very excellent precaution of putting on club entry forms a statement, to be signed by the member, that the car entered is his own bona-fide personal property. Another excellent suggestion I have received is that a rule should also be passed by each club "that no entrant in a closed club event shall directly advertise the performance accomplished by him or his driver. Obviously this prevents the manufacturers entering directly through one of the staff of the firm.

That the necessity for proper legislation has been felt by, nearly all the provincial clubs is fully borne out by the following extract from a letter I have received from the secretary of a flourishing Northern club:—"The matter you raise is of the greatest importance and affects all provincial clubs; in fact, if the practice is not speedily put a stop to, a considerable number of clubs, including my own, will be seriously

chance of success on Brooklands track, as Napier cars are specially built and the cylinders of such large dimensions that they just fit into the different classes. I entirely fail to see the correctness of this statement. At the meeting held on September 14th my 48.3-h.p. Metallurgique ran successfully in the 60-h.p. race, where it secured third position, beating two 60-h.p. six-cylinder Napiers, one 57-h.p. Darracq, and two 51-h.p. Minervas. At the meeting on October 12th my 48.3-h.p. Metallurgique was first in the Medium Handicap, my 25.6-h.p. car was second in the 26-h.p. race, being only a few yards behind the winner, and my 48.3-h.p. was second in the 60-h.p. race, where it was by far the smallest car, and competed again successfully against the much bigger 60-h.p. six-cylinder Napier, 60-h.p. Iris, and 57-h.p. Ariel. These performances I think certainly prove that a small motor may score over a bigger one, and there should be no reason why other competitors should not take part at Brooklands if they have the same confidence in the efficiency of their motors.—Yours truly,

OSCAR CUPPER.

THE BRITISH AIRSHIP AND FOREIGN ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Obviously your correspondent is an enthusiast in the cause of all-British motors, and I suppose that his enthusiasm does him credit. At the same time, he can hardly expect that everyone will agree with what he writes unless he is able to substantiate his statements. It is tolerably apparent from Colonel Capper's action in choosing a French engine for the army airship, that our friends abroad are still holding

their own, and it would appear to be an incontestable fact, which unhappily any amount of letter writing will not alter. Evidently the all-British firms have not made the rapid progress that was expected, but perhaps the British engineers whom your correspondent mentions will do what they can to design for next season an engine which can be regarded as superior to its foreign competitor.—Yours truly,

C. W. BRETT.

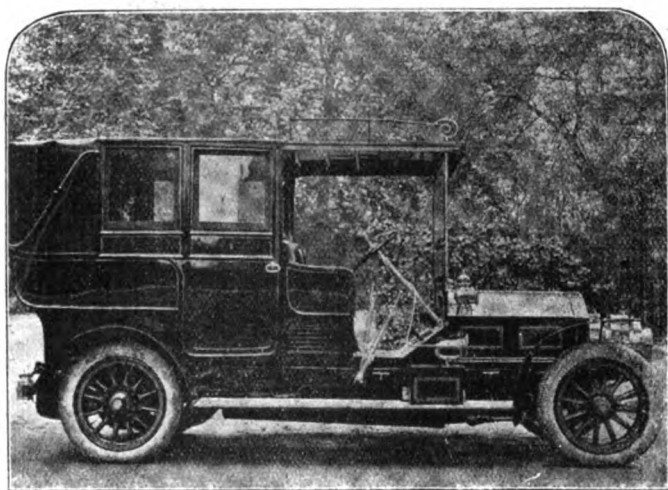
MOTOR TRAPS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The part championed by police authorities against motorists in the administration of the powers vested in their hands is carried to extremes. The spirit of administration is bad, this leads to the training of the policeman to practise measures which are repugnant.

Motorists make up a highly respectable assembly, whose loyalty to their king and country have placed their cars at the disposal of the State (in case of necessity). Should such a loyal body be prosecuted with malignity, unreasonably, by the accepted standard of magistrate, who administers law with hatred? Let the Bench remember that the policeman is a man of very little education. His training consequently cannot be one of the same standard as that of his educated countrymen, in whose ranks are associated some of the best men of the day.

It is astonishing to find the result of speed to be responsible for so few accidents as compared with the remaining portion of the traffic of the road. This demonstrates that many motorists brought before the bench are not the criminals, or class of criminals, who are to be abhorred, and treated with such severity. Is there an Act of Parliament which has been so abused or strained by police authorities as the present Motor Car Act?



The 30-40-h.p. Ariel-Simplex Carlton Limousine Landaulet recently built by Ariel Motors, Ltd., to the order of the Rt. Hon. Lord Digby.

Does it not point to the want of integrity by those who practise a method which goes against the great lesson which every child is taught from his cradle? What are the present tactics building up? The disrepute of the police authorities, assisted by a Bench who believe in the infallibility of the untechnical policeman. A visit to the motorists' camp will show that half the convictions are shown, by their protest, to be wrong and prejudicial.

Do we live in an age when law retards the progress, commercial facility, and genius of man?—Yours truly,

W. T. LALONDE.

THE COURTESY OF THE ROAD.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I beg to bring before your notice an incident which occurred on the 17th inst. in Oxford Street. I was travelling westward towards Marble Arch on a cycle, on the near side, within a yard and a half of the kerb; coming from Marble Arch was a motor-cab, which passed an electric standard on the off side in the direction in which it was running, which was the wrong side. The driver then turned into Park Street very sharply, and took the west corner within one and a-half yards of the kerb, which was on the wrong side; he ran into my machine three-quarters of the width of the road from the eastward corner. I am not proposing to discuss the right and the wrong of the case as to the accident itself, but what I strongly condemn is the driver's action after knocking me down, that instead of stopping and making a humane inquiry as to any mishap that may have occurred to me, he, without the slightest hesitation, raced down Park Street as fast as ever his engine would take him. The passenger, a lady, in the cab at the time stood up and seemed rather anxious, but whether she endeavoured to stop

him or not I cannot say. I wrote to the company owning the vehicle on the same evening asking them to make enquiries, but up to the present moment have not received the mere courtesy of even an acknowledgment of the letter.

I would like to point out that, being in the motor business myself, I am in no way prejudiced against cars, but this accident has very naturally upset my judgment in the matter of motor-cabs, and it is hardly to be wondered at that there are many people walking about to-day who are in strong disfavour of motor-omnibuses and motor-cabs, due to accidents of a similar nature.—Yours truly,

S. J. WATSON.

POLICEMEN AS PILOTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The suggestion of Mr. Bryan Scurfield, of Manchester, recently referred to in your columns as to a new society being formed to take charge of young school children as they emerge from school and safely pilot them through the traffic, is interesting. This is already done at Leicester. At each opening and closing of the schools the police officer on duty in the locality has to be at the principal entrance for ten to fifteen minutes, and not only does he control the traffic, but he safely pilots the little children across the road in batches of a dozen or so at a time. I may add the police officer is often assisted by the school caretaker or "handy-man."

The idea is well worth copying in rural districts, and policemen would be thus better employed in safeguarding the juniors than trapping their elders.—Yours truly,

A. B. E.

SOME INTERESTING EXPERIENCES ON A SMALL CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Nowadays we only seem to hear of six-cylinders and 24-80-h.p. cars, &c.; the small car seems quite out of it! Quite recently, however, I decided upon making a fairly long trip from the south coast on a small car, just to see what would happen. I started with a friend about 1 p.m. from Bexhill-on-Sea, after first listening to ascertain if all the cylinders were firing properly, and proceeded to Lewes via Pevensey and Polegate. The road from Bexhill and Pevensey is very bad, being very twisty and narrow; we kept going nicely, however, on top speed in spite of a big head wind. About two miles from Pevensey "something did happen"; the engine "died." Not possessing an instruction book to guide us as to "what to do in a case like this," we decided to look for ourselves, and soon found that the petrol pipe had broken and the petrol was pouring on to the road. Once more we thought of the instruction book, and, as before, had to do without it. My friend, who was a member of the medical profession, had an idea—we all do sometimes; he cut a piece of good rubber tube from his stethoscope, with which we united the broken pieces, and ran on till we got to a diminutive and very countryed blacksmith's establishment, where we properly soldered up the pipe.

We had quite an uneventful run to Lewes, having been passed only by the long-distance six-cylinder Hotchkiss. Having had a somewhat late lunch at the White Hart, my medical friend left me, having first presented me with about three inches of stethoscope rubber, in the event of another breakage of the petrol pipe. So I proceeded alone on the little car, making for Guildford via Haywards Heath and Horsham. A perfect run to Haywards Heath, hardly ever coming off top speed, and never by any chance below the second. Taking in a little petrol at Mr. Wood's establishment I ran easily on to Horsham. Five minutes' stop there to buy picture postcards, and then straight on to Guildford. Two miles from Horsham the English climate asserted itself, and a violent rainstorm threatened to drench me, so I stopped to put on my *parapluie*. Nearing Guildford one cylinder showed signs of missing, but I decided not to trouble, so I pattered on and reached Guildford about 8.35 p.m.

Proceeding next morning about 10 o'clock towards Reading, I had gone about one and a half miles when I stopped—that's all—just quietly stopped. Inspection revealed that the petrol pipe had again broken, and further examination revealed the interesting fact that I had lost the doctor's parting gift of the stethoscope tube. Result, a walk to Guildford with the broken pipe, another repair and many spare pieces of rubber tube; delay one and a half hours altogether. After losing my cap once, and the road about three times, I got within measurable distance of Reading, when, curiously enough, the petrol pipe again broke, in spite of the flexible rubber joint. Having temporarily repaired it, I renewed the pipe entirely in Reading, making it with two rubber joints, to be extra specially flexible. Leaving Reading in a rain storm about 3.45 p.m. I proceeded to Oxford via Wallingford, and about ten miles from Oxford I beheld a motorist stopped at the summit of a hill with the bonnet of his car open. It has been said that it is motor-car etiquette to ask as you pass if any help is required, because by the time the answer is given you will be far out of hearing. In this case, however, I stopped as the gentleman looked so lonely, and I was sure he had forgotten the book of instructions. His engine (a three-cylinder) would apparently only run for about five seconds, so, having asked him if he had done all the usual things in such cases, such as blowing up the back tyres and adjusting all the brakes, tightening up the clutch spring, &c., and he stated that he had, I chanced (another

idea) to suggest that he should try one of my accumulators (I had two). Of course I knew it was an absurd thing to do, but mine looked much nicer than his; they had nice red and black terminals, and his looked quite different—no colour about them at all! Curiously enough, his engine seemed to run quite well on mine, and I stood and thought I remembered Sir A. Conan Doyle's work concerning a famous detective, and, taking to heart some of the hints contained therein, I carefully scrutinised the now exultant motorist, and, after closely examining his boots, watch chain and necktie, and the very tidy state of his hair, I came to the conclusion that he was unmarried, had at least £2,000 a year, and lived alone in a mansion with nothing but cats for companions. I considered my deductions good enough, so let him proceed with my battery. Some people who tell amusing tales, and never by any chance deviate into the paths of truth, tell us of the man who is stranded and borrows a battery or a tyre, and neither the man nor what he borrowed is seen again. So far I have not seen this gentleman again, but I hope to, as he will doubtless tell me if my deductions were correct; but the battery, I am pleased to state, was sent off from Reading as soon as he got there almost, and if this should meet the eye of the gentleman in the mansion with the cats, let him accept my best thanks for his prompt dispatch of my accumulator.

Having arrived at Oxford about 7 p.m. and met a friend, we decided to proceed to our destination—Broadway in Worcestershire—that night, and accordingly left Oxford at 8.15 p.m. The road to Woodstock is perfect. A bit hilly to Chipping Norton and very much so from Chipping Norton to Moreton, where we stopped for refreshment. The weather for an English summer was magnificent; we both had good thick winter coats, and even then the blazing fire at Moreton was very welcome. Leaving Moreton about 11.30 p.m. with the headlight going, we proceeded to Boughton-on-the-Hill, which hill we flew up—that is the way all motorists go up a steep hill—on second speed. Having climbed this mountain we drifted along, and soon after passed down the Fish Hill into Broadway. A most enjoyable run, and one which proves that small cars are quite capable of doing a fairly big journey with no difficulty and at a minimum of trouble and expense. The petrol consumption was approximately 35 miles to the gallon.—Yours truly,

DARMENITE.

P.S.—I quite forget to mention that the car was a little 5½-h.p. two-seated Oldsmobile with two speeds.

AN OPPORTUNITY WANTED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with interest the article in the *M.C.J.* referring to the designs of motor-cars, and as this subject has interested me for some time, probably there will be no harm done if I mention that if I were given a fortnight in any motor-car manufactory I would design and work out ideas to specifications of two types of cars, one for general pleasure use and a 'bus that would satisfy the most fastidious for comfort and elegance, and, with reference to the 'bus, one that could easily be turned within the distance required by the authorities, and quite safe with reference to skidding.

I am not writing for a cheap advertisement, but as a poor inventor without friends in the industry.—Yours truly,

INTERESTED.

THERMO-SYPHON WATER CIRCULATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you would answer a few questions as to the thermo-syphon system of water circulation in petrol cars. How is the syphon principle applied to circulate the water in an automobile; that is, how are the water tank and radiating coils located so that the principle will work properly? Has heat got much to do with its working?—Yours truly,

NEW RECRUIT.

[The thermo-syphon system of water circulation is simply the natural circulation. The tanks and radiator are fixed above the level of the cylinder head with the return pipes below the water level. The supply is taken from the bottom of the radiator, or the tank, into the cylinder, and kept circulating by the heat, the hot water passing upward into the top of the radiator; in fact, it may be said that the system depends entirely on the heat for its operation.]

CARBONISATION IN ENGINE CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I had occasion recently to dismount my single-cylinder engine, and on getting the piston out found that the top of it was covered by a hard layer of carbon, fully a ½ in. thick. I should be glad if your or any reader of the *Journal* could tell me what is the cause of the deposit, and also whether it is any detriment to the engine developing its full power. Also what steps should be taken to prevent the deposit recurring.—Yours truly,

W. HUTCHINSON.

[The principal source of carbon deposit in cylinders is excessive lubrication, sometimes aided as a secondary cause by too rich a mixture; but the carbon deposited from the latter is dry and powdery, and does

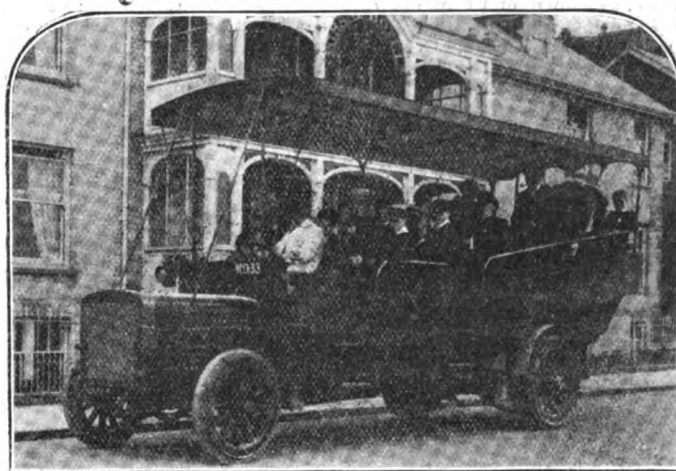
not appear to harden into a compact layer without the aid of excessive oil. The cause of too much oil passing the piston may be worn or stuck rings, or in a new engine a want of perfect fit that will remedy itself in the course of a few hundred miles running, while occasionally the non-functioning of the air escape valve from the crank case (De Dion, Darracq cars, &c.) promotes the trouble. The deposit on the piston need not affect the power if the valves are kept clean, but it is not beneficial to the cylinder; it is sometimes hard enough to be positively abrasive, and if present to the extent described by our correspondent is a symptom of one or more of the above mentioned defects, which should, of course, be attended to. Moreover, the presence of much deposit in the cylinder is often a cause of pre-ignition, refusal to stop on switching off, &c.]

LOSS OF COMPRESSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having had a similar trouble as Mr. W. P. Loft mentions in a recent issue, perhaps these few lines may be of service to him. Has he had his valves fitted properly? A good many motorists, not only motorists but repairers also, will grind in a valve, and look at the head of same for a result. I have had four engines of the same make give the same trouble, with the compression so bad that, after grinding the valves in, the engine could be turned over with the little finger. I remedied them with a cutter.

If he has the old valves by him, and has them put in the lathe, no doubt he will find them bent, which may have started his trouble and caused an irregular surface on the valve seat in the cylinder. He may fit a good many valves and still find no compression, if the seat is not true. Supposing the seat itself is only touched at one point by the valve when being ground in, it will show a mark all round the valve,



A Churchill Char-a-banc which has done good service at Felixstowe during the past season.

but not so in the cylinder. Clean off at the seat and see if that shows the same; that is the place to look to, not so much the valve.—Yours truly,

AITCH EMM.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be glad if you or any reader of the *M.C.J.* can tell the reason why there is no compression on my De Dion 9-h.p. single-cylinder car. The inlet valve is all right, as it will hold petrol. The exhaust valve has been ground in, so that is all right. I have put two new rings on the piston, and I am quite sure it does not get past there. The car works all right, but does not take ordinary hills on top speed owing to the loss of compression.—Yours truly,

T. EVANS.

[The loss of compression, as explained by our correspondent, is probably due to the piston rings, and it is past these that the loss occurs. It is a mistake to imagine that new rings will fit perfectly gas tight in a cylinder until they have had a considerable amount of running, and got thoroughly worn into their bearing. If the rings are taken out and examined, it will probably be found that they are only bearing for a portion of their circumference, the bearing points being either side of the joint and directly opposite. After the engine has had a good running the difficulty ought to be overcome.]

IGNITION WIRE.—"H. J. M." writes:—"Can you inform me where I can obtain high and low tension wire for wiring a car, covered with flexible brass or lead, suitable for Indian climate?"

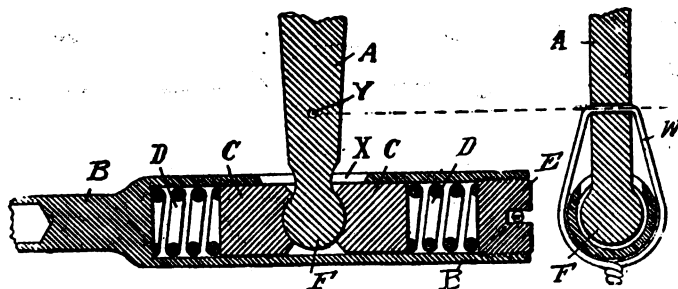
THE makers of the "Peg-sus" detachable non-skid and motor-tyre protector are Messrs. Middlemore and Lamplugh, Ltd., of Holloway Head, Birmingham.

A SUGGESTION FOR INCREASING THE SAFETY OF STEERING JOINTS.*

By LOUIS T. WEISS.

AN unusual number of motor accidents have occurred in the United States recently, and in most cases we read that the steering gear broke, or that the car, when going at high speed, became unmanageable, or the driver lost all control of his vehicle, or the car first headed for one side of the road and then for the other, finally landing upside down in a ditch, or succeeded in smashing itself to pieces on a stone wall, tree, telegraph or other pole. In most of these cases one or more lives were lost. There can exist but little doubt that the statement "that the car became unmanageable" is correct in many of the sad occurrences. The Technical Committee have had no opportunity to examine any cars after accidents had taken place, and if such opportunity had presented itself, they would have proved of little value since the cars are mostly a general wreck. We have, however, examined and considered the steering gear now in general use, and believe that it is certainly faulty. It is surprising that manufacturers furnish such a mechanism when they well know what must result on its breaking down while in use. The kind of steering gear which we speak of consists of the hand wheel, worm gear or nut movements, which causes the steering crank to swing in a vertical plane. This crank is connected to the steering knuckle by means of a reach or connecting rod swinging in a horizontal plane, and it is to this rod we wish to draw serious attention.

Since the steering crank A moves in an arc of a vertical plane, and the steering knuckle (not shown) in an arc of a horizontal plane, it is necessary that the connecting rod B be so made as to allow for up and down, and at the same time, sideways or lateral, motions at each end. A convenient way to accomplish this is to have the ends of both cranks ball-shape, as shown at F in sketch. The sockets CC partly encircle the ball end F of crank A. The springs DD exert a pressure tending at all times to keep the sockets CC in close contact with the ball F. The nut E in some cases enters the tube B as shown, and in others screws around the outside of that tube. This tube generally has an oblong hole cut into its side large enough to allow the ball end, together with the two sockets, to



move freely and longitudinally in the tube B, thus forming a yielding and play-less connection between the crank A and the steering knuckle. A yielding connection is very desirable, since it prevents snapping off of the steering knuckle, as well as lengthens the life of the irreversible steering mechanism proper.

The mechanism proper, such as the worm and gear, or the nut and thread, as well as the steering knuckles, are generally very well proportioned and well made. With the reach rod, which is just as important as the rest, it is different. When assembling, the ball F is entered through the opening X, and can come out the same way if the sockets CC open. Then the rod B will fall to the ground, and all connections between the hand wheel and the front wheels of the car are broken, and the vehicle runs wild. The sockets CC will open when either of the springs break, and break they will, as the writer has personally removed one spring in three parts.

It is true that some makers of cars make the opening buttonhole shape, and others slit it all the way out to the end, so that the ball can only be entered from the end, or through the large part of the buttonhole opening, and, when in place, these are covered or closed by a nut or cap, which at the same time answers the purpose of compressing the springs, as does E in the sketch. We have then an opening through which the ball cannot pass and the rod cannot drop off. We have examined such connections and found some where the thin wall of the tubing had been worn so large that the ball passed through easily. Others were so that the blow of a fist forced the rod off.

In the accompanying sketch we show a primitive, but quite an effective way to prevent the dropping of the rod if the springs should break so that the car will not run wild. The writer has taken such precaution ever since he has run motor-cars, and has, as before stated, removed one spring in three pieces. After the break the wheels wobbled somewhat, but the car could still be steered.

We do not recommend this particular method of drilling a hole and drawing a wire through it and round the tube B in all cases, since some steering cranks and knuckles would be weakened too much by the hole. We do, however, believe it to be a very wise precaution to fasten the

parts either by wire or other means, so as to prevent the reach rod from falling, jumping, or being jerked out of connection if the sockets CC should separate.

ROAD REPORTS.

LLANDUDNO.—The President of the Local Government Board has issued an order under the Motor Car Act, 1903, restricting speed to ten miles an hour in the following thoroughfares in Llandudno:—So much of the Parade as extends from its junction with the North Parade to its junction with Vaughan Street; and so much of Mostyn Street as extends from its junction with Gloddaeth Street to its junction with Vaughan Street.

FRECKLETON MARSH.—The road across Freckleton Marsh, which is the most direct route to Lytham, is liberally strewn with loose macadam, the surface of which is injurious to motor tyres. Those who have had occasion to traverse it after nightfall lately must have been in fear and trembling lest a nasty gash in the tyre should be sustained in this isolated region. Many travellers on pneumatic tyres prefer this coast route to Blackpool to the new main route via Kirkham, but it is to be feared that, owing to the present condition of the marshes, a great deal of traffic has been diverted to the main road and the toll receipts affected in consequence.

TAUNTON.—The Taunton Chamber of Commerce is urging the town council to fix boards warning motorists to drive slowly at the borough boundaries on all the main roads.

FORRES.—Restriction of the speed of motor-cars to ten miles an hour has been sanctioned by the Secretary for Scotland in several streets of the town of Forres.

LOSSEMOUTH.—Last week the roads and streets in the burgh received their annual patching; several other main highways in the district were also dealt with.

KINGSTON.—The main London road and Richmond road in the borough of Kingston-on-Thames is under repair.

BEDFORD.—Portions of the following main roads within the borough of Bedford will most likely be under repair during the next two or three months, viz., Kimbolton Road and Ampthill Road.

FINCHLEY.—Finchley and Hendon have each agreed to contribute one-third of the estimated cost, £5,700, of a bridge, to carry the road between Mill Hill and Finchley where it crosses the river Brent, near Dollis. It is stated that the Highways Committee of the Middlesex County Council will recommend that the remainder of the expense be defrayed by the county.

INVERNESS-SHIRE.—The Road Board of the County Council of Inverness-shire have recommended proposals to widen the highway near the entrance to the Falls of Foyers, the cost to be borne by the British Aluminium Company; to have the Gleann Meadail branch road, in Knoydart, taken off the list of highways, and to apply for a grant for township roads in South Uist and Barra. These recommendations have been approved by the council.

DONCASTER.—Small portions of the main roads in the Doncaster district are being made good where worn, but no great disturbance of motor traffic is resulting.

BRIDGWATER.—With regard to the main roads here there is a length of about two to two and a half miles of roads through the borough, and the times of repair are somewhat erratic owing to the surfaces being so constantly disturbed for gas, water, post office, telephone and electric lighting purposes. Mr. F. Parr, the Borough Surveyor, is to be congratulated on the condition of the streets under the many adverse circumstances.

LEICESTER.—At the present time none of the main thoroughfares in Leicester are blocked for any work, the tramways scheme having been completed. In connection with the repair of any macadamized roads in the borough of Leicester, Mr. E. George Mawbey, the Borough Surveyor, always sees that only one half of the road is dealt with at a time, so as to leave a sufficient width in all cases for the passage of traffic. This is, we are glad to note, a practice that is becoming more general throughout the country.

MESSRS. JOHN E. GIBBS AND MACLEAN, LTD., of Fawcett Street, Fishergate, York, have designed a new burner for Serpollet and other steam cars, in which the heavy gun metal casting that was originally used in these burners has been done away with.

MR. ARTHUR GOODWIN, who has had a long connection with the motor trade, has joined the firm of Messrs. C. A. Vandervell and Co., of Acton Vale, W., and is taking charge of the commercial side of the business. Owing to the development of their trade in accumulators and ignition accessories Messrs. Vandervell are, we learn, arranging for a large extension to their works.

AMONGST the newcomers in the tyre section of the forthcoming show will be Messrs. George Spencer, Moulton and Co., Ltd., of 77, Cannon Street, London, E.C., and Bradford-on-Avon, Wilts. This firm is one of the oldest rubber manufacturers in England, but have hitherto confined their efforts to the making of their well-known india-rubber buffer, draw and bearing springs, &c., for railway rolling stock. Their experience on railways will now be turned to automobilism, and some of their new tyres will be on exhibition. It will, however, be some months before the new machinery they are putting down at their mills will be ready to turn out tyres on an extensive scale.

* Abstract of Paper read before the Long Island Automobile Club.

CLUBS AND ASSOCIATIONS.

SCOTTISH AUTOMOBILE CLUB.

A PARADE of commercial motor vehicles took place on the afternoon of Thursday of last week, organised by the Scottish A.C. The vehicles met in Blythwood Square, Glasgow, and after being examined by the judges, proceeded at a comparatively slow pace over a selected route embracing the principal streets of the city, the whole course covering a distance of about five or six miles.

The following members of the Competitions Committee acted as judges:—Mr. John Adam, convener, Mr. Wm. Reid, Mr. Wallace Fairweather, Mr. John M. Ross, Mr. George F. Paisley, Mr. J. B. Talbot Crosbie and Mr. J. B. Shanks.

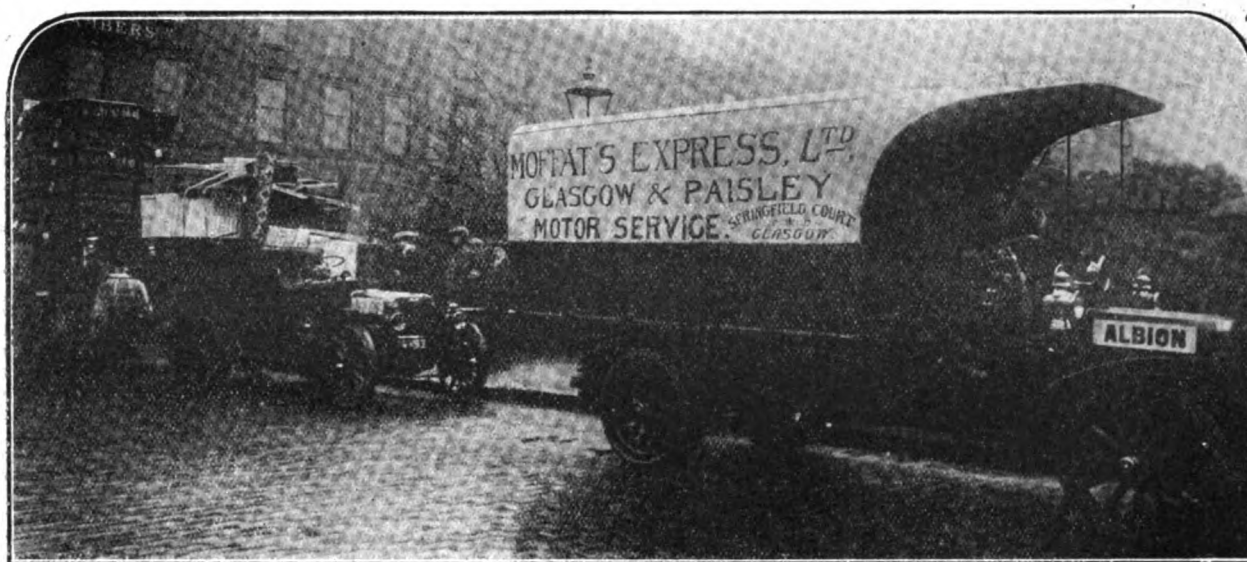
On the return to the place of start Mr. John Adam, convener of the Competitions Committee, in awarding the money prizes to the drivers of the vehicles, explained that the prizes were given solely in respect of the condition of the vehicles and of the engines and to the evident care displayed by the driver in looking after these, and without any regard whatever to the constructional or mechanical qualities of the vehicle, to which latter the prizes had no relation. Prizes were awarded as follows:—

Class I. Steam Vehicles: 1st, James Muir, driver of Mr. Robert Dawson's wagon (Fodens, Ltd.), with carrying capacity of 100 cwt.; 2nd, D. Gibson, driver of Scottish Co-operative Wholesale Society's Ltd.'s lorry (Alley and McLellan, Ltd.), with carrying capacity of 120 cwt.; 3rd, Peter Ferguson, driver of United Co-operative Baking Society, Ltd.'s bread van (R. Morton and Sons, Ltd.), with carrying capacity of 50 cwt.

For some years it has been the practice of the Auto C.C. to limit open motor-cycle races to those machines fitted with engines having a cylinder capacity not exceeding 76 by 76, or the equivalent volume swept out. The result has been that the manufacturers of these small engines have continued to improve them to such an extent, in order to get the best results out of them, that they are capable of attaining a speed of nearly 55 miles an hour, and this speed is unsafe on the existing tracks. It seems a pity to further limit the size of engines to, say, 70 by 70, for this size is but very little used: the only other alternative, therefore, would appear to be to limit the ratio of gearing.

ON Saturday, the last of the Auto Cycle Club's quarterly trials for the season was held, when sixteen machines participated in the run from Uxbridge. The run out to Dashwood was almost without incident. The following are the performances of each machine up the hill, "zero" being the fastest performance of the day, accomplished on a 9-h.p. twin-cylinder Bat, the fastest single-cylinder performance being that of F. W. Applebee, who was only 2-2-5 sec. behind that of the twin:—

Name.	H.P.	Machine.	M. sec.
D. G. Gilmour ...	9	Bat ...	zero.
F. W. Applebee ...	3½	Rex ...	2 2-5
F. C. Dee ...	5	Vindec Special ...	9
L. W. Bellenger ...	3½	Quadrant ...	10 2-5
H. G. Partridge ...	6	N.S.U. ...	33 4-5
G. L. Evans ...	2½	Rex ...	49
H. S. Catling ...	2½	Anglian ...	57 2-5



Some of the Albion Cars in the Glasgow Demonstration of Industrial Motor Vehicles.

Class II. Petrol vehicles with carrying capacity exceeding 26 cwt.: 1st, Jas. Kennedy, driver of Mr. Alex. Kennedy's 12-h.p. delivery van (Arrol-Johnston Car Company, Ltd.), carrying capacity 30 cwt.; 2nd, H. Stewart, driver of Mr. R. D. Waddell's lorry (Milnes-Daimler, Ltd.), carrying capacity of 50 cwt.; 3rd, V. King, driver of Bow's Emporium's delivery lorry (Albion Motor Car Company, Ltd.), carrying capacity 40 cwt.

Class III. Petrol vehicles with carrying capacity not exceeding 26 cwt.: 1st, W. Stronach, driver of Pettigrew and Stephens, Ltd.'s 16-h.p. parcel van (Albion Motor Car Company, Ltd.), carrying capacity 24 cwt.; 2nd, H. Macnab, driver of "Glasgow Evening News" delivery van (Argyll Motors, Ltd.), carrying capacity 15 cwt.; 3rd, J. Steel, driver of Cooper and Company's delivery van (New Arrol-Johnston Car Company, Ltd.), carrying capacity 20 cwt.

Mr. Adam explained that this was the first effort which had been made in Scotland to show the commercial community and the public generally the recent development which had been made in the manufacture and adoption of self-propelled vehicles for commercial purposes, and he thought they were to be congratulated upon the extensive and varied nature of the display.

Seven of the vehicles were shod with iron tyres, twenty-three with Royal Sirdar buffer solid tyres, and the remaining twenty-three with various other makes of solid tyres.

AUTO-CYCLE CLUB.

IN an official *communiqué* of the Auto C.C. we learn:—The time has now arrived when it has become necessary to enquire whether it is not advisable to further limit the size of engines on the racing track.

W. Smith ...	1½	Motosacoche ...	1 2 4-5
E. W. Haswell ...	6	N.S.U. Sidecar ...	1 3 3-5
G. T. Fletcher ...	1½	Motosacoche ...	1 9
W. O. Bentley ...	3½	Bell ...	1 43 4-5
A. G. Peppercorn ...	2½	Anglian ...	1 44 3-5
M. W. Randle ...	10	Lagonda ...	1 53 4-5
Capt. H. A. Webber ...	5½	Rex de Luxe ...	1 54 2-5
C. Gordon Bell ...	1½	N.S.U. ...	1 57 4-5
W. Montgomery ...	3½	Montgomery Sidecar ...	retired

The following succeeded in making non-stop runs:—G. L. Fletcher, 1½-h.p. Motosacoche; L. W. Bellenger, 3½-h.p. Quadrant; H. S. Catling, 2½-h.p. Anglian; F. W. Applebee, 3½-h.p. Rex; A. G. Peppercorn, 2½-h.p. Anglian; M. W. Randle, 10-h.p. Lagonda. The performances in the Consumption Trial were as follows:—

G. L. Fletcher ...	1½-h.p. Motosacoche	156 oz. = 127.7 miles per gal.
Capt. H. A. Webber ...	5½-h.p. Rex de Luxe	390 oz. = 51 " " "
R.A.		
M. W. Randle ...	10-h.p. Lagonda	630 oz. = 31.6 " " "

LEICESTERSHIRE.

A PLEASING little ceremony was performed at the headquarters of the Leicestershire Automobile Club, where a deputation from the Guild of the Crippled was invited to receive the proceeds of the gymkhana held on the occasion of the visit of the Motor Union of Great Britain and Ireland to Leicester. Mr. E. G. Mawbey, president of the Leicestershire Automobile Club, was in the chair, and expressed the pleasure the club had in presenting a cheque of £71 14s. towards the fund for building the new hall for the Guild of the Crippled.

SOUTHEND AND DISTRICT MOTOR CLUB.

THE closing run of the Southend and District Motor Club took place to Witham. Luncheon was partaken of at the White Hart, Witham, between twenty and thirty being present. Among those who started from Southend were Messrs. Carruthers, Dr. Laing, Mr. Vivian-Millet, Dr. Hopkins, Potter, Brittain, Greenfield, Goodman, Palmer, White, Smith, Crump, Parsons, Hertridge, and Foster Spencer, with the hon. sec., Mr. A. Warnery.

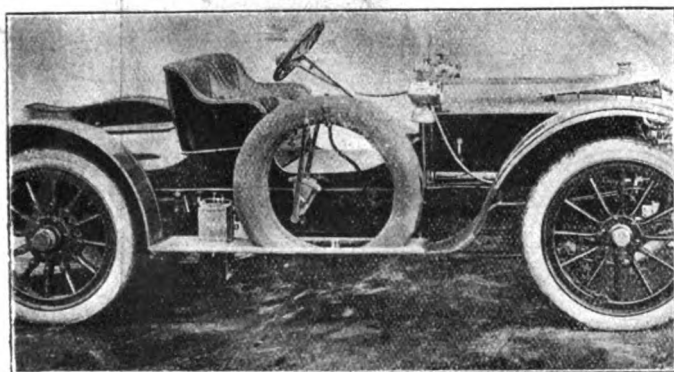
ON Saturday the 19th inst., the Junior Automobile Club held a week-end run to Leamington, returning to town on the following day. Despite bad weather over twenty members mustered at the Crown Hotel. This was the last run of the present season for the Junior A.C.

COMPANY NEWS.

NEW COMPANIES REGISTERED.

SPARE MOTOR WHEEL OF AMERICA.—£85,000. (£1). To acquire the U.S.A. patents of the Spare Motor Wheel, the St. Anne Kerosene Motor Cars, and the U.S.A. Standard Speedometer, and the undertaking and all or any of the assets of the St. Anne Kerosene Motor Company, of St. Anne, Illinois. The Stepney Spare Wheel, Ltd., of Llanelly, has consented to this registration. 2, Clarence Parade, Cheltenham.

S.P.A. MOTOR COMPANY.—£1,000. To acquire all or part of the benefit of a contract dated January 12th. 1907, between the Societa Piemontese Automobile Ansaldo Ceirano (S.P.A.), of Turin, of the one part and the Spa Motor Company, of London, of the other part, and all or any of the assets and liabilities of the business of the Spa Motor Company, and to adopt an agreement with Messrs. H. E. Hall and H. O. Hall. No initial public issue. First directors: Messrs. H. E. Hall and H. O. Hall (managing director). 15, Riding House Street, W.



The above illustration depicts the novel manner in which the Acton Vale Repair Works of Messrs. Panhard and Levassor utilise the step for securing the spare tyre.

THE COMMERCIAL VEHICLE TRIAL.

OFFICIAL revisions in the list of time lost registered against the vehicles which completed the five weeks' running in connection with the Royal A.C.'s Commercial Vehicle Trials are as follows:—Broom and Wade paraffin wagon (Class E), mechanical trouble 237 min., depot trouble 541 min. Thames delivery van (A5) depot trouble, 841 min. Milnes-Daimler tip wagon (E28), depot trouble, 336 min. Ryknield covered van (E47), no depot trouble, and no time lost.

The list, however, is still provisional, being subject to further alteration.

ARMY MOTOR RESERVE.

DURING the recent military manoeuvres the Army Motor Reserve was continuously employed, sixty-three officers of the corps being attached to the various forces. These officers performed an aggregate of 531 days' military duty, and travelled a distance of 26,000 miles.

Lieutenant G. H. V. Milbank, with his car, was placed on duty with the German Attaches who had been appointed by the German Emperor to attend the Army Corps manoeuvres.

METALLURGIQUE CARS, LTD., ask us to mention that in future all business will be transacted at 36, Lorne Gardens, Regent's Park, N.W., to which address all communications should be sent.

OWING to the promising debut of their new all-British Badminton car, Messrs. Teste and Lassen are taking larger premises, their choice having fallen upon the works in Scrubb's Lane, Willesden, until recently occupied by the Fiat Company. Amongst the first sales of the new car have been two for China, one being for Mr. C. Craig, of Shanghai, and one for a Chinese Mandarin whose name is omitted by request.

THE L.G.B. AND THE SAFETY OF THE ROAD.

A CIRCULAR letter has been sent by the L.G.B. to County Councils other than the London County Council, under date October 16th, 1907, as follows:—

I am directed by the Local Government Board to state that it appears from the replies they received to their letter of June 10th last as to the number of signboards denoting dangerous corners, cross-roads and precipitous places, set up by County Councils in England and Wales under Section 10 (2) of the Motor Car Act, 1903, that a considerable diversity of opinion exists amongst County Councils as to the action which should be taken by them under this enactment. The replies show that some county councils have put up a large number of signposts while others have put up none at all or very few.

It seems to the Board that County Councils may properly be asked to consider the expediency of a more extensive and systematic use of the facilities afforded by the enactment in question, and by other provisions of the law, for the prevention of accidents, not only to motor-cars but also to other vehicles and persons on roads in relation to which County Councils have powers and duties.

Under the particular enactment to which attention has been drawn, the County Council are the authority responsible for the erection, throughout every part of the county which does not comprise a borough with a population exceeding 10,000 at the last census, of the signposts intended to denote dangerous corners, cross roads and precipitous places on or near main roads or other highways. It is obvious that the exact spot to be chosen for the erection of a signpost for any such purpose is that at which this indication of danger ahead may most advantageously be exhibited for the guidance of a person not familiar with the road. Whether the spot be in the neighbourhood of a cross road which is not visible until actually reached, or of a steep hill with a turn in its course, it will, no doubt, occur to County Councils that, in fixing the position of the signpost, they may profitably avail themselves of the experience of persons accustomed to drive mechanically propelled vehicles or concerned with other traffic in the locality.

While it may be expected that a more extensive use of signposts will tend to material diminution of the risks attendant upon the traffic on many roads, the Board think that it may be for County Councils to consider whether, in certain circumstances, they may not usefully take other steps for attaining this object. It will be borne in mind that a County Council, with respect to a main road, have powers of improvement and enlargement. Further, as regards other highways, they are authorised to contribute towards outlay for these purposes.

Apart from those cases in which obstruction in carriage-way or cartway is caused by hedges or trees, and from other cases of danger through encroachment or otherwise, the Board may mention, as an example of powers which might be exercised for the general benefit, the improvement to be effected by the cutting off of corners in a road. In such a position, high hedges and banks are often a source of danger, and the needful alteration or removal of the hedge or bank, whether as part of the improvement carried out by a County Council, or as part of the improvement to which they contribute, may well be regarded as an important feature of the improvement. It may frequently be possible for the County Council, by agreement with the owners of the property adjoining the road, to arrange for the removal or diminution of the obstruction to view. There are probably many cases in which the owner would be willing to co-operate with the local authority in the matter, and the Board hope that in such cases the County Council may think it desirable to proceed in this manner. The Board have no doubt that the matters to which this letter refers have been considered by many County Councils, but in view of the too common occurrence of accidents they have thought it well to draw special attention to them.—I am, sir, your obedient servant,

S. B. PROVIS, Secretary.

IN view of the recent enthusiasm raised by the performance of various airships, it is interesting to note that the Zeppelin airship, (the largest in the world) has just concluded a trial which lasted nearly eight hours, a speed of over thirty miles per hour being attained. The envelope of the Zeppelin is not constructed of goldbeater skin, as in the case of the British vessel "Nulli Secundus," but of a much stronger material made by the Continental Tyre Company specially for the purpose.

THE new catalogue of the Peter Union Tyre Company illustrates both the company's beaded edge and Simplex tyre. The former can be fitted to any rim; the latter has to be fitted on a special rim. The edges of the tyre are fitted with a wire rope which keeps it firmly on the rim and requires only one security bolt. Particulars are also included of the Peter Puncture Proof Band, and copies of the excellent list can be obtained on application to 6, Upper St. Martin's Lane, London, W.C.

THE Secretary of the Royal Commission on Congestion in Ireland has written to Messrs. Brown Bros., Ltd., respecting the four 20-22-h.p. Brown cars which have been employed by them on their recently completed journey, stating that the vehicles engaged by the Commission, which were each employed for about 100 days between April and October, ran extremely well. "They had a very severe test, being out in all weathers, mainly on bad roads in the West of Ireland, and, owing to the uncertainty of our movements, there was but little time for overhauling, yet we had no breakdown and practically no trouble except the ordinary tyre troubles."

CASES UNDER THE MOTOR CAR ACT.

AN APPEAL ALLOWED.

At the Surrey Quarter Sessions at Kingston, Sir Henry Norman, M.P., on the 18th inst., appealed against a conviction and a fine of £3 by the justices of the Guildford division for driving a motor-car at a speed dangerous to the public at Witley, on July 7th. The police alleged that the car was travelling at a rate of thirty miles an hour, but Sir Henry denied that the speed exceeded twenty or twenty-one miles an hour, there being no traffic on the road. Sir Henry added that he felt that if he were to be classed among the inconsiderate drivers of motor-cars and road hogs his efforts and influence in the putting down of inconsiderate driving on the part of others, a work in which he was deeply interested, would be largely discounted. Lady Norman and the chauffeur having also given evidence, the court allowed the appeal, but refused to allow costs.

SUMMONS AGAINST A DOCTOR DISMISSED.

The chauffeur of a West End physician was summoned by the police at the South Western Court on Saturday for driving a motor-car at an excessive rate of speed at Park Side, Wimbledon Common. The doctor attended the court and said he received an urgent message to visit a patient who was very ill, and he gave his servant instructions to travel quickly. Mr. De Grey (the magistrate) said that if he were taken ill he would be glad if the doctor arrived promptly. He dismissed the case.

HEAVY HAULS.

At St. Augustine's (Canterbury) Petty Sessions, five motorists have been fined various amounts aggregating £14 15s. for furious driving.

THE IDENTIFICATION OF THE DRIVER.

Francis J. R. Canese was summoned on Monday, at Bromley (Kent) Police-court, for exceeding the speed limit on the Maidstone road at St. Paul's Cray. The police evidence was to the effect that a car was driven at a speed exceeding twenty-six miles an hour, but the number only was taken, and the car was not stopped. None of the police witnesses could identify the defendant as the driver. The solicitor who defended contended that there was no case to answer. All the evidence went to show that a certain car exceeded the speed limit, and there was no more evidence against the defendant than against the Bench itself. The car ought to have been stopped. However, the police must bring evidence to identify the defendant as the driver of the car. The police contended that the owner of the car must supply the information, but it was pointed out that the only condition as to this was in the first section of the Act, and this case did not come under that. The Bench dismissed the summons.

A DISMISSAL.

J. W. Brierley, of Middleton, was summoned at Altrincham on Monday for driving a motor-car at a speed exceeding twenty miles an hour through Timperley and Baguley. The police evidence was that defendant's car covered three miles in 6½ minutes. The defendant declared that there must have been an error, as it was impossible for a 6-h.p. single-cylinder car, carrying six passengers, to travel at that speed. If the police could get the car to do it he would make them a present of it. The chairman (Mr. J. W. Sidebottom) said the Bench were inclined to think there had been a mistake, and they would give defendant the benefit of the doubt. The case was dismissed.

NO LICENCE WHEN LEARNING.

Before the Maidenhead County Bench, Diana Bulteel, of Brook Lodge, Cheapside, Ascot, was charged with having driven a motor-car

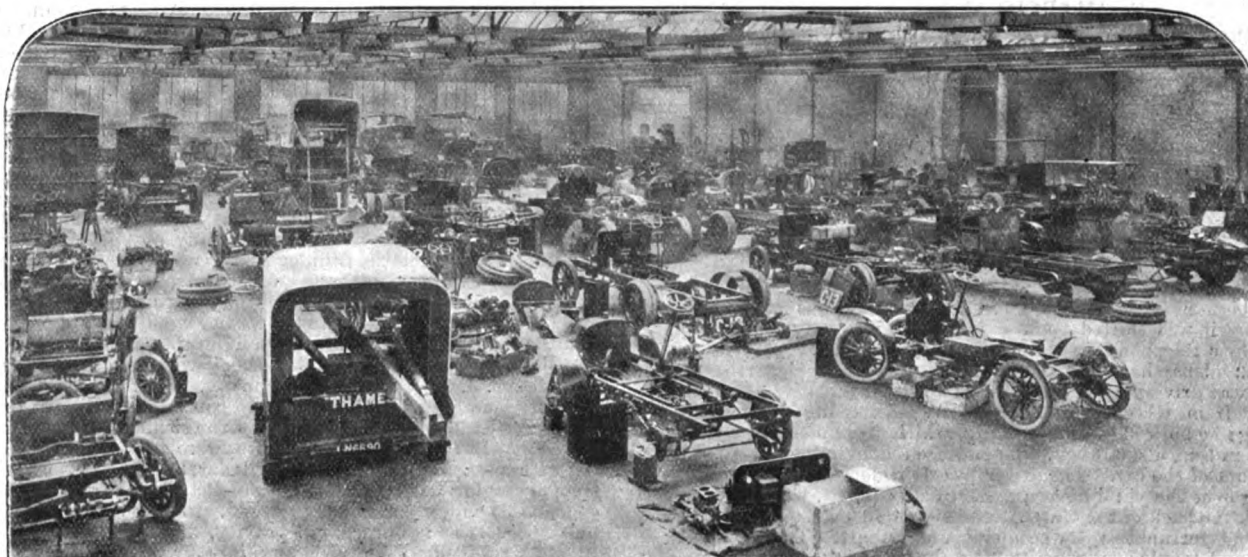


Photo by)

The Commercial Vehicle Trials.—The Competing Machines Dismantled for the Examination by the Judges.

[Argent Archer.

On a recent day at Dumbarton eleven motorists were fined various sums from £1 to seven guineas for travelling too quickly in Helensburgh. Six motorists have been fined £15 7s. 6d. at Coventry after being caught in a trap at Allesley.

FURIOUS DRIVING.

W. H. Welch, of Redcliff Back, Bristol, has been summoned for furious driving. After hearing both sides the magistrates regretted that the police had not been able to stop the car and give the defendant an opportunity to call more witnesses. Still, there had been nothing against him before in his many years as a motorist, so they would dismiss the case.

At the Kingston Borough Bench, Harold Lawford, of Kinellan, Wimbledon Common, was summoned for exceeding the ten-mile speed limit in Clarence Street. The case was first before the court the previous week, but was adjourned to allow the defendant to produce his motor driver's licence. On that occasion he told the magistrates that at the time he was hastening to fetch Mrs. Herman, whose son the previous day had met with a fatal motor accident at the Brooklands Motor Track. On Wednesday the Mayor said, under the circumstances, the magistrates decided to dismiss the summons on payment of costs.

A case, arising out of an accident at Chiddingfold, has been before the magistrates at the Hailsham Petty Sessions. Sophia Gertrude Goad, of Castle Keep, Reigate, was summoned for driving a motor-car at Chiddingfold on August 14th at a speed dangerous to the public. After hearing the evidence of the defendant, the magistrates were evenly divided in opinion, and the case was dismissed.

at Winkfield, on August 8th, without having a licence. The defendant, who stated that she was having a lesson in driving at the time, was fined 10s., with 7s. 6d. costs.

UNREGISTERED VEHICLE.

Richard Carne has been summoned for driving an unregistered motor vehicle at Shooter's Hill, Woolwich, and Tarspra, Ltd., has been summoned for aiding and abetting in the commission of the offence. The firm were further summoned for failing to cause all the paint of the lettering and figures to be renewed on the registered axle. Carne was fined 20s. and 2s. costs, and the Tarspra Company to pay the costs.

THE BRITISH PETROLEUM COMPANY, LIMITED, send us examples of the series of Shell motor spirit pictorial post cards they intend distributing at the forthcoming exhibition.

MESSRS. HENRY ANGUS, SANDERSON AND COMPANY, of Westgate Road, Newcastle-on-Tyne, have sent us a photo of forty of the Daimlers they have sold this year. Altogether they have disposed of just on 100 new cars as well as several second-hand ones, and report that the prospect for the coming season seems to be even more promising than the last.

MR. F. E. COPPEN, of the London and Parisian Motor Company, Ltd., is, we learn, taking the new 16-h.p. Hotchkiss, which is being put on the market for the 1908 season, into all towns of any importance in England before the Olympia Show, with a view to demonstrating same to agents and fixing up agencies for the coming season. Should any agents wish to see the car they should communicate with the London and Parisian Company.

FORTHCOMING EVENTS.

OCTOBER.

- 26th (S.).—Scottish A.C.'s hill climb near Fintry, Stirlingshire.
Motor-cycling conference at Nottingham.
Birmingham M.C. run to Roydon.
Auction sale of motor-cars by Messrs. Hampton and Sons, Ltd., on the Brooklands Track.
- 30th (W.).—Annual meeting of the Marine Motor Association.

NOVEMBER.

- 8th (F.).—Society of Motor Manufacturers and Traders' Dinner, Grand Hotel, Charing Cross.
- 11th-23rd.—Olympia Motor-Car Exhibition.
- 12th-30th.—Paris Motor Show.
- 13th (W.).—Annual Dinner of the Motor Union at the Hotel Great Central, London.
- 20th (W.).—Institute of Automobile Engineers. Address by Col. R. E. Crompton.
- 22nd-30th.—Stanley Show.
- 30th (S.).—Annual dinner of the North London A.C. at the Midland Grand Hotel, London.

DECEMBER.

- 2nd (M.).—Cheshire A.C. annual dinner.
- 4th (W.).—Southend and District M.C. annual dinner.
- 5th (Th.).—Exhibition at Berlin.
- 7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
- 18th (M.).—General Committee of the Motor Union.
- 21st (S.).—Opening of the Brussels Exhibition.

MARCH, 1908.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Oct. 26th—5.45	...	28th—5.41	...	30th—5.37	Nov. 1st—5.32
" 27th—5.42	...	29th—5.39	...	31st—5.34	" 2nd—5.30

AUTOMOBILE ACCIDENTS.

WHILE Lord Dunleath and some friends were motoring to Glasgow on their way south from Glenclunie Lodge their Daimler car backed into the public weigh-house at Blairgowrie. The building was struck with such force that it was shifted back a foot, and was only saved from overturning by a telephone post immediately in the rear.

A MOTOR mishap has occurred at Meadowbank, Applegarth, N.B. A chauffeur was driving a car containing two ladies and two gentlemen on their way from Glasgow to London. When passing beneath the railway bridge he noticed a postman's gig, which attempted to pass, but, when almost in line, a small boy, who had been hanging on to the gig, stepped in front of the car. The driver had no time to draw up, and to save running over the child he swung his car to the left, with the result that it struck the back of the trap with considerable force. The gig was overturned, but fortunately its occupant was unhurt. The car struck the banking and toppled over on its side, the occupants being thrown out. All, with the exception of the chauffeur, escaped without injury, but Braidstreet was badly shaken. The car itself was damaged, and was afterwards towed to Lockerbie for repairs, after which it was able to continue its journey. The chauffeur had to return to London the following day by train.

POLICE TRAPS.

THERE is a trap between Beaingby and Bridlington.

ALONG the Upper Worthing Road, in the parish of Poling, the police have a measured quartered of a mile.

POLICE traps have been established at Allealey—one on the Meriden side of the village and another close to the Coventry boundary.

NEAR Weeton Station, on the Otley road, is a police trap leading to the Knaresborough court.

MOTOR traps have been established at Horsley and Corbridge, near Hexham.

THE Christchurch traps are again in active operation.

AT Ruxley Hill, North Cray, the measured distance is again in charge of vigilant officers.

THERE is a trap in the parish of Angmering (Sussex).

MOTOR-CAR drivers in London have decided to recognise as a call for their services three blows of a whistle.

WE learn that the Elastes Company are now prepared to fill motor-cycle tyres with their well-known Elastes material.

MOVIL is the name given by Messrs. Carless, Capel and Leonard to the quality of motor spirit which is ordinarily used of 71.5/72.0 specific gravity. The firm, of course, still supply their Standard petrol of 70.0 specific gravity.

BUSINESS NEWS.

THE Stepney Spare Wheel is being introduced into India by the Bombay Motor Car Company, Ltd.

THE ALBANY AUTOMOBILE COMPANY, of 106, Albany Street, London, N.W., is making a speciality of hiring cars, and have already a large clientele.

THE SIRDAR RUBBER COMPANY, LTD., send us a photo which depicts in a striking manner the growing popularity of the Sirdar pneumatic tyres with grooved covers.

ON Monday the Stepney Spare Wheel, Ltd., received a telegram to dispatch at once an 880 and 895 adjustable Stepney wheel for the King of Spain's car.

MESSRS. W. GALLOWAY AND CO., of Gateshead, have just been appointed sole agents for Stanley steam cars in London and fifty miles round.

THE new chain making works of Messrs. Hans Renold, Ltd., at Burnage, near Manchester, are now rapidly approaching completion, manufacturing operations in one of the departments having been commenced last week.

MR. C. H. BAILEY, of Barry Dock, who has recently acquired his seventh Daimler car, has written to the Daimler Company stating that the 35-h.p. car, of which he recently took delivery, has in every way come up to his expectations. "I began seven years ago with a 6-h.p., which was followed by a 9-h.p., and a little later on by a 16-h.p. This car in turn was succeeded by three 23-h.p.'s, and now the 35-h.p. makes seven, and every one is in use; even the 6-h.p. is still doing good work."

LADY WAKEMAN has, through Messrs. Rippon Bros., of Huddersfield, had a good many "Arco" non-skid bands, and at this moment Messrs. Rippon have both a plain and a non-skid cover for repair. One of these non-skids of the Acre Rubber Company on her ladyship's 14-20-h.p. Renault has run 8,200 miles. After 2,438 miles it was sent to be "Arco'd." It then ran 3,177 miles to August, 1906, when it was again sent to be "Arco'd." From September 1906 to April, 1907, it ran 2,464 miles, when it was "Arco'd" for the third time.

THE Hon. Dudley James writes that his 30-h.p. Beeston-Humber has run over 7,000 miles, and has not been delayed on the road more than an hour in all. "We frequently do the run from London to Bexhill without change of gear, and the car has climbed Llanberis Pass easily on top speed with four up and a quantity of luggage."

THE "London Gazette" of October 15th last contained an announcement of the voluntary winding up of a company named the Stanley Show, Ltd. This does not mean that any alteration is being made in the lines upon which the Stanley Show is being held at the Agricultural Hall. The explanation of the announcement is that certain changes are being made in the constitution of the company which owns the name, and these changes necessitate the formal winding up of the old company and the registration of a new company in the same name.

FOR low petrol consumption the Berliet car, the agents for which are Messrs. J. E. Hutton and Company, Ltd., is hard to beat, and this in a large measure is due to the hand-controlled auxiliary air inlet fitted to all Berliet models, which permits the richness of the mixture to be varied at will. The following figures were arrived at when experimenting with a standard 60-h.p. four-cylinder Berliet, the speeds during the tests averaging sixty miles an hour:—Petrol, auxiliary air valve quarter open, 11.35 miles per gallon; Anglo, 76 gravity, auxiliary air valve half open, 11.88; Borneo, 76 gravity, auxiliary air valve half open, 12.63; a spirit of 755 gravity, auxiliary air valve half open, 13.1.

FROM Iris Cars, Ltd., comes a copy of the new catalogue of Iris cars. The detailed specification of the various models—25-h.p. and 35-h.p. four-cylinder and 40-h.p. six-cylinder—with the variations in each particular feature, are clearly indicated in such a way that, without turning over a number of pages, one can see at a glance the difference between any special point of the four and six cylinder models. Another feature is the showing of all the principal details of the cars in tabulated form, so that one can instantly see the dimensions or style of any particular detail. The list, which is well illustrated, concludes with a number of testimonials from various parts of the world showing the "Iris" is equally satisfactory under all conditions of climate, &c.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-28, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are desired to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, NOVEMBER 2, 1907.

[No. 452.]

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"THE INDUSTRIAL MOTOR REVIEW."

"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C. It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



IN our issue of August 24th we gave the awards of the judges in the competition organised by the Roads Improvement Association in May last. These have now been supplemented by some observations in a report of considerable interest, in which the performances of each appliance is referred to. A summary of this is given on another page. Here we would mention that it is generally accepted that an application of two coats of tar is necessary for preserving the road surface, and the judges would have wished to carry out the trials under that condition, but the weather and other circumstances did not permit. Therefore it could not be expected that the surfaces treated with one coat only would be durable, and the trials in respect of durability do not reflect on the machines competing. The final judgments and awards in the Machine Competition have been based upon the machines only. In spite of the generally unfavourable nature of the weather during the Trials, the results on the whole may be considered satisfactory, and much useful information has been obtained in connection with the comparative merits of the various materials used, and of the methods of spreading these materials. Enough has already been done to show that machinery can be successfully applied for this purpose, and that its use is both rapid and economical as compared with the cost of applying the same quantity by hand.

Judges' Observations on the Dust Trials.

SPEAKING generally the whole of the machines tested showed originality and forethought in design, and considering the short time the demand for this machinery has been before inventors the results obtained are exceedingly promising. No doubt most of the machines exhibited can be improved, and when using the proper material in correct quantities they are all likely to give satisfactory results. Suitable tar compositions are practically insoluble, yield no matter liable to be washed away into the water courses to pollute and to cause damage, nor should there be any considerable quantity of tar-dust ground off the road surfaces after treatment. The judges believe that the complaints made under this head previous to these trials have been due to the use of improper materials, that is to say, tar from which the more unsuitable compounds have not been extracted previous to the tar being used on the road. Now that this is understood it is probable that most of these difficulties will disappear. Little has been said in this report as to the Ascot experiments. The judges consider that this portion of the work was not satisfactory, for several well-

understood reasons. In the first place, the tar supplied from the Reading Gas Works was apparently unsuitable for spraying by machinery. Through some unexplained cause a great deal of foreign matter found its way into the tar, which blocked the nozzles of the machines and caused very irregular working. Heavy rain had fallen on the night previous to the experiments, and in consequence in many parts the tar, instead of penetrating, was lifted off by the traffic in the form of a detached film.

The Councils and the Roads.

A DEPUTATION of representatives of the leading County Councils will shortly be appearing before the Local Government Board to call attention to the damage alleged to be done to the main roads by motor traffic, especially in the vicinity of the metropolis. The county authorities of Kent, Hertfordshire, and other home districts, are already moving in the matter, and the chairman of the Highways Committee of Hertfordshire has just indicated that they are associating with a view to secure a graduated scale of licences proportionate to the nominal horse-power of the motor vehicle. The total amount received as a result should, in their view, be paid to a central account and distributed in an equitable manner among the various road authorities. Lord Salisbury, at Monday's meeting of the Hertfordshire County Council, also expressed his opinion that the owners of cars should pay for the damage they were said to cause. These and other things point to the fact that a combined movement is being promoted, and we trust that the organisations that have particularly identified themselves with automobile policy will be watchful as to the arguments and proposals placed before the Local Government Board by the deputation. In many ways the proposed gathering is one of the most important steps that has been taken against motorists within the last few months; hence the warning that we feel compelled to give to all at the present juncture.

A Parliamentary Motion.

SINCE writing the foregoing, further evidence of the interest taken in the future legislation with regard to automobile matters comes from Sussex. Writing to the Uckfield Rural District Council acknowledging the receipt of a resolution expressing the opinion that the money received by the Inland Revenue Commissioners for motor-car licences should be more evenly distributed over the country, Earl Winterton, M.P., said he thoroughly agreed with it, and he proposed to move in the matter, so far as he was able, during the next session of Parliament. Having regard to the fact that Sussex was more frequented by motor-cars than almost any other

county in the kingdom, he would suggest that some collective action by all the road authorities in Sussex should be attempted with a view to strengthening the hands of the Parliamentary representatives of the county, who, he believed, irrespective of politics, would almost unanimously favour an alteration in the existing law. He was in no respect hostile to motor-cars, but he was anxious to see a more equitable distribution of the money arising from licences. The Hon. Hubert Beaumont, M.P., has also written in similar strain, and it seems fairly certain that the Motorists' Parliamentary Party will have to meet to consider the situation at a very early date in the next session of Parliament.

New Guide Posts.

DURING the past summer Mr. Henry Moore, of Brighton, has been indulging in a series of motor trips in Sussex lanes, with a view to suggesting new routes for the motorists of that charming county, so that they may be encouraged to a better acquaintance with their locality. In the course of his wanderings he found many confusing corners and several spots where it was easily possible for strangers to lose their way. Some of these have been duly reported to the Automobile Association, which is now putting up such signs as that illustrated herewith. The sign is fixed at a point where the main



Mr. Henry Moore, of Brighton, on his 15-h.p. Humber.

Brighton road divides into two, one *via* Hickstead and the other *via* Cuckfield. It is intended to convey to every motorist that the road *via* the former place is peculiarly advisable, because the A.A. patrols are in force there, and not on the Cuckfield stretch. The significance of the information will be obvious. In the picture Mr. Moore is seen at the wheel of his 15-h.p. Humber car.

The Attitude towards Motorists.

THE views of gentlemen interested in matters of local government are so often misunderstood, and even misrepresented, that opportunities of removing misgivings as to their attitude are always welcomed. We are glad, therefore, to have the contradiction by Mr. C. H. Harrold, of Merstham, in the letter published on another page, of the report recently attributed to him. And having accepted his assurance, we would add our expression of regret that such inaccuracy should have appeared. With his opinion as to the dust nuisance and its attendant depreciation of property on main roads motorists are greatly in accord, and the experiments that have been conducted by the Royal A.C. and other motoring organisations testify to a desire to lessen the evil. On the other point, our own columns have frequently proved the desire of owners of cars to secure universal consideration for other users of the road as well as those who dwell near the highways.

Fuels.

THE full report of the Fuels Committee of the Motor Union, including in its eighty pages several valuable appendices, has just been published. The Fuels Committee, which sat for nearly twelve months under the chairmanship of Dr. H. S. Hele-Shaw, F.R.S., was appointed in September, 1906, "to inquire into the recent alarming rise in the price of petrol, and to report what steps, if any, can be taken to protect the interests of the private consumer." The committee made a very thorough investigation, and their report constitutes the most important and exhaustive publication that has yet been issued on the subject of fuels for motor-cars. The report deals with the present supply of petrol and its prospective shortage and the control of the petrol supply. The possible substitutes for petrol which have been considered by the committee are heavier spirit, paraffin, naphtha, benzol, and alcohol. A comparison of the respective merits of petrol and alcohol is given in the report. The appendices include a brief description of the fuels mentioned in the report, the evidence of the witnesses examined, and memoranda on petroleum, petroleum spirit, paraffin, shale spirit, benzol, alcohol, &c., and a bibliography.

Northern Fairness.

THE chairman of the Stratton (Devon) Bench having advised the local police to use stop watches instead of ordinary timekeepers when setting traps in the future, we would suggest that the authorities should be careful with regard to the class of instruments purchased. St. Helens in the north and Stratton in the west have a point in common, inasmuch as both their Benches are familiar with speedy motorists whose progress has been delayed by the police. At St. Helens the other day there was a batch of prosecutions against drivers of motor-cars, and in the course of the proceedings the magistrates asked the sergeant and a constable to show the Bench how they started and stopped their watches. This having been done, the Chairman remarked that there was a trifle of difference between the two. After the trial, counsel for the motorist pointed out that the watches had been set off under ideal conditions, and the Chairman observed that there was great difficulty in starting them. "I could not start one," he said, "unless I did it with a coin." In the next case a motorist was summoned for driving in a dangerous manner. One of the constables, in giving evidence, said the sergeant was in a field, and when he saw him turn his head round that was the signal he got that a motor-car was coming. The Chairman cut off this evidence abruptly by saying, "There is no use going on. This is an absurd case. The evidence as to the speed is not at all satisfactory."

The Motorist of Moderate Means.

SOME figures given by Mr. L. G. Chiozza-Money, M.P., in connection with a general review of the future of the automobile industry are not without value to individual firms in the trade at the present juncture. It is being freely said that the limitations of the market for the high-powered cars that figured so largely in the inquiries of a few seasons ago have been nearly reached; the newer race of motorists are of more moderate possessions than many who figured in the ranks of the pioneer. And these are the people for whom makers and agents will have to cater. According to this M.P., who has specialised on statistics, there are in Great Britain 124,981 houses of a rental value of over £80 a year; less than 10,000 of these are of a value of more than £300 a year. When we remember the figures that have already been published as to the number of motor-cars in actual use, it will be recognised that many of their owners have become motorists. But there remain the great body of people living in houses rented at from £40 to £80 a year. These number 278,268, and constitute a class of people in which is a large proportion

of prospective motorists. And the character of the business that has lately been noted in London and the chief centres of the provinces proves that these people are giving heed to the allurements of the motor-car. Their demands will be the hope of the trade in the near future.

New Roads.

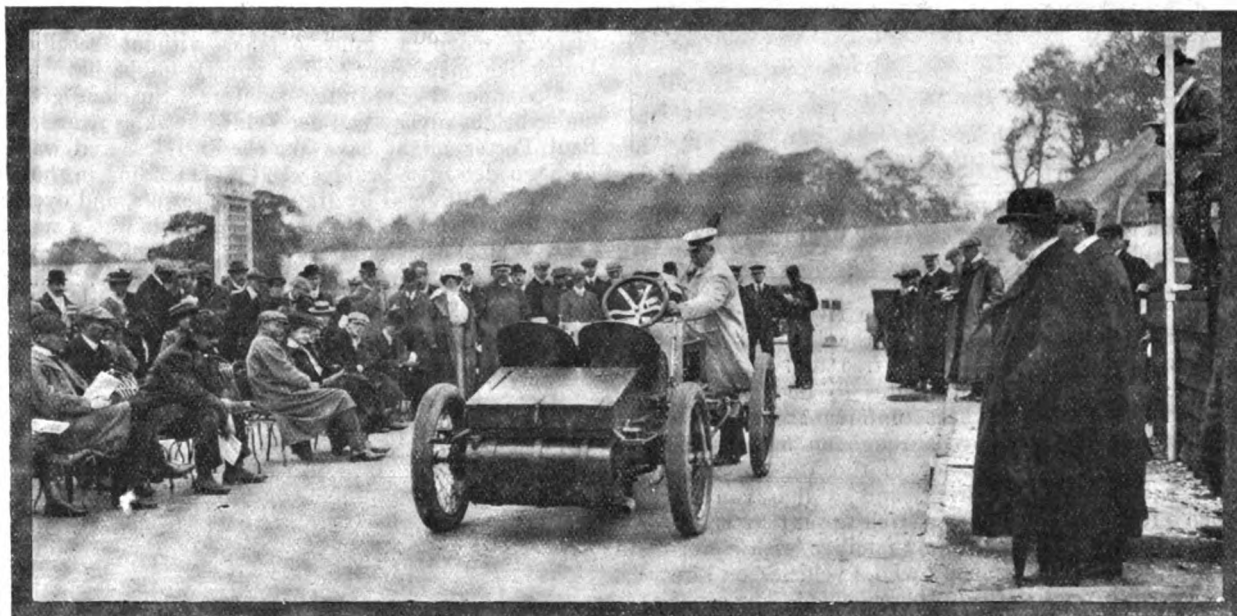
THE Ross Rural District Council have decided to send a memorial to similar bodies throughout the country urging that the money derived from the registration of cars and the licensing of drivers should be placed in one common fund and then distributed among the various counties, to be used by them for the maintenance of the public highways. In advocating the proposal, Colonel Middleton pointed out that the manner in which the fees were now collected was not just to the rural districts, as the majority of vehicles registered in large centres of population used the roads in the country more than they did the streets of populous towns. This is a point that has been urged frequently and influentially within recent years. Motorists generally will agree with the suggestion that the money should be placed in one common fund, but the re-distribution to the county authorities almost suggests a perpetuation of the present arrangements. A consensus of opinion has agreed that the matter is a national one, and only administration by a central body is likely to secure efficiency in the great national roads.

Public Oratory.

THE season of club and other dinners is now upon us and the floodgates of oratory have been let loose. Last week the Huddersfield branch of the Yorkshire Club and the South Devon Automobile Club held their annual gatherings at Huddersfield and Plymouth respectively, M.P.'s giving their benediction to motorists in both places. Mr. A. J. Sherwell and Mr. F. B. Mildmay, who sit on opposite sides of the House of Commons, were equally agreed in deprecating the imposition of a speed limit in the open country, and both deplored the methods of trapping devised and developed by the police in various parts of the country. Apparently, too, they were united in the belief that extra taxation will be imposed on motorists in the near future. And then the question will arise as to the reform of the present system, or rather want of method, prevailing in matters of road maintenance.

Road Manners in Guernsey.

MANY of the British motor clubs have rules of the road for the guidance of their members and the safety of the public, but none have gone so elaborately into the matter as the Guernsey Motor Association, which, although only of recent birth, has developed a great desire to be of service. It was formed largely owing to the exertions of Lieut.-Col. R. H. Carr-Ellison, and practically comprises within its ranks all the motorists in the island. The rules for motorists emphasise the necessity of holding up the hand when about to stop, and sounding the horn when within 100 yards of a corner. The Guernsey motorist is advised to never, for the sport of the thing, or without some very good reason, pass a higher-powered car, for, "if caught up by you and passed while it is going slow, you will yourself very shortly be overtaken and passed and subjected to a good dusting for the presumption." Should a car be met or overtaken in evident trouble always slow up and inquire if any help can be rendered, for welcome help can often be given by taking a message to the nearest telegraph or telephone office, or by offering a lift to some of the occupants of the car to or towards their destination. When two cars approach one another, both



The Motor-Car Auction at Brooklands.

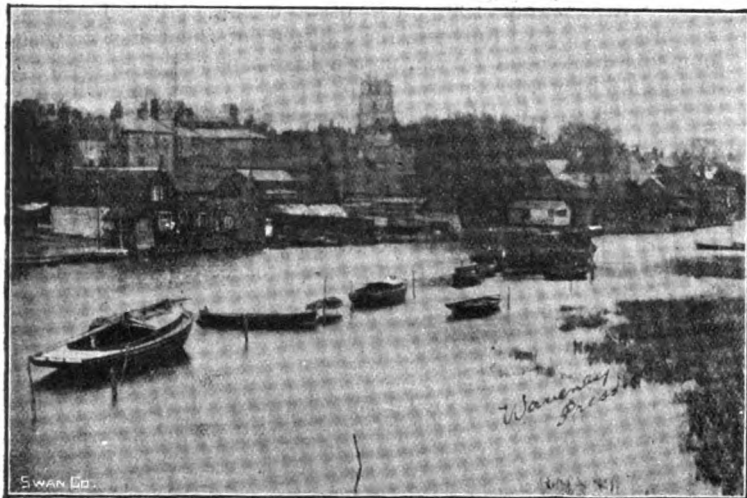
should invariably slow down till they are well past, for the mutual benefit of their respective occupants. If possible, try to avoid splashing with mud, and covering with dust, other occupants of the king's highway, to which all have an equal right, the pedestrian most of all. It is safer to slow down and wait a reasonable opportunity to pass in close traffic than to dash in where angels would fear to drive; not only is the latter policy inconsiderate to all, but it is often criminally dangerous.

In India.

MANY leading British makers are taking advantage of the present lull in trade to push business abroad. At the end of the year many well-known types of cars will be taking part in the Reliability Trials in India. We are reminded of the development in the East by the result of the last Argyll competition, in which mention was made of a run by Mr. A. Turner Laing, of Bombay, on a 14-16-h.p. Argyll from Poona to Mahabaleshwar Hill Station, India. Several of the hills on this road are some seven or eight miles long, one, the Wai Ghaut, fifty-four miles from Poona, being seven miles long with a continuous gradient of about one in eight.

MOTORING AROUND BECCLES.

THE Norfolk Broads are the delight of boatmen and a veritable Elysium for those who love the water. The motorist need not dissociate his favourite pastime of road travel with the pleasant district on the borders of Norfolk and Suffolk, of which the ancient town of Beccles may, for the purpose of a brief holiday, be regarded as the centre. I have just had a most delightful week-end in that ancient gabled town



A View of Beccles and the River Waveney, from the Waveney Valley Railway.

[Illustrated Handbook of Beccles.]

—kept clear of the county of dumplings by the river Waveney, where Isaak Walton would have fished had the Lea not been nearer to hand, and where the fishing is free and plentiful. From London there are two alternative routes to Beccles. By way of Chelmsford, Colchester—where unfortunately police traps are freely placed, and as I drove through on my 15-h.p. Swift I saw the driver of a 6-h.p. Siddeley of the 1904 type in altercation with a policeman—Ipswich, and a fine run to Lowestoft. Then a few miles inland the church tower rises above the market-place of the little town, happily familiar with motor-cars through the enterprise of a company whose vehicles on hire are often to be met with on the roads thereabout. The other way is through Epping to Newmarket and Thetford, thence to Norwich and a southerly run to Beccles.

Motorists from the North and Midlands will probably make the city of Norwich their apparent objective, and then take this place on their way to Lowestoft or Yarmouth. In fact, I can suggest no more agreeable way of enjoying the sea breezes of the Norfolk and Suffolk coasts than to take daily spins from quiet, quaint Beccles, which lacks the noisy jollity of the holiday resorts, and has the distinction of calm evenings—which none would claim for Yarmouth in the season.

A mile away on the Norwich road is Gillingham, a very different sort of place to the Kentish Gillingham, near Chatham. It has a couple of churches, indicating a larger population in some distant year than is the case in this Twentieth Century. One has but the tower left; the other contains some heavy Norman work of interest to antiquarians and others. But there are scores of interesting villages, with old churches and lordly demesnes, within a radius of an hour's run. Blundeston, associated with David Copperfield, and Somerleyton Hall, built by Sir Morton Peto, should be seen, and also Bungay, to reach which from Beccles, Ditchingham House, the residence of Mr. Rider Haggard, must be passed. I was unfortunate when motoring that read in not seeing the distinguished novelist. In fact, I did not even discover whether he was a motorist—a very different experience to that which befel me when I motored to Rottingdean from Brighton some years ago. Mr. Rudyard Kipling was then living opposite the church, which faces the house

of Sir Edward Burne Jones, and daily motored to the coast, being such a public character that he has now fled for seclusion to Burwash. Sir Conan Doyle is bolder, and often motor-cycles from his home at Haslemere along the Portsmouth road. Now he is married I suppose he will do more of his travelling by car. But that is a digression; having seen the last-named novelists at the wheel of their vehicles I should like to have met Mr. Haggard on his car. Perhaps some one else may be more fortunate and favour the *M.C.J.* with a snapshot.

Bungay stands on a considerable elevation, and, from the remains of castle and church, would appear to have had a past; now it has little more than a railway station and an hotel.

And then, when I had seen and grown tired of the giddy round of amusement at Lowestoft, I went in search of the British Holland that tourists rave about—and so near. The road passes Easton Broad and Covehithe to Southwold, a restful little place eleven miles away, in the growth of which the G.E.R. motor service to Lowestoft promises to be a factor. Continuing the trip through Aldeburgh, it is a pleasant road to Walberswick, Blythburgh Common, and Dunwich—once an important ecclesiastical city; now there are none so poor to do him (*i.e.*, Dunwich) reverence. True, the remains are picturesque; that is all. But Walberswick and all the country around is delightful—a novel bit of landscape. "You can scarcely move a mile outside without recalling pleasant Dutch-like memories. The country might have been laid out and 'composed' by Dutch painters. Spacious green distances under bright silvery Van der Velde-like skies; cattle feeding that Paul Potter might have sketched; dykes and waterways and high wooden little bridges; red roofs shining in the sun, backed by trees and topped by grey church towers, and over all there is sunshine and the flavour of the sea." It was a sunny day that I saw Walberswick, and the silver sheen of the waterways gave a brightness to the greenery of the landscape. The roads were splendid—I fancy they are better in Suffolk than in Norfolk—and going inland awhile a rural ride was enjoyed back to Beccles,



The Church Tower, Beccles.

our trusty Swift car not being restrained by the machinations of the police. In fact, I came to the conclusion that in that part of the world the police are regarded as the protectors of property and the guardians of dissolute persons, and motorists do not come under their special notice. For which relief much thanks, and another trip to Beccles when opportunity offers. H. B.

The Argyll 40-h.p. Car.



WE have this week had an opportunity of inspecting the 40-h.p. car which the Argyll Company are introducing for the 1908 season, and which will make its debut at the forthcoming Show. The new vehicle, which differs in many particulars from previous Argyll practice, embodies several interesting departures, reference to which is made in the sub-joined description. The frame is made of channel section pressed nickel steel, well braced with substantial cross-bars. The front end has a neat taper to the spring horns, while the rear cross-bar is made with the lower flange shaped to receive the inverted transverse spring. The front springs are extra long and semi-elliptical, and the front ends of the rear side springs are fixed direct on to nickel steel pins bolted to brackets on the side members. The rear end is connected to the transverse spring by means of double shackles, and, as an instance of the care paid to the details, we may mention that all the shackle pins are supplied with grease cups.

The engine (Fig. 2) comprises four cylinders, 120 mm. bore by 140 mm. stroke, cast in pairs, with the interchangeable

which has many novel points; in addition to performing the ordinary functions of an automatic carburettor in a perfect manner, two extra features are introduced which render it more complete. The first is that it is possible to alter the proportion of air to petrol while the engine is running, and thus obtain the best mixture, according to the temperature and weather. The second feature is that it is possible to shut off all connection with the petrol jet, and allow nothing but pure air to be drawn into the engine. This, in addition to giving considerable braking power, serves to remove any deposit of carbonised oil from the pistons and plugs; and last, but not least, by destroying the vacuum produced when the throttle is closed, prevents oil from being sucked up into the cylinders. All the operations are performed by one lever. As will be seen from Fig. 3, the jet B is located at the base of a long and narrow vertical vaporising chamber F, to the upper part of which the throttle and automatic and hand controlled air inlets are attached. N is the automatic valve which is opened in accordance with the suction of the engine up to a certain position of throttle opening, the air

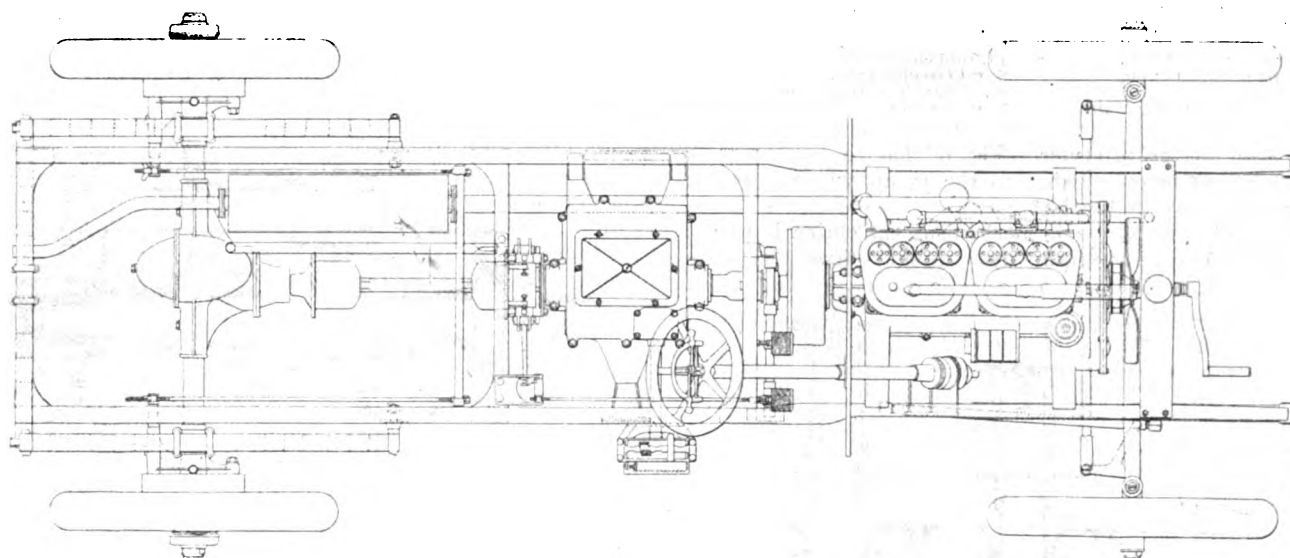


Fig. 1.—Plan of Chassis of Argyll 40-h.p. Car.

inlet and exhaust valves all on the one side. The valve lifters, which are adjustable, are operated by a cam-shaft running in extra large phosphor bronze bearings. The water space has been carefully designed for effective cooling; a large water jacket cover is fitted on the top of each pair of cylinders, and is held down by the half compression cocks, these being screwed on to the extension of the inner plug, which has a hole drilled through it to give connection to the combustion chamber. The crankshaft is a heavy nickel steel forging, and runs on three extra long bearings, which are supported in the upper portion of the base chamber, enabling the lower half to be removed to give access to the big ends without disturbing the bearings. The piston rings are not made with the usual angled joint, but with a joint which leaves no space for loss of compression, the joints overlapping one another. The motor is suspended from the main frame by the top half of the crank case, which is cast with four inverted U section arms, bolted to the side members. The water is circulated by a large gear driven centrifugal pump located on the left side of the motor. The water enters the cylinder jacket on the left hand side of the engine, just opposite the valves, and makes its exit through a flanged pipe fitted to the top of the water jacket cover. A current of air is drawn through the honeycomb radiator by means of a fan driven by a flat belt off a pulley on the extension of the crankshaft. The mixture is furnished by an entirely new carburettor (Fig. 3),

passing to the mixture through holes in the piston throttle X. As the throttle is further opened the air-holes K in the outer sleeve are brought into coincidence with those marked J in the piston, the engine then drawing the correct amount of air through these holes to give a perfect mixture. This is the position shown in the right of Fig. 3; that on the left indicates the location of the piston throttle when the supply of gas to the engine is entirely shut off. The motor then sucks pure air through the holes S and V. As the throttle is opened this air inlet is closed and the valve gradually opened to the petrol mixture. We are informed that the new carburettor has been given a lengthy trial and are being finally adopted, and that it gives very economical results. The ignition is by means of a gear-driven high-tension magneto, conveniently located at the right of the engine, coil and accumulators being also provided as a reserve. The synchronised contact maker is driven by skew gear off the magneto shaft, which is, as will be seen from Fig. 2, in a most accessible position.

An extension of the last-mentioned shaft is used to drive the geared oil pump for forced lubrication. The oil reservoir is cast on the underside of the bottom half of the engine crank case, and a large overflow cock is fitted to test the level of the oil. The latter is supplied thereto through a large filling plug, which also acts as an air release, formed in the engine arm, which has a cored channel to the base chamber. The oil is pumped

through the pipes, off which there is a bye-pass connected to a tell-tale on the dashboard, into the main bearings, and finds its way to the base chamber, whence it overflows through two pipes into the oil reservoir below. The level is thus kept constant, and so long as a drop of oil remains in the reservoir the lubrication is perfectly maintained; but, as a precaution against failure, the pump is placed on

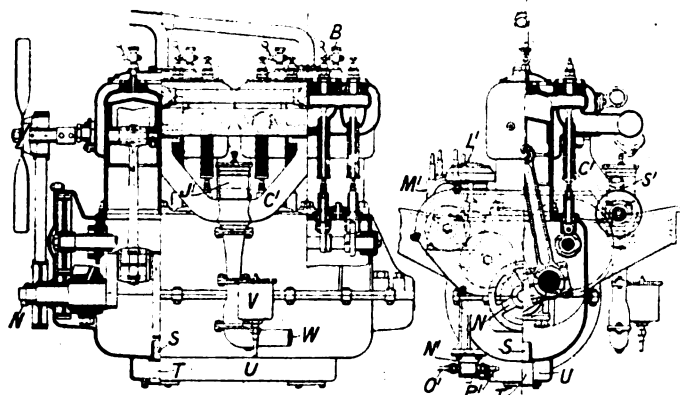


Fig. 2.—Sectional-Elevations of Engine.

- | | |
|-----------------------------------|-----------------------------|
| P. Half Compression Tap. | N1. Oil Pump. |
| C1. Inlet Pipe. | O1. Oil Suction Pipe. |
| J1. Carburettor and Throttle. | PL. Oil Delivery Pipe. |
| LL. High Tension Distributor. | S. Oil Overflow Tube. |
| M1. Magneto. | Sl. Water Circulating Pump. |
| N. Starting Clutch on Main Shaft. | T. Oil Strainer. |
| | U. Oil Reservoir. |

the same level as the reservoir. The oil has to pass through a large gauze filter before passing to the pump, which prevents any grit getting into the bearings.

Passing to the transmission mechanism, the clutch is of the now familiar Argyl multiple disc design, fitted with an

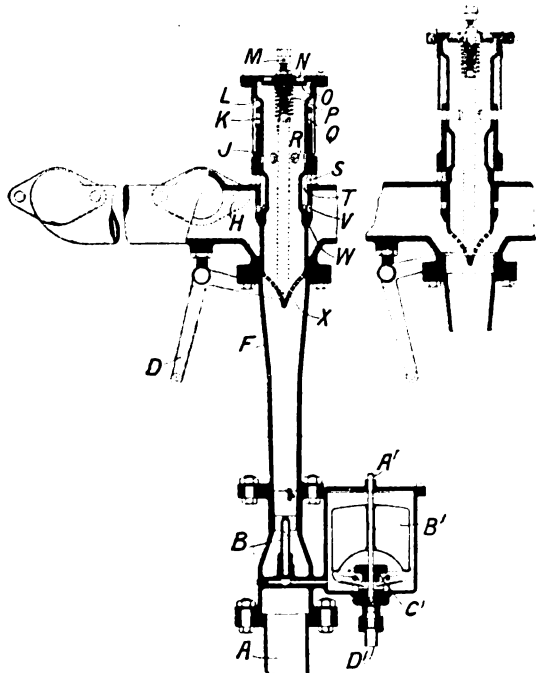


Fig. 3.—Sectional Views of Carburettor.

- | | | |
|---------------------|------------------------------------|-------------------------------------|
| A. Hot Air Pipe. | H. Inlet Pipe. | P. Auxiliary Valve Spring. |
| A1. Needle Valve. | J. Top Sleeve. | Q. Extra Air Holes. |
| B. Jet. | K. Dust Shield. | R. " " " " |
| B1. Float. | L. Sliding Sleeve. | S. Air "Holes." " |
| C1. Balance Weight. | M. Auxiliary Air Regulating Screw. | T. Annular Space in Sliding Sleeve. |
| D. Throttle Lever. | N. Auxiliary Air Holes. | V. Air Holes. [Sleeve] |
| D1. Petrol Inlet. | O. Auxiliary Air Valve. | W. Spring Ring. |
| F. Bottom Sleeve. | | X. Perforated Cone. |

extra number of plates. The disengaging gear has a neat and clean appearance, and to obtain a very large leverage, and at the same time avoid adding an extra operating shaft, a specially designed clutch pedal has been adopted. A joint

is provided on the shaft between the clutch and the gear-box to allow for any want of alignment between these parts, and also to enable either to be dismounted without disturbing the other. The change-speed gear (Fig. 4), which gives four forward speeds and a reverse, is of an entirely new design. The fourth speed is indirect; the direct drive is on the third, and is obtained by sliding the clutch on the main shaft into mesh with the clutches on the third speed wheel. All the other gears are on the sliding principle. The third speed clutch is carried on two large ball bearings, and the main shaft has two extra large ball bearings at the rear, while the front end is run in a phosphor bronze bush inside the third speed clutch. The sliding gears are all on the main shaft, which is made square in section to receive them, and the gear wheels on the countershaft are all solidly keyed on. The countershaft is also carried on substantial ball bearings at either end. The gear wheels are made extra broad and of specially selected material, the teeth being backed off to enable the sliding pinions to engage easily. The various speeds are controlled by a single lever working in a new design of gate quadrant. The latter has two parallel slots; the first, second, and reverse speeds are on the inner slot, and the third and top speeds on the outer one. A hinged catch is fitted, without lifting which it is impossible to get into the reverse. Spring levers with a slot to receive the operating handle have been adopted. When all the gears are in the neutral position the levers are positioned by their own spring.

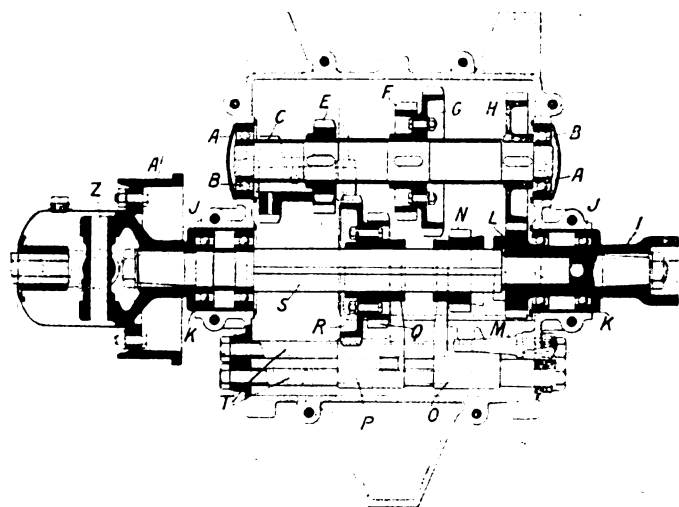


Fig. 4.—Sectional View of Change Speed Gear.

- | | |
|--------------------------------------|--|
| A. Countershaft Ball Bearing Casing. | M. Fulcrum for 3rd and 4th Speed Fork Actuating Lever. |
| A1. Foot Brake Drum. | N. Main Shaft 4th Speed Wheel. |
| B. Countershaft Ball Bearing. | O. 3rd and 4th Speed Sliding Fork. |
| C. Reverse Pinion. | P. 1st, 2nd, and Reverse Speed Sliding Fork. |
| E. Countershaft 1st Speed Wheel. | Q. Main Shaft 2nd Speed Wheel. |
| F. " 2nd " " " | R. " 1st Speed Wheel. |
| G. " 4th " " " | S. Main Shaft. |
| H. " Speed Wheel. | T. Sliding Fork Shaft. |
| I. Joint to Clutch Shaft. | Z. Universal Joint Pivot. |
| J. Main Shaft Ball Bearings. | |
| K. " " " " Casing. | |
| L. 3rd Speed Clutch Pinion. | |

in the gate, and at the same time positioning the operating handle. Fig. 5 illustrates the control arrangement, and shows that instead of, as usual, having the gate at right angles to the slot, it is made on the slope, so that in changing either from the second to third speed or from the third back to the second, it is not necessary to change the direction of the push or the pull on the operating handle, the slope of the gate making the change very easy to operate.

The power is transmitted from the gear-box to the rear axle by a cardan shaft having universal joints at both ends; suitable covers are provided to enclose the latter and a supply of grease for their efficient lubrication. The universal joints (Fig. 6) are of an entirely new type, the centres of the two crosspins passing through one another. This is arranged by having a large pin with a small pin passing through it; the sliding movement is taken up in the fork at the rear end. The live axle has also been re-designed; instead of having, as in the 14-16-h.p. model, four

castings for the outer casing, the new axle is composed of one single steel central casing with a large aluminium dust and inspection cover at the rear, and steel tube extensions to carry the hubs. There is more than one advantage to be gained from this; firstly, the central casing is very strong, not having to rely on bolts to keep the two halves together as in other types, whether they are split vertically or horizontally; there is also less chance of the grease leaking, as the cover joints have no strains tending to open them. The whole differential casing with the driving bevel pinion wheel bolted to it can be withdrawn for examination or repair without dismantling the axle from the car, or even removing the road wheels. In order to do this the hub caps are unscrewed, and the axle shafts withdrawn a few inches; the differential bearing ball race covers, which are held down by four studs, are then removed, when the driving gear can be lifted out at once for examination. The driving bevel pinion is made in one piece with the spindle, and runs on ball bearings, the larger of which are carried close up to the point where the greatest strain comes. The thrust is taken on a special ball race. A slight hole is provided on the main casing, so that the position of the teeth in mesh can be seen when adjusting the bevels. The hubs run on large ball bearings carried on the extension tubes which are fitted into the central casing. This leaves the axle with only the driving torque to withstand; no strains due to the weight of the car are allowed to come on it whatever, the power being conveyed to the road wheels by dog clutches in the hubs. In order to avoid local strains due to the necessary heating, no brazing operations are resorted to; the tubes are made a special fit for the sleeves of the main casing; the latter is then heated to a certain temperature and the tubes forced home; on cooling, the contraction of the casing on the sleeves makes a perfect joint, a substantial stud being afterwards screwed through both the casing and sleeve to make doubly sure. The spring bracket is allowed to float on the axle casing, a torque rod being fitted with double springs to eliminate shocks in starting and stopping. It will be noticed that the thrust due to the car swaying is not

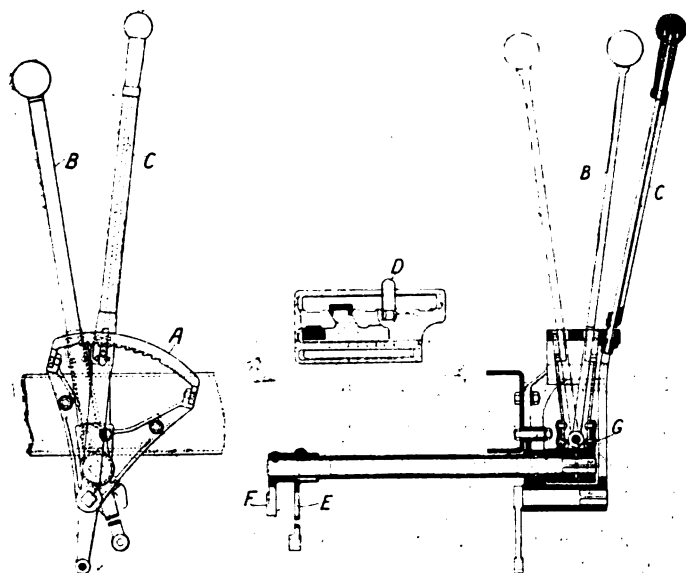


Fig. 5.—Details of Change Speed Gear and Hand Brake Control.

- | | |
|------------------------------------|---------------------------------------|
| A. Change Speed Quadrant. | E. 1st and 2nd Speed and Reverse For |
| B. Change speed and Reverse Lever. | Actuating Lever. |
| C. Hand Brake Lever. | F. 3rd and 4th Speed Actuating Lever. |
| D. Reverse Catch. | G. Change Speed Lever Fulcrum. |

transmitted to the differential thrust bearing, but is taken up directly in the specially designed ball bearing at the hub end.

The front axle is a steel stamping of strong design and of section, while the steering gear is of the usual worm and sector type. The control levers, which are mounted on the steering-wheel, are of a new type, the friction of a spring pad being relied upon for the positioning of both throttle and ignition. This is claimed to be a great improvement over the

ratchet type, which in many cases does not allow of an exactly correct position for the levers. The foot brake pedal is on the same shaft as the clutch pedal, and by a suitable arrangement of rods and levers is connected up to the brake shoes operating on a wide drum, keyed on the rear end of the main shaft of the gear-box; the brake shoes themselves are hinged on to pivots on the cross-bar. The operating lever is on the underside, and the shoes when not in action are prevented from rubbing

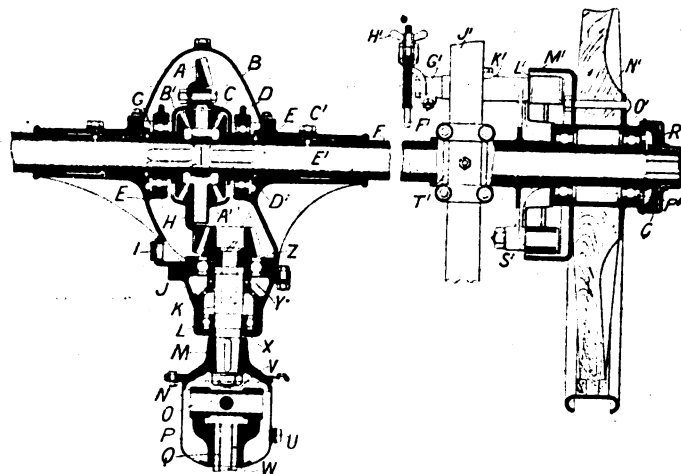


Fig. 6.—Part Sectional View of Back Axle, showing also the Driving Bevel Pinion.

- | | |
|--|--|
| A. Bevel Wheel. | L. Pinion Spindle Outer Ball Bearing. |
| A1. Differential Pinion. | L1. Brake Dust Shield. |
| B. Bevel Gear Casing Cover. | M. Universal Fork Flange. |
| B1. Axle Differential Wheel. | M1. Brake Drum. |
| C. Differential Casing. | N. Universal Joint Casing. |
| C1. Axle Casing Set Pin. | N1. Road Wheel. |
| D. Differential Bearing Cover. | O. Universal Joint Pivot. |
| D1. End Thrust Ball Races. | O1. Wheel Hub. |
| E. Axle Casing. | P. Universal Fork. |
| E1. Live Axle. | P1. Hub Ball Bearings. |
| F. Axle Sleeve. | Q. Cardan Shaft. |
| F1. Brake Pull Rod. | Q1. Hub Cap. |
| G. Differential Ball Bearing. | K1. Hub Dog Clutch Drive. |
| G1. Brake Actuating Lever. | S1. Brake Clip Fulcrum Pin. |
| H. Differential Crosshead. | U. Grease Plug. |
| H1. Brake Pull Rod Adjustment Fly Nut. | V. Universal Crosshead. |
| I. Sight Hole Plug. | W. Universal Joint Casing Dust Shield. |
| J. Pinion Bearing Casing. | X. Pinion Casing Dust Shield. |
| J1. Axle Springs. | Y. Pinion Spindle Thrust Ball Race. |
| K. Pinion Spindle. | Z. Pinion Spindle Inner Ball Bearing. |
| K1. Brake Bracket. | |

on the brake drum by links on an equalising lever kept in action by a spiral spring. In the chassis we examined the foot brake was of the contracting type, but we understand that this is being altered to the internal expanding pattern. The hand brake lever is pivoted on a boss underneath the centre of the change-speed lever, and is operated by a spring catch on the underside of the quadrant, which is cut with a ratchet to suit. The pull rod is attached to a lever which comes right in below the chassis and connected to the brake counter-shaft, the levers on which are attached to the operating levers on the hub brake brackets. The brakes themselves are on the cam principle, and adjustment is obtained from a fly-nut on the rear end of the side pull rods, which are covered with leather grease bags to prevent rusting. The new model is being made in two lengths of chassis—9 ft. 9 in. wheel base for ordinary side-entrance vehicles and 10 ft. 6 in. in the case of cars with covered bodies—the wheel track in each case being 4 ft. 9 in. From an examination of the chassis it is evident that very careful attention has been devoted to the design and construction of the new vehicle, which should give a very good account of itself during the coming season and fully maintain the Argyll Company's reputation.

A MOTOR lifeboat is now stationed at Newhaven.

THE imports of motor-cars and parts into South Africa during the eight months ending with August last amounted to £79,599, as compared with £71,970 in the corresponding period of 1906.

CONTINENTAL NOTES.

The 1908 Mercedes Cars.

For the 1908 season the German Daimler Company, of Unterturkheim, are turning out three sizes of four-cylinder cars, the bores and strokes being respectively 120 by 150 mm., 130 by 150 mm., and 140 by 150 mm. Two six-cylinder vehicles will also be made, the cylinder dimensions being 120 by 140 mm. and 120 by 150 mm. As regards the alterations in design, these will be largely confined to the motors, which will be equipped with oil pumps, inspection holes in the base chamber and plain bearings to the crank shafts. Low tension magneto ignition is being replaced by a new system in which a make and break is combined with the plug. No details have so far been made public with regard to this arrangement, but we gather that it is somewhat on the lines of the Simplex ignition, which attracted attention in this country two or three years ago. With the view of

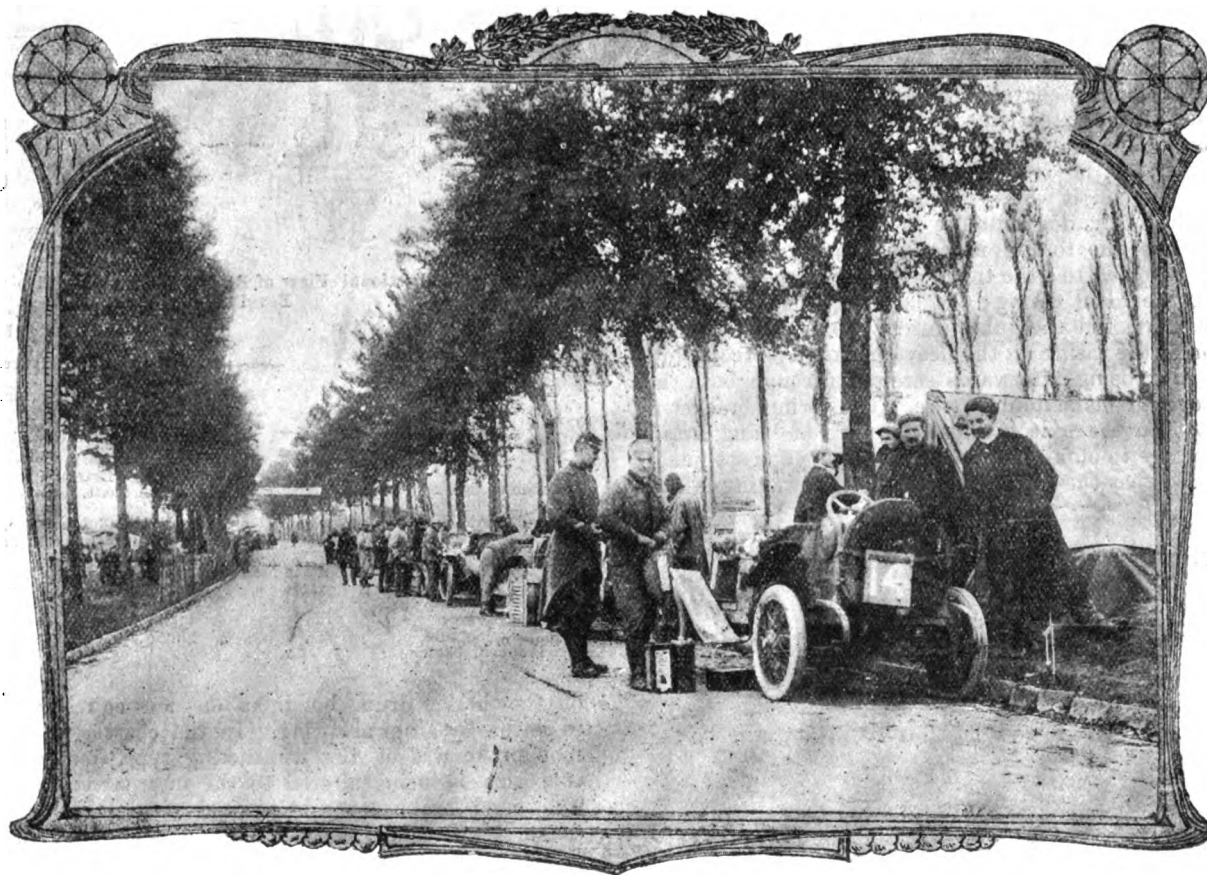
for those with four cylinders, the winner being the one who most nearly approached his declared speed. There were fifteen competitors, the first place being taken by Bodart, on a Saven-them car, he being only 34 sec. out on his estimate of 35 kilometres. Van Gool, on a Darracq, was second, being 38 sec. more than his 30 kilometres.

Motor-car Accidents in Germany.

A conference was held at the German Ministry of Interior at Berlin, last week, to consider the steps to be taken, in view of the increasing number of motor-car accidents, to ensure the safety of the public.

The 1908 Targa Florio Race.

The rules for the 1908 Targa Florio race, which is to be held over a distance of from 400 to 450 kilometres in Sicily in



La Coupe des Voiturettes.—The Scene at the Starting Point of the Final Speed Trial.

increasing the easy riding qualities of the cars, long, straight springs are being adopted for the suspension of the chassis.

The Paris Salon.

Preparations are now well in hand for the annual Paris Salon, which opens its doors on the 12th inst. Already the industrial section is in an advanced condition. The building which has been erected extends over a great part of the Esplanade des Invalides, and will be as large for actual stand space as the Grand Palais, where the pleasure cars are shown.

A Belgian Motor-Car Competition.

A motor-car competition on somewhat novel lines was held on Sunday last by the Moto Club Anversois. The event was open to cars fitted with two-seated bodies and carrying 300 lbs. of ballast, and was over a distance of 115 kilometres. Each competitor had to declare his average speed before commencing the contest, the rules requiring a minimum of 20 kilometres per hour for single and double-cylinder cars and of 30 kilometres

May next, have just been issued. The contest is open for four-cylinder cars of a bore between 120 and 130 mm., the number of vehicles of any one make being restricted to four. The weight of the machines is fixed at 1,000 kilogs. for those with 120 mm. cylinder bore engines, plus 20 kilogs. for each additional millimetre. A very large series of prizes is again being offered, the winner of the race securing the Targa Florio and a money award of £600, the second taking £320, and the third £160.

A Public Service in Spain.

A public service has recently been inaugurated between Orense and Verin, a distance of 45 miles. Two vehicles are employed, these being of the Brillé 35-45-h.p. type; the bodies, which have accommodation for 20 persons, are of the single-deck pattern, separate compartments being provided for first and second class passengers. Although the route is a very hilly one, each vehicle makes one return journey per day on a petrol consumption of 60 litres, equal to 42 litre per kilometre.

La Coupe des Volturettes.

The seven days' reliability trial of light cars over a 33·8 kilometre course organised by the "Auto" came to an end on Sunday last. For six days the competitors had been making five rounds of a difficult circuit near Rambouillet, forty-one out of the sixty-three which started succeeding in qualifying for the speed contest on Sunday last. This was held on the same course, but nine laps had to be covered, giving a distance of just over 304 kilometres. No less than thirty-one of the drivers succeeded in getting through the race, which, as will be seen from the appended table of results, proved a victory for the Sizaire-Naudin car, driven by M. Naudin.

Order.	Driver.	Car.	No. of Cylinders.	Bore and Stroke, mm.	Time. H. M. S.
1 ...	Naudin	Sizaire-Naudin	1	100 by 120	4 38 52
2 ...	Sizaire	Sizaire-Naudin	1	100 by 120	4 40 30
3 ...	Goux	Lion-Peugeot	1	100 by 120	4 41 43
4 ...	Cissac	Aleyon	1	100 by 120	4 46 24
5 ...	Rigal	Werner	2	80 by 120	4 50 0
6 ...	Giuppone	Lion-Peugeot	1	100 by 120	4 51 49
7 ...	Bonnard	Delage	1	100 by 120	4 52 38
8 ...	Lefrançois	Corre	1	100 by 120	5 7 22
9 ...	Duvernoy	Lion-Peugeot	1	100 by 120	5 9 43
10 ...	Molon	Werner	2	80 by 120	5 11 11
11 ...	De Langhe	Werner	2	80 by 120	5 18 2
12 ...	Thomas	Prima	1	100 by 120	5 20 27
13 ...	Lebouc	Sizaire-Naudin	1	100 by 120	5 30 9
14 ...	Laly	Vulpes	1	100 by 130	5 39 20
15 ...	Inghilbert	Demeester	1	100 by 120	5 43 20
16 ...	Costa	Botys	1	100 by 120	5 47 17
17 ...	Reyrol	Passe-Partout	1	100 by 120	5 47 18
18 ...	Lecerf	Passe-Partout	1	100 by 120	5 47 20
19 ...	Ménard	Delage	1	100 by 120	5 51 32
20 ...	Barriaux	Vulpes	1	100 by 130	5 52 44
21 ...	De Marne	Grégoire	2	80 by 110	6 1 47
22 ...	Pernette	Le Metais	1	100 by 120	6 7 41
23 ...	Boris	Orel	1	100 by 120	6 9 45
24 ...	Cuampoiseau	Demeester	1	100 by 120	6 12 10
25 ...	Gatoux	Aleyon	2	80 by 120	6 13 52
26 ...	Anzani	Le Metais	1	100 by 130	6 21 44
27 ...	Lachiche	Orel	1	100 by 120	6 31 36
28 ...	Dogue	Vulpes	1	100 by 130	6 36 51
29 ...	Behr	Passe-Partout	1	100 by 120	6 59 54
30 ...	Grillet	Fouillaron	1	100 by 120	7 20 33
31 ...	Robert	Baillieu	1	100 by 120	7 45 0

The winner's speed works out at an average of just over 40 miles an hour, truly a wonderful pace for a little single-cylinder vehicle. A regularity prize was also offered for the team of three cars which made the best aggregate time. The honours in this case fell to the Lion-Peugeot cars, all three of which finished in a total of 14 h. 43 min. 16 sec. The Sizaire-Naudin team was second in 14 h. 49 min. 32 sec., the Werner trio third in 15 h. 19 min. 13 sec., the Vulpes fourth in 18 h. 8 min. 55 sec., and the Passe-Partout fifth in 18 h. 34 min. 32 sec. Altogether the event proved one of the most successful that has been held in France for a long time, and proved conclusively that modern popular-priced cars are not only reliable vehicles, but are speedy to a degree not hitherto anticipated.

A Trial of Agricultural Motors.

The latest enterprise of our French contemporary, "L'Auto," is the organisation of a competition of agricultural motors. The event is to be held early in November and will be open to: (1) agricultural tractors designed for general haulage purposes; (2) self-moving agricultural machines.

French Imports and Exports of Motor-Cars.

The exports of motor-cars and parts from France during the nine months ending with September last attained a value of £4,357,840, an increase of £220,640 over the corresponding nine months of 1906. During the same period the imports of foreign motor-cars and parts into France advanced from £254,560 to £269,520.

A Fuel Consumption Test.

A somewhat novel motor competition was recently held in the neighbourhood of Bordeaux. The event, which was known as La Coupe de l'Autoloc, was open to all classes of petrol vehicles. One kilogramme of spirit was served out to each competitor, and the exact distance run on this quantity of fuel

carefully measured. The awards were made on a handicap basis by multiplying the weight of the vehicles in running order by the distance covered, the winners being those which showed the highest results. A single-cylinder Sizaire-Naudin two-seated car covered a distance of 17·5 kilometres, and secured 18·6 points—the highest recorded, a Darracq being second with 17·3 points, and a distance of 17·3 kilometres to its credit.

Belgian Motor-car Imports and Exports.

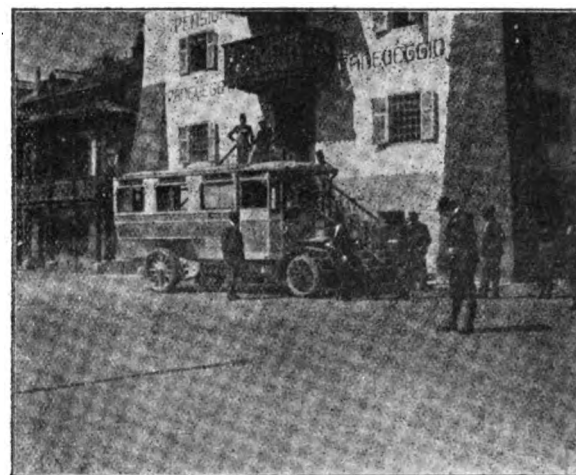
To the end of September last the imports of foreign motor-cars and parts into Belgium had this year attained a value of £135,744, as contrasted with only £118,676 in the first nine months of 1906. During the same period the exports of motor-cars and parts from Belgium increased from £293,028 to £341,472.

More French 1908 Models.

"Le Sport" announces that the Renault Company are introducing a 50-h.p. six-cylinder vehicle for the 1908 season. The other models to be turned out include 8-h.p. two-cylinder and 10-h.p., 14-h.p., 20-30-h.p., and 35-45 h.p. four-cylinder, all having chainless transmission.

Miscellaneous Items.

The new Budget of the Bavarian Government includes a sum of £125,000 for the establishment of motor postal services



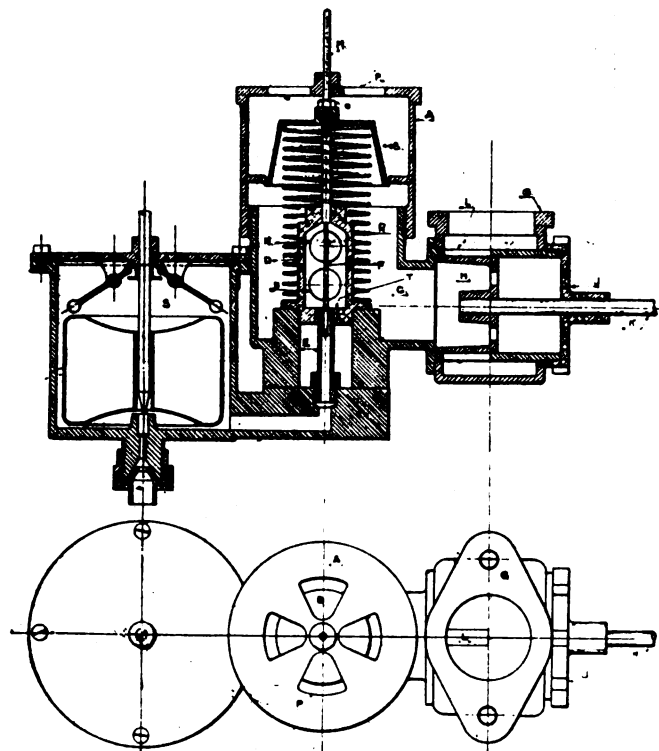
Some trials with a Saurer 30-h.p. Single-deck Motor-Bus have lately been made in the mountainous districts of the Southern Tyrol. The above illustration depicts the vehicle at Paneroggio, a little village located 4,920 ft. above sea level.
(Allgemeine Automobil Zeitung.)

in the country.—The annual "Congrès du Calendrier," for the purpose of selecting dates in 1908 for the chief European motor events, so that as little clashing as possible of fixtures may ensue, is fixed to take place in Paris at the Grand Palais on November 22nd.—A new petrol-electric car, known as the GEM, and designed by M. Girardot, will be shown at the forthcoming Salon by the Societe Generales d'Automobiles Electro-Mecaniques.—The Kaiser is adding an electrical motor landaulet to his fleet of automobiles. The new vehicle is being built by the Norddeutschen Automobil und Motoren Gesellschaft, of Bremen.—The President of the Republic has consented to open the Paris Salon on the 12th November.—The Rover Company, Ltd., of Coventry, will be exhibiting no fewer than five of their latest models at the forthcoming Paris Salon.—A Scheibler single-deck motor-bus has lately been put on service between Balcastesti and Bucharest, Roumania.—The medical men in Vienna are reported to be forming a Doctors' Automobile Club.—The question of the dates of the various international motor-car exhibitions, with a view of preventing clashing, is to be brought up by the German Imperial Automobile Club at the forthcoming congress of delegates of the recognised national clubs.—A proposal to construct a motor race track near Coblenz, Germany, is reported to be under consideration.

THE "PERFECTA" CARBURETTOR.

WE illustrate herewith a new carburettor which has been devised by Mr. Frank Smith, of the Empress Motor Company, Manchester, and which is now being fitted to the Empress cars built by this concern. The new apparatus has been designed with a view of obtaining an unvarying proportion of petrol and air irrespective of the speed of the motor or the demands of the latter. As will be seen from the drawings herewith, it varies considerably from the usual practice, inasmuch as the orifices for the petrol and air are maintained in strict proportion to each other by valves operating on the petrol and air inlets. In addition to this an unvarying partial vacuum is maintained in the vapourising chamber C, this enabling the motor to get a suitable supply of gas when running at a very slow speed.

The action of the carburettor will be followed by reference to the sectional elevation (Fig. 1), where E is the jet in which the petrol is maintained at a constant level by means of the usual float chamber S. Sliding in the jet E is a tapering valve needle F, which increases or decreases the petrol supply in proportion to the extra air admitted by way of the conical valve B. When the latter is closed the only air inlet is by the small constant air throat T, and the petrol is supplied in correct proportion to this by the extremely small space surrounding the larger extremity of the needle valve F. Fig. 1 shows the carburettor parts in this position, in which it is capable of supplying a correct mixture for an engine making its slowest possible number of revolutions. As soon as the speed of the motor increases the valve B will open and admit the extra air



FIGS. 1 AND 2.—Sectional Elevation and Plan of "Perfecta" Carburettor.

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|---|--|
| A. Adjustable part of vaporiser carrying conical air valve. | K. Piston valve control rod. |
| B. Conical air valve. | L. Slots in throttle valve. |
| C. Vaporising chamber. | M. Spindle connecting air valve and petrol control needle. |
| D. Guide for spindle M. | N. Holes communicating to vaporising chamber C. |
| E. Jet tube. | P. Air inlet hole to valve B. |
| F. Petrol control needle. | R. Light spring supporting valve B. |
| G. Flange for connection to admission pipe. | S. Float Chamber. |
| H. Piston throttle valve. | T. Throat surrounding jet. |
| J. Cover of throttle cylinder. | |

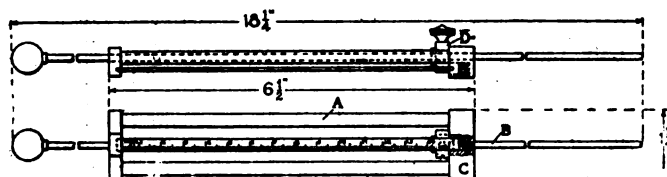
and the needle valve F more petrol, the two valves being so proportioned as to secure absolutely constant ratios.

Owing to the very small throat a slight unvarying partial vacuum is maintained in the chamber C, and by this an equal

flow of air and petrol is obtained which is proportioned automatically by the valves controlling the air and petrol respectively. The exact ratio of the air to the petrol may be varied by raising or depressing the upper portion A, which is screwed a working fit on the vapourising chamber C. This has the effect of bringing a smaller or larger diameter of the tapering needle valve into the petrol orifice and so altering the proportion of the petrol and air. The adjustment when once made takes effect over the whole range of the carburettor, and, no matter whether the motor is turning slowly or fast, the mixture remains constantly weak or strong according to the original adjustment.

SETTING THE VALVES OF A PETROL MOTOR.

AN ingenious instrument to facilitate the timing of the valves of petrol motors has lately been put on the market by the Auto Supply Company, of 1733, Broadway, New York. The device consists of a metal framework A, through holes in the end pieces of which passes freely a long rod B, with a ball weight at the



upper end. As shown in the accompanying illustration, a scale is held between the two end pieces, and is so arranged against a spring in a hole in the lower piece C that by pressing downward it can be released at the upper end and reversed, one side being provided with the metric system and the other with the English. A small piece D can be clamped at any position on the rod B by means of a thumbscrew. The device is used in the following way:—It is placed in a vertical position, so that the base C rests on the cylinder head, and the rod B projects downward through the compression cock hole or sparking plug opening, with its end resting on top of the piston. As the piston descends, the rod B, owing to the ball weight at the upper end, follows the piston, and when the lowest point of the stroke is reached the piece D can be clamped to the rod. When the lowest point of the stroke has been determined, as the piston comes upward the exact distance on the scale before the end of the stroke at which the exhaust valve closes can easily be read. This distance being known, the instrument can be placed in cylinders Nos. 2, 3 and 4, and their variations from the setting of the first cylinder can be instantly seen. In the same way the point in the stroke at which the inlet valves open and close can be accurately determined, and adjustments made until all are alike.

"THREE SPEEDS FORWARD" is not a technical work, but "an automobile love story with one reverse," by Mr. Lloyd Osbourne. It is published by Messrs. Chatto and Windus, who are to be congratulated upon the way in which the work has been produced. We would also felicitate the author on the manner in which he has extended a few ordinary motoring incidents into the length of a modern novel, with its accompanying excitements and interests.

ONE thousand four hundred and one certificates and licences were granted under the Cakutta and Suburban Police Acts during the year 1906, as against 1,353 in 1905. One hundred and twenty-seven private motor-cars and twenty-six private motor-cycles were registered, and 190 and 26 drivers' and riders' licences for motor-cars and cycles respectively were issued during the year. The total number of all certificates of registration issued in respect of motor-cars and cycles to the close of 1906 was 383 and 89 respectively, and there were 304 subsisting motor-car certificates and 73 motor-cycle certificates.

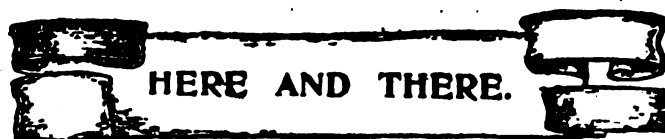
THE New Forest Motor Garage and repair works at Lyndhurst have had a busy season, and are well equipped for useful service to motorists.

MESSRS. W. H. CHAPMAN AND Co. have a motor school and garage in the Attercliffe Road, Sheffield, where they also undertake the repair of vehicles or the supply of spare parts.

AT Dunblane Sheriff Court, James Graham, Achray Lodge, Aberfoyle, has been fined £7 10s. for contravening the Petroleum Acts by keeping 8 cwt. of carbide of calcium for making acetylene gas for his motor-car lamps without having first obtained a licence.

THE City Parcel Delivery Company, of Indianapolis, U.S.A., is preparing to replace a large portion of its horse-drawn equipment with petrol motor delivery wagons. No less than six vehicles have been ordered to start with, and it is understood that the number is to be added to later.

AMONG the latest additions to the varied stock of motor accessories kept by Messrs. G. T. Riches and Co. at their depot in Store Street, W.C., are a new siren trumpet, a triplex tyre pump and a new lock washer known as the "Slack," the use of which prevents any nuts being shaken off owing to vibration.

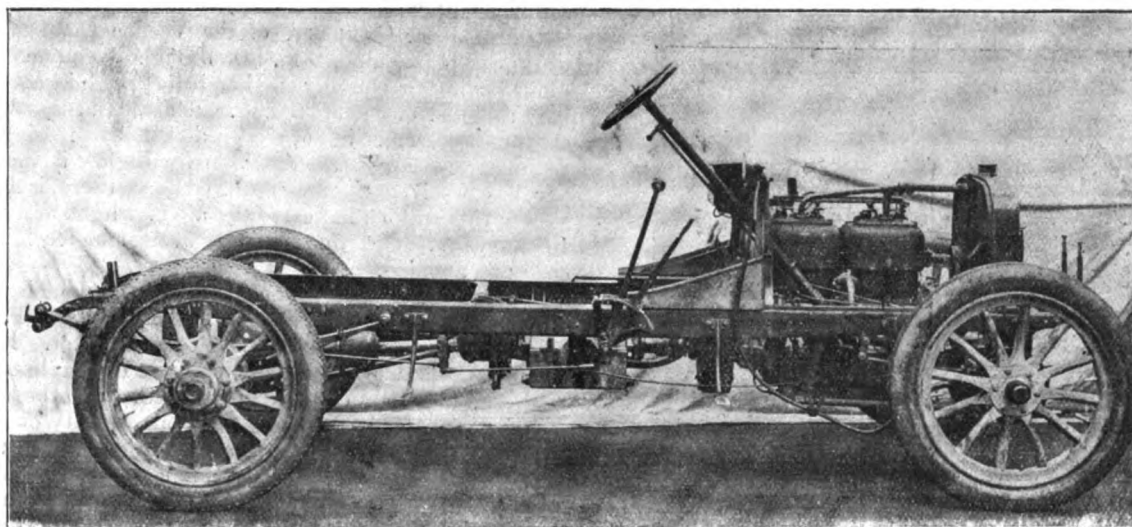


MESSRS. L. JONES AND Co have an excellent workshop in King Street, Carmarthen, where they are able to execute all kinds of motor-car repairs.

MR. H. W. VAN RADEN has severed his connection with the firm of H. W. Van Raden and Co., of Coventry, and will shortly be starting a factory of his own.

THE Right Hon. Lord Crawshaw has placed an order with Messrs. S. F. Edge, Ltd., for a 40-h.p. six-cylinder Napier car. Viscount Curzon has also ordered a 40-h.p. six-cylinder landaulet.

A MOTOR-CAR worth £450, which its owner, Mr. Bullock, of Clifton, Bristol, thought was safe in its garage, was seen dashing through a Bristol street shortly before midnight on Sunday. It swerved, collided with an electric lamp standard, smashed the pillar to fragments, and was itself greatly damaged. No one could be found in charge of it, and it was at first thought the driver was under the wreckage. On Tuesday, Leslie Johnson, stock-keeper, and Stanley Reed, a clerk, were remanded on a charge of stealing the car. A third man, stated by the police to be implicated by their statements, is still at large.



(Elevation of Chassis of Argyll 40-h.p. Car. (See page 747).)

THE Burlington Art Miniatures, printed by the mezzogravure process, are new-comers for the delight of all who appreciate the art treasures of the world. These are issued by the Fine Arts Publishing Company, and the collection when complete will embrace reproductions of the most famous pictures in British and Continental galleries.

THE Relations Committee of the Royal A.C. met last week to consider the situation arising out of the controversy between the Motor Union and the Automobile Association. After full investigation of the question certain conclusions were arrived at, and it was decided, in view of the terms of reference, to report these conclusions and submit recommendations to the Committee of the Club at its meeting on Wednesday next.

MESSRS. HEPPER AND SONS have recently held, at their Yorkshire Repository, York Place, Leeds, the most important sale of automobiles and commercial motor vehicles which has yet taken place in the North of England, the occasion being the disposal of the new and second-hand cars of the North-Eastern Garages, from the depots at Leeds, Harrogate, York, Darlington, and Newcastle, by order of the receiver for the debenture-holders. The attendance was exceedingly large, and bidding was very brisk. Buyers attended from various parts of the country, and all the cars offered were sold. The amount realised, with a few cars sold privately before the sale, was over 5,000 guineas.

THE Renard road train has been giving a series of demonstrations of its utility in agricultural districts in Ireland, one of the most interesting taking place in the grounds of the Exhibition in Dublin. Following the proceedings a meeting of representative men was held under the presidency of Lord Mayo, at which Lord Ribblesdale, chairman of the Renard Road and Rail Transport Corporation, pointed out the advantages of the system, and a committee was formed, with Lord Mayo as chairman, to consider the best means of securing the system for use in Ireland.

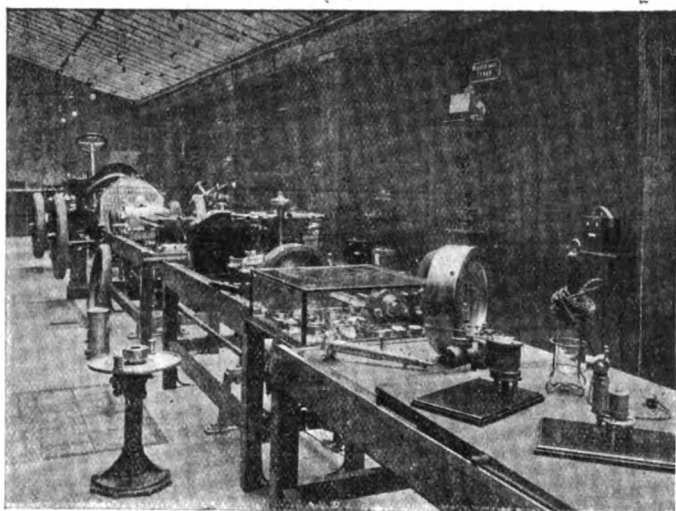
"MAGNETOS for Automobilists: How Made, and How Used," is the title of a new work which has just been published by Messrs. Crosby Lockwood and Son. It is from the pen of Mr. S. R. Bottone, who intends it to form a handbook of practical instruction in the manufacture and adaptation of the magneto to the needs of the motorist. In a series of six chapters the author deals very fully with the subject, treating successively with the component parts of magnetos, magnetisation, armatures, &c. Both the low and high-tension systems are discussed, the principal types at present in use being described and illustrated. In the last chapter Mr. Bottone gives a few practical hints, and concludes with a comparison of ignition by high and low tension magnetos, the author's preference lying in the direction of the latter. In view of the increased adoption of magneto ignition on automobiles, the book is one which should be found useful by many motorists.

"SUNNY WORTHING" is the title of an excellent leaflet issued by the local Borough Association.

THE Daimler Company have recently shipped to Mr. Tan-Tat-Yan, a wealthy planter of Malacca, a Daimler car of the Canley type, fitted with a Cape cart hood.

MUCH information that is interesting, and much that is even curious and quaint, is given in the report on the British Central Africa Protectorate for 1906-7 just issued by the Colonial Office. A striking sign of the march of civilisation is the substitution of motor traffic in place of the usual method of transport. We read: "There are several motor-bicycles in use in this Protectorate, so much so that an association styled the 'Motor Union of Nyassaland,' for the encouragement of motoring, and for the general advancement of the movement in this country, has recently been inaugurated. The society assists members to import petrol, machines, and other essential accessories."

AT 10 and 12, Heddon Street, a well-known thoroughfare to the rear of Regent Street, London, W., the Motor Schools, Ltd., have established a well-equipped academy for the complete instruction of prospective motorists. The lecture halls are replete with the chassis and various parts of motor-cars, several well-known makers having sent typical examples of their work upon which pupils will be instructed in the use of various parts of the car. Several cars are available for driving instruction, and



the courses of study are arranged with a view to the convenience of pupils, both as regards class tuition and private instruction. We give a view of the main lecture hall, which will indicate the thoroughness with which the school is being started. Mr. Turberville Smith is the managing director, and Mr. Llewellyn Morgan the general manager, these two gentlemen being assisted by a staff of well-known motor engineers.

THE Brooklands Automobile Racing Club have resolved that they will only acknowledge and entertain such challenges as are issued through the medium of the club secretary, and that the fact of any challenge (in which the Brooklands motor course is mentioned as the deciding ground) being issued to the Press without its having been submitted to and approved by the club may debar such challenge from being decided on the Brooklands motor course.

THE death is announced of Mr. E. W. Wells, one of the founder members of the Nottinghamshire A.C., a vice-president, and chairman of committees from the inauguration of the club in 1900. Mr. Wells for the past twelve months has not been able to attend to any business, and has lived at his house at Skegness for that time. He always took the deepest interest in the affairs of the club, and was present at nearly every meeting, either winter or summer. The funeral took place on Thursday of last week, when the president (Mr. Chas. Hardy), Mr. A. Barlow, and Mr. Booth Granger (hon. sec.) were present on behalf of the committee of the club.

ATTEMPTS are being made at Inverness to secure a restriction of the speed of motor-cars, despite the fact that there have been no convictions under the Motor Car Act in the borough.

GOOD roads have been made on Osea Island, which is being developed by Mr. F. N. Charrington, and motorists are being invited to look over this interesting corner of Essex when in the neighbourhood of Maldon.

THE Daimler Company have sent us a copy of the Instruction Book they are issuing to all users of Daimler cars. The work gives a very clear description of the various portions of the chassis and the attention they require, the information being elucidated by drawings and sketches. Of special utility are the illustrations showing the parts which require lubrication. The book, which is of a size that can be conveniently carried in the pocket, should prove indispensable to those owning and driving Daimlers.

THE Electric Ignition Company, Ltd., of Birmingham, have sent us a copy of the E.I.C. "Wiring Map" they have just issued. This is an exceedingly useful production, giving as it does very clearly prepared diagrams showing the methods of arranging the ignition wiring, where accumulators and coils are used, for single, double, three, four, and six-cylinder engines. The firm inform us that they will send gratis a copy of the map to any motor-car agent or interested motorist. For a small charge a more durable map with rollers and mounted on canvas can be supplied.

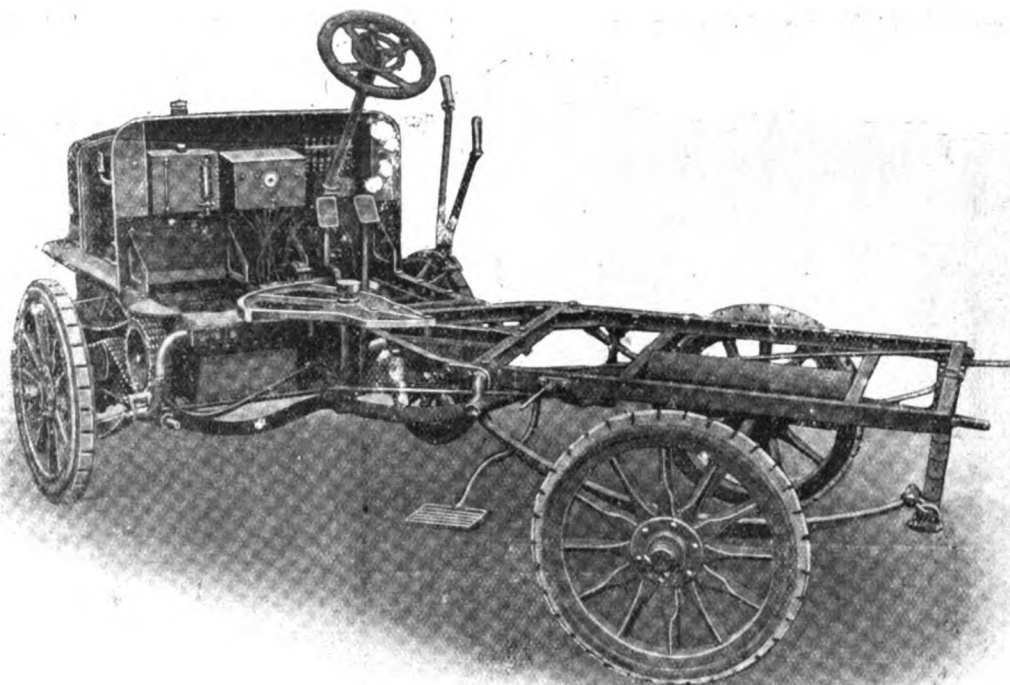
MR. J. E. GARRATT, of the Veedee Company, 96, Southwark Street, London, S.E., has brought to our notice an ingenious device for gauging the height of the lubricating oil in the base chamber of petrol engines. The apparatus, which is known as the Oleometer, is so arranged that, by pressing a switch, a red electric lamp on the dashboard will glow if the crank chamber has received too much oil, while if there is an insufficient supply this will be indicated by a white light in a second lamp. In this way trouble due to either over or under lubrication can easily be avoided.

THE auction sales of motor-cars at Brooklands were successfully inaugurated on Saturday, when Messrs. Hampton and Sons brought nearly forty cars to the hammer. Notwithstanding the deplorable weather, which quite demoralised the railway facilities, a goodly company assembled. All the morning prospective buyers were taking full opportunity of testing their proposed purchases, evidently appreciating the first chance that has been afforded them by a run round the course of really testing the merits and demerits of a second-hand car before purchasing. Although prices appeared to be generally quite satisfactory, not a few bargains were to be got. Messrs. Hamptons were so satisfied with the result that they have decided to hold the second sale at Brooklands on Wednesday, the 20th inst.

AT the autumn meeting of the Association of Municipal Corporations, held on Saturday in London, among the subjects dealt with was that of the speed of motor-cars. The question was raised by the Mayor of Maidenhead, who moved:—"That the attention of the Association be drawn to the undue speed of motor-cars, the noises caused by the hooters, and the emission of vapour—all of which are a source of annoyance to the public at large; and that the subject matter of the resolution be referred to the Law Committee for consideration and report to the council." Mr. Alderman Martin, of Reading, seconded. Sir Homewood Crawford, solicitor to the City of London Corporation, did not consider the resolution strong enough. He proposed that the attention of the President of the Local Government Board should be called to the undue speed of motor-cars and the other points mentioned in the resolution, and that these should be described, not merely as a "source of annoyance," but as a "danger to the public at large." Instead of referring the subject to the Law Committee of the Association, he moved that it was one "urgently requiring the attention of His Majesty's Government with a view to fresh legislation." The Mayor of Maidenhead accepted Sir Homewood Crawford's amendment, and the resolution, strengthened in this way, was unanimously adopted.

THE "SEDAN" MOTOR CAB.

AN exceedingly novel design of motor-cab chassis is being put on the market by the Sedan Auto Car Syndicate, Ltd., Lichfield Street, Wolverhampton. As will be seen from the accompanying illustration, the frame is in two distinct parts, the engine and transmission gear being all supported on the forward frame, the front pair of road wheels acting both as steerers and drivers. The two parts of the frame are connected together by a hinged connection so arranged that while perfect rigidity is ensured each pair of road wheels can be turned in a similar manner to the "lock" on a horse-drawn four-wheeled vehicle. Among the advantages claimed for the new design is the fact that the car can be turned in a very small radius, and that it works amongst traffic with perfect ease and safety; the risk of skidding is practically eliminated, the drive being on the front axle, and the engine, gear-box and all driving and steering gear, together with the driver's seat, being also mounted on the forward pair of wheels. There is a considerable reduction in the vibration, with consequent reduced cost of upkeep of engine and gear.



Chassis of "Sedan" Motor-Cab.

The back portion of the car, being essentially a trailer, is well hung on springs with long centres, and as there are no working parts underneath, vibration is reduced to a minimum, and solid tyres can be used. The front chassis is self-contained and forms an *avant-train*, which can be used with several types of bodies, as, for instance, with a brougham, an ordinary open car body, char-à-banc, or light delivery van. An experimental cab has, we are informed, been run in London for about eight months, and has not only proved its adaptability for crowded traffic, but is able to turn in a circle of a diameter of 21 ft., or 4 ft. less than the police requirements.

The Sedan Company are also introducing a new change-speed gear known as the Wirtz, which comprises several novel features, and to which we hope to refer in a later issue.

THE Adams Express Company have lately put eighteen one and two-ton electric motor-wagons in operation in Indianapolis, U.S.A., and on the same day withdrew twenty-two horse-drawn delivery vehicles which have been in use in that city for many years.

SOME USEFUL NOTES.

Now that the frosty period of the year is approaching, and with it the danger of burst cylinders and radiators, owing to the freezing of the water, the following anti-freezing solution may be of service:—Use $4\frac{1}{2}$ lbs. of pure calcium chloride to a gallon of warm water. Mix and filter before placing in radiator or tank. Replace evaporation with clean water and leakage with solution. This is a solution which is largely employed in the United States; in this country, however, glycerine is considered the most convenient preventive. The usual method is to add about 20 to 25 per cent. of commercial glycerine to the cooling water.

If there is a chance in the circulating system for water to remain in pockets after draining the system, to prevent freezing it is a good plan to start the motor and run it on a small quantity of gas and slightly advanced spark while the water is running off. This will tend to clear the pockets, and the heat of the motor will evaporate any water remaining in the jackets.

Of course, the motor should be stopped before it gets very hot. In case the pump is of the positive or gear variety, a better expedient is to disconnect the hose close to the pump between the pump and the water-jacket, after draining off the water elsewhere, unless there is a drainage cock provided for this purpose. The reason for this is that the positive pump will force water to the engine as long as water comes to it, and this water will be unable to run back through the pump. In cases where the carburettor is warmed by circulation of water, care should also be taken to see that it is properly drained.

MOTORISTS whose cars are fitted with radiators provided with air-inducing fans should give a little attention now and then to the belt of the latter. It should not be allowed to become so loose that the fan does not rotate as rapidly as it should, and consequently does not draw as much air through the radiator as when the belt is tighter. To run these fans at high rates of speed requires more power than is generally imagined, and if the belt becomes too slack slipping at once results, particularly where round belts are run on pulleys fitted with V-grooved rims.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

SIDE-ENTRANCE CARS A MISTAKE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The pictures of a remodelled car recently given in the *M.C.J.* are a curious example of the lengths to which votaries of "fashion" will resort. A rear entrance is fashionable in private omnibuses, wagonettes, governess carts, &c., why should it be banned in a motor-car? Recently I chose a tonneau in preference to a side-entrance, and I should always do the same in the future, as a practical experience of both has convinced me the rear entrance tonneau is the best arrangement for a motor-car.

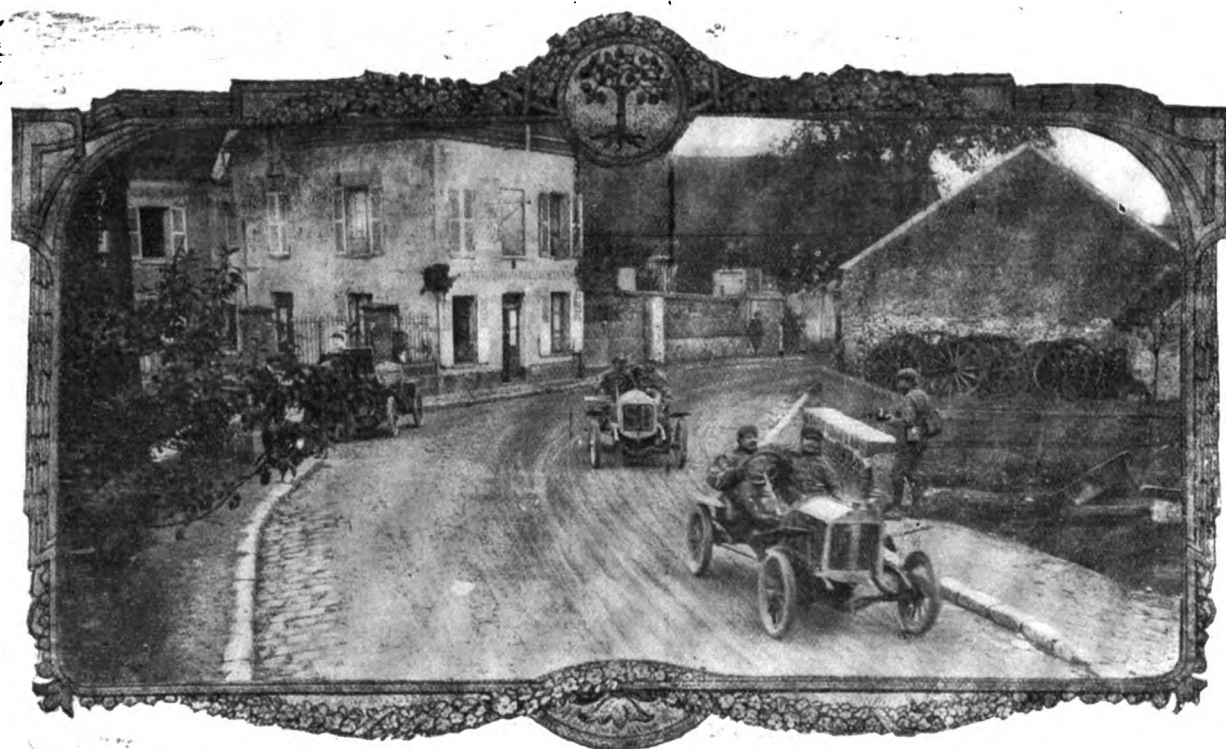
Compare the side-entrance in Fig. 2 of your illustrations. The wheel base is so long as to be inconvenient in turning and unhandy in traffic as well as a new source of danger, as evidenced by the recent numerous accidents (unknown before) of long-wheel base cars overturning with fatal results when trying to negotiate sharp corners. Side draughts (absolutely unknown to the tonneau) as the plague of wind sweeps side-entrances and lifts the rug so as to render hooks necessary to keep it down. The delightfully handy and smart looking long side-baskets are impossible in a side entrance, a loss for which nothing compensates; while luggage at the rear induces side-slip, and the projection of the

many motorists. There are, however, some advantages to be claimed for the side entrance, and we shall be glad to have the views of those automobilists whose favour lies towards the modern type of body.—ED.]

BENZOL AS FUEL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been much interested in reading Mr. Edge's tests of benzol on the six-cylinder Napier car, and I think you will be interested to hear that my experience with this spirit on my 10-12-h.p. Coventry-Humber car has more than exceeded my anticipations. I have been using a mixture of seven gallons of benzol to three gallons of petrol, with the result that not only have I been able to save some 20 per cent. in the price of the spirit, but at the same time have driven 21½ miles on a gallon over give and take roads as against my previous best of eighteen miles to the gallon on pure petrol. I would mention that my road test was from London to Bournemouth, and I did the distance (recorded by my milometer) of 214 miles on my tank, which holds ten gallons, and that the results I have obtained are without making any alteration whatever to my carburettor. Person.



La Coupe des Voiturettes.—Two of the Competitors Passing through Hamieres in the Final Speed Trial.

hood beyond the rear (see Fig. 2) constitutes an added danger. All side-entrance car doors rattle after a few months' use. A side-entrance car is heavier by an additional person's weight than a tonneau, and tyre troubles are more frequent. The rear of the car, the most important part in a fast-travelling vehicle, is out of observation in a side-entrance, and trouble with extinguished tail-lamps and mud splashed number plates "out of sight and out of reach," is more probable, to say nothing of collision with an overtaking car from behind.

A tonneau, with the middle seat down, can at will have the continuous seat and accommodation of a side-entrance, while it has the unquestionable advantage over the latter of having extra space always available between the exceptionally comfortable corner seats, when the middle seat is up, thus giving the choice of a sideways position as a welcome change from the forward, when so desired.

Concerning the stuffy and noisy interiors of the many forms of permanently closed limousine and similar bodies now in vogue, I need say nothing, as passengers therein lose all the unique joy of motoring and might as well be imprisoned in a railway carriage. To sum up, a rear entrance tonneau is free from all the many disadvantages of a side entrance, the present craze for which is so great a mistake, and a personal experience of both leads me to give the unhesitating preference to the tonneau.—Yours truly,

COMMON SENSE.

[Our correspondent brings forward some strong arguments in favour of the rear entrance tonneau, which is now looked upon as out of date by

ally, I am very thankful indeed to Mr. Edge and his Napier test for bringing this spirit into prominence, and in such a disinterested and sportsmanlike way, for the benefit of motorists generally.—Yours truly,

WILLIAM HENRY WHITE.

THE ATTITUDE TO MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My attention has been called to a paragraph under the heading of "Comments" in your issue of October 5th, in which you state, referring to "A Rector's Charitable (?) View," that Mr. C. H. Harrold opposed any alteration which would give further facilities for motoring at a high speed, and, better than the reverend gentleman, added he only hoped all the motorists would kill themselves. He was against spending a penny of the ratepayers' money in facilitating the motor traffic. You then go on to comment on the wickedness of any such expression, and say that "it ill becomes an advocate of peace and goodwill to hope, as did Mr. C. H. Harrold at that meeting, that 'motorists would kill themselves,' and they are not likely to do that; but we trust Mr. Harrold will keep on the grass of the side-walk."

I have to inform you that your statement that "I hoped 'all motorists would kill themselves' is absolutely false, and has caused me the greatest possible pain and annoyance, I am not concerned with the source of your information, nor am I called upon to express

any opinion as regards the propriety of any such utterance, if actually made by anyone else.

I, in common with many residents in country villages near London, suffer extremely through motor traffic. Our roads are rendered dangerous, our hedgerows, gardens and houses filled with dust, and our rates increased by the lowering of the value of houses fronting on the main roads, and the additional expense caused by passage of motors using the highways, and while I admit that many gentlemen owning and driving motors use them with every consideration for the inhabitants of the villages through which they pass, they are, unfortunately, but a small minority.

I am sure that you will, in justice to me, insert this letter in your next issue, and offer some apology to me in the same column of your paper wherein this libellous statement appears.—Yours truly,

CHAS. HY. HARROLD.

THE BRITISH AIRSHIP AND FOREIGN ENGINES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, Mr. Brett, challenges my statement that British engines are quite as good as, if not superior to, any foreign ones, and he desires me to substantiate my assertion. I will do so with pleasure. In the recent Gaillon Hill climb competition—one of France's most important automobile tests—a team of three six-cylinder Napiers swept the board and won three firsts. In the "sans limitation" class, which was open to the fastest cars in the world, six cars competed, including a Mors, Darracq, and Mercedes, but the English Napier defeated the lot besides climbing the hill in record time. Again, on October 12th, a 60-h.p. six-cylinder Napier attained a rate of speed of 91.37 miles per hour on the Brooklands racecourse, as certified by the official timekeeper. Now, Sir, these incontestable facts must make people realise that the best British design and workmanship, even if equalled abroad, certainly have no superior on the Continent.—Yours truly,

H. F. TRIPPELL.

THE SLIP OF THE CLUTCH.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to "H.'s" letter in yours of the 19th ult., to leave the clutch in in all cases of traffic and in hills and corners sounds very much better in theory than in practice. I have had a car, English make, leather-faced clutch, in constant use for three years. The same leather is now on as the maker supplied with car, and it is still in thorough good condition. With regard to using brakes on hills with clutch out, the same applies to corners and over rough portions of the road. But engines are not designed as brakes; if so, why are the makers so particular in putting efficient brakes on the market?

I should say, take hills slowly, handle brakes gently, with clutch out, otherwise quite unnecessary wear and tear in main journal bearings and gear-box will soon appear.

I would like to read others' opinions.—Yours truly,

A. R.

WHAT IT COSTS TO KEEP A CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an interested reader of the *Journal*, but one who is not yet the possessor of a motor-car, I venture to ask those who have had experience to let you have for publication in these columns particulars as to the expense of running and upkeep of a small vehicle. I believe there are many motorists who keep a record of their running expenses, and if only they will allow the same to appear in print it might assist many who are at present waiting to make the plunge. Nowadays all high-grade cars, I believe, can be relied upon to give good service, and if the cost of the car, horse-power, number of cylinders, speeds, chain or cardan drive, size of tyres (pneumatics or solids) were mentioned, these would form sufficient guidance to would-be motorists.—Yours truly,

BEDFORDIAN.

THE PRESENT SYSTEM OF TRANSMISSION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Hirsch's letter in a recent issue of the *M.C.J.* opens up a field of discussion, and is in many respects only too true. Many of the good machines built by persevering, ingenious mechanical engineers are now passing out of recognition, and are classified as freaks. But the trend of motor design will undoubtedly find its way back into the old groove of originality, which will bring in its train finality and perfection. Cars as a rule are not too complicated, but they are decidedly ungetatable, chiefly on account of makers giving detail insufficient attention.

I venture to prophesy, despite the ridicule I shall most assuredly be greeted with, that the car, the gentleman's carriage of the future, the most enduring, efficient, simple and silent vehicle, will have only four cylinders, separate, and these air cooled, which, if fitted with auxiliary exhaust valves—on which I have already expressed my opinions in the *M.C.J.*—a flywheel of large diameter and medium weight, with large air-inducing vanes instead of being solid, and inverted venetians in the place of the usual radiator, and possibly air distributors within the

bonnet, a carburettor of adequate capacity to deal with four warm but clean and empty cylinders would give the car a real resilient motion like that of a steam car under the most favourable conditions—a natural thermal efficiency.

Wire wheels, with detachable side rims, will of course come into vogue if only on account of their strength and elasticity, and helical reduction gears with internal expanding clutches of reasonable dimensions, vertical cylinders for me always, and a final drive on the Dennis principle except from a propeller shaft which gradually assumes a larger diameter up to half its length and then tapers down again towards the differential casing. Bevel gear drives absorb too much power; and chains I am sure will die a gritty, rattling death. The orthodox change-speed lever together with the gate and quadrant must be discarded, for both hands are required at the reins of a fast and lively horse; and I consider the same is required at the wheel of a similar car. The Daimler Company show that they have arrived at years of discretion by putting the brake lever in the right place to be dropped on immediately for emergencies.

A perfectly flat top to chassis, thus pressure fed (petrol, if it is still used) will predominate, forced lubrication, oilers for everything, even the springs, and shackles of same. Automatic air inlet valves on the induction pipe, close to the carburettor. The engine governed on the throttle, with a foot accelerator so arranged that when up the air valves and throttle are closed and the carburettor working in its ordinary way. Three point suspension on double bow springs, and pneumatic shock absorbers, whose bye duty it should be to store air at a given pressure, &c. A small winch so constructed as to retain the body at any angle, thus giving proper access to the working parts requiring adjustment, whilst the bonnet should be made on the principle of the roll top desk.

These are, I believe, the kind of improvements that will be embodied



Mr. Harry Sell, of Silver Street, Bedford, is using a 6-h.p. car in connection with his business as a Fishmonger and Gamekeeper.

Mr. Sell informs us that he has had the car about six months, and not only does he find it an excellent advertisement, but also a great advantage over horse-drawn vehicles for what he terms "the out town work" he having a large number of customers in the suburbs of Bedford.

In the car when it is looked upon as the cycle is now, but it will not engross the minds of those firms who have their shops stocked with patterns and castings for the standard car of to-day; nor of those people who have shares in these firms, but rather of those enterprising persons with the capital and ability to place up in the market such a simple and reliable vehicle as I describe.—Yours truly,

HERBERT J. CHAPMAN.

AN EXHAUST VALVE QUERY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you or any reader of the *M.C.J.* inform me what should be the clearance between the exhaust valve stem and the tappet? Should this be equal to that between the inlet valve stem and its tappet? The engine is a 12-h.p. twin-cylinder.—Yours truly,

W. T. PHILLIPS.

[As the exhaust valve stem gets hotter, and therefore expands slightly longer than that of the induction valve, it should of the two have rather more clearance. Adjusting them up with only a small space reduces noise, but, on the other hand, racing cars have often a fairly large one. About 1.32 in. to 1.16 in. space should be allowed; but it must be borne in mind that the timing is retarded by increasing the space on the opening and advanced as to closing. This must be remembered, and in no case should the valve have a clear "lift" of less than a quarter of its effective diameter. If the engine has been timed as to its valve setting by the makers with 1.32 in. clearance, there will probably be a loss of power if this is increased.]

CLUBS AND ASSOCIATIONS.

AUTOMOBILE ASSOCIATION.

THE authorities of the Paris Salon have allotted a room in the Exhibition for the convenience of members of the Automobile Association and Motor Club visiting the Exhibition. The room is conveniently situated close to the Salon de l'Automobile Club de France. A member of the A.A. staff, who speaks French, German and English, will go over from the head offices, and be in attendance daily during the Show. Members of both organisations are informed that appointments can be made, and letters, telegrams, &c., addressed for their convenience, c.o. Automobile Association or Motor Club of London, Exposition de l'Automobile, Paris.

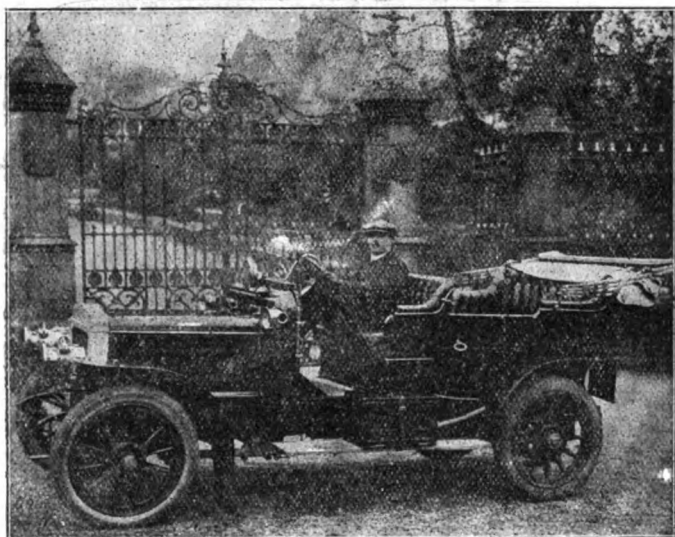
THE INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

A MEETING of the Council of the Incorporated Institution of Automobile Engineers was held on Tuesday of last week. The Secretary reported that the Institution had been incorporated and a licence obtained from the Board of Trade to omit the word "Limited." It was also announced that Mr. L. A. Legros had accepted a seat on the Council to fill the vacancy caused by the decease of Mr. Alec Govan.

The following were elected members of the Institution:—Messrs. H. P. G. Brakenridge (London), A. Marsden (London), B. H. Morgan (London), E. A. Rosenheim (Paisley), R. O. Legg (London).

HUDDERSFIELD BRANCH Y.A.C.

AT the annual dinner of the Huddersfield Branch of the Yorkshire A.C. on Friday, the 25th ult., Alderman W. H. Jessop, the president



Mr. W. Atkinson, the Blackpool and District Agent for Daimler Cars, on his 55-h.p. Daimler.

of the club, occupied the chair, among his supporters being Messrs. A. J. Sherwell, M.P., W. P. Raynor, J.P., E. H. Hepper (Leeds), K. F. Campbell (borough engineer), and E. Gordon Learoyd (hon. secretary to the club). After the loyal toasts Mr. A. J. Sherwell, M.P., proposed that of "The Yorkshire A.C." He strongly deprecated the habit of establishing police traps along roads where there was no danger to the public, and where no charge of reckless driving could be held to be tenable. He believed in the necessity for a speed limit inside towns and villages, but he strongly objected to the imposition of a speed limit and to the establishment of police traps on public roads and highways, where there was no conceivable danger to anything greater than a stray chicken or dog. As far as his views went, he would abolish that arbitrary speed limit on open public roads. He (the speaker) was entirely with them, and would lend his influence in the direction of securing the abolition of an arbitrary speed limit, and the deprecation of those mischievous police traps where no danger to the public might accrue, though at the same time he should be firm in maintaining the speed limit in towns and villages.

Mr. E. H. Hepper, in responding to the toast, said that motorists were not the black "road hogs" some people would have them believe, and they were only wishful to do what was right in their own sight and in the sight of the public in their motoring affairs. He referred to the work of the Yorkshire Club, of which he was chairman, and expressed the opinion that the efforts of various organisations would result in stopping the terrible dust nuisance. With regard to roads there had been a marked improvement, and the borough surveyors were taking all precautions to see that their under-surveyors and road men were doing

their duty. He also urged that it would be an advantage to every road user if all vehicles were properly lighted in the rear, as well as in the front.

Mr. W. P. Raynor submitted the toast of "The Huddersfield Branch of the Yorkshire Automobile Club," which, he said, was formed for mutual protection and for social intercourse. The President, who responded, said the object of the club was to encourage members to observe the law of the country, and to do nothing that would bring into bad repute motoring or motorists. There were 300 motor-cars and motorists in Huddersfield, and about one-half of that number were members of the club.

Mr. E. G. Learoyd gave the toast of "The Visitors." Mr. K. F. Campbell made a suitable response to the toast.

NORTH WALES.

AN important meeting of the Roads Committee of the North Wales Automobile Club has been held at Corwen, when there were present:—Mr. J. W. Wyatt, Cae Synamon, Carnarvon (chairman); Colonel O. Lloyd; Mr. Evans, Broom Hall; Colonel Sandbach, Abergelle; Major Turner, Flintshire; Mr. H. B. Davies, Treborth; Mr. S. T. Chadwick, Beaumaris; and Mr. J. H. Burton, together with a number of the Road Surveyors of North Wales, who had been invited to attend, and many of whom had motored from the various counties for the purpose.

The Chairman gave figures showing that the roads of North Wales cost in maintenance less than half those of the border English counties.

The Surveyors, while generally promising attention to matters of importance to motorists, pointed out that several useful matters devolved upon others. The lopping of trees and trimming of hedges in fences adjoining roads was the duty of owners or occupiers; the efficient renewing of pipe trenches devolved upon the gas, water, or sewer authorities who made them, and while motor-cars wanted small metalling, motor lorries and traction engines needed large metalling on the same roads. Scarifying adopted as a system would largely increase the cost of road repairing.

Mr. E. Evans, the County Surveyor of Carnarvon, proposed a vote of thanks to the club, in the course of which he said there were about 250 cars and cycles registered in the county. These had cost their owners, say, £50,000, to purchase, and had contributed some £500 to the county rates. The county, to meet the requirements of this traffic chiefly, had spent in various ways a sum of £5,000 on 250 miles of roads. In other words, they had spent ten times as much as they had received directly from motor-cars. If they took as typical the road through Beddgelert to Capel Curig, a length of fourteen miles, they found the rainfall to be 190 inches a year. This heavy rainfall was a factor to contend with in the repairing of roads when compared with the average rainfall of forty inches in England. The strip of road had been motor signalled at a cost of £10. By Portreuddyn they had reduced a hill in rock, and widened the metalled part at the corner at a cost of £30. A protruding rock at Aberglaslyn had been partly removed at a cost of £10. Brynyfelin bend had been eased at an expenditure of £50. The narrow road and bend by the old mill, Beddgelert, had been widened at a cost of £20. The sharp corners at Clogwyn Gysgfa and Penygwryd were now being cut at an outlay of £25. Penygwryd Bridge has been strengthened for motor lorries at a cost of £50. The swampy foundations on the Penygwryd length had been drained at a cost of £25. The rocky protrusions in the surface had been blasted or removed at a cost of £30. So that motorists had not been badly treated by the authorities of the district.

SOUTH DEVON.

MR. F. B. MILDMAY, M.P., presided at the annual dinner of the South Devon Automobile Club at the Royal Hotel, Plymouth, on the 23rd ult. Others present included Mr. W. E. P. Bastard (chairman), Mr. R. H. Lucy (deputy-chairman), Col. J. W. Robyns, Capt. H. de la Coudamine, Dr. G. F. Aldous, Dr. W. H. Waterfield, Dr. Fox, Messrs. G. S. S. Stredre, D.L., J.P., S. J. Lawry, C. G. Eve, C. J. Payne, E. Parsons, C. R. Fox, P. T. Pearce, R. Bromhead, H. R. Shires, J. J. Bayly (vice-president), A. R. Dobnam, R. Bayly, H. G. E. Cross, E. H. Miclewood, and A. E. Nias (secretary).

In proposing the toast of "The King, the Queen, and the rest of the Royal Family," the Chairman said his Majesty had always done his very best to encourage the manufacture of motors in his own country.

The Chairman, proposing "Success to the South Devon Automobile Club," said their object should be to promote the careful driving of motor-cars, with every consideration for the safety and convenience of the public. It was one of the functions of the club to work hand in hand with those anxious to put an end to the undoubted grievance to the general public in connection with motor-cars. There had been very great improvement in England with regard to driving, but even now the methods of many chauffeurs caused him to shudder. Motor-cars were in excess of good drivers. Some owners of motor-cars were disposed to express surprise because motor-cars were to some extent unpopular in the country. With the roads constituted as they were at present it seemed to him that the dust in many cases was positively insufferable, especially in those trunk roads which came out of London. Especially were they a nuisance to the owners and occupiers of roadside property. Motorists could truly say they did not make the dust. They only

raised the dust produced by the pounding of horses' feet. The present speed limit had not been a great success, and it seemed to him in many parts of the country the police were going the wrong way to work. He did not say that that was in Devonshire, because he was happy to think they were blessed with an intelligent police, but in some parts of the country they had a system of timing a man's progress by the hour, basing their calculation on one-sixteenth of a mile. It was apparent that the slightest mistake on the part of the policeman must falsify the whole of his calculations. That was not a fair way of timing the rate at which a man was going per hour. He would like to see the police throughout the country devoting themselves more to the stopping of driving to the public danger, because that should be put an end to. His friend, Mr. Bastard, had been untiring in his efforts on behalf of the club. He initiated the club, and he entertained the club very kindly in that beautiful country, the Buckland Downs, the other day. He was glad to think that the club was prosperous in every way. They had got a good name, and meant to keep it, and he was quite sure the work they would do would be welcomed by all sections of the community in South Devon.

Mr. W. E. P. Bastard, in response, said the club might consider itself the father of automobilism in Devon. The family was now a large one; they had between 130 and 140 members. They could depend upon their president to see that, at any rate, their side of the question was fairly and squarely put before the House of Commons. He was perfectly certain that the future of automobilism rested very largely with themselves. The club had had a most successful hill-climbing contest. They had put up caution signals in the neighbourhood, and would have to put up a good many more. By Act of Parliament that was the duty of the County Council, but the County Council had been completely deaf to all remonstrances on the subject. Signs were not wanting that enlightenment was slowly coming in that direction, and the United Devon Association was now working with the South Devon Automobile Club in the hope of inducing the County Council to do what was their obvious duty.

Mr. Strode proposed "The president," and said they should bring the greatest possible pressure upon the County Council for the Devonshire roads and lanes were not the safest places for driving. The Chairman, in response, referred to their great indebtedness to Mr. Nias, the secretary, who had worked hard for the success of the club.

Mr. Nias thanked the president for his kind reference, and the proceedings then closed.

SCOTTISH.

A HILL-CLIMBING test confined to cars owned by members of the Scottish A.C., and driven by the owner or a member of his family, took place on the hill leading out of Fintry towards Lennoxton on Saturday afternoon. The test was made over about 1,900 yds. of road of an average gradient of 1 in 15. The event being purely a private and sporting one no formula was used and no prizes given. Mr. A. G. Rennie and Mr. John M. Ross acted as timekeepers, and the following were the best times made, the time of the fastest car being represented by X:—

	Seconds.
Mr. Jack Murray's 40-h.p. S.P.A. ...	X
Mr. J. H. Paterson's 30-h.p. Peugeot ...	x + 14 3-5
Mr. A. Forrester Paton's 40-h.p. Napier ...	x + 30 2-5
Mr. Thomas Shaw's 30-h.p. Siddeley ...	x + 33 4-5
Mr. Harry Prosser's 30-h.p. Siddeley ...	x + 39
Mr. Andrew Sharpe, jun.'s, 28-43-h.p. Daimler ...	x + 39 4-5
Mr. Hugh Kennedy's 20-h.p. Ailsa ...	x + 67 2-5
Mr. J. W. Morton's 16-20-h.p. Mays ...	x + 73 4-5
Mr. L. C. Seligmann's 24-h.p. Gladiator ...	x + 91 3-5
Mr. Robert Thom's 10-12-h.p. Humber ...	x + 113
Mr. J. W. Scott's 10-12-h.p. Humber ...	x + 115

THE ORGANISATION OF MOTOR-CYCLISTS.

A CONFERENCE between the committee of the Auto Cycle Club and the eight representatives of the motor-cycle clubs appointed at the Lincoln Conference was held at the Black Boy Hotel, Nottingham, on Saturday, Mr. R. Todd presiding. It was decided to hold the next meeting of the A.C.C. Council in London, on Saturday, November 23rd, when the question of the constitution of the A.C.C. will be further considered. The conference recommended:—

- (1) That the name be altered to the Auto Cycle Union.
- (2) That the social programme be dropped.
- (3) That the present arrangement between the A.C.C. and the Motor Union be reconsidered and dealt with as may be decided by the old council.
- (4) That the question of the reduction of the affiliation fees be considered and determined by the old council, the committee of eight to place before it a report and recommendation on the subject.
- (5) That the next council meeting be the last of the year.
- (6) That a meeting of the council of the new body be held as early as possible in the new year, but not later than February, at which meeting all officers be elected.

The place of meeting and time will be fixed by the council at the meeting next month.

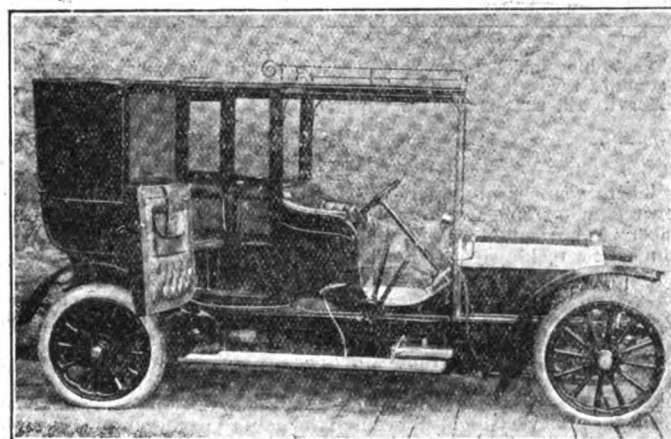
CASES UNDER THE MOTOR CAR ACT.

MANY ENDORSEMENTS.

HEAVY penalties have been inflicted by the Kingston County Bench upon Archibald Gray, of Guildford, who was summoned for having driven a motor-car at an excessive speed, and for having failed to have the identification plate illuminated, at Esher, on the 10th ult. Supt. Marks said there were three endorsements on the licence, and defendant had been fined sums of £20 and £11. Fines of £10 and costs for the first offence, and £3 and costs for the second, were imposed.

THE ENDORSEMENT OF LICENCES.

Before Justices Phillimore and Walton, Mr. H. A. M'Cardie moved for a rule nisi calling upon the justices of the Northfield Division of Worcestershire to show cause why an order made by them endorsing the motor licence of Mr. Moffat should not be brought up and quashed on the ground that it was made without jurisdiction. In August last, counsel said, his client was summoned under the Highways Act, 1832, for causing an obstruction by leaving his motor-car on the highway for forty-five minutes. The justices convicted him, and under Section 4 of the Motor Car Act, 1903, endorsed his licence. He (the learned counsel) contended that the justices had no jurisdiction to endorse the licence, as the section related only to driving offences, and not to offences of obstruction. The justices appeared to think that as the motor-car had been driven to the spot where it was left they had power to act on the section which provided for the endorsement of licences. The point was of great importance, because if the order of the justices was allowed to stand it would open up an enormous field of endorsement. Their lordships granted a rule, Mr. Justice Phillimore remarking that he did not give the applicant much encouragement.



That the development of the motor body building trade is not being confined solely to large centres is apparent from the fact that as far north as Aberdeen the British Motor Body Company, Ltd., are carrying on at their Bannermill Works an extensive business in motor bodies. The above illustration depicts a 30-40-h.p. Fiat, fitted with a three-quarter landaulet body, they have built to the order of Messrs. Rennie and Prosser, Ltd., Glasgow.

NO REAR LIGHT.

A chauffeur, who was summoned at Otley for driving a motor-car without showing a red rear light, pointed out that according to law he was only required to show a red rear light, and that on the night in question his side lamps were lighted, and in each of these lamps there was a rear red pane of glass. The Police Superintendent admitted that the defendant was technically complying with the law on the point. Of course there would be the question of showing the identification plate, but this had not been raised. The case was dismissed.

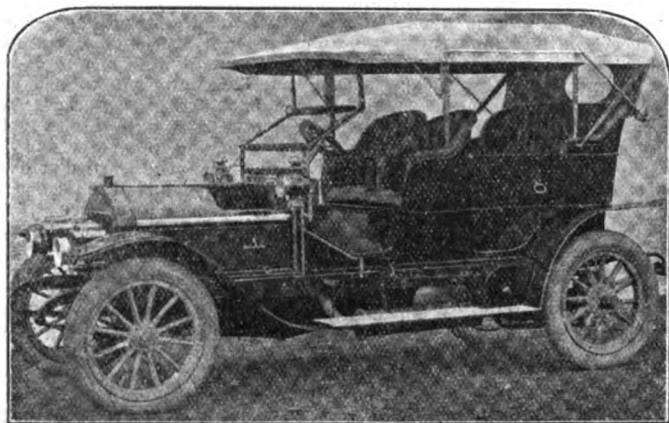
EXCEEDING LEGAL LIMIT.

John Todman, chauffeur to Mr. Joe Elvin, has been summoned at the Bromley (Kent) Police Court for exceeding the legal limit along the Maidstone road. Two police constables who gave evidence for the prosecution stated that the car covered the measured furlong at the rate of thirty-three miles an hour. Mr. William Taylor-Parkes, of the firm of solicitors who act for the Automobile Association, appeared to defend. It was elicited in cross-examination that the car was not stopped, as the constable who had been placed to stop the cars was at the other end of the trap, but a constable stated that he had called upon the owner and informed him that his driver would be summoned for exceeding the legal limit. The solicitor contended that he had no case to answer, and pointed out that under sub-section 2 of section 9 warning must be given of intended prosecution either at the time the offence is committed or be sent within twenty-one days afterwards to the owner of the car or to the driver, this last clause implying that it must be a written notice. The Bench upheld this contention, and the Superintendent of Police asked for an adjournment on the ground that the ordinary written notice had

been sent and that he could give proof of this. The Chairman refused the request and dismissed the summons.

HEAVY HAULS.

Five motorists were fined £26 and costs at Huntingdon, on Saturday. Before the Arundel County Bench fines of £5 each have just been imposed on half a dozen drivers of cars. Several batches of motorists have been before the Bromley (Kent) sessions lately. Five convictions have just been recorded at one day at St. Helens. At the Blifield Petty Sessions several motorists have been fined for exceeding the legal limit. Three motorists have been convicted of similar offences at the Stratton Police Court. At Ayr Sheriff Court, fourteen motor-car drivers have just been fined £67 for exceeding the speed limit.



The 40-h.p. Daimler Car which the Wolseley Company have recently supplied through their Bombay Agency to H.H. The Maharajah of Morvi. The chassis is fitted with a tulip side-entrance body, hood and double glass screen.

ALLEGED RECKLESS DRIVING.

There was a sequel at Lewes Petty Sessions, on the 23rd ult., to the wrecking of Tollgate Cottage, Beddingham, by a motor-car, on September 24th, when Mr. Cecil Chandless was called upon to answer a summons for recklessly driving a motor-car on that day, having regard to all the circumstances of the case. Mr. Staplee Firth appeared to defend, and a plea of not guilty was entered. Mr. Lawson Lewis prosecuted. Mrs. Balcombe, the tenant of the cottage, said she saw the car turning as though going towards the gate, and then as though it was attempting to regain the road. The car collided with the cottage. An old church pew, rather heavy, stood in front; this and a table were broken up. Some part went indoors, and the rest was strewn about. The hedge was very high, and caused the gate to be absolutely invisible. She regarded it as an accident. After further hearing, the chairman said the Bench were of the unanimous opinion that the evidence supported the information, and that the defendant had committed an offence under Section 1 of the Act, and accordingly convicted him, imposing a penalty of £10 and 15s. costs. Notice of appeal was given.

A motor-car accident which happened in Pampisford Road, South Croydon, on September 25th, and which resulted in the death of a schoolboy cyclist, has been inquired into by the Croydon magistrates, when C. C. Hinks, of Lynton Road, West Croydon, appeared to summonses charging him with recklessly driving a motor-car, and in a manner dangerous to the public. It appeared that the boy was cycling on the afternoon of September 25th, when he came into collision with a motor-car owned by Mr. W. G. Fenn, of Croydon, and driven by the defendant, who had been at the time of the accident a week in Mr. Fenn's service. The evidence was to the effect that the driver of the car, who said he was going at ten, eleven, or twelve miles an hour, saw the boy two or three hundred yards away coming towards him, the road being clear. In the end the magistrates dismissed the summonses.

FINED IN THEIR ABSENCE.

Stanley Williams and Walter Bland, who did not appear, were charged at Preston with driving a motor-car without lights. P.C. Wilson said that about 9.30 on the 7th ult. he saw a couple of cars pass him in Preston Road, Lea. Both were without rear lights, and the first one, in charge of Williams, was towing the second one. He turned on his lamp and whistled, but they kept on. He caught them up at the Plough Inn, Ashton, where both the rear lamps had been re-lighted. A fine of 40s. and costs was imposed. Just as the chairman had announced the Bench's decision the defendants appeared in court, and as they said that the train service from Prestwich, where they came from, was awkward, the Bench decided to have the case reheard. P.C. Wilson repeated his evidence, and the chairman said that the Bench would not alter their decision.

THE UNITED MOTOR INDUSTRIES have been appointed sole British and Colonial agents for the well-known Duburle lubricators.

THE TAR-SPREADING COMPETITION.

THE report of the judges on the competition for the best tar-spreading machine and the best preparation of tar for road purposes is referred to in our Comments. The following summary of the references to the competing appliances will also be of interest:—

AITKEN'S PATENT PNEUMATIC TAR SPRAYER.—The judges consider this to be a well-constructed machine, possessing many important advantages. It is self-contained and can be moved rapidly from one part of the road to the other. It can also cover a considerable superficial area of road in a day's work. By the use of this machine, under the most favourable conditions, the actual cost of laying on one coat of tar in a sufficient quantity may be cut down to almost one-fiftieth of a penny per superficial yard, or with a road six yards wide to approximately £1 per mile. The judges have decided to award the first prize of 100 gs. and the Association's gold medal to this competitor.

EMULSIFIX, LTD.—This machine is of the nature of a special form of water-cart having means for mechanically mixing tar and tar oil with a certain proportion of water, and spraying the road before the mixture has time to separate.

JOHNSTON LASSAILLY PATENT TAR ROAD BINDER.—The work done by this apparatus was good. A heavier coating of tar was put on than in the other cases, and chiefly owing to this the durability of the coating has been greater than any of the other competitors.

TARSPIRA, LTD.—This company entered three machines. The judges have decided to award the 700 gallon Thornycroft Tarspiro Machine the second prize of 50 gs. and the Association's silver medal.

THWAITE ANTI-ROAD DUST SYSTEM.—The judges were impressed by the good working of this machine, which seems to be simple and effective. The first cost of the apparatus is very moderate, but the operating cost is not so low as either Aitken or Tarspiro.

MR. REESON'S PATENT MACHINE, USED BY THE GAS LIGHT AND COKE COMPANY.—For putting on a preparation of tar, but not entered for the tar-spreading machine competition. This apparatus consisted of a tank fitted with gravitation sprinkler and two rotary brushes. At a special test of this machine on the road between Swanley Junction and Farningham, Kent—at the same time as the special tests of the Tarmaciser—it worked satisfactorily and was very favourably commented upon. The heating arrangement consisted of a Wells Light burner, paraffin being the heating agent. The air-pressure for this heater was obtained by means of a hand pump.

PREPARATIONS OF TAR.—The preparations of tar tested were of two classes—those containing very little tar and those in which tar formed the main ingredient.



The 25-h.p. Motor-Van recently supplied to Mr. W. Northrup McMillan, Proprietor of the Juja Farm, Nairobi, British East Africa.

As in most cases the roads take the form of roughly beaten tracks traversed only by native pedestrians and bullock wagons, intersected oftentimes at right angles by rivers and streams which have to be forded, the car has been designed to enable the driver to take water nearly 3 ft. deep, and negotiate the most rutted paths without fear of damaging any portion of the chassis. Extra long springs are supplied, and spray and specially powerful side-operated rim brakes are fitted. Three speeds forward, brake and reverse motion are obtained by the Adams pedal-controlled planetary gear.

In this class were the compounds "Crempoid R," "Crempoid D," "Ermenite," "Hahnite," and "Pulvicide." The results of treating the roads with all these compounds may be dismissed in a short paragraph. Within a very short time after their application, i.e., a week in the case of "Ermenite," a fortnight in the case of the "Crempoids" and "Pulvi-

cide," and a month in the case of "Hahnite," they had practically disappeared. The compounds have not the durability of tar, and the judges do not consider their use as economical. Moreover, complaints have been received to the effect that the dust raised from the sections of the roads treated with some of these materials is injurious to the eyes of those using the roads, and to the frontagers living along their routes.

The preparations containing a large proportion of tar were, on the whole, very satisfactory. Dealing with them in order of merit:—

CLARE'S PATENT TAR COMPO, now known as "Improved Dustroyd (Clare's Patent Tar Compo)." The quantity of the material appears to be one gallon to seven square yards applied in two coats. At the price quoted by the competitor—3½d. gallon d/d. London—and after making allowance for getting the material into position on the road it works out, excluding the cost of spreading for a coating of seven square yards to the gallon, at 57d. per square yard of road surface, or approximately £25 per mile of road six yards wide. From the time of laying until recently it has been uniformly good, and is now in better order than any other portion of the road. The surface is now wearing rapidly, especially in the centre. The judges have decided that the "Ballymenagh" 100 guineas Trophy and the gold medal of the Association for the best preparation of tar for road purposes be awarded to Messrs. Clare and Co., of Liverpool.

THE GAS LIGHT AND COKE COMPANY.—Oil gas tar probably penetrates deeper than anything else, but it does not form so durable a wearing surface, and consequently is not so great a protection to the face of the macadam as a good tar preparation. It would probably be very useful for the purpose of giving the first coat to a road, to be followed by one of coal gas tar or other similar substance.

T. G. MARRIOTT'S "MARBIT".—The third in order of merit of the competing preparations is "Marbit," entered by this competitor, but the condition of the section of the road treated is not quite so good as that of the first two named.

COMPANY NEWS.

AUTOMOBILE CARRIAGE BUILDERS.—£20,000. To take over the business of manufacturers of carriage bodies and other appliances attached to the chassis of motor-cars and motor-omnibuses carried on at 90 and 92, Wandsworth Road, S.W., as Savers and Company, and to adopt an agreement with Messrs. G. H. H. Freeman, G. J. Plevins, and H. J. D. Clark. No initial public issue. First directors: Messrs. G. H. H. Freeman, G. J. Plevins, and H. J. D. Clerk, 90 and 92, Wandsworth Road, S.W.

CASTOLIN REPAIRING COMPANY.—£2,000. To take over the business of engineers and engineering contractors carried on by Messrs. T. W. Sheffield and W. H. Lilienfeld, as the Castolin Repairing Company. No initial public issue. First directors: Messrs. T. W. Sheffield and W. H. Lilienfeld. Remuneration as fixed by company. 11, Queen Victoria Street, E.C.

J. E. H. MONYPENNY AND CO.—To adopt two agreements with Mr. J. E. H. Monypenny and to carry on the business of manufacturers of motors, carriages, &c. No initial public issue. First directors: Messrs. J. E. H. Monypenny, H. Bacon, and W. H. Hodgson. 17, Hanover Square, W.

DAIMLER MOTOR.—The report for the year ended September 30th states that the conversion of the original preference shares into ordinary shares has been completed, and of the 100,000 new 6 per cent. cumulative preference shares authorised to be issued by the shareholders 73,300 have been allotted. The profit for the year, after provision has been made for interest on debenture stock, depreciations, bad and doubtful debts, and all charges, amounts to £124,213; bonuses due to employees on above profits are £13,805; and, after adding balance of last year's profits (£34,611) and deducting £634, dividend on 73,300 six per cent. preference shares, there remains a disposable balance of £144,395. The directors propose: Special fund for renewal of plant and machinery and for experimental and development work, £20,000; dividend of 12½ per cent. on 200,000 ordinary shares, £25,000; bonus of 2s. per share on 200,000 ordinary shares, £20,000; general reserve account, £30,000; balance carried forward, £49,395. The above dividend and bonus are equal to a return of 22½ per cent. on the ordinary shares. The business of the company shows a substantial increase over previous years, though, owing to the reduction in prices, announced at the last annual general meeting, and the increased value of the cars supplied, the profit has been materially lessened.

HUMBER, LIMITED.—For the year ended August 31st last, after making due allowance for bad and doubtful debts, depreciation, and managing director's commission, there is a net profit of £154,434, making, together with £9,430 brought forward, an available balance of £163,865. The directors recommend that this amount be appropriated as follows: Dividend of 6 per cent. per annum on the preference shares for the year ended August 31st, 1907, £15,000; dividend of 20 per cent. on the ordinary shares, £50,000; provident fund (including workmen's compensation in cases of accident), £5,000; general reserve fund, £85,000; balance to carry forward, £8,865. The sales of the company's productions show a further large increase, and the profits realised in all departments have been satisfactory. The erection of the new works at Coventry has been energetically proceeded with. The buildings are now nearing completion and will, it is hoped, be fully occupied before the pressure of work is felt next season. The outlook

for next season's trade is thoroughly satisfactory. After mature consideration, the directors have decided that, instead of meeting the whole of the outlay out of profits, as originally intended, it is advisable that a portion of the expenditure be met by the issue of further capital in the form of an addition to the ordinary shares. They recommend that 100,000 further shares, ranking *pari passu* with the present ordinary shares, be created, and they propose, in the first instance, to offer these to the holders of the existing ordinary shares.

ROVER.—The report of the directors to August 31st states that the balance-sheet shows £29,782 as available net profit, of which £16,870 has been earned during the year, after payments and reserve for depreciation, debenture interest, directors' fees, expenses re new capital, and removal to new works, &c., amounting to £8,153. Full reserves have been made for bad and doubtful debts: £30,000 has been written off the amount appearing in last year's balance-sheet for goodwill, leaving this at £15,000 only. It is proposed to deal with the available profits by paying a dividend of 10 per cent., less tax (£9,727), and carrying forward to next year £20,054. The past season is stated to have been a satisfactory one. The prospects for next year's trade are encouraging. The increase in the company's business necessitates, in the opinion of the directors, a further increase in the share capital of £50,000.

A LINCOLN GARAGE.

MOTORISTS are well alive to the attractions of Lincoln. The centre of a district of good roads and the home of a sane and sympathetic police, it is also full of interest to the visitor. Crowned by its superb Cathedral there is no town fuller of archaeological interest, whilst Roman remains confront him on every hand. One of the most notable structures is the Stonebow, a venerable obstruction in the very heart of the city. A few yards away, turning down Guildhall to Newland, the motorist will find



all his needs catered for at the splendid garage of Messrs. R. M. Wright and Company, who are one of the motor pioneers of the country.

The entrance to the garage is situated near the showrooms at the four cross roads—Guildhall Street, Newland, Mint Street and Water Lane. The lower floor is constructed in two bays, both measuring some 100 ft. long and 100 ft. wide. At the far end is situated a long, well-constructed inspection pit. Coming back towards the offices is an excellent washing place. The general repair and machine shop is situated on the first floor, a lift being ready to take the cars right away. There is a good range of modern machine tools and a staff of motor-engineers whose knowledge of the various different cars is particularly extensive. Vulcanizing plant for all tyre repairs is also provided. The stores are replete with oils, grease, petrol, and tyres. The heating arrangements are well carried out. A garage ticket is given for every car entering, so that a correct record can be kept stating the time every car arrives. This is a good method of organisation and makes things easy of control and direction, which characterizes such an establishment.

The showrooms are made interesting by a display of such cars as Napiers, Daimlers, Humbers, Argylls, Belsize, De Dions, and other types of vehicles. The department of cars for hire plays a very important part with the firm, as a number of vehicles are kept for this purpose, including landaulets, limousines, and open touring cars, and 50,000 miles is an average year's running for these cars.

Mr. R. M. Wright, as principal, is well known in the trade and drove the first 10-12 h.p. Coventry Humber car officially observed 5,000 miles in five weeks to prove its reliability.

THE CAR SUPPLY COMPANY, of 34, Knightsbridge, W., inform us that as sole agents for the well-known French car, the Duhannot, they hold stocks of spare parts in London for users of these vehicles.

FORTHCOMING EVENTS.

NOVEMBER.

- 3rd.—*L'Auto's* Concours de Pannes.
 6th (F.).—Society of Motor Manufacturers and Traders' Dinner, Grand Hotel, Charing Cross. Mr. E. Manville in the chair.
 11th-23rd.—Olympia Motor-Car Exhibition.
 12th-30th.—Paris Motor Show.
 13th (W.).—Annual Dinner of the Motor Union at the Hotel Great Central, London.
 20th (W.).—Institute of Automobile Engineers. Address by Col. R. E. Crompton.
 22nd-30th.—Stanley Show.
 30th (S.).—Annual dinner of the North London A.C. at the Midland Grand Hotel, London.

DECEMBER.

- 2nd (M.).—Cheshire A.C. annual dinner.
 4th (W.).—Southend and District M.C. annual dinner.
 5th (Th.).—Exhibition at Berlin.
 7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
 18th (M.).—General Committee of the Motor Union.
 21st (S.).—Opening of the Brussels Exhibition.
 26th.—Annual Reliability Trial of the Motor Union of Western India.

MARCH, 1908.

- 21st-28th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Nov. 2nd—5.30	...	4th—5.28	...	6th—5.24	...	8th—5.21
" 3rd—5.29	...	5th—5.26	...	7th—5.23	...	9th—5.20

CLAIM AGAINST MOTORIST.

At the Bloomsbury County Court, on Monday, Judge Bacon heard a claim for £80 by Mr. William Kemp, jobmaster, of Adelaide Road, N.W., for damages for the loss of a horse in consequence of the same coming into collision with a motor-car, the property of Messrs. Sydney Straker and Squire, Ltd., at the junction of Boundary Road and Finchley Road.

The case occupied the court a considerable time. Mr. Merlin (instructed by Mr. T. W. Staplee Firth) appeared for Messrs. Straker and Squire, and the judge dismissed the claim with costs on the ground that the accident was brought about by the negligent manner in which the horses were managed.

ROAD REPORT.

HERTFORDSHIRE.—The County Council has added £3,000 to the estimates of the county surveyor for additional expenditure required for main roads, in consequence of the continued damage by motor-cars, lengths of roads having been stripped of granite which he hoped might have lasted through the winter.

PUBLIC MOTOR SERVICES.

THE Cambrian Railways have a winter motor service between Pwllheli and Nevin for the conveyance of passengers and parcels. The local agents are Messrs. Parry, Nanhoron Arms Hotel, Nevin; J. Jones, Tonyparc Shop, Morfa, Nevin, and J. Jones, Ship Inn, Edeyrn.

MESSRS. TILLING, LTD., are starting a service of motor-buses between Eltham and Woolwich.

POLICE TRAPS.

THE Rainford police are watching a trap on the road to Southport from that village.

TRAPPING is being made a feature of police work in Ewell Road, Ewell.

AT Ruxley Hill, Bromley (Kent), the police have a measured distance.

TRAPS have lately been laid on the Inverness and Nairn road.

THERE is a trap on the road leading from Beverley past the Victoria Barracks.

THE Alnwick police have established a measured distance of 900 yards on the north road between North Charlton Bridge and the lodge at Alnwick.

THERE is another control of 1,100 yards between the South Gate and the Alnwick Cemetery.

WALSALL motorists should beware of the quarter-mile traps which have been set on the Mellish road and also on the Birmingham road.

THE trap at Allesley is in almost daily operation, and a warning recently given in our columns still holds good.

BUSINESS NEWS.

THE ELASTES COMPANY, LTD., announce an important reduction in price in respect to certain sizes of Elastes filling, particulars of which will be sent to any one interested. Considerable improvement has been effected in the Elastes moveable rim, which, together with the company's specialities, will be on view at the Olympia Show.

MR. C. F. POUCHER, M.I.A.E., informs us that he is resigning his position as works manager and designer to the Enfield Auto-car Company, Ltd., Redditch, and is desirous to take up similar duties with a good firm or meet with financial assistance to commence business on his own account.

ARIES MOTORS, LTD., is the title of a new concern which has just been formed with a capital of £10,000 for the sale of Aries cars in England. The managing director of the new concern is Mr. R. L. Philpot, who until recently was sale manager of the Wolseley Tool and Motor Car Company. The new company is establishing a depot at 4, Princes Street, Hanover Square, London, W.

THE NATIONAL MOTOR ACADEMY will have a car in attendance at Olympia for the convenience of anyone wishing to inspect their premises and to avail themselves of their services.

MR. C. MCADAMS informs us that he has taken over the business lately carried on by the William Truscott Motor Repository, Nelson and Rupert Streets, Bristol. Mr. McAdams has been in the trade since its beginning, and has businesses at Stockton and West Hartlepool. We understand the auction sales will be discontinued.

THE E. M. BOWDEN'S PATENTS SYNDICATE, LTD., will have some specimens of front wheel brakes included in their exhibits at the approaching shows, and they will be prepared to go thoroughly into the subject there with anyone who requires further information.

THE BRITISH PETROLEUM COMPANY have reduced the price of "Shell" motor spirit and "660" motor spirit by a penny per gallon.

M. L. BLERIOT, of 14-16, Rue Duret, Paris, has been appointed sole concessionaire for the G.L. Carburettor Controller and Petrol Economiser in France.

THE Osterfield Motor Car Syndicate has been registered with offices at 55, Park Walk, Chelsea, S.W.

SOME time since a private car owner asked a firm of car manufacturers to fit Elastes-shod wheels to his new car, about to be delivered. The makers objected. The motorist reported this to the Elastes Company, who wrote the car manufacturers, asking if this remark was made from want of confidence in their cars, or from ignorance of Elastes. The car company replied that they "were under the impression that certain effects were produced by the use of Elastes," but were making experiments and would communicate further. A later letter says that they "have now gone fully into the matter of Elastes tyres, and have written withdrawing the objection to fitting these; we see we were somewhat wrong in our opinion of same."

WE are informed that Messrs. Aster, Ltd., are now in liquidation, having sold their name and goodwill to the Aster Engineering Company, Ltd. The latter concern have increased their capital £70,000 by a private issue, the capital now being £120,000. The whole of the business will be conducted from 4, Princes Street, Hanover Square, W. The works, which are at Wembley, Middlesex, are fully equipped for carrying out a large business in the construction of engines, gear cutting, and the manufacture of carburettors, pumps and magnetos, &c.

THE Anglo-American Oil Company, Ltd., inform us that they have made a further reduction of 1d. per gallon in the price of their Pratt's Motor Spirit.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relative to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

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"THE INDUSTRIAL MOTOR REVIEW."

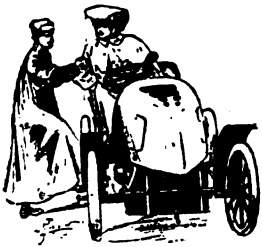
"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



ELSEWHERE we publish the two letters which conclude the correspondence that has lately taken place between the Motor Union and the Automobile Association, and which mark the close of a controversy that excited considerable attention some weeks ago. In these letters between Mr. C. D. Rose, M.P., and Colonel W. J. Bosworth are suggestions which, if loyally carried out by both organisations—and which no doubt they will be—will secure a restoration of that cordial feeling

which should animate the various associations for the general welfare of the motor movement. It has been agreed that the Motor Union badge is to be modified to prevent any possibility of confusion with that of the Automobile Association. The withdrawal of the road scheme of the M.U. will leave all matters appertaining to the patrolling of the roads as the special province of the A.A. On the other hand, the latter organisation will recognise the sphere of the Motor Union work in such matters as appertain to the dust nuisance and the general question of the improvement of roads as well as the subjects of insurance and legislative and general legal work. Thus, we trust, ends a dispute which at one time loomed large in the eyes of the public, but which, owing to the tactful guidance of Colonel Bosworth and Mr. Rose, has been reduced to an amicable settlement. There is plenty of room in both organisations to develop policies of real value to motorists without in any way overlapping the activities of each other.

Patrol Precautions.

As far back in the year as August 10th and 17th we drew attention to the activity of the Public Control Department of the London County Council in warning Borough Councils of the Metropolis as to the risks that were caused by the discharge of petrol into sewers. This, as we showed at the time, had become an increasing source of anxiety to those responsible for the safety of the men who are engaged in the necessary service in connection with sanitary work. Now the matter has gone further, and at the last meeting of the London County Council a report from the Department was presented which officially recognises the excellent plans that had been suggested for the mitigation of the danger. All licensees under the Petroleum Acts whose use of petrol may in any way lead to the offence have been served with a copy of the Council's order forbidding the discharge of the spirit into the drains. A prohibitive condition is also inserted in licences granted in

such cases; and warning notices, printed in three languages, for exhibition in garages, both public and private, are being widely distributed. Various drainage interceptors designed to retain petrol have been examined, and it has been decided that one which has been in satisfactory use for some years at a large petrol distillery would answer the purpose. They accordingly had drawings of this interceptor prepared for the information of persons concerned, and are now obtaining the provision of such interceptors at various licensed premises in the county. In cases of applications for new licences where it is evident that the use to which the spirit will be put will involve serious risk of discharges of spirit into the drains, the provision of an interceptor is required before the licence is granted. As a result of these efforts nearly fifty of these devices have now been constructed on premises in the area of the London County Council. It is impossible for the licensing authority to entirely prevent all discharges of petrol into the sewers, as large quantities of spirit are kept without licence at private motor-car garages, and much is used for dry cleaning in private houses, but the danger will be largely diminished by the provision of interceptors on those licensed premises where there is a likelihood of petrol escaping into the sewers.

Cars v. Railway.

TALK of the railway dispute is again bringing the motor-car to the front as a public service vehicle, and the suggestion of a correspondent for a kind of mobilisation of private motor-cars to assist the public in getting to and from business in the event of a strike occurring on the railroad is interesting. Whether private owners would consent to the proposal is a matter of considerable dubiety, which questions of licensing would probably settle in the negative. There is no doubt that in many districts local livery stable keepers and similar firms might organise such a service with fair promise of success, but no haphazard method would stand any chance of sound financial consideration. At the same time the discontinuance of a regular train service might give enterprising motorists an opportunity of establishing short services across country in many places. But too much need not be expected for the motor industry from the misfortunes of the railway companies.

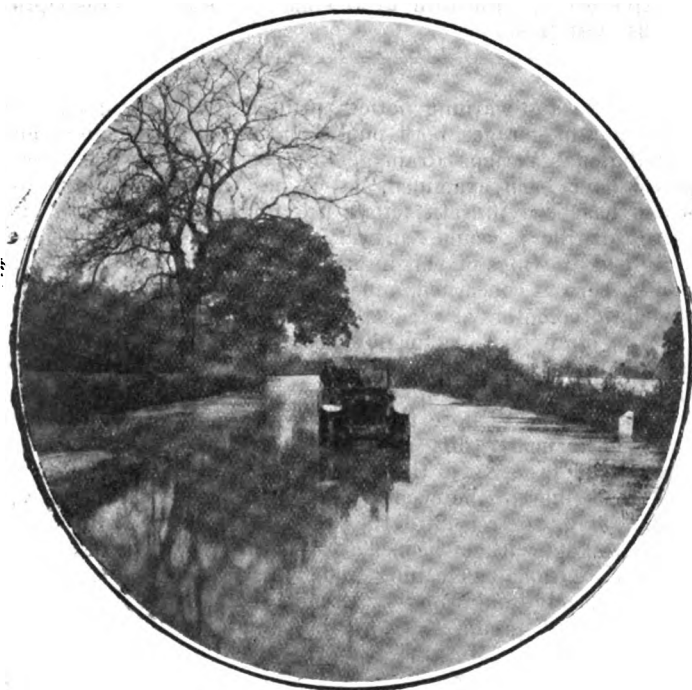
The Commercial Vehicle Trials Awards.

ALTHOUGH the judges in the Commercial Vehicle Trials of the Royal A.C. are still busily engaged in connection with their report, the publication of the same will not take place for two or three weeks. This delay is occasioned by the many elaborate calculations which have to be checked and con-

sidered. Meanwhile, however, the awards have been made known with commendable promptitude, and we would congratulate the winners of the gold and silver medals upon their successes. A full list of these is given on another page, from which it will also be seen that the drivers have been recognised in a way that should become a regular feature of such contests.

A New Road in Devon.

◆ ◆ ◆
In our Correspondence columns this week, Mr. R. B. Jeune revives interest in the making of the new road which has been proposed between Lynton and Lynmouth. The Rural District Council have now undertaken to be responsible for the work provided there is sufficient financial support from the locality to warrant the enterprise. Those who have enjoyed the pleasures of motoring in Devon will doubtless contribute their quota to the expense, and so provide a means of avoiding some of the hills that try the cars of small power.



Owing to the recent heavy rains the main road between Worcester and Hereford was impassable for three days. The photo reproduced above depicts Mr. F. W. Barker, of Barker's Garage, Worcester, on his 20-28 h.p. Darracq, at Bransford, making an attempt—which was not successful—to get through. Mr. Barker took the precaution to reverse into the water, so that, should it become too deep, he could get away before it reached the contact maker.

The Speedometer.

◆ ◆ ◆
AMONG the accessories that will form an important section of next week's Motor Show at Olympia, speedometers will have a conspicuous place. These have come to possess a legal as well as a mechanical value, and in the provinces as well as the metropolis the possession of such an instrument has been a means of economy to many motorists. In a case heard recently at the Marylebone Police Court, the magistrate, after saying that if the defendant had had on his car a speedometer which registered and retained the indication of the maximum speed, the case would have been dismissed, went on to observe to the solicitor:—"I don't know if you are aware of it, but we have many of these motor cases. And inasmuch as it is proved that there is such a thing as a speedometer which indicates the maximum speed at which the car has been travelling and retains it, it seems to me motorists in future will have no justification for being found on a car without one."

The hint is obvious to those likely to appear before that particular Bench.

Motor Cycling.

◆ ◆ ◆
RENEWED activity on the part of the motoring organisations should draw within their ranks many motor-cyclists who have previously held aloof from association with their fellows. Such will be to the advantage of the whole movement, for in the ranks of owners of motor-cycles are many prospective purchasers of cars. And the education of the public can be better done by collective work than by isolated endeavour. In many ways the interests of the two sections are identical; and the woes of one are equally the worries of the other—especially in the presence of such men as Policemen Jarrett, Waghorn and Marks, an illustrious trio whose names are familiar wherever the motor moves. At the present moment the Motor Union and the Automobile Association are urging upon motor-cyclists the desirability of extending their influence in organised bodies, and we would add a hope that those who drive on two wheels will no longer decline the advantages of union.

Tarred Roads and Night Riding.

◆ ◆ ◆
THOSE who were in Ireland at the time of the Gordon Bennett races in that country will remember how the donkeys had a habit of resting on the highways at night time, and how when a dust-laying preparation was used on the roads much confusion was caused to night riders. The fact has been revived in our memory by the suggestion from a lover of night driving that the tarring of roads is proving inimical to the enjoyment of such a pursuit. In fine weather, when the country roads are dry, they present a whitish appearance at night, and driving is a pleasure. But when this is changed to a dark, practically black, surface by the application of tar or other preparation the effect is very disconcerting to the driver of a car. Objects of obstruction which may be on the road are not easily seen, especially should the light from the lamp not be of the best. As soon as such a stretch is reached speed should be reduced, otherwise it will often be difficult to find the distinguishing line between the road and the footway, or between the latter and the hedge—or worse.

The Pedestrian must be careful.

◆ ◆ ◆
IN summing up a case at the Manchester assizes, Mr. Justice Pickford has shown an appreciation of the position of the pedestrian and motorist respectively that is worth noting as an instance of the progress of judicial education. A gentleman had claimed damages for having been run into by a motor brougham while attempting to cross the roadway. The judge pointed out in his summing up, that whilst those who drove motor-cars must exercise caution, those who used the roadway were also under some obligation to take care of themselves. Automobiles have become such common objects in traffic that people crossing the highways ought to be on the look-out. This is a rational view of the position that is being assumed by most of the judges and magistrates before whom such cases are heard, and indicates an opinion that will before long, we hope, be universal on the Bench. When will it reach some of the southern courts?

Municipal Motor Instruction.

◆ ◆ ◆
LAST year the Municipal Technical School at Portadown, Ireland, ran a short course of instruction in the mechanism of motor-cars, and these lessons were so well attended that the Principal, Mr. G. H. Woollatt, felt justified in extending the work to some extent. The object is not to teach driving, and they do not intend competing with any of the established driving schools. What they do intend doing is interesting the public in motor traction, and explaining the

principles involved, so that those who would care to do so may know what points to look for in cars. They have a large number of mechanics attending the classes, and these men are already familiar with practical mechanical methods, and only need a training in the direction of familiarising with the special methods of dealing with well-known mechanical principles and devices when these are applied to a light and quickly-moving vehicle. Other students—a separate class—are drivers, owners, and prospective drivers and owners. These, as a rule, require much more training, and do not wish so much theoretical work. "Comparative anatomy of cars" or "motor vehicles," would aptly describe their course of instruction, which consists mainly of six popular lectures, students being drafted from this to the shop work upon application. This is regarded as the elementary class, and from it students are selected to go through a full course of motor design and construction. It is simply the beginning of what may become an important department, when a few years' work has been put in. Those responsible for the classes are always anxious to have any new devices or methods

proceedings in those cases where motor-cars are driven to the public danger. But they did not see their way to go further than this, being convinced that the enforcement of the law as to driving to the danger of the public was more likely to insure the safety of those who use the roads than was the restriction of the speed of motor-cars in certain places. The East Riding County Council is to be congratulated upon the view it takes with regard to the automobile problem, for, in addition to being strong enough to resist a widespread petition from councils in its area it has also put up 150 warning signals indicating to motorists where particular care should be taken on the public highway.

Inland Revenue Methods.

visitors from Ireland.

JUST as we go to press we have received from the secretary of the Irish A.C. an interesting letter with regard to the way in which the Scottish Inland Revenue authorities use their powers of inflicting "pains and penalties" on The case is almost identical with that of



The Evreux Speed Trials.—A General View of the Starting Point.

communicated by firms, such matter being immediately placed before the students. Sketches and drawings should be accompanied by permission to convert the same into lantern slides.

A Sensible County Council.

WE are glad to see that all county authorities are not inclined to accept suggestions made by local bodies within their areas with regard to the limitation of motor-car speed to ten miles an hour or less. Recently the local councils of

Bridlington and Burton Agnes asked the East Riding County Council to apply to the Local Government Board for the restriction of speed through all the villages in the East Riding to seven miles an hour. The Hornsea Council also favoured a restriction within their boundary. The matter was considered by the Highways and Bridges Committee and also by the Standing Joint Committee, which agreed in asking the Chief Constable to take

a French visitor to the south of England that we mentioned some time ago. Irish residents are happy in the fact that several impositions with which we are familiar in this country are not levied in their island. But when one of the members of the Irish Automobile Club recently went to Scotland for a few days' shooting, taking his motor-car with him, he received a communication from the authorities claiming penalties amounting to £45. These were ultimately settled by a payment of £9. Such instances will debar many sportsmen from the Emerald Isle bringing their cars to this country, and surely an arrangement could be effected securing freedom from these imposts to those who bring their cars to Britain for a few days only.

THE "County" is the name given to a new car which is being built by the Halifax Motor-Car Company, of Weymouth Street, Halifax, and designed by Mr. Edgar Smith.

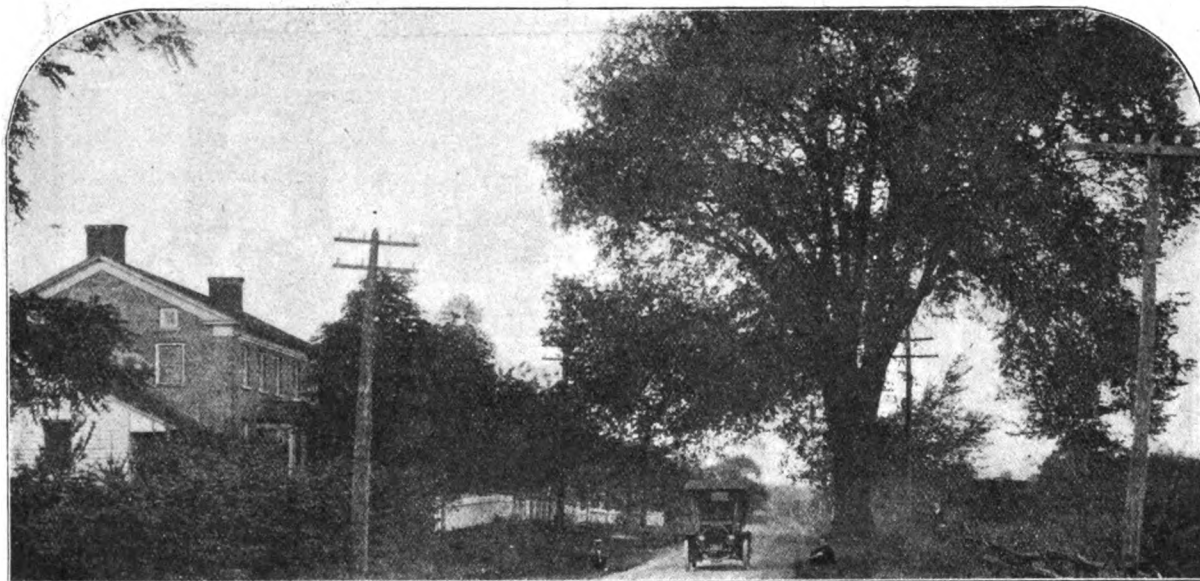
MOTOR TOURING IN CANADA.

CANADA has millions of miles of territory which not even her own people know. The provinces are full of interest, for their abundant natural resources, their scenery, and their people. To the motorist Canada offers special charms. The country has good roads, hotels, garages, and is, in short, an ideal field in many respects for touring. Ontario is particularly well fitted for motoring. The conditions in this province are most favourable, the roads being, on the whole, very good, mostly well-cared-for macadam, and in many places as smooth as the roads in France. Of course there are exceptions, as in all countries. The scenery, also, is attractive, resembling very much that in the New England States.

Some favourite runs for tourists in Ontario are between Niagara Falls and Detroit, Niagara Falls to Hamilton and Toronto, Detroit to Hamilton, Toronto to Montreal and Toronto to Lake Simcoe. The Niagara Peninsula, through which the run from the Falls to Hamilton extends, affords delightful touring. This section is the "Garden of Canada," and one of the oldest settled in the Dominion. With either Hamilton or Toronto as centres, many delightful runs may be made to different parts of the province. Western Ontario is a

the old town of St. Levis on the cliff, by the left-hand route. At Scott's Junction, half-way between Quebec and Baucerville, there is a quaint inn, and at Baucerville is a hotel where one can obtain good native food, fish, venison and mutton. Leaving Baucerville, the route is down the Chaudiere Valley to Jersey Mills. Here turn sharp to the left and climb straight up to the cathedral at St. Clume, twenty miles away. Thence over the mountains by devious turns to the Line House, some ten miles from St. Clume. Descending the Line Hill pass over the line into the States.

With regard to touring in the rest of Canada, the Land of Evangeline, Nova Scotia, is probably the most favourite resort. The roads in this province, one of the oldest in the country, are very good, and the scenery is attractive for its historical associations. The number of motor-cars in Nova Scotia is somewhat limited. A little touring is done in New Brunswick, where there is a very active organisation of enthusiasts, with headquarters in St. John, N.B. If one wants to tour in the Golden West, perhaps the most interesting part of Canada at the present time, owing to the vast developments now going on, it is economical to ship the car and start it running just whenever the scenery and the roads become sufficiently inviting. With an average dry summer anywhere in Western



A Typical Country Road in Canada.

rich dairying district, and the people are progressive and prosperous. Up north are the famous Muskoka Lakes and the Georgian Bay summer outing ground, where the scenery is extremely picturesque. North also are the Cobalt Mines. Along the north shore of Lake Ontario, from Toronto to Brockville, the old Kingston Road makes a splendid run, but it is advisable to follow this only as far as Montreal. Between this city and Brockville it is better to take the boat down through the Thousand Islands from Kingston to Brockville, which, by the way, is a pleasant diversion. Some tourists find their way from the United States into Canada by way of Ogdensburg, across the St. Lawrence River to Prescott by ferry. Thence there is a good run to Ottawa, the capital city of the Dominion, or to Toronto and Buffalo.

Touring in Quebec is much more strenuous than in Ontario. The novel character of the country and its inhabitants will make up in interest for the difficulties encountered on the roads, which in many places are somewhat hard to negotiate, but not impassable, and over many sections quite good. Quebec City is well worth a pilgrimage in a motor-car. This quaint old city, so different from all others in America, is a good place to spend a week's holiday, and there are numerous charming runs from it.

The distance from Montreal to Quebec is about 200 miles. Crossing the St. Lawrence by ferry from Quebec one can go to

Canada, the roads are splendid, just natural trails glazed hard and level. Many of the northerly reaches are hilly. Southward the country is gently rolling. In many respects the prairie land has advantages for the motorist not offered by the older provinces. For great inspiring distances, coupled with the best of air and the finest of natural roads, no land is kinder to the motorist than Western Canada.

Certain customs formalities must be attended to in entering Canada. The law requires a deposit of £5 and bond for double the estimated duties, guaranteeing re-exportation of the car within three months. The deposit will be returned when the car is taken out of the country. The motor-vehicle law in Ontario is, remarks Mr. E. M. Wilcox in the *New York Motor*, moderately stringent, the speed limit in the country being fifteen miles an hour, and in towns and cities ten miles an hour. Of late, owing to a number of complaints, the provincial constables have been busy in enforcing the provisions of the law. What might be called police traps have been in operation in certain sections. As a pointer to motorists who contemplate touring in Canada it would be well for them to write the secretary of the Ontario Motor League to secure the necessary guide-books and maps. There is only one official automobile road guide-book published, that being under the auspices of this organisation.

A NEW SHOCK ABSORBER.

THE fitting of anti-shock mechanism in addition to the usual springs of motor-cars has received much attention in recent years, many attempts having been made to provide a perfect damper in order that the maximum of comfort may be obtained. The use of a damper greatly improves the action of the carriage springs, in that whilst the springs absorb vibration to a large degree the shock absorber resists that recoil action which so greatly interferes with the comfort of passengers. Although the new apparatus illustrated herewith, and

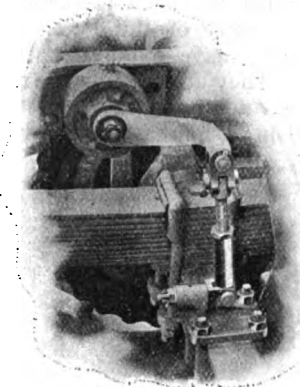


Fig. 1.—View of Shock Absorber as fitted to rear axle of a chain-driven car.

lately introduced by the Wolseley Tool and Motor Car Co., Ltd., has been designed to fully meet these difficulties, it has the additional merit of being perfectly simple in its construction. In action it automatically absorbs the recoil action of the carriage springs and makes it possible to drive with comfort over the roughest roads.

The apparatus consists, as will be seen from the illustrations (Figs. 1 and 2), of a small circular box mounted on the frame of the car above either the front or rear axle. Inside the box is the shock damping mechanism, which is connected to the main axle by suitable levers and motion rods, these being adjusted so that any movement of the carriage springs operates the damper. The action of the mechanism in the box is in principle restricted by its movement through grease, with which the box is filled. This movement is controlled by specially-designed

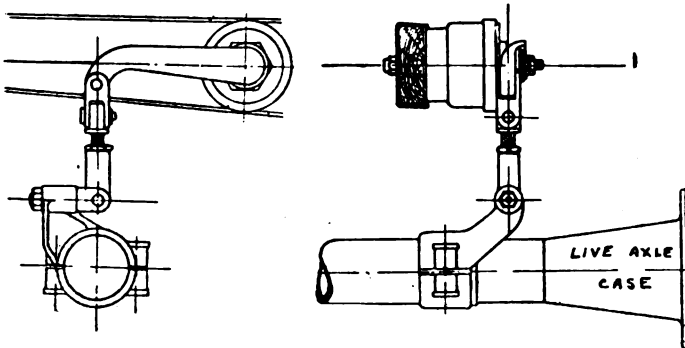


Fig. 2.—Device as fitted to live axle vehicles.

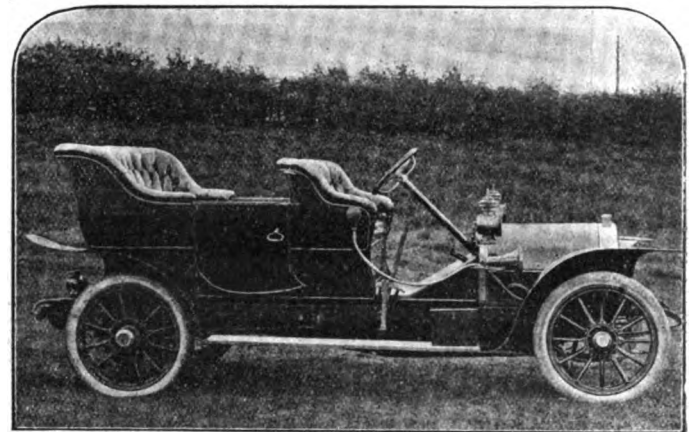
valves and by-passes which regulate the return of the damper to its normal position after the springs have been depressed. It consists of two vanes which are attached by two levers to the car axle. The action is such that any motion of the vanes displaces the grease, and while this is done quite easily at slow speeds the resistance increases rapidly as the movement is quickened. The arrangement whereby increased freedom of action is obtained while the road springs are under compression is effected as follows:—The two vanes are fitted with valves, which in one direction allow the grease to pass through to the other side of the vane; the recoil action of the spring,

however, closes these valves, the grease only resuming its previous position through a by-pass, the size of which is determined in accordance with the weight of the car. A gland joint is provided in the outer cover of the damper box where the operating lever passes through, and there is also a filling hole for grease. To ensure efficient working it is only necessary to see that the grease is of proper consistency, and that the box is quite full and free from air bubbles.

We understand that the device has been given long and careful tests before being placed on the market, and that its efficiency has been proved under the most trying conditions. It is, of course, adapted to the Siddeley cars, but is also so made that it can be fitted to practically any motor vehicle, special brackets being made to enable this to be done.

THE COLTMAN 20-H.P. CAR.

WE are able this week to give a general view of the new 20-h.p. car which has just been introduced by Messrs. H. Coltman and Sons, of the Midland Ironworks, Loughborough, an old-established firm of engineers. The vehicle, which has been built to the designs, and under the supervision of Mr. Wm. Wilson, is fitted with a 20-h.p. four-cylinder engine, in which a number of special features are incorporated, notably in regard to the ease of accessibility of the valves and the cam shaft, and also the dual ignition, which



is effected through one switch and a single set of plugs. The cylinders, which are cast in pairs, are 4 in. bore by 4½ in. stroke. The speed of the engine is controlled by means of two levers mounted above, but not turning with, the steering wheel. A novel and simple switch is fixed on the dashboard within easy reach of the driver, designed so that by a sliding movement the ignition current can be either taken from the accumulator or the magneto. Special attention has been given to the wiring to simplify inspection or renewals. The clutch is of the metal-to-metal type, of new design, having very large wearing surface and mounted on ball bearings; it is so arranged that it can be taken out complete by simply withdrawing two pins. The gate-controlled change-speed gear gives four speeds forward and a reverse, with direct drive on the top; the controlling bars are positively locked in each position. The reverse pinion only rotates when the backward motion is being used. The shafts are extra large in diameter and very short in length, and are fitted both with ball thrust bearings and ball journal bearings. The transmission is through a cardan shaft to a live axle, the latter being so arranged that the large bevel wheel and the differential can readily be taken out without removing the road wheels. The axle is enclosed in a special steel casing from end to end. We understand that one of the new vehicles will be available for trial runs during the next fortnight at the Olympia Motor Garage, Addison Road Bridge, Kensington.

CONTINENTAL NOTES.

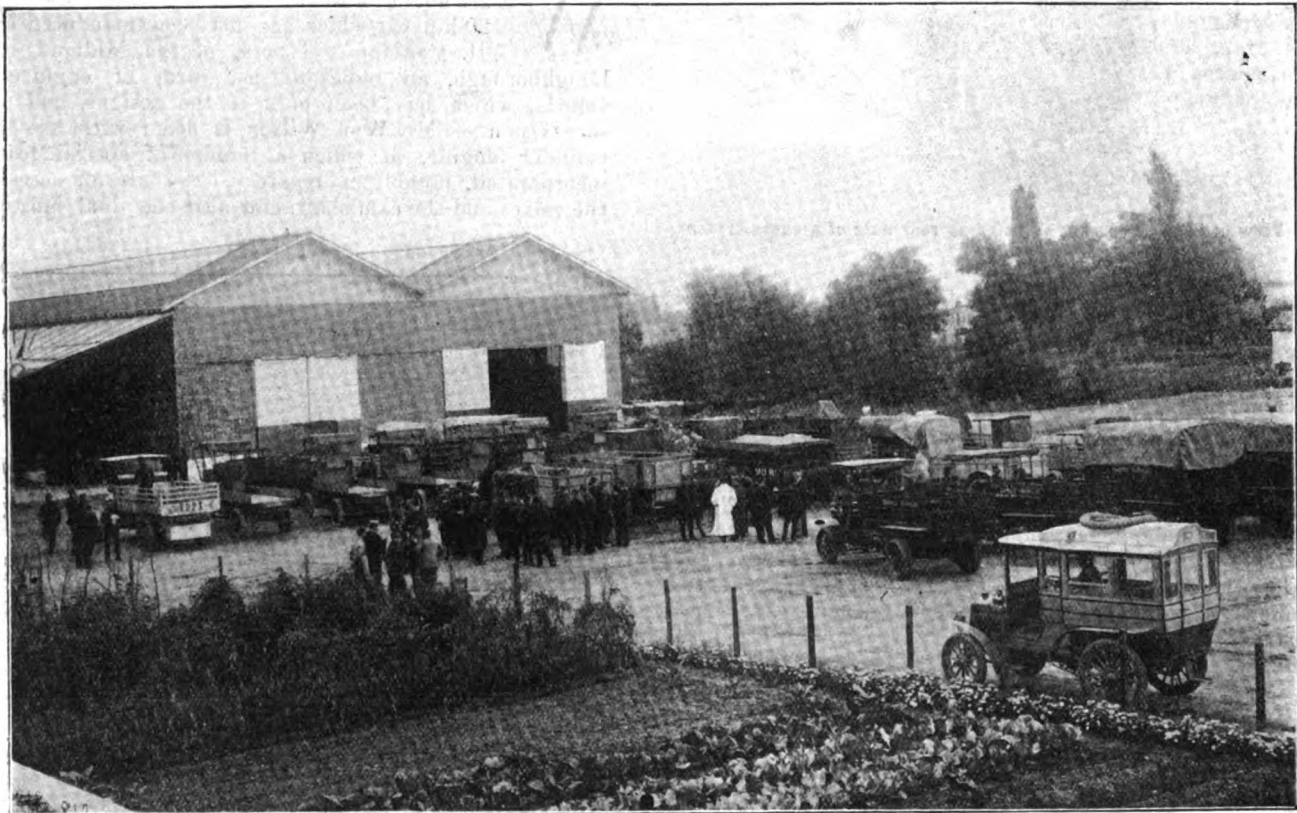
Speed Trials at Evreux.

An interesting series of speed trials was held near Evreux, France, on Sunday last, under the auspices of "Les Sports," and for which no less than 104 entries were received. The morning was devoted to the tests over the flying kilometre on the level, the competitors having a downhill run of nearly a kilometre ere passing the first time-keeper. The contest was open to all classes of racing and touring cars and cycles. In the single-cylinder class—cylinder bore up to 100 mm.—Sizaire, on a Sizaire-Naudin, put up the excellent time of 47 2-5 sec., beating many of the higher-power cars. The record of the day in the touring class was made by Molon on a Gladiator in 31 2-5 sec., and in the racing section by Rigal, on a Darracq, in 27 3-5 sec. The first two in each category qualified for the afternoon's event, which consisted in a race over the same course, but in the reverse direction, which gave 900 metres

two series of an hour each, one for deep ploughing, of a depth of from 12 to 14 inches, and one for light ploughing, from 4½ to 6½ in. In making the awards the jury will take into consideration the area of land ploughed during the time allowed, the depth and regularity of the work and the facility of turning of the competing machines. The second section of the trials will be devoted to haulage tests and also to experiments in utilising the tractors as prime movers for fixed agricultural machines. As we go to press we learn that it has been decided to postpone the trials until May next.

The Veterans of the French Industry.

An interesting list has been prepared by the Chairman of the Organising Committee of the Paris Salon of the French motor-car builders who have exhibited at each of the annual shows so far held. They are only ten in number, and, as they may be termed the veterans of the industry, we append their names:—De Dion-Bouton, Panhard and Levassor, Mors, Peugeot,



The Fleet of Motor Wagons employed in the recent French Military Manœuvres near Bordeaux.

[La France Automobile.]

on the level and 700 metres up hill. The times were taken over the standing mile and also the flying kilometre, the awards being, however, based on the former. Interest in the proceedings was increased by sending the competitors off in pairs, so that while really a speed trial, the spectators were treated to several keenly contested races. The single-cylinder car class (up to 100 mm.) again showed the speedy qualities of the Sizaire-Naudin, the one driven by Leboucq covering the mile in 1 min. 47 3-5 sec. The fastest touring car time was that set up by Guyot on a Minerva, 1 min. 37 1-5 sec., while the Coupe d'Evreux was carried off by Rigal, who covered the mile on his Darracq racer in 1 min. 9 2-5 sec.

The Trial of Agricultural Motors.

November 10th has been fixed as the date of the trials of agricultural motors which are to be held by the "Auto" in the neighbourhood of Paris. It has been decided that the competition will be open for (1) self-moving ploughs, (2) tractors for hauling agricultural machines, and (3) automobile winches for hauling machines by cables. The first tests will be divided into

De Dietrich, Delahaye, Krieger, Decauville, Rochet-Schneider, and La Compagnie Française des Voitures Electromobiles.

Miscellaneous Items.

A company is reported to be in course of formation in Moscow to build motor lorries.—The "Auto" has postponed its Concours de Pannes until December 8th.—It is proposed to hold a reliability trial of light cars in the Turin district early next year.—Negotiations are reported to be in hand in connection with the establishment of a Renard road train service between Ceret and Figueras, Spain.—The Post Office authorities in Nuremberg are adopting motor-vehicles for the transport of the mails between the various post-offices in the city and suburbs. Twelve vans are reported to have already been ordered.—A proposal to establish a motor-car service between Trieste and Abbazia, Austria, is under consideration.—Messrs. Laurin and Klement, of Jungbunzlau, Austria, are introducing a 45-h.p. eight-cylinder car.—Arrangements are in hand for the establishment of a public motor-car service between Marienbad and Königswart, Austria.

THE COMPLETE CHAUFFEUR.

IT must be fairly obvious to the most casual student of the evolution of species that the genus chauffeur is progressing. It is indeed of the highest importance that he should march with the times, that he should, steadily and surely, keep step as it were with the improvement of the machines which have brought his calling into existence, and with the requirements which it behoves him to fulfil. Just what these requirements are it is the object of this article to specify and analyse, that is in so far as they apply to those who aspire, for instance, to the wheel of a modern and fairly powerful touring car. We believe we are quite justified in taking this as the type of the ideal and complete chauffeur, although there are, of course, those who will cavil at the definition—those, for example, whose economical tendencies demand a *multum in parvo*, a sort of nondescript servant of the driver-to-fill-up-his-odd-time variety. It is also beyond our province, too, to deal just now with the special qualifications of the motor-omnibus driver.

In the early days of motoring the most bitter and to a great extent justifiable complaints were laid to the charge of the then existent chauffeurs. Swelled head, ignorance, slovenliness, unpunctuality, and want of manners generally, were rife. The

the proper method of laying a table, grafting rose trees, or the correct periods for infant nourishment.

ABSENCE OF PHYSICAL DEFECTS.—Undoubtedly this is a matter of the gravest importance; indeed, we do not think that it can be too strongly insisted on, and even go so far as to say that no chauffeur should be engaged who cannot pass a strict medical examination on certain vital points. For instance, what awful possibilities of danger are presented by epileptics and victims of cardiac disease? Eyesight and hearing should also be tested, whilst the sense of smell, if lacking chronically, constitutes an element of risk. A chauffeur with a clean bill of health and physical soundness is certainly, therefore, only gifted with one of the reasonable qualifications of his calling.

MENTAL POWERS.—There is no doubt that, owing to various causes, a more intelligent class of men now fill the ranks of those employed in driving cars. The efforts of the Royal Automobile Club in the institution of examinations and by the granting of certificates of proficiency have no doubt largely contributed to raise the standard of mental qualifications. The ideal driver must possess a very fair share of intelligence and presence of mind in emergencies. The career of a chauffeur is full to the brim with incidents, and often of such a nature that another hair's-breadth would turn them into accidents. The power



Mr. Walter Callan, the Secretary of the Royal Commission on Congestion in Ireland, on one of the "Brown" Cars used during their investigations.

demand was greater than the supply, and consequently Jack the Chauffeur in many instances thought that he was better than his master. But a Nemesis awaited such individuals, the wheel of supply and demand began to turn, and the inevitable law of the survival of the fittest commenced its purging operations. The very imperfections of the cars themselves yielded a source of nefarious profit and menace, to the temporary advantage of the unscrupulous. But, fortunately, all this is fast becoming past history, and this year the Act dealing with illicit commissions is a further nail in the coffin of the objectionables.

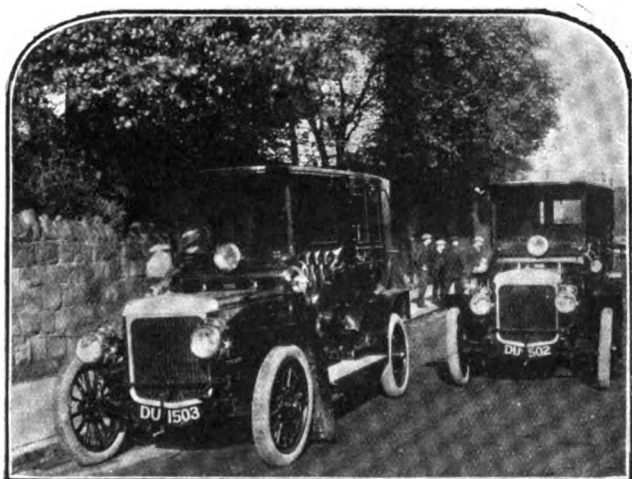
Let us now examine, however, not the imperfections of the time that is gone, but the standard of perfection that we may look for at present. It matters not a jot whether we chronicle in alphabetical order or in sequence of importance the list of qualifications, provided that none are excluded on the one hand or given undue prominence on the other. We will therefore proceed to classify them as follows:—Absence of physical defects, mental powers, manners, moral character, practical mechanical training, practical road experience. A chauffeur who can be classed as A1 under each and all of the headings cited is an unique and perfect specimen of specialised training, and should not be expected to combine these virtues with an insight into

of reasoning, of quickly drawing logical conclusions, are helpful in dilemmas on the road. A chauffeur well grounded in his technical knowledge, and with the necessary practical experience in driving, can tell almost intuitively, as soon as the trouble arises, its exact location and probable cause, and to such a man the remedy is not long in being applied. Patience and thoroughness, energy and resource, will carry a man along and render him invaluable to his employer, and to make himself invaluable is the best thing an employee can do; let him earn the name of being willing and cheerful, let him have the satisfaction of feeling that his master cannot obtain a better servant, instead of doing his work glum and grudgingly when he fancies he is not being well treated.

MANNERS.—There is no earthly reason why a chauffeur should be rude, or even in any degree less polite than any other employee, and yet want of nice manners is one of those failings that is the most frequently complained about, especially by people who are accustomed to the respectful manners of their grooms and other servants. Partly from ignorance, and partly from a foolish desire to show their superiority to other employees, many chauffeurs think it incumbent on their self-respect to adopt an offensive and overbearing tone with their equals, and a very objectionable familiarity with their masters. In neither case are

their efforts of the least avail, and they had much better behave in a manner that will render them on good terms with their fellows on the one hand, and not jar the susceptibilities of their employers on the other.

MORAL CHARACTER.—A feeling of confidence between the owner of a car and his chauffeur can only grow up when the former is satisfied that the moral character of the latter is good. A man may possess very excellent testimonials and obtain easily a situation on the strength of same, but confidence grows or dies as the character is day by day revealed. All chauffeurs cannot perhaps be geniuses, but all can at least have common honesty. All can give their employer a sense of security, a feeling that they can be trusted behind his back. The ideal chauffeur must make punctuality an invariable habit. Not that sort of punctuality that merely enables him to bring his car round to the front door at the appointed time by the skin of his teeth, perhaps by leaving undone some duty that he hopes will escape observation; but methodical, honest punctuality, that is always ready without being flurried; because honest and thorough preparation has been gone through in good time, instead of being scamped because no one may be able to notice the difference. The seeking, or acceptance without seeking, of secret commissions is a most pernicious practice, and the brazen effrontery with which a few unconscientious chauffeurs have practically boycotted respectable firms is nothing short of scandalous. Fortu-



The two Daimler Cars which have been placed at the disposal of the King and Queen of Spain during their visit to this country.

One is of the Milverton limousine landaulet type, with a wheelbase of 10½ ft., and the other is a fixed limousine of the Stoneleigh pattern, with a wheelbase of 10½ ft. Both have seating accommodation for five to seven persons. They are painted in the Royal colours and have the Royal Arms on each door.

nately the practice is likely to be stamped out in the near future, as both the giver and the taker are now liable to punishment if the offence can be brought home to them.

PRACTICAL MECHANICAL TRAINING.—Recent correspondence in a contemporary revealed much diversity of opinion as to the amount of mechanical training that is desirable in a chauffeur. The variance appears to lie in the fact that the writers each looked at the matter from their own narrow and individual standpoint, instead of taking a broad view of the average requirements of motor owners generally. For instance, one writer would aver that any particular knowledge was quite unnecessary because he had succeeded in training some stable lad in a fortnight, quite oblivious of the fact that he was one of those few gentlemen with the time and patience to do such schooling, and that where one might find one such other as he, there would be ninety-nine who have neither time, knowledge, nor inclination to act as tutor, and who would probably never feel contented with such a home-made hybrid article. There is no doubt that a proper mechanical training is of vast importance for a complete chauffeur. The man with a superficial smattering of mechanical training may manage to rub along with good luck, and gradually learn his

experience in the service of that class of employer who professes to find all that he requires in chauffeurs of this type. He thinks he is saving money, and the man knows he is getting a cheap education, and so both parties are happy. Men who have had a good workshop experience are plentiful enough, and many of them do not expect any more in wages than others who could not tell you the difference between a file and a float. Of course some of the various motor schools are doing useful work, but the instruction is necessarily inclined to be rushed through in order to make room for further pupils, and thus the fledgling chauffeurs are pushed out of the nest somewhat early to flutter along the road as best they can.

PRACTICAL ROAD EXPERIENCE.—Although the control of even a large and powerful car is in reality exceedingly easy, it would be the height of folly to imagine that lengthy experience goes for nothing as a factor of safety, and that a green hand, although apparently to a superficial observer as skilful as one of long training, is as much to be trusted on all occasions. Throughout the country the roads are now provided with signs placed as a guide and warning to motorists, and the complete chauffeur should not only know all these thoroughly by heart, but should on all occasions act upon them. They have been placed there for the joint good of the public and motor-car users at considerable expense, and those who habitually ignore them, instead of making a practice of noticing their import, do harm to the automobile movement in general and brand themselves as conspicuous road hogs in particular. Besides which, individual retribution in all probability awaits a large percentage of those, whose selfishness may sooner or later land them in the trouble they so richly merit.

Now that a very large proportion of motorists tour abroad, chauffeurs with a knowledge of one or two foreign languages stand at a great advantage in their chances of good employment. The foreign chauffeur as an employee of British car owners is becoming noticeably rarer, partly on account of the steady increase in the proportion of British-made cars, and partly because foreign drivers are no longer "the fashion." On the other hand, some chauffeurs could take one or two lessons with advantage from their foreign confreres, especially as to adaptability to surroundings. How quickly, for instance, most chauffeurs from the continent get accustomed to our ways and regulations, and make it their business to learn to speak our language as an additional accomplishment, in some cases making it the third or fourth they have learnt with sufficient fluency to at least make their wants clearly understood.

Certainly, therefore, ambitious chauffeurs, instead of pretending to despise "foreign lingo," should make haste to learn, conversationally, at least one, French being the easiest to make a start on, and they should specialise their lessons to the extent of committing to memory a vocabulary of the names of the various parts of motor-cars as well as their accessories.

The chauffeur who would complete his education will be well advised to make himself thoroughly *au fait* with the laws and regulations obtaining on the Continent in all that affects his calling. These vary very considerably in the various countries. For instance, in Austria there is a speed limit of twenty-eight miles per hour in the open country and nine miles per hour in inhabited places. In Germany there is no legal limit for open country, the public danger clause being deemed sufficient protection, and whilst in France there is a limit of eighteen miles per hour, it is absolutely ignored between towns.

The complete chauffeur should also glean all the information he is able about the roads, as to surface and gradients of the principal touring routes, so that he may be in a position to judge beforehand what sort of preparation to make in the way of spares, &c. In short, the man who aspires to be at the top of the tree in this calling, as well as in any other, must be a walking encyclopædia in all that appertains thereto, and must leave no stone unturned that will in any way add to his sphere of usefulness and consequently to his wage-earning value.

A NEW studded rubber non-skid will be shown by the makers of the Samson non-skids at the Olympia Show.

THE Albany Automobile Company have a good display of cars on exhibition at their show-rooms at 106, Albany Street, N.W.

WE learn that by special request Mr. J. B. King has resigned his position as manager of the Trade Information Department of the Society of Motor Manufacturers.

THE 40-h.p. six-cylinder Napier completed its 3,000 miles consumption trial with Simecar benzol as fuel on the 23rd ult. The total amount consumed was 132 galls. 3 pts. 13 ozs., giving an average of 22.649 miles per gallon.

WE learn from the Burlington Carriage Company, Ltd., that a 20-h.p. Delaunay-Belleville car model with a handsome Burlington limousine body has been supplied to H.M. the King of Spain for use during his visit to England.

OWING to a clashing of dates with Messrs. Cordingley's Show at the Agricultural Hall, London, the directors of the Liverpool Cycle and Motor Show have decided to hold the Liverpool show a fortnight earlier, i.e., March 6th to 14th.

MR. WILLIAM VINCENT, of Castle Street, Reading, informs us that he has just concluded an arrangement with Messrs. S. F. Edge, Ltd., whereby he will hold the agency for Napier cars for Reading and a twenty mile radius; this will be in addition to his existing exclusive agencies for Panhard and Mercedes cars.

MR. PHIL RAY, the comedian, after doing his night's turns at the halls, was going home to New Malden in his motor-car, when his car ran into another motor. No serious damage was done to either car or to their occupants, but by a singular coincidence the occupant of the other car was Mr. Will Evans, a fellow-comedian.

A SPECIAL excursion, at very cheap fares, has been arranged to enable those interested to visit the motor exhibition at Paris. It has been promoted, at the suggestion of Mr. H. Hewitt Griffin, by Messrs. Thos. Cook and Sons, and cheap tickets will be issued every Friday during December, and will be available for fourteen days or less.

THE Committee of Management of the American Motor Car Manufacturers' Association has delegated its general manager, Mr. Alfred Reeves, to visit the London and Paris automobile shows, to study foreign conditions, with a view of paving the way for the fifty-one makers in the organisation to reach the foreign markets. The best methods for selling cars, whether through agents or branch houses; the plan of advertising campaign that should be followed, and other details are to be carefully investigated.

NOVEMBER 27th will be the tenth anniversary of the King's first ride in a British automobile. This interesting event took place in the grounds of Buckingham Palace. In compliance with the King's wish, the manager of the Daimler Company drove one of his smartest vehicles to the Palace, and the Prince (as he then was) made a tour of the grounds, taking charge of the steering wheel himself for a short time. It was not until two and a-half years later that the King actually became the owner of the car—a 6-h.p. two-cylinder Daimler. This car did not, however, long remain in his Majesty's service, being acquired by Lord Hastings. A year after its delivery a much larger Daimler of the Lonsdale type was constructed for the King, to be followed by seven other cars manufactured by the same firm.

THE Motor Radiator Manufacturing Company, of 18, High Street, Borough, S.E., have lately introduced a new radiator made in accordance with Dr. Zimmermann's patent. The feature of the new apparatus, which in general appearance is similar to the honeycomb type, is that the cooling surface consists of round tubes which are horizontally inserted at distances of 1 mm. in the radiator frame, and are homogeneously connected with each other and with the frame by metal walls cast in one piece with them. It is claimed for the round tubes that they give the highest obtainable efficiency with regard to the quantity of heat passing from the water into the air, and that they give a maximum of strength with a minimum of weight. Furthermore the construction is such that there is no risk of loss of water by leakage.

HERE AND THERE.

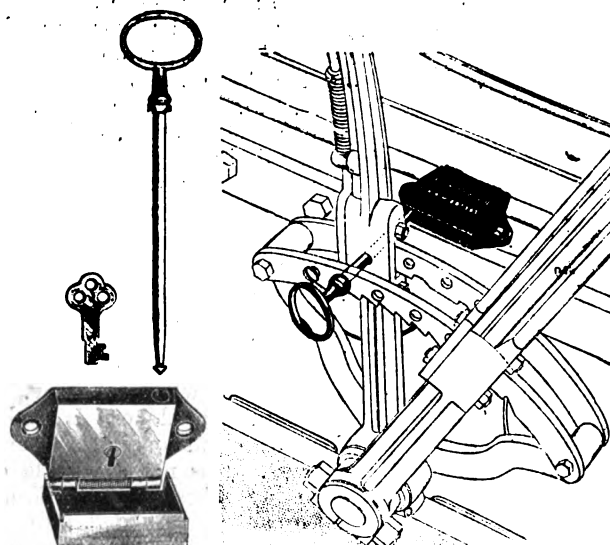
MESSRS. T. G. WYATT AND Co. are well-known motor engineers in Guernsey. Their establishment is at North Clifton and New Street, Guernsey.

THE Daimler Motor Company have been favoured with a repeat order from His Royal Highness the Duke of Connaught for a 35-h.p. 10½ ft. wheelbase chassis.

A SPECIAL stand is being allotted at the Paris *Salon* to the winning cars in the principal motor events in France during the past season, viz., the Grand Prix, Coupe de la Presse, the Coupe de la Commission Sportive, the Concours des Voitures de Petit Tourisme, &c.

THE practicability of repairs to cracked or broken aluminium cases, &c., will again be demonstrated at the forthcoming Stanley show by Mr. R. W. Coan, of 219, Goswell Road, Clerkenwell, E.C., whose special knowledge of this metal is acknowledged by the motor trade generally.

UNDER the name "Auto-Friend" a German firm has recently introduced a device for locking the change-gear lever in the neutral position, so preventing the car being tampered with by curious-minded children or being driven away by unauthorised persons when it is left unattended at any time. As will be seen from the accompanying illustration, the arrangement comprises



a lock, a locking-bar or pin, and a detachable key. The lock is attached to the foot-board of the vehicle, while the pin passes through a hole formed through the sector and change-gear lever. The lock itself is provided with a hinged cover to prevent the ingress of dust or rain. The device is being introduced into England by Messrs. A. Dunhill, Ltd.

To meet the wants of tourists who can afford to study comfort, have not too much time, and yet desire to see the principal beauty spots and most interesting parts of Great Britain and Ireland, the Daimler Company has decided to establish a new department in London, devoted to the hiring out of first-class luxurious types of motor carriage to convey visitors right to the places they desire to see, and so save them the trouble of travelling by a route combining, perhaps, in one journey several railways with corresponding vexatious wearying delays in making connections. It is intended the business shall uphold the present reputation of their well-known cars, and consequently they are selecting for the work vehicles equal in every respect to the best they construct. They will in no way be distinguishable from a private carriage. The driver's livery will be equal to the best; in fact, no pains will be spared in order to render the whole turnout smart and attractive. A branch of the new departure will be an intelligence bureau, where fullest information can be obtained as to the state of the roads, best and most interesting routes and tours, where to stop, cost of shipping, Customs duty, &c.

MR. LIONEL HAINSWORTH is opening a motor garage in Queen Street, Morley.

MR. J. E. SMITH, of Gloucester, has a garage in Southgate Street, coupled with ample facilities for repair work.

LORD G. DUNDAS, of West Hall, Middleton Tyas, and Sir Frederick Cawley, Bart., M.P. for Prestwich, have lately acquired 15-h.p. Coventry Humber cars.

THE Bishop of Bristol has dedicated at St. Augustine's Steps, Bristol, the motor launch Morning Star, which is the latest addition to the fleet of the Missions to Seamen.

At Stand 102 on the ground floor at Olympia the *M.C.J.* will be on sale throughout the Exhibition. Copies of the "Industrial Motor Review" will also be obtainable at the stand.

IN our Legal Intelligence this week we report a case at Falkirk in which the non-quotation of the Continuation Act in connection with a motor-car case secured the dismissal of an action against a motorist.

WITH the title of "An Indian Trip on a Daimler Car," the Daimler Company have just issued an interesting booklet giving an illustrated account of a trip recently made from Umballa to Peshawar on one of their cars.

WEATHER permitting, Mr. J. E. Hutton intends to make an attempt on two world's records on the Brooklands Track, viz., the hundred miles and the hour, on Friday, the 8th inst. At present the one hour record stands at 70 miles 130 yards, while that for 100 miles is at 1 h. 15 min. 40 2-5 sec.

WE illustrate herewith the new non-skid motor-tyre which has lately been put on the market by the Avon India Rubber Company, Ltd., Melksham, Wilts. The hardened steel studs, which are of special design, are securely riveted into a tread of rubber and fabric, the latter vulcanised to the tyre casing under steam pressure. There is a layer of fabric and canvas vulcanised between the base of the studs and the casing, and, as this prevents the studs from injuring the casing, the covers can in most cases be re-treaded when necessary.

THE Gabriel horn is made in four sizes and operates from the exhaust. It is not a whistle or a siren, but takes more the form of an organ pipe divided into three sections and emitting a proper musical chord of three notes. These notes give a deep sound and not in any way a shrill noise. The Gabriel Horn Manufacturing Company, 14, Conduit Street, W., is introducing it here.

THE "Industrial Motor Review" for November will be published, as usual, about the middle of the month, and will contain some experiences of users of motor-vans for delivery work, as well as other interesting articles on the modern motor and its numerous applications to the purposes of commerce.

IN our issue of September 7th we illustrated the new two-seated 8-h.p. single-cylinder vehicle brought out by Messrs. R. Reynold Jackson and Co. With its long bonnet it has a racy appearance, and, having regard to the doings of single-cylinder vehicles in last week's French races, should attract considerable attention. The other day a trio of these cars, painted in Cambridge blue, drew up outside the office of the *M.C.J.* They are fitted with a larger petrol tank than in the original vehicle, and were the first of a number contracted for by the Chelsea Motor Garage, of 85, King's Road, Chelsea, S.W. The proprietors of this well-equipped concern are Messrs. C. A. Macrae and E. Berkeley Ormerod, from whom the new Jackson car can be obtained. In addition to this agency they have also a garage and repair works, the former of which is open night and day, the latter being fitted with a selection of modern machinery. Cars are also let out on hire, and new motorists instructed in the art of motoring.



THE Daimler Motor Company inform us that H.M. the King has honoured them by placing, in addition to the landaulet recently supplied, an order for a further 35-h.p. Daimler chassis.

MR. J. M'FARLANE has opened the City Motor Garage at 6, King Street, Perth, where he has accommodation for about fifty cars. All kinds of motor repairs are also undertaken at this establishment.

A NEW price list of the Continental Tyre and Rubber Company, Ltd., for the 1908 season has just been issued, and will be of considerable interest to private motorists as well as to those engaged in business.

WE regret to hear of the death of Mr. E. J. Grey, a director of the Acre Rubber Company, Ltd. The funeral took place at Finchley on Saturday, the numerous friends present testifying to the esteem in which the deceased gentleman was held.

EXCEPT for the main road from Quito to Latalounga, Ambato and Cajabamba, constructed during the administration of President Garcia Moreno and practically indestructible, there are no roads in Ecuador adapted to the use of motor-cars.

MR. GEORGE BERNARD SHAW has taken to motoring, and is learning to drive at a reasonable speed at the National Motor Academy at Notting Hill. His views on the police and magistrates will soon be as interesting as his opinions on politics and marriage.

WE learn that the Victoria Carriage Works, Ltd., have secured the British agency for the Niclausse cars, which made their debut at the last Paris Salon. The new vehicles, which will be on view at Olympia, are being made in three sizes—15-h.p., 20-h.p., and 35-h.p., all fitted with four-cylinder engines.

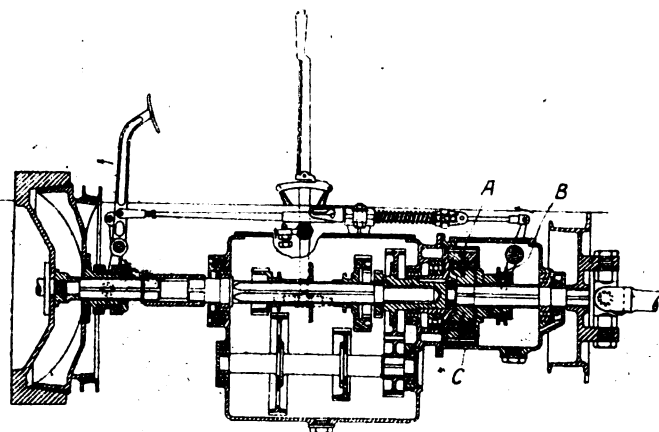
THE Cape Cart Hood Company, of 3, Willow Walk, Kentish Town, N.W., have issued a neat list of their specialities, which are of a high grade of quality. On one of their special hoods the device is kept extended by brass side joints, which, in addition to securing rigidity, also add to the appearance of the hood. A special feature of the company's business is the supply of glass wind screens either in the folding or permanent design. The company also repair and re-cover hoods, and altogether have become well known as specialists in this class of work.

MESSRS. STUART, MORRISON AND Co., of 199, Piccadilly, W., the sole agents for Great Britain and the Colonies for the "Durandal" detachable non-skid, have made arrangements for the prompt retreading of these bands, and in case of urgency can return the band, duly retreaded and repaired, the same day as they receive it. The "Durandal" was originally invented by a French motorist as long ago as 1898. The present pattern has altered but little in design. Large numbers of the taxicabs in Paris are shod with "Durandals," and we understand that negotiations are proceeding for fitting many of the London motor-cabs with them. To every band they send out Messrs. Stuart, Morrison and Co. attach a label showing the correct method of fitting and correct tyre pressure, also other hints for the using of this excellent non-skid, and if these hints are carefully followed motorists will be able to save themselves much of the usual tyre worry.

THE judging for the September section of the interesting Argyll competition, promoted for the benefit of private owners of Argyll cars, took place recently. The first prize was awarded to Mr. J. E. Young, of Paternoster Row, E.C., for a petrol consumption feat which probably constitutes a record. With a four-year-old Argyll, which had already covered 35,000 miles, Mr. Young made a record mileage consumption run (certified by the officials of the Automobile Club) of 40½ miles to the gallon, at an average speed of ninety-two miles per hour. This was on a highly competitive grade of spirit than the ordinary, viz., 760 Burneo, and was with a full load and on give-and-take roads. Two distinct runs were made, and on the second a result equal to forty-six miles per gallon was recorded. The only addition to the standard make of Argyll was a Bowden air inlet. We understand that the Argyll Company are now promoting a special competition amongst their various agents.

THE "MERO" CHANGE-SPEED GEAR.

A DEMONSTRATION of a new "fool-proof" change-speed gear which is about to be put on the market by Mero, Ltd., of the Mero Works, Renton Street, Sheffield, was given in London last week. We are able to reproduce a drawing showing a sectional elevation of the arrangement, from which it will be seen that the essential feature is the mechanism contained in an extension C at the rear of the gear-box proper. The object of the designers has been to overcome the drawbacks connected with the ordinary sliding pinion or *train balladeur* system of change-speed gear, which, except expertly handled, is liable to be quickly damaged owing to the difficulty of getting the different pairs of gear wheels into mesh. To this end the Mero Company, while retaining the ordinary form of change-speed gear, fit in conjunction therewith a one-way roller clutch or free wheel device A, also an ordinary sliding clutch B. The latter are mounted on an extension of the main shaft of the gear-box, to the rear of which the cardan shaft is attached through the medium of the usual universal joint. The pedal is so connected up to both the engine clutch and the auxiliary clutch B that as it is pressed forward both clutches are simultaneously disengaged. As the drawing shows, a brake or stop is provided in conjunction with the main clutch, the result being that as the latter is withdrawn the two shafts in the gear-box are rendered quite independent both of the engine and of the car, and are almost instantaneously brought to a state of rest, when any desired pair of pinions can be brought into mesh, not only noiselessly, but also without any risk of missing or stripping the gears, the pinions being free to "give" to the desired extent in either direction to allow the teeth to engage with each other. The introduction of the one-way clutch or free wheel A assists the operation in so far that it is impossible for the shaft on which it is mounted to drive, owing to the impetus of the vehicle, the gear-box shaft, when the clutch is disengaged, the free wheel then simply overrunning in the usual way. The result is that the driver has no need to trouble himself as to the exact moment of changing speed, for even should he drop from one gear to another before the car has sufficiently slackened its speed to correspond to the lower gear, the vehicle will continue to free wheel, as it were, until the road wheels are rotating at precisely the rate corresponding to the gear which has been en-



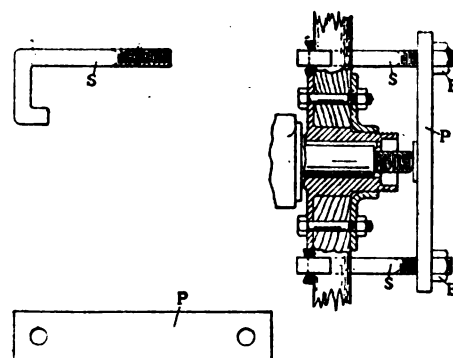
gaged, and the engine speed. When this point is reached the positive locking clutch comes automatically and quietly into operation, the drive being thus taken up without any shock. Although a one-way clutch is employed, provision is made for the use of the reverse motion when necessary.

Ere definitely putting the gear on the market, the Mero Company, of which Messrs. E. Meyer and F. Kelley are the managing directors, and Mr. J. Rothard the chief engineer, has been submitted to exhaustive trials both on a pleasure car—a 25-30-h.p. Clement-Talbot—and a Straker-Squire 'bus. On the latter it has been submitted to a 7,000 mile test in London, and we are informed that at the end of that time so successfully had the arrangement worked in practice that the file marks were still *en evidence* on the change-speed pinions. It is claimed for

the gear that it is possible to change speed even when the engine is running fast, and without having to throttle down when changing on a hill; it also enables the pitch of the teeth of the pinions to be so proportioned that even on the low speed little or no noise is made. Another great advantage it possesses is that it enables the gear to be changed without noise or injury even by motorists and drivers who have had no previous experience or training, a feature which renders it well suited for use on motor-cabs and 'buses as well as on all classes of industrial motor vehicles. The new gear will be on exhibition at the stand of the United Motor Industries at the Olympia Show, where we feel sure it will attract considerable attention.

REMOVING ROAD WHEELS FROM LIVE AXLES.

IT sometimes happens in a cardan shaft driven car that the driving wheels obstinately refuse to come off when it is desired to remove them from the live axle. An inexperienced person will often hammer furiously without even



starting the wheel, and will probably do some damage. The following simple implements will, remarks Mr. J. G. Cramer in an American contemporary, greatly facilitate matters. Two hooks S of a good quality of wrought iron or steel, about $\frac{1}{2}$ in. in diameter and about 8 in. long, threaded at the end as shown in the accompanying illustration; a plate P of the same metal, 10 in. long and about $\frac{1}{2}$ in. thick, pierced by two holes 9 in. to 10 in. apart, through which the stems of the hooks pass. Two strong nuts B are also needed. First pass the stems through the holes of the plate and start the nuts on the first thread of the bolts; then pass the hooked ends over two diametrically opposite spokes; next, rest the plate against the end of the axle and tighten up the nuts. A blow with a heavy hammer will then easily start the wheel. There are certain necessary precautions to be taken:—(1) Protect the paint of the spokes by a sufficient thickness of rags or waste; (2) mount the apparatus so that the stems will be equi-distant from the axle; (3) interpose a piece of brass between the end of the axle and the plate; (4) tighten up the nuts uniformly and evenly so that the plate is at right angles to the axle; (5) use a heavy hammer and strike squarely.

DURING the Olympia Show the White steam cars will be shown on the stand of the White Company, and also on that of Messrs. Cann, Ltd. Landauet, limousine, and double phaeton touring bodies will be displayed on both the 20-h.p. and 30-h.p. chassis.

THE "Ursus" non-skid tyres, which are being put on the market by Messrs. J. C. Lyell and Co., Ltd., of 55, Victoria Street, Westminster, S.W., are fitted with case-hardened steel bars, not studs, which are doubly riveted with a copper back plate. It is claimed that it is impossible, even after considerable wear, to pull these out. Between the band and the cover is fixed a strip of asbestos cloth, which prevents the heat penetrating to the cover. The leather band is chrome dressed, and is a practical non-skid, which has been run on high-speed cars for thousands of miles with satisfaction.

The Olympia Show.



ON Monday next the annual Motor-car Exhibition of the Society of Motor Manufacturers and Traders will be opened at Olympia, Kensington, W., by the Duke of Connaught. Throughout the week—in fact, until the 23rd inst.—the event will continue in progress, attracting attention from motorists of every degree. The Exhibition will be pre-

reputation for itself in the past. Those motorists or prospective automobilists looking for a four-cylinder vehicle at a moderate price should inspect the Star 12-h.p. chassis. The engine cylinders are $3\frac{1}{2}$ in. by $4\frac{1}{2}$ in. stroke. The ignition is by a gear-driven high tension magneto. The gear-box is now arranged to give four speeds forward and one reverse, with direct drive on third speed and gate change. It is made with either side-chain drive or a live axle. The driving bevel wheel is provided with two ball bearings, one before and the other in rear of

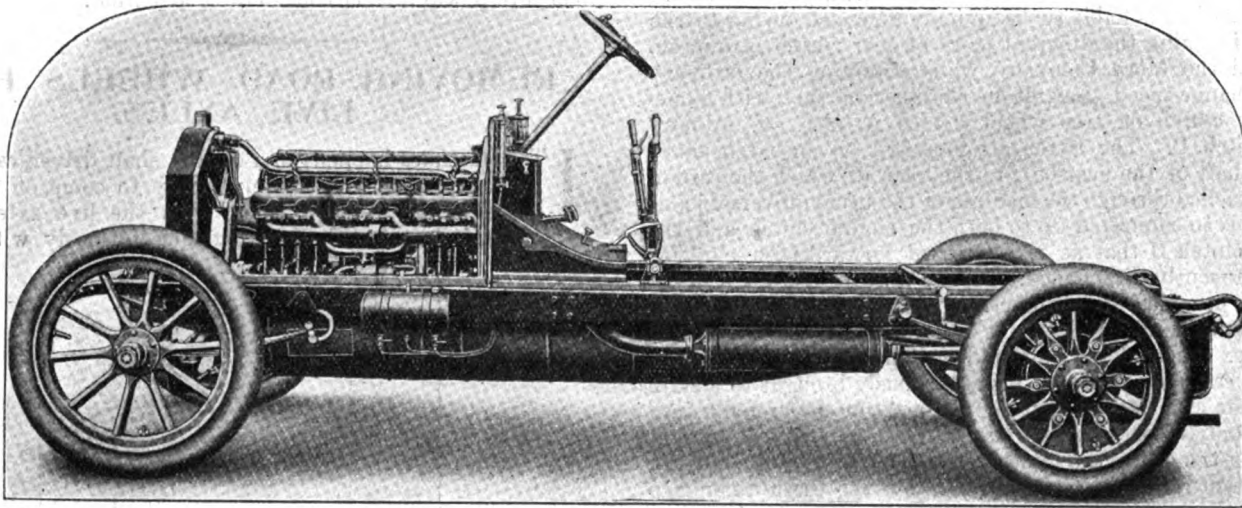


Fig. 1.—Chassis of Star Six-Cylinder Car.

ceded by the dinner of the Society on the 8th inst., when Mr. E. Manville, the chairman, will preside, supported by Sir William Treloar, the Lord Mayor, and Mr. C. D. Rose, M.P. Below we commence our review of the exhibits. This will be continued during succeeding issues, until all the principal changes of design and improvements introduced since the last Show have been duly set forth in our columns. The *M.C.J.*

the wheel, with a ball thrust in between. Hoffmann ball bearings are used throughout, except on the engine. The wheel-base of the car is such as to enable a roomy side-entrance body to be fitted. A 12-h.p. chain-driven car is also being shown with a landaulet body, this vehicle being particularly well adapted for the use of doctors and commercial travellers. Another interesting exhibit is a 16-h.p. car with live axle drive. The four-cylinder engine is $3\frac{1}{2}$ in. bore by 5 in. stroke. A feature of the vehicle is the change-speed gear, which gives four speeds forward, in addition to the reverse, the direct drive being, not on the top, as

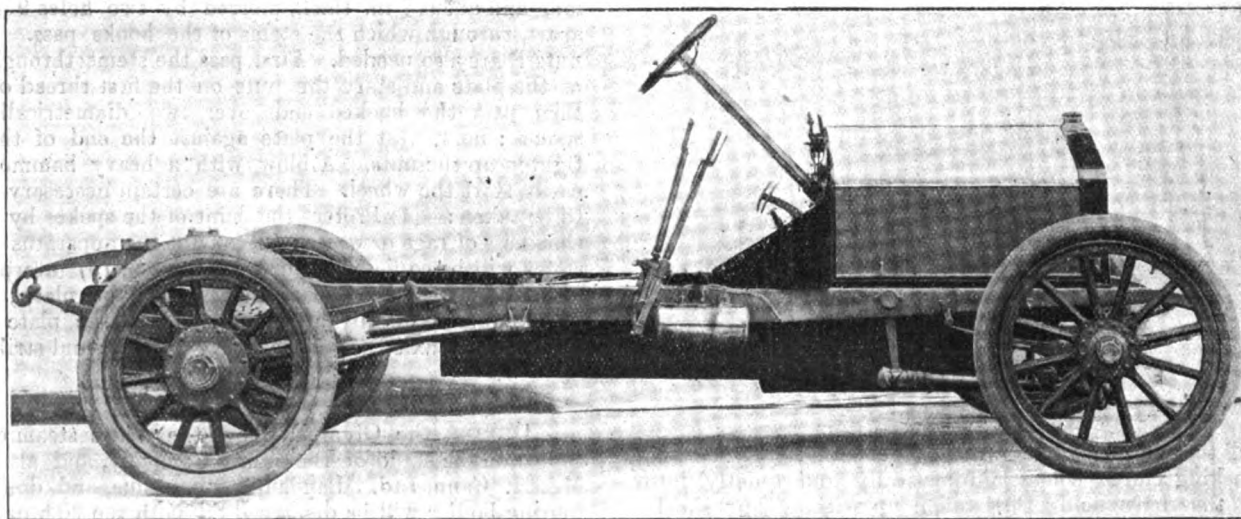


Fig. 2.—Chassis of Crossley 40-h.p. Car.

stand at the exhibition is numbered 102, and will be found on the ground floor.

The Star Cars.

An interesting series of the popular Star cars, ranging from a 9-h.p. "Little Star" to the striking six-cylinder vehicle illustrated in Fig. 1, will be shown by the STAR ENGINEERING COMPANY. The 9-h.p. two-cylinder car, which is made with either chain or cardan shaft transmission, takes the place of the 7-h.p. Star, which has earned so good a

usual, but on the third speed. The new Star six-cylinder car (Fig. 1) is bound to attract considerable notice, this being one of the most imposing vehicles yet turned out by the Star Company. The frame, which is narrowed at the front to increase the look of the steering wheels, is of unusual width at the bends, in order to give strength at this point. The cylinders are $4\frac{1}{2}$ in. bore by 5 in. stroke; the ignition is by high-tension magneto, and the mixture furnished by an automatic carburettor of neat and efficient design. The transmission is through a four-speed gear-box—with direct drive on the third, with an

indirect fourth—cardan shaft and bevel gear to a strongly-built live axle. As the illustration shows, the chassis has a very clean and smart appearance. Altogether the Star Company's 1908 vehicles will be found to comprise all the most modern developments in automobile construction, and should, in view of their moderate price, meet with a large clientèle.

The Crossley Cars.

On a separate stand Messrs. JARROTT AND LETTS have an instructive display of the latest type of 40-h.p. car built throughout by Messrs. Crossley Bros., Ltd., in their extensive works at Openshaw, Manchester.

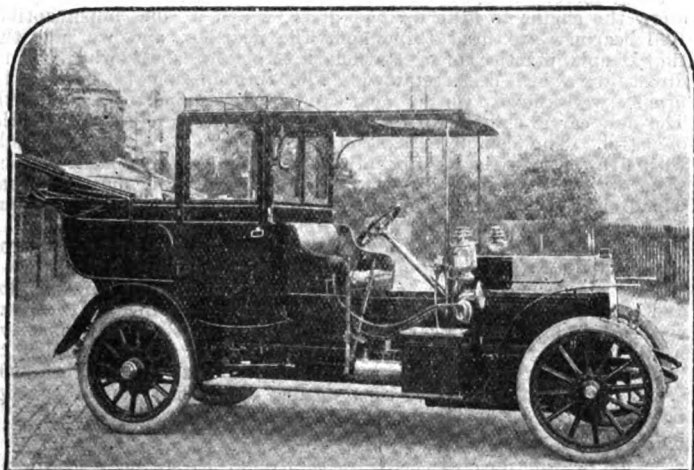


Fig. 3.—The 40-h.p. Crossley Double Landaulet just supplied to Mr. G. J. Whittington, of Betchworth, by Messrs. Jarrott and Letts.

The body has been designed and built specially by Messrs. Stamper and Son, of Wandsworth, and is complete in every respect. Mr. Whittington's house is at the top of Peebles Hill, the gradient of which is about 1 in 6, and the car has to climb this two or three times a day.

The chassis is a splendid example of British motor-car construction and merits close inspection. While the principal features have been retained, many modifications have been introduced in the 1908 model. The general appearance of the vehicle has been considerably improved by reason of the alteration in the shape of the bonnet, which is lower, and gives the car a very distinctive appearance. The frame

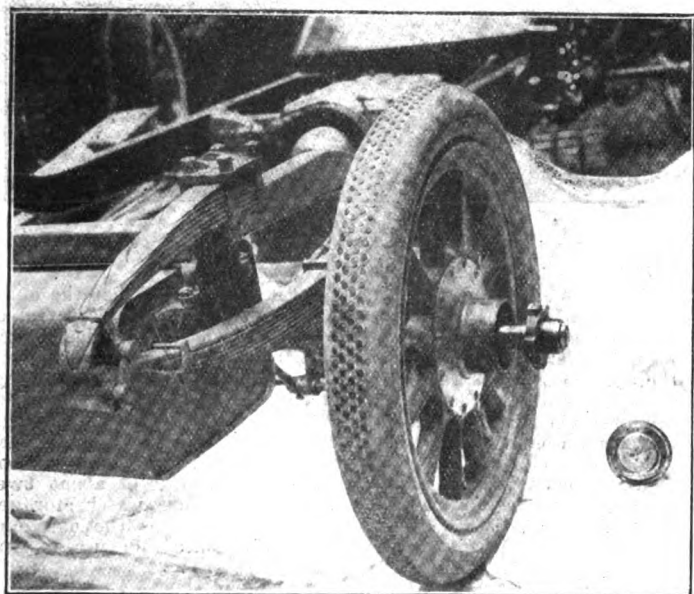


Fig. 4.—View of rear end of frame of Crossley 40-h.p. Car showing the three-quarter elliptical springs, the petrol tank, and the manner in which the main driving axle can be withdrawn from the tubular casing.

is built low and is well set up at the back, and instead of ordinary spring hangers three-quarter elliptical springs are now fitted. The motor, which is a splendid example of engine building, is fitted with low tension magneto ignition, with advance and retard, gear driven water circulating pump and mechanically-actuated valves. An ingenious device has been provided on the dashboard for the prevention of over-lubrication and smoky exhaust. The well-known Crossley expand-

ing metal clutch is still retained, but the adjustment has been simplified and made considerably easier. The four-speed change-gear actuated by a single lever with gate control and direct drive on top is retained. The gear is also now arranged so as to be easily dismantled when disconnecting the gear-box from the frame, in fact every part of the car is arranged with the idea of easy accessibility. The transmission is by a cardan shaft and bevel gear to a strongly built live axle. In connection with the latter it may be pointed out that the main driving axle itself is so arranged as to be easily drawn out from the casing, as shown in Fig. 4. The latter supports the weight of the frame and carriage

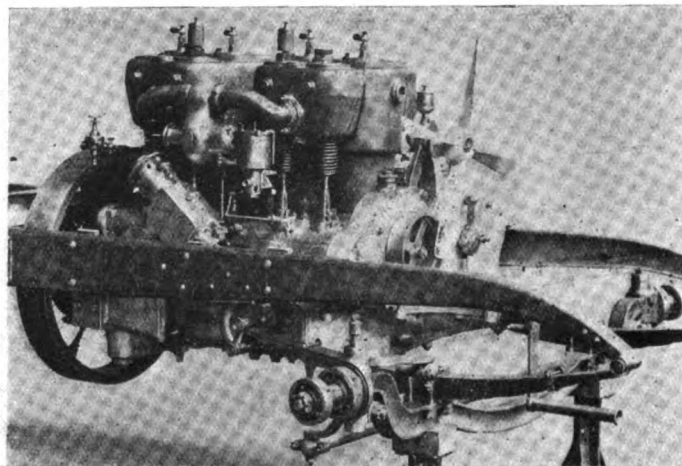


Fig. 5.—The Mercedes 45-h.p. Engine.

body, the axle itself having only the driving effort to withstand. Furthermore the large bevel wheel and the differential gear can be easily dismantled without removing the body or disturbing the axle. In addition to the chassis (Fig. 2) there will also be on view a 40-h.p. limousine specially designed for country work. The interior is luxuriously upholstered in corded buff cloth and seats five passengers comfortably, fitted up with speaking tube, electric indicators, electric lights, &c. The whole car is painted dark blue, picked out white lines, and is a perfect model of an up-to-date automobile. A 40-h.p. double landaulet, specially designed for town work, will also be shown. This carriage has accommodation for seven passengers and is complete in every detail.

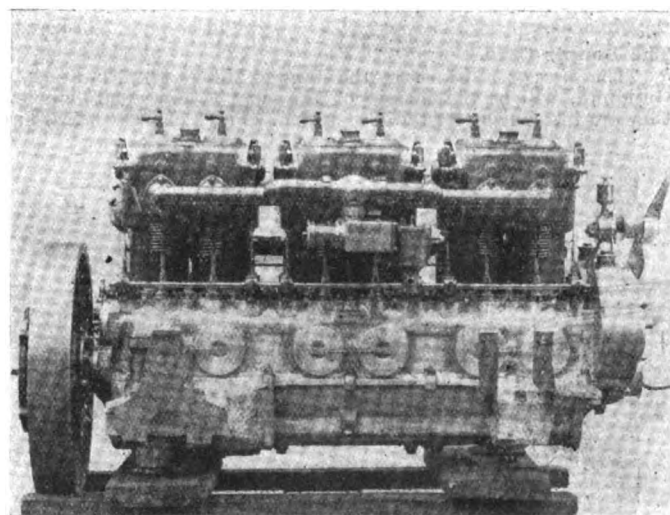


Fig. 6.—The Mercedes 75-h.p. Six-Cylinder Engine.

The Mercedes Cars.

Some details of the 1908 models of the well-known Mercedes cars were given in the last issue of the *M.C.J.* and we are able to this week publish the first illustrations of the new 45-h.p. four-cylinder and 75-h.p. six-cylinder engines. The exhibit of Messrs. DUCROS MERCEDES, LTD., will comprise a 20-25-h.p. car, with landaulet body by Lawton, painted dark green with orange lines, and having seating accommodation provided for five persons, a 35-h.p. limousine painted carmine, upholstered in grey corded cloth, a 45-h.p. chassis, a 45-h.p. car fitted with Roi des Belges side-entrance body, fitted with double extension Cape cart hood and folding glass wind screen, and a 75-h.p. six-cylinder vehicle fitted with Pullman limousine coachwork of new design,

painted primrose with black lines, upholstered in grey corded cloth inside. This car has seating accommodation for five persons inside and two outside. Special attention may be drawn to the 45-h.p. vehicle as being the one most suitable for use in the United Kingdom. Fig. 5 gives a view of the fore part of the chassis, showing the various parts of the motor. An important alteration has been made in the ignition, as, while the low tension system is retained, there are no make-and-break rods, their place being taken by plugs containing in themselves a device on the make-and-break principle. Another improvement consists, it will be noted, in the adoption of valve covers which screw into

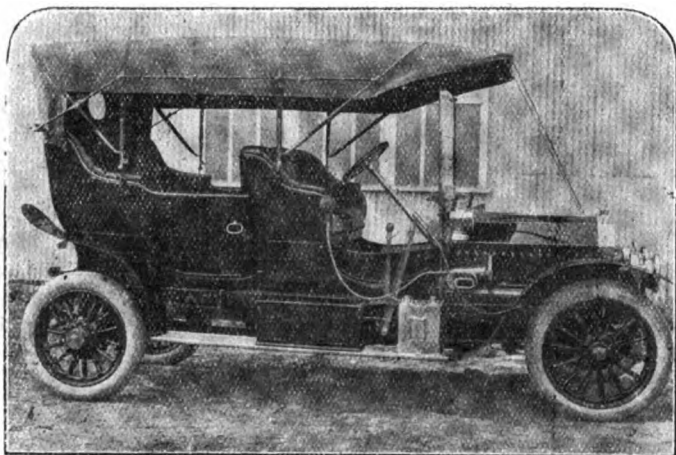


Fig. 7.—The Dennis 35-h.p. Touring Car.

position in place of being held by stirrups. An oil pump is attached to the base of the engine, while inspection holes, which can be easily closed, are provided in the base chamber. The Soda carburettor is replaced by one of the piston throttle type; wide plain bearings are fitted to the crank shaft, while the intermediary pinions in connection with the driving of the cam shafts have been suppressed. As regards the transmission the principal change is seen in providing two brakes on the differential shaft in place of one on the latter and one on the side shaft of the gear-box. We note also that a sharper rake has been given to the steering column and that rods are now used instead of wire cables in connection with the brakes. Fig. 6 depicts the new six-cylinder engine on which, as will be seen, the old type of low tension ignition is fitted. The illustration clearly shows the inspection covers, which can be readily detached to give access to the big ends.

The Dennis Cars.

The *piece de resistance* at the stand of Messrs. DENNIS BROS., LTD., Guildford, will be the chassis of the new 35-h.p. four-cylinder car they are introducing for the 1908 season. Fig. 8 depicts the carburettor

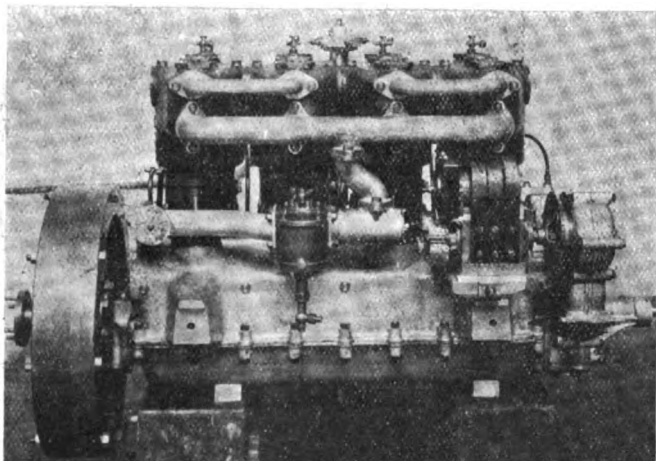


Fig. 8.—The Dennis 35-h.p. Engine.

side of the new motor, which has cylinders 120 mm. bore by 130 mm. stroke, and which, according to the R.A.C. rating, develops 35.7-h.p. As will be seen, high-tension magneto ignition is provided, the distributor being mounted on the upper end of a vertical spindle driven off the exhaust valve cam-shaft. A special feature in connection with the new engine is the system of lubrication. The oil is supplied from a sump in the crank chamber, a geared force feed pump conveying it under pressure to all the crank shaft bearings. Over lubrication is impossible, as all surplus oil is automatically and immediately returned

to the sump at the bottom of the base chamber. All the timing wheels, also pump and magneto pinions, are enclosed in an oil-tight case. Another new feature in the 1908 chassis is the introduction of a new type of gear-box, which is claimed not only to be silent in operation, but to be "fool-proof." The innovation consists in the introduction of a free wheel clutch, which obviates any retarding effect from the gears on the engine. The motor drives the road wheels, but the gears cannot draw the engine except on direct drive; the result is that at whatever speed the car may be travelling the driver can, without noise, change to any other gear or to neutral, the effect being that the car merely free wheels until the pace becomes slow enough to allow the engine to take up the drive, which it does imperceptibly. Ball bearings are used throughout the gear-box, and we note that the Dennis practice of a stationary secondary shaft when on the direct drive has been retained. The transmission is through the firm's well-known worm gear to a well-supported live axle. The new car is claimed to be able to run eighteen miles to the gallon of petrol. The complete cars on view include a 35-h.p. landaulet with five seats in the interior, all facing forward. The back seat has room for three passengers, and the other two being moveable seats which close up against the sides of the carriage when not in use. This model can be used as an entirely open car when required, the front pillars and glasses folding down flush with the frame, the front canopy over driver being also removable. A 35-h.p. brougham—an elegant closed carriage for town use upholstered in light carriage cloth and with seating room inside for five passengers—will also be shown, as also a 35-h.p. touring car (Fig. 7). This is fitted with a new type ideal phaeton body and equipped with a hood which enables the vehicle to be used either as a landaulet or touring machine. One of the standard Dennis 20-h.p. touring cars, with Roi des Belges body, will also be on view.

The "E.J.Y.R." Steam Car.

One of the novelties will be the E.J.Y.R. steam car, which is being introduced by the HIGHCLERE MOTOR CAR SYNDICATE, LTD.

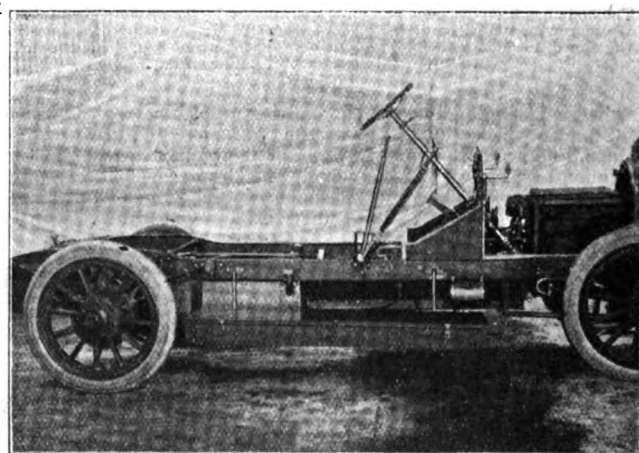


Fig. 9.—Chassis of "E.J.Y.R." Steam Car.

of Highclere, Newbury. From Fig. 9 it will be seen that the chassis is built on similar lines to that of an up-to-date live-axle petrol car, the difference being that in place of a petrol engine a "flash" generator, as well as the engine, is fixed beneath the bonnet and that there is no change-speed gear. The engine comprises three single-acting vertical cylinders of 2½ in. bore by 3½ in. stroke, fitted with cam-operated mushroom-valves. The power is transmitted through a long cardan shaft and bevel gear to a live back axle in the usual way. This vehicle is nominally of 30-40-h.p. The burner is adapted to use ordinary paraffin oil as fuel, and a distance of about twelve miles per gallon can be covered. The fuel and water storage is sufficient for 150 miles, rendering the car, which is the outcome of several years' experimental work, especially suited for use in India and the Colonies.

The Turner-Miesse Steam Cars.

Steam car enthusiasts will, as usual, find something to interest them at the stand of TURNER'S MOTOR MANUFACTURING COMPANY, LTD., Wolverhampton. Three sizes of the Turner-Miesse steamers are this year being shown, viz., 10-h.p., 16-h.p., and 30-h.p., the wheelbase in each case being adapted to permit of side-entrance bodies being fitted to the chassis, examples of a landaulet, limousine and a double-phaeton being included in the exhibit. These cars are so well known that it is almost unnecessary to give a description. We may briefly mention, however, that the generator is of the flash type, made in four sections, so that the bottom section can be replaced at trifling cost when necessary. The burner uses ordinary paraffin or kerosene as fuel. Now that the cost of petrol is advancing this is a point of great importance. In the colonies, and other places where petrol is difficult to obtain and prohibitive in price, it is an even greater advantage to be able to use

paraffin. The engine is of the three-cylinder single-acting type, its great feature being there are no glands or packing to require attention. The control is extremely simple, one pedal and one lever being all the driver has to attend to. The lever governs the supply of water to the generator, and therefore regulates the speed, the pedal instantaneously cuts off the steam and when depressed still further puts a double-acting brake on the crank-shaft. The advantage of this system is that the driver cannot carelessly put on his brake before cutting off the power. The cars exhibited show several improvements. A burner regulator is now fitted, by means of which the furnace can be turned up and down like a gas stove, so that the car can be kept waiting about, and yet be ready to start at a moment's notice. A feed water heater is also fitted, which utilises the exhaust steam to heat up the water on its way to the generator. This effects the two-fold purpose of cooling the exhaust steam before it enters the condenser, and of heating up the water on its way to the generator. The makers claim that this addition improves the running of the car fully 20 per cent. The 30-h.p. Turner-Miesse car is an entirely new model; it is fitted with a three-cylinder engine of similar design to the older types, but, of course, of greater capacity and with several improvements, extra powerful brakes being also fitted. The engine can be run free, which is a great convenience for pumping up tyres, &c. The transmission is by means of a single Renold silent chain. The Turner steam cars in general appearance closely resemble a modern petrol car. There is, of course, no vibration, and there are no change-speed gears to manipulate, the pace being entirely regulated, as already stated, by the amount of water that is allowed to pass to the generator.

The Beeston Humber Cars.

The output of the Beeston factory of Messrs. HUMBER, LTD., is being confined to two four-cylinder models, of respectively 20-h.p. and 30-h.p., and the exhibit will comprise examples of both, including a 20-h.p. side-entrance double phaeton and a 30-h.p. landaulet. Dealing

the foot platform is filled in to prevent splashing of mud. Turning now to the new 30-h.p. vehicle, this is equipped with a slow-running engine, having the cylinders cast in pairs. The bore and stroke is respectively 120 mm. by 150 mm. The carburettor is very much on the same lines as that on the 20-h.p. A novel departure is, however, seen in the ignition, two types of magneto being fitted, the Eisemann high-tension and a Simms-Bosch low tension, the tappets of which are worked by means of an overhead shaft driven by the half-time gear. On this car the clutch is of the multiple disc type. The four-speed gear

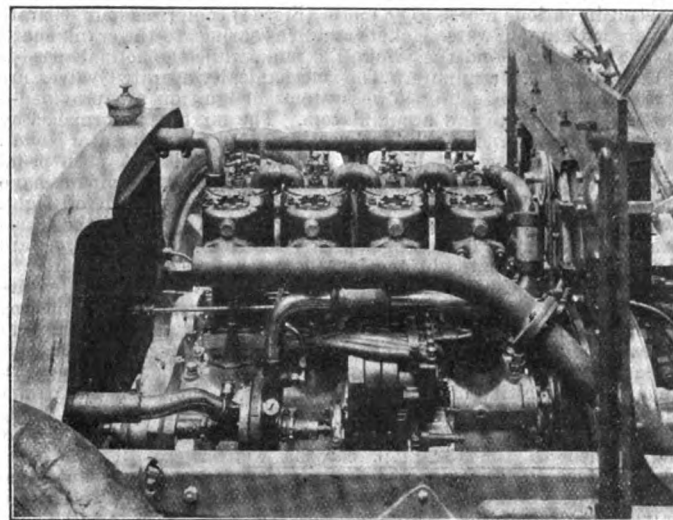


Fig 11.—The Engine of the new Panhard 15-20-h.p. Live Axle Car.

box, which is provided with ball bearings, is a new design. When on the top direct speed the side shaft remains stationary, the pinion which transmits the drive to it being also moved out of engagement when the high speed clutches are engaged. The transmission is by bevel gear to a live axle; the cardan shaft, which has only one universal joint, is provided with a casing which acts as a radius rod. The springing has been re-designed, the rear springs being now on the three-quarter elliptical pattern. Provision is made for the fitting of a self-starting arrangement to this car. Fig. 10 depicts a 30-h.p. Beeston Humber with side entrance double phaeton body and Cape cart hood. The latter is of a new design and is made by the Humber Company. On the wooden members which support the canvas slots and studs are fitted, so that when the hood is folded up the members are incapable of moving, and so cannot pinch the canvas and wear it by chafing. To the front extension of the folding hood a short curtain is attached, which in stormy weather can be folded

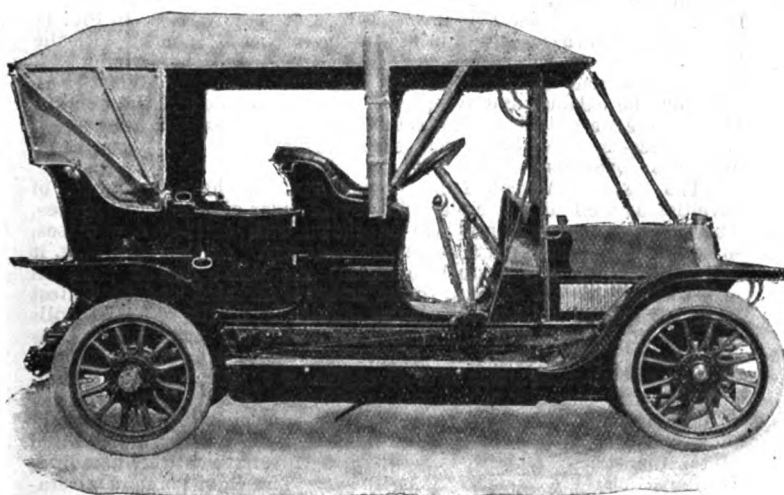


Fig. 10.—The Beeston Humber 30-h.p. Side-Entrance Double Phaeton with Cape Cart Hood.

first with the 20-h.p. type, which is the outcome of the company's experience in the Tourist Trophy race, the four-cylinder engine has a bore and stroke of 105 by 130 mm. The cylinders are separately cast and have the mechanically-operated valves arranged on opposite sides. The carburettor is of the automatic type, and is claimed to be very economical, enabling the car to run twenty miles to the gallon. The throttle is controlled both by a foot accelerator and by a lever on the steering wheel. An automatic system of lubrication is fitted to the crank case, actuated by a small rotary pump which is gear driven from the engine. The base chamber is provided with a large sump containing oil, while the precaution has been taken to have a foot-operated lubricator on the dashboard, from which oil can be admitted to the engine when an extra quantity is necessary. Two systems of ignition are provided—the latest Eisemann high-tension magneto and coil and accumulators. The high-tension distributor of the magneto is used in conjunction with the coil ignition. The clutch is of the ordinary leather-faced cone type, a ball thrust and a neat form of clutch brake being provided. The change-speed gear gives a direct drive on the top fourth speed, through the cardan shaft and bevel gear to a live axle, and ball thrust bearings are provided to take the side thrust on road wheels; the latter run on ball bearings on the axle sleeves. The driving shaft and bevel pinion shaft also run on ball bearings, and thrust bearings are fitted on either side the bevel wheel and behind the pinion to reduce friction. The chassis is carried on five springs, the transverse one being now supported on a special bracket, instead of on a spindle bolted on to the frame. The foot brake, which is lined with cast-iron segments, is very easily adjusted by means of a butterfly nut fitted with a spring catch. We note, too, that steel cables have been done away with for controlling the side brakes, rods being now fitted. The car has a wheel base of 9 ft. 3 in., enabling a roomy double phaeton Roi des Belges body with side entrance to be fitted. The whole of the sides of the car between the frame and

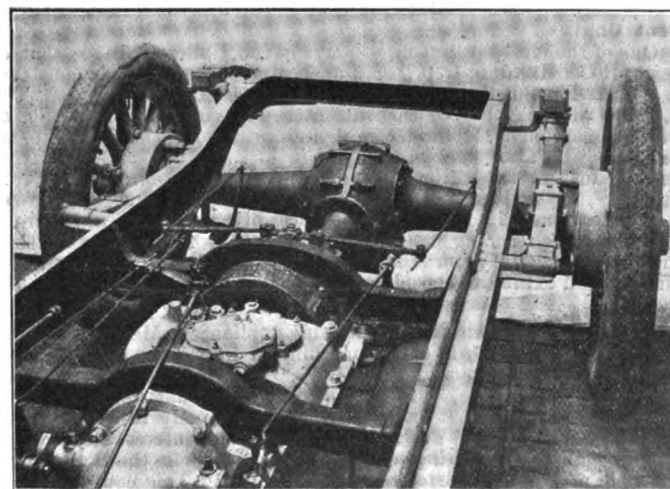


Fig 12.—Rear View of Chassis of Panhard 15-20-h.p. Live Axle Car.

over, so that wind and rain cannot get in between the top of the screen and the front under portion of the hood.

The Panhard Cars.

The exhibit of Messrs. PANHARD AND LEVASSOR is this year an exceedingly interesting one, as it marks the appearance for the first time of a Panhard car with a live axle. Of the more familiar types the display includes an 8-11-h.p. three-cylinder single landaulet, an 18-h.p. chassis, an 18-h.p. three-quarter landaulet, fitted with a new and simple

self-starting apparatus, and a 25-h.p. special cabriolet. While the general lines of these cars remain unchanged several detail alterations have been made. The high-tension magneto system of ignition is retained. The magneto is, however, now gear driven. A new lubricator is fitted to all models, the principle of which is to automatically supply the engine with more or less oil as required. The centre of attraction will, however, undoubtedly be the chassis of the new 15-20-h.p. live axle vehicle. This is a departure which has only been definitely introduced after exhaustive trials, the design having been tested on a transport lorry in the recent French military manoeuvres and on cars competing in various races. The motor (Fig. 11) comprises four separate cylinders with ample water jackets and five bearings to the crank shaft. The bore is 91 mm., and the stroke 130 mm., while the normal speed is 1,000 revolutions per minute. The mechanically-operated valves are arranged on opposite sides. Two systems of ignition are provided—high tension magneto and accumulators. The mixture is furnished by a hydraulically governed Krebs carburettor, fitted with hot water jacket. The clutch is of a new metallic type, and is operated by a push pedal in place of the press down variety to which the Panhard Company have so long adhered. The clutch is entirely eased in, rendering it oil tight, as well as dust proof, besides greatly adding to the rigidity of the transmission mechanism. The change-speed gear gives four speeds forward and a reverse, all actuated by one lever. On the top speed the drive is direct through the cardan shaft and bevel gear to the axle. A feature of the design of the latter is the ingenious arrangement for allowing of obliquity of the live axle. The frame, which is raised at the rear to clear the differential casing, is of pressed steel, wooden side members being attached to it to form a foundation for the body work without the necessity of drilling a number of holes in the frame proper. The springs are of good length, those at the rear being of the three-quarter elliptical type. A new departure which is now being applied to the 15-20-h.p. car, as well as to all the other models, is seen in the fact that in addition to the usual foot and hand-controlled brakes, an engine brake is now provided. This is obtained by modifying, through the medium of a small pedal, the play of the exhaust valves in such a way as to obtain resisting efforts during the time of inlet, compression and expansion. The arrangement is realised by means of extra cams, which act on the valves by means of a longitudinal displacement of the cam shaft. This brake, which can be thoroughly depended upon, and the working of which requires no effort on the part of the driver, is particularly adapted to long downward slopes and hilly districts; it prevents overheating of either the foot or band brakes.

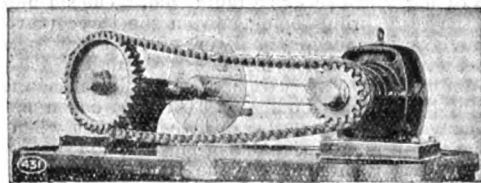


Fig. 13.—The Renold Rotoscope.

Silent Chains.

One of the most interesting displays in the Gallery will be that of Messrs. HANS RENOLD, LTD., of Manchester. They will demonstrate one of their Renold silent chains running at 1,000 ft. per minute. The Rotoscope will be employed, so that interested visitors will be able to observe the action of the links coming into gear with the wheel teeth. The firm will also show a full range of roller and patent bearing silent chains in the various sizes designed for pleasure and touring motor-cars, as well as for motor-buses and wagons and commercial automobiles generally, a collection of pieces of roller chains which broke under test loads reaching 86,300 lbs., and chain wheel milling cutters. Other tools necessary for the proper use of Renold chains will be included in an exhibit of considerable practical importance.

Vulcanisers.

In the way of novelties in vulcanising appliances, Messrs. HARVEY FROST AND CO., LTD., will have something of interest at their exhibit in the Gallery. The popular little H.F. "Car" vulcaniser, which has found ready acceptance, will be shown in somewhat improved form, although the features that have contributed so largely to its efficiency are, of course, retained. The motorist will find his interest attracted by the H.F. garage vulcanising equipment, which includes the H.F. "Car" vulcaniser previously referred to in our columns. This equipment has undergone some improvement since last year, and is even more efficient than it was before; so much so, that even in the hands of an inexperienced operator drastic repairs can be executed with expedition and thoroughness by the car owner in his own garage, or by one of his chauffeurs or mechanical assistants. The special vulcanising materials and tools, to which Messrs. Harvey Frost and Co., Ltd., have given much careful attention, will be shown, in addition to several most interesting trade appliances, such as the H.F. "Re-treaders," both carrying improvements, the "Standard" A and B appliances, a very ingenious tool called the H.F. "Jointless Joiner" for joining motor tubes, &c. Convincing evidence of the thoroughness of the "Harvey Frost" vulcanising process will be available for public investigation.

The "Atlas" Jack.

Messrs. A. W. GAMAGE, LTD., will have their usual comprehensive display of accessories and clothing of every description for motorists. In the latter department there will be several novelties of interest, among them the gentlemen's "Motura" detachable lining coat, recently illustrated in the *M.C.J.* Other specialities in Irish frieze as well as leather overcoats will also be on view. In the ladies' section a new reversible coat, which can be worn with the leather or tweed outside according to the weather, will be on view, as well as several good designs of fur coats. In gloves, hats, veils, caps, &c., there will be a comprehensive selection; while several new forms of trunks for the motor-car will attract considerable attention.



Fig. 14.



Fig. 15.

These are distinguished by good workmanship as well as practical utility. Messrs. Gamage will also exhibit the special trunk with which they secured the Silver Cup at the show of novelties recently held at the Hotel Cecil, London. We illustrate the new "Atlas" combination pneumatic and ratchet jack which the firm are now marketing. When the jack has raised the car sufficiently one or both of the pins are inserted in the device, and the car remains in position until the operators wish to lower it. Even should the pneumatic section fail, the ordinary ratchet is there to prevent mishap. The descent of the car is insured by merely releasing the pin and slightly turning a thumb-screw. The speed and ease of the lift are points of considerable favour as regards the "Atlas." In Fig. 14 the device is shown closed, and in Fig. 15 the ratchet attachment with the jack is shown. In horns some new forms will be seen, the "windproof" being a new and ingenious pattern having no trumpet. Whistles to work off the exhaust and syrens will also be included in the exhibit. High grade unspillable accumulators, non-skid tyres, sparking plugs, and all accessories, will be comprised in the display.

Motor Accessories.

The UNITED MOTOR INDUSTRIES, LTD., will have a number of novelties as well as a complete display of their standard accessories. The "Castle" accumulators will be shown with entirely new plates, so constructed that separators are not necessary. At the same time, it is impossible for any trouble to ensue; the whole of the plate on either side is always exposed to the action of the acid, and the fullest possible capacity is therefore always obtained. In the "Castle" coils the separate condensers will be of interest to car manufacturers, as they increase the power of any engine at a very little extra cost, and without any alteration whatever to engine or chassis. A new adjustable "Castle" trembler, which can be adjusted by the turn of a screw to take varying voltages at will, is a very ingenious development in induction coils. The Eisemann magnetos, for which the United Motor Industries, Ltd., are sole British agents, have entirely new lines for 1908, and these models will be shown. The chief point of alteration in the new models of these magnetos is the simplicity of mounting and dismounting the parts. All the magneto can be taken to pieces and put together without using a tool. There will also be on this stand a selection of Dubrulle lubricators, for which this firm are now British agents. The "Castle" jack is one that is coming rapidly to the front, and their new screw-up jack, which has an eccentric action, and which is illustrated in Fig. 17, will be shown. There will be a full



Fig. 16.

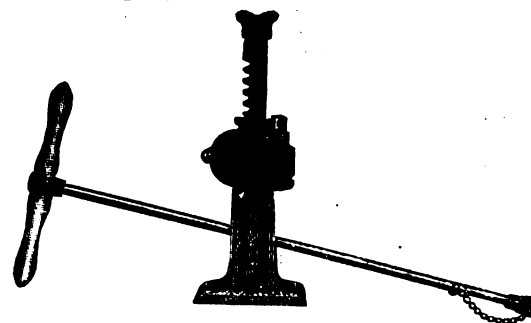


Fig. 17.

exhibition of the L.M. plugs, including a new plug known as Model "O," for magnetos, and a new combined primary and secondary distributor in aluminium case. The latter is a light and compact article, probably the smallest combined distributor on the market, yet at the same time effective. A device that will interest many visitors is the "Nonex," which can be fitted to any petrol tank, rendering an explosion from petrol impossible. There will be a fine range of other "Castle" specialities, including horns, speed indicators, charging sets, side lamps, etc., as well as the "Wagner" electric horn and Mutel motor.

(To be continued.)

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-29, Charing Cross Road, London, W.C.]

THE TRANSMISSION QUESTION—LIVE AXLE v. CHAIN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of the 19th ult. I think your correspondent "T. W. H." has overlooked what perhaps one might almost say is the most important factor in public opinion, viz., the silence of most live axle cars, as compared with that of chain driven ones, due to wear of the chains, badly cut or worn sprockets, and so forth. Except for this I think we should find that every car would be constructed with chains, excepting those makers who, as your correspondent rightly says, go for cheapness. Have we not two or three notable examples within the last few weeks of manufacturers, who were the pioneers of chain-driven cars, suddenly taking to making live axles, and one naturally asks why? and the only solution is that the public will have a quiet car.

Further, let us consider the "real" advantages of a chain drive

TYRE TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I write to ask if any fellow motorist has had any trouble similar to the following, and if so, will he kindly advise me as to what he found the best course under the circumstances?

I had two new grooved tyres of a well-known English make, 815 by 105, on the driving wheels of my 20-h.p. Humber car, which I have carefully driven myself, and over good roads only, the tyres being kept at 80 to 82 lbs. pressure, as tested by a gauge, and as recommended by the makers.

After doing only 2,000 miles, and with the grooves not yet nearly worn down, the canvas of the off driver split diagonally for a length of eight or nine inches, almost from one bead to the other, the split being as clean as though cut with a knife, the outer rubber (which had no cut previously) bursting at the same time some two or three inches.



The Queen of Holland arriving by Motor-Car to witness the recent Dutch Military Manœuvres.

[De Auto.

in order. (1) The strain (i.e., the surface over which a certain amount of work is distributed) on the differential is less per tooth in a chain-driven car because the countershaft revolves three times or so as fast as the corresponding live axle—that is to say that whereas in the same speed of engine and road wheels the one tooth in the bevels, &c., has to do the work of three in the fixed axle type. (2) When driving with a fierce clutch or other sudden strain imposed on the mechanism, the chains will give and in some cases act as an electrical fuse does to a conductor, but who shall say what happens in a live axle! (3) In a live axle there is always a big torsional strain on the propeller shaft, so undesirable in motor construction. (4) Chain driven cars do not require so many universal joints and their consequent troubles as in live axles. (5) No chains should be noisy, provided they are well made, have been and are well greased and cleaned and the sprocket wheels are technically correct. (6) In conclusion, do not these facts, coupled with those of your capable correspondent "T. W. H." and many other points that I dare not mention for fear of trespassing on your valuable space, point in favour of the chain?—Yours truly,

KENNETH J. GARLE.

I returned the cover to the makers, whose only suggestion is to send me a new cover at two-thirds list price; but manifestly, at this price, a new cover would prove a very expensive one if it would not do one-third the mileage it should.

If any fellow motorist can suggest a way of getting more wear out of the cover in place of scrapping it, I shall be obliged.

Would dovetailing a new piece in, as advertised by some firms, make a satisfactory job?—Yours truly,

G. S. PACKER.

NEW ROAD WANTED.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been asked several times by motorists when the new road to Lynton and Lynmouth was to be made. Would you kindly let me say, after much effort, that the Rural District Council have undertaken to make it on condition that £300 is found locally. As it would be a great thing to get the work done before next motoring season, the money should be found soon. We have got promises of £200, and should be very glad if any motorists who intend coming this way would help us by sending contributions to me, at Lynmouth, or Mr.

T. Jones, Lynton. I need not say the road will be of the greatest service to motorists, as by means of it the hill at Porlock and Countisbury will be avoided.—Yours truly,

E. B. JEUNE.

THE TRADE POSITION ON THE CONTINENT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have read the article headed "The Trade Position on the Continent," which appeared in your issue of October 28th. We venture to point out to you that the new Panhard price list cannot be regarded by any means as indicating a crisis, or even the commencement of a slump in the automobile industry. This price list is accepted in France as the saviour of the position, and it has completely checked the panic which was certainly threatened.

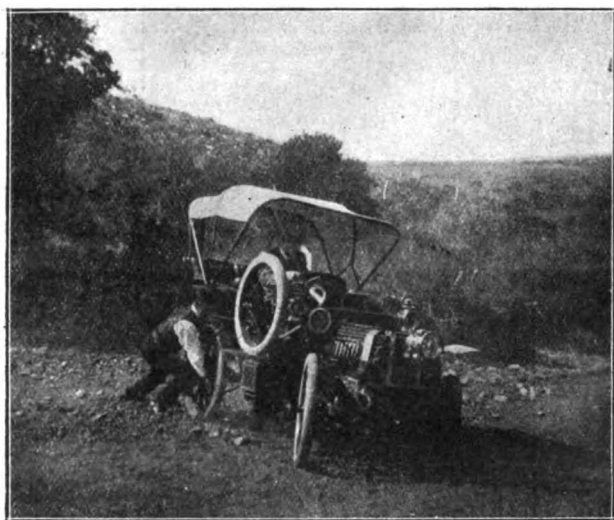
The Panhard list is a perfectly conservative one. The reductions are in the prices of their high-powered cars, which hitherto were comparatively excessive. On the other hand, the difference in the prices of the cars of lower power is much slighter. We would feel obliged if you would give publicity to the fact that we have no old stock in the English branch of Panhard and Levassor, and that the cars we have for sale are not 1907 types, but the new 1908 types, and that, whatever other people may have done, we have studiously avoided overloading ourselves with old stock.—Yours truly,

HARVEY DU CROS.

MOTORING IN SOUTH AFRICA.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am sending you a photo showing the style of ground encountered between Port Elizabeth and Bulk River, where there is a reservoir supplying this town. The car in the photo, which is the first motor vehicle to get there and back, is my 10-12-h.p. Gladiator, and at



the time of photographing we had to shed passengers and use "man power" to get over the crest of the hill, not so much because of the gradient, about 1 in 4½, but rather owing to the loose sand and small rocks lying about.—Yours truly,

FRED. E. CORIN.

MOTOR PASSENGER SERVICES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Doubtless it has occurred to you that in the event of a railway strike motor-cars might play a prominent part in relieving the consequent congestion of passenger traffic. Being interested in the industry, we made the following suggestions to the Society of Motor Manufacturers and Traders, Ltd., and with their approval bring it before the motor-car manufacturers of this country.

We suggest manufacturers of motor-cars circularize each of their customers and ascertain whether, in the event of a railway strike, they would be willing to offer occasional service with their car, for the purpose of keeping open regular passenger communication between the large towns in Great Britain. In the event of a sufficient number of favourable replies being received a meeting of the trade would be called to consider and arrange the details of district control and management.

In the first instance we are desirous of ascertaining the feelings of the trade towards such scheme, the object of which, of course, is to advertise the industry and prove the utility and necessity of the motor-car. If anything is to be done, a meeting should be convened early to elect officers and proceed to business.—Yours truly,

RIPPINGILLE'S ALBION LAMP COMPANY, LTD.

THE MOTORIST OF MODERATE MEANS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was much interested in reading your comment of November 2nd, wherein you referred to some figures given by Mr. Chiozza

Money, M.P. That gentleman has apparently failed to appreciate the importance of the dwellers in flats in coming to his conclusions, and has based his views only on those who occupy houses.

So far as London is concerned the extension of the flat system of living during the last decade has been a notable feature of the situation. A goodly number of folks nowadays prefer the convenience of the flat to the inconvenience of house occupancy, and it is safe to say that many of these might be added, so far as rental value is concerned, to the category of rentals of over £80 a year. This section of minded people can also be regarded as motorists either actual or prospective, seeing that the economy in house expenses often effected by the flat system has given them opportunities for the enjoyment of motoring.

Mr. Money has established himself in a great measure as an authority on statistics, and, in view of the interest of this phase of the question to the motor industry, could he not be persuaded to give us some estimate as to the additions to his analysis of house owners that might be made if those who dwell in flats were also reckoned in the returns?—Yours truly,

A SUBURBAN MOTORIST.

THE OUTLOOK.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Is there an approaching slump in the motor industry? Has it reached and passed its zenith, or is it that it is being overcrowded by ambitious aspirants?

A year or two ago it was comparatively easy for a man well qualified in his business to secure a good berth. He was even sought after to fill inferior, though at that time well-paid positions. But today he has to search—more often than not without success—for a position of any kind.

I have based these observations on my own personal experience within the last few weeks. I have been connected with the practical side of the trade for six or seven years. I have worked at all its branches, from the building of chassis to repairing, testing and driving of high-class cars. During one period I held the position of foreman in a large and well-known works, and have references as to general character and ability, yet I cannot obtain a post at the bench or even as a driver.

I have called on nearly every London establishment of any importance and written to scores of others, and have always encountered the same remarks, "We have no vacancies. Things are very quiet, and we do not know when trade will brighten up." This seems to be a deplorable state of things for what is supposed generally to be a flourishing industry just in its infancy.

After being so long associated with the car it will seem strange to go back into the less interesting, but less capricious and more staid branches of engineering, viz., the marine and loco. sections. Still needs must if nothing else is forthcoming.—Yours truly,

BRITISH MECHANIC.

LOSS OF POWER.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I recently purchased a two-cylinder Decauville shaft driven car. No doubt it has seen several years' wear, but for a cheap car works remarkably well except on hills. As soon as a load is put on the vehicle the engine loses power considerably and on a very stiff hill is entirely beaten. What is the probable cause of this? Will it be the adjustment of contact breaker? The one belonging to car is a platinum tipped rocking arrangement, but the coil has, I think, been since fitted and is of the trembler type. Will not this be likely to account for the loss of power? The engine does not appear to overheat and everything seems in fair order, with compression remarkably good. The power appears ample on the level and the engine then appears to be developing full power, but on a hill it seems to have no more power than a small motor-bicycle. If you can help me to get satisfactory working I shall feel grateful.—Yours truly,

NOVICE.

[There are numerous causes which may individually or collectively account for the mysterious loss of power on hills, which seems to be quite epidemic just now with buyers of small second-hand cars. Since "Novice" is sure the compression is remarkably good (which is a cause that otherwise we should suspect as a probable reason) we advise him to examine the springs of the inlet valves, which in this case are A.O.V. The spring of one may be stronger than the other. He should test them by pressing the ends of the stems together, and then notice if one opens before the other lifts from its seat.

The trembler coil, if a good one, and properly adjusted, should not adversely affect the power, although a trembler coil gives best results with a wipe contact. Test the engine for misfires by running it very fast, and open the compression taps to watch if there is a sharp regular explosion of equal strength in each cylinder. Then again the carburetor may require attention; this is probably a Longuemare, and might give better results by changing the air cone and spray nozzle.

There may also be undue friction in the transmission gear, which is aggravated when the extra load of hill climbing commences. Jack up the rear wheels and see if everything is perfectly free, and without a grinding noise on the low speed. Finally, do not expect too much speed on hills out of a little second-hand car, and be careful in driving to put in the low gear before the engine begins to labour.]

CLUBS AND ASSOCIATIONS.

MOTOR CLUB.

IN order to celebrate their amalgamation, the Motor Club and the British Motor Boat Club have conjointly given a dinner, followed by a concert to their members, at the Motor Club, Princes Buildings, W. Colonel W. Bosworth and Admiral Sir William Kennedy, K.C.B., the respective chairmen, presided over a large attendance of well-known members of both clubs. Among those present were Mr. W. Miall Green, rear commodore B.M.B.C., Sir Thomas Dewar, Messrs. W. Gibbons, D. B. Colls, F. May, Mawdsley Brooke, Charles Jarrott, Harvey du Cros, J. Amery Parkes, W. Jenks, J. F. Avila, and R. B. Robinson, secretary B.M.B.C.

After the loyal toasts, Colonel Bosworth referred in feeling terms to Mr. Holmes Kingston, the late secretary of the Motor Club, and the excellent work he had done. As regards the amalgamation which they were celebrating, he pointed out the mutual benefit the two bodies would receive, as each had made its mark in its own sphere.

Admiral Sir W. Kennedy, in replying, thought the idea of the union an extremely happy one, and anticipated a glowing future from their combined enterprise.

CRYSTAL PALACE.

THE members' hill climb of this club on Saturday was a success. Close on twenty members had entered their cars, and many others were present as spectators. Great assistance was rendered to the club by Lieut.-Col. Carleton-Smith and many others as clerks of the course, &c.

The times were taken by Messrs. F. T. Bidlake and H. Swinley. The former also worked out the results under the Royal A.C. formula as follow:—

	Car.	Entrant.	Efficiency ratio.
1st. ...	10-h.p. De Dion ...	Dr. J. E. L. Bates ...	96
2nd. ...	6-h.p. Rover ...	L. Wix ...	93
3rd. ...	40-h.p. Napier ...	S. F. Edge ...	92

The fastest time of the day was accomplished by Mr. S. F. Edge's 60-h.p. six-cylinder Napier.

THE INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

THE winter meetings of this Association will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W. The programme for the remainder of the session is as follows:—December 11th, Mr. Dugald Clark, "The Principles of Carburetting as determined by Exhaust Gas Analysis"; January 8th, Dr. H. S. Hele-Shaw, "The Fuel Question"; February 12th, M. F. W. Lanchester, "Some Problems peculiar to the Design of the Automobile"; March 11th, Mr. J. S. Critchley.

LADIES'.

NEW members of the Ladies' A.C. include the Hon. Mrs. Bagot, Mrs. A. E. Clerk, Mrs. Stuart Coats, Mrs. Cornwallis-West, Mrs. Hay Drummond, the Hon. Mrs. Egerton, the Viscountess Emlay, Mrs. Eyre, Mrs. George Forbes, Mrs. Egerton Green, Mrs. J. M. Gorham, Miss Kelly, Mrs. E. Lingard Lucas, Mrs. McGildowry, Mrs. R. B. Muir, the Hon. Mrs. E. S. Trafford, and Mrs. Alfred Westmacott.

TRANSVAAL.

A ROAD contest has been held by the Transvaal Automobile Club for the Park Trophy. This took the form of a two days' reliability trial. The first day the run was from Johannesburg to Potchefstroom, the return journey being made on the following day, a distance of 90 miles each way. The event was regarded as a great success and some excellent performances were accomplished. One of the most notable was that of the 10-h.p. Siddeley, which—although the course was by no means of the best and contained a bad patch of road near Doornakop—made the entire journey at an average rate of 22½ miles an hour, with the use of only 4½ gallons of petrol.

THE annual dinner of the Hertfordshire C.A.C. will take place on the 7th prox., at the Hotel Russell, Russell Square, London.

TICKETS for the dinner of the Society of Automobile Mechanic Drivers at the Hammersmith Town Hall, on the 20th, can be obtained from the hon. secretary, Rawling's Garage, Halkin Street, Belgrave Square, S.W.

THE annual event of the Motor Cycling Club known as "The Show" run will take place on Sunday, November 24th, to "The Old Sal" at Barnet. All motorists engaged at the Stanley Show are cordially invited to take part in this run.

PRINCE DORIA OF ROME has just ordered three Stepney wheels. As there seems to be a misunderstanding amongst motorists with regard to the Stepney Combination Wheel, it should be noted that this is suitable for a car having front and back wheels of different sizes. There also seems to be a wrong impression abroad that the spare wheel is not suitable for heavy cars. This is erroneous, since the wheel is suitable for cars weighing up to three tons.

THE END OF THE M.U. AND A.A. CONTROVERSY.

THE correspondence between Mr. C. D. Rose, M.P., Chairman of the Motor Union, and Colonel W. J. Bosworth, Chairman of the Automobile Association, referred to in our "Comments," is as follows:—

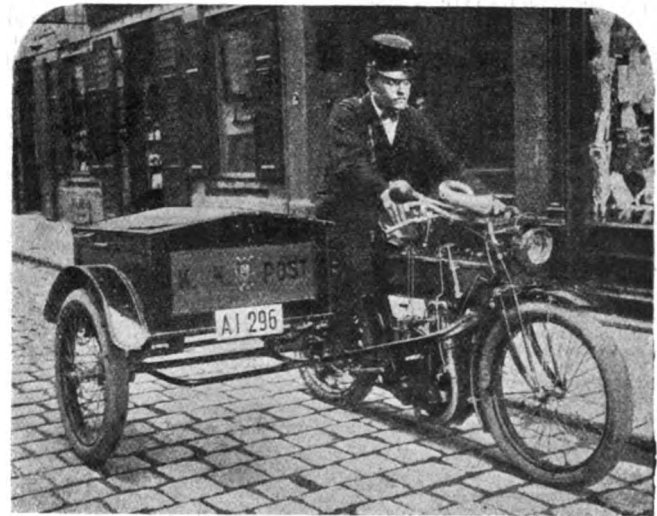
October 28th, 1907.

Dear Colonel Bosworth,

I must apologise for having so long delayed replying to your letter of the 15th inst. It was not possible, however, to convene a meeting of the General Purposes Committee of the Motor Union until yesterday evening, and I have now the pleasure to inform you that I am authorised by my committee to say that, with the view to restoring cordial relations between our two associations, they are prepared to modify the existing Motor Union badge in such a manner as may be mutually agreed upon between us, and, further, are willing to agree that all matters appertaining to the patrolling of the roads should be the special sphere of your Association, and they will accordingly give instructions for the withdrawal of their road scheme. My committee agreed to the foregoing on my assurance that your association would, on their part, be willing to recognise that such matters as sign and danger posting work, dealing with the dust question, and the general question of the improvement of the roads should be left to the Motor Union under the existing arrangement with the Royal Automobile Club, and they will also leave the Motor Union all matters relating to insurance and legislative and general legal work. I earnestly trust that you will see your way to confirm the assurance I have given to my committee, in order that henceforward both associations may mutually assist one another in the important work that lies before them.

Yours faithfully,

(Signed) CHARLES D. ROSE.



One of the Motor-Bicycles with Side Car Attachment now being used by the Austrian Postal Authorities in the Collection of Mails in Vienna.

C. D. Rose, Esq., M.P.,
1, Albemarle Street, W.

October 30th, 1907.

Dear Mr. Rose,

I am much obliged to you for your letter of the 29th inst., and for your courtesy in sending it in time to be considered by my committee yesterday. My committee went fully into the questions in your letter, and I am now authorised to say that we accept entirely the suggestions which you make, and note that the Motor Union badge will be modified on the lines which we have previously discussed. You will, I have no doubt, recollect that in our discussion we agreed that no objection was to be raised to our continuing to put up and maintain village signs, in accordance with an understanding arrived at with the Royal Automobile Club and the Motor Union, and to which I had occasion to direct your attention some time ago, and that also in abstaining from general legal work, we shall not be precluded from undertaking the defence of our individual members or staff, if necessary. If these small matters are understood, I think I may say that we are in entire agreement and shall have great pleasure in working heartily with the Motor Union for the benefit of automobilism in general. I cannot close this correspondence without taking the opportunity of thanking you for your great courtesy and tact, which alone has made it possible to put an end to the unhappy situation that had arisen, and which my committee appreciate as fully as I have had reason to do myself.—I am, sincerely yours,

(Signed) W. J. BOSWORTH.

THE CALTHORPE MOTOR COMPANY, LTD., have been favoured with an order for a 16-20-h.p. Calthorpe landaulet by the Jam Sahib of Jamnagar, for use whilst His Highness is touring in England.

THE HOTCHKISS LONG DISTANCE TRIAL.

THE R.A.C. CERTIFICATE OF PERFORMANCE.

April 29th to August 20th, 1907.

THIS is to certify that a 45-h.p. six-cylinder (by R.A.C. rating 49.2-h.p.) Hotchkiss car, cylinders 115 mm. by 120 mm., completed a long distance trial of 15,000 miles, under ordinary touring conditions, and under the continuous observation of officials appointed or authorised by the Royal Automobile Club, on August 20th, 1907, the car being locked up each night by the official observer. The weight of the car ready for the road, excluding passengers, was 3,880 lb. The weight of the passengers and baggage averaged 868 lb.

During the 15,000 miles, the car travelled in England, Wales, Scotland and Ireland. In Ireland it took part in the Irish Reliability Trial, visiting Dublin, Portrush and Waterford amongst other places. The car then returned to England and resumed its tour throughout the country.

The record of performance, including all stoppages, repairs, replacement and adjustments on the road and in the motor houses is as follows:

ON THE ROAD.

Involuntary stops.		Time occupied.	
		h. m. s.	
1st stop .. 12th day ..	Leather grease cap on forward end of cardan shaft fell on exhaust pipe and took fire	1 15 0	
2nd stop .. 21st day ..	To inspect broken spring on off front wheel	0 1 0	
*3rd stop .. 30th day ..	Petrol failed to reach carburettor on steep hill. Car driven up backwards	0 3 42	

* An accidental detour from the original route had caused the tank to be almost empty at this point.

The remaining 10,474 miles were completed without an involuntary stop, other than for tyre troubles.

IN THE MOTOR HOUSES.—The total time spent in repairs, replacements and adjustments (other than tyre repairs), in the motor houses during the 15,000 miles run was 9 hours 44 min. 21 sec., or at the rate of 6 min. 5 sec. per day of twelve hours.

Brakes.		Number of occasions.		h. m. s.	
Adjusted and repaired brakes .. .. .	.. .. .	6 ..	..	2 59 25	
Ignition.					
Magneto adjustments .. .. .	.. .. .	5 ..	0 40 17		
Cut away cloth wound in magneto, and cleaned gear wheels .. .. .	.. .. .	1 ..	0 6 0		
Adjusted trembler .. .. .	.. .. .	2 ..	0 1 30		
Changed accumulators .. .. .	.. .. .	1 ..	0 8 30		
Taped earth wire .. .. .	.. .. .	1 ..	0 12 0		
Fitted washers to plugs .. .. .	.. .. .	1 ..	0 2 41		
Carburettor.					
Adjusted or cleaned carburettor .. .. .	.. .. .	3 ..	0 21 45		
Petrol Tank and Auxiliary Pressure System.	.. .. .	..	..	..	..
Cleaned petrol filter .. .. .	.. .. .	1 ..	0 2 0		
Lubrication System.					
Replaced tap on base chamber and adjusted .. .. .	.. .. .	1 ..	0 2 0		
Replaced leather grease cap on cardan shaft .. .. .	.. .. .	1 ..	0 5 0		
Fitted new dashboard lubricator to clutch .. .. .	.. .. .	1 ..	0 17 17		
Cleaned or adjusted lubricators .. .. .	.. .. .	4 ..	0 6 27		
Miscellaneous.					
Adjusted footboards and body .. .. .	.. .. .	1 ..	0 2 56		
Replaced 8 nuts and 1 split pin .. .. .	.. .. .	4 ..	0 20 50		
Replaced fan belts and adjustments .. .. .	.. .. .	4 ..	0 27 0		
Replaced broken off-front spring .. .. .	.. .. .	2 ..	2 35 0		
Adjusted pump .. .. .	.. .. .	4 ..	0 7 50		
Replaced 2 ball races in front wheel .. .. .	.. .. .	1 ..	0 35 30		
Replaced rubber buffer to front spring .. .. .	.. .. .	1 ..	0 8 0		
Replaced two axle caps .. .. .	.. .. .	1 ..	0 4 23		
Cleaned out radiator .. .. .	.. .. .	1 ..	0 18 0		
Total .. .. .	.. .. .	..	9 44 21		

A new petrol tank was voluntarily fitted for a special test, which was not undertaken, and was not necessitated by any trouble with the old tank.

TYRES.

The car was fitted with Michelin studded tyres 880 mm. by 120 mm. front and back.

The record of performance is as follows. (The tyres which did duty on different wheels bear the same letters in brackets, other tyres when removed from any wheel for any cause were not used again even though in good condition):—

On off front wheel.		Cause of removal.	
927 (a)	..	..	..
1,507 (b)	..	..	..
54 (c)	..	..	..
3,181	..	Puncture; removed in fairly good condition.	
1,309 (d)	..	Burst.	
22 (e)	..	Burst.	
1,865	..	Puncture; removed in slightly worn condition.	
2,450	..	Puncture; removed in slightly worn condition.	
1,853	..	Burst.	
1,853	..	End of trial; tyre in good condition.	
15,000	..	..	..

On off hind wheel.		Cause of removal.	
927 (b)	..	..	..
1,075 (a)	..	Puncture; removed in slightly worn condition.	
423 (c)	..	Badly worn.	
54	..	Good condition; removed as a precautionary measure.	
935	..	Leaky valve.	
1,454	..	Burst.	

On off hind wheel.		Cause of removal.	
1,783	..	Burst.	
24	..	Burst.	
24 (e)	..	Burst.	
878 (d)	..	Burst; studs worn out.	
1,542	..	Puncture; removed in slightly worn condition.	
995	..	Puncture; removed in good condition.	
799	..	Puncture; removed in good condition.	
1,114	..	Burst.	
2,196	..	Burst.	
567	..	End of trial; tyre in good condition.	
15,000	..	..	..

On near front wheel.		Cause of removal.	
927 (f)	..	..	..
1,258 (g)	..	..	..
305	..	Puncture; run on rim back to motor house.	
1,588	..	Deep cut; otherwise good condition.	
4,192	..	Puncture; studs worn.	
4,318	..	Burst.	
2,402	..	End of trial; tyre in good condition.	
15,000	..	..	..

On near hind wheel.		Cause of removal.	
927 (g)	..	Puncture; removed studs, slightly worn.	
75 (f)	..	Puncture; removed in fair condition.	
1,420	..	Burst.	
13	..	Puncture; old tyre.	
54 (b)	..	Burst and worn; studs missing.	
1,653	..	Burst.	
2,642	..	Burst.	
1,220	..	Puncture; removed in fair condition.	
1,762	..	Burst; removed in fair condition.	
1,458	..	Puncture; removed in fair condition.	
796	..	Burst; removed in fair condition.	
1,391	..	Burst; removed in fair condition.	
1,589	..	End of trial; tyre in fair condition.	
15,000	..	..	..

Ten covers were mounted on the off front wheel, of which eight were used solely on this wheel, counting last cover. Sixteen covers were mounted on the off hind wheel, of which twelve were used solely on this wheel, counting the last cover. Seven covers were mounted on the near front wheel, of which six were used solely on this wheel, counting last cover. Thirteen covers were mounted on the near hind wheel, of which twelve were used solely on this wheel, counting last cover.

The longest distance run on any hind cover was 2,642 miles, and on any front cover 4,328 miles. The majority of the tyres when removed were not entirely worn out. The shortest stoppage due to a puncture was 4 min. 39 sec., and the longest 1 h. 9 min.

CONSUMPTION.		Number of days' trial	
Average daily mileage	96
Average car miles per gallon	156.25
Average gallon per ton-mile	7.71
Average ton-miles per gallon	16.36

REMARKS.

After the completion of the 15,000 miles, covered in ninety-six running days over all classes of roads, between April 29th and August 20th, 1907, the car was driven to the Club Motor House in Brick Street, W., and was found to be in good condition upon examination by the Technical Committee. Practically no play was noticed in the big ends of the connecting rods, although a slight amount of wear was noticeable in some of the gudgeon pins. The valves had not been touched during the trial, and were in good condition, especially considering the distance over which they had been in use without regrinding.

Except that the reverse idle pinion was slightly turred, the first speed driving pinion, and the bevel wheel on the driving axle slightly worn, the whole of the gear was in good condition. Wear was noticeable in the bushes of the bevel pinions of the differential gear of the four-way spider spindles, and these spindles were worn at the ends where they are held in the differential gear-box, apparently as the result of the bolts holding the two parts of the box together being loose. Slight wear was observable in the propeller-shaft universal joints. In the ball bearings of the road wheels the spring and washer separators between the balls showed undue wear and deformation. The horizontal spindle of the steering-arm in the steering-box was much worn at its journals, and the bearings in the box were also much worn. The pins of the front spring shackles were much worn, owing to difficulty of lubricating them.

Considering the great mileage, the wear to which attention has been directed may be looked upon as small, and less than might be expected with the exception of the spring shackle pins.

J. W. ORDE, Secretary.

October 28th, 1907.

C. D. ROSE, Chairman R.A.C.
Mervyn O'GORMAN, Chairman of
Technical Committee.

THE many motorists who have been waiting for further news of Miraculum, the new puncture sealer and rubber preservative, will be glad to learn that the E. M. Bowden's Patents Syndicate, Ltd., has now completed its arrangements and is prepared to charge customers' tyres with this preparation without delay. It should be noted that tubes must be sent to the works to be filled, as at the present stage it is not deemed advisable to entrust the charging of tyres with Miraculum to those not acquainted with the methods involved.

CASES UNDER THE MOTOR CAR ACT.

HEAVY HAULS.

Thirteen drivers of motor-cars were fined on the 31st ult. at Oswestry, and the licence of a Birmingham motorist was suspended for six months. Fines of £5 each were inflicted on three drivers at Kingston for driving to the public danger, and other fines, varying from £3 to £10, were imposed on five motorists, one of whom has had his licence suspended for three months—all on the same day. Five motorists were summoned on a recent day at Guildford. One was ordered to pay the costs of the summons, the others were fined. Fines of £5 are being imposed on motorists at Kingston. Eleven motorists were fined £5 each at Doncaster on Saturday. Ten owners have been fined £100 at Grantham for exceeding the legal limit on the Great North Road.

CUMULATIVE PENALTIES.

Henry Blackburn, motor-car driver, Davis Road, Acton, was fined on the 31st £25 and 5 gs. costs, or three months' imprisonment with hard labour, at West London Police Court, for driving a motor-car in a dangerous manner at Notting Hill. William Rolfe was knocked down and injured. Defendant had previously been fined £20 and had his licence suspended for a year.

A LEGAL POINT OF INTEREST.

At the Falkirk Sheriff Court, before Sheriff Dean Leslie, Walter Alexander was charged with having driven a motor-bicycle, which was a motor-car within the meaning of the Motor Car Act, without having a licence for the purpose. An agent, on behalf of the respondent, raised several objections to the relevancy of the complaint, the chief of these being that there was no averment in the complaint that the Motor Car Act was still in force, notwithstanding section 21 of the Act, which stated that the Act would continue in force until December 31st, 1906, and no longer, unless Parliament determined otherwise. The Act founded upon distinctly stated that it would expire on December 31st, 1906, unless Parliament determined otherwise, and he was bound to assume from the complaint before him that the Act was not in force. The prosecutor pointed out that the Motor Car Act had been continued in force until December 31st, 1907, and he held he was not bound to quote the Continuation Act. Sheriff Dean Leslie said he thought he must hold that the Continuation Act should have been quoted. He thought it was very much in the same position as in the case where regulations framed by the Board of Trade had to be confirmed, and he thought it should have been stated that the Act was in force. His lordship accordingly dismissed the complaint as irrelevant.

EXCEEDING THE SPEED LIMIT.

At the Arundel County Bench, on Monday, three cases against motorists for exceeding the limit were heard. In one Gilbert Smith, of Bowes Park, N., pleaded guilty to driving a motor-car on the London road in the parish of Houghton, at a speed of 28 miles 220 yards per hour on October 6th.—Police officers from Guildford and Lewes were called to speak to previous convictions.—The Chairman said the defendant would have to pay the costs, £3 2s. 3d., and as that was his third conviction, three times the usual fine would be imposed, viz., £13 10s.—in all £16 12s. 3d.—Defendant asked for time to pay, but the Chairman said they never allowed time. In default of distress defendant would have to go to prison for six weeks.—Defendant said he could telegraph for the money, and he was eventually accompanied to the telegraph office by a police officer for that purpose.

THE ORGANISATION OF MOTOR-CYCLISTS.

THE Motor Union has just issued a statement showing how the revenue which it derives from motor-cyclists is expended. From this it appears that during the present year affiliation fees and subscriptions from motor-cyclists amount to £235. The expenditure on behalf of this section of the motor world and on objects for the benefit of motor-cyclists is as follows:—Legal information and advice, £75; fighting test cases, £25; grants for defence of motor-cyclists, £35; Parliamentary expenses, £30; highways protection work, £25; organisation, £60; speed limit enquiries, £7; Automobile Handbook, £25; affiliation fees paid to the Auto-Cycle Club, £33; making a total of £315. The difference between income and expenditure is to be defrayed out of the subscriptions received from car owners.

As the result of repeated representations to the committee of the Automobile Association from influential motor-cycling quarters, it has been decided to admit motor-cyclists to the privileges afforded by the A.A. on the road at a fee of 10s. 6d., which will entitle them to these privileges until the end of the next financial year, namely, April 30th, 1908. A badge has been prepared exactly similar to the A.A. car badge, but smaller, and with a special adjustment for fixing to the handle bar of a motor-cycle. As this scheme is largely in the nature of an experiment, in view of the extremely small subscription in comparison with the advantages and privileges afforded, the committee are appealing to motor-cyclists for their support and assistance, in order that the scheme may be sufficiently successful to justify its continuation after April 30th, 1908.

AWARDS IN THE COMMERCIAL VEHICLE TRIALS*

THE judges appointed by the Royal A.C. in connection with the commercial vehicle trials recommend that the following awards be made:—

CLASS A, No. 2, De Dion Box Van, silver medal; No. 6, "Unic Van," gold medal.

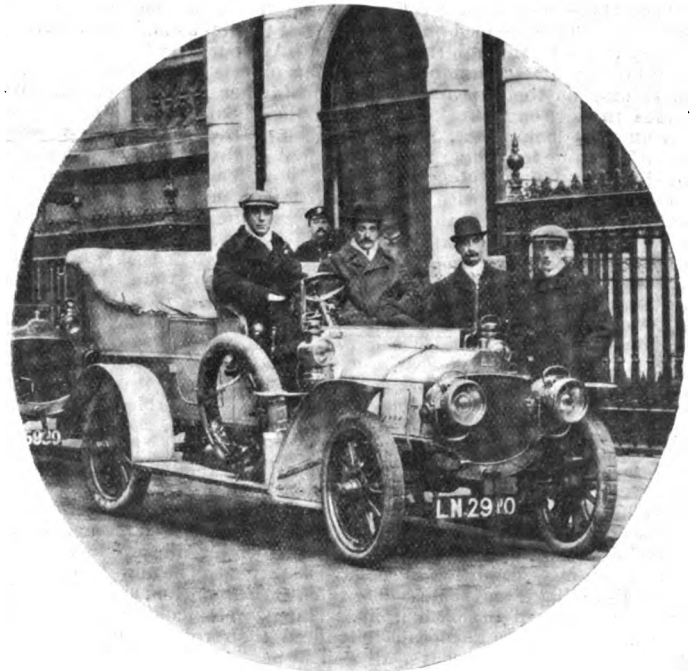
CLASS B, Nos. 9 and 12, two Box Vans, manufactured by the Albion Company, and entered by the Lacre Motor Car Co., Ltd., gold medal.

CLASS C, No. 13, Halley Van, silver medal, and prize given by Mr. Worby Beaumont for simplicity and freedom from liability to disarrangement, &c.; No. 19, Thornycroft Lorry with rim sides, gold medal.

CLASS D, No. 20, Halley Platform Lorry, gold medal; No. 24, Milnes-Daimler Lorry, with canopy over driver, gold medal; No. 26, Dennis Covered Van, with canopy over driver, silver medal.

CLASS E, No. 30, "Hallford" Lorry, gold medal and diploma; No. 38, De Dion Lorry, with canvas tilt, prize offered by Commercial Motor Users' Association, for cleanliness in connection with the dripping of oil; No. 40, Maudslay miller's Dray, gold medal.

CLASS E, No. 43, "Commercial Cars" Lorry with detachable sides and tailboard, silver medal; No. 45, Thornycroft Lorry with rim sides, silver medal.



During Tuesday and Wednesday of last week a Standard 16-20-h.p. four-cylinder West-Aster Motor-Car underwent a continuous Non-stop Engine Traffic Test under the observation of the R.A.C., successfully accomplishing the feat of running 48 hours without a single engine stop in the dense London traffic. The above illustration shows Mr. P. Lamb at the wheel of the car at the commencement of the Trial.

CLASS F, No. 50, Savage Platform Lorry, gold medal; No. 53 "Yorkshire" Lorry, with flat wooden body, gold medal.

CLASS H, No. 58, "Burrell" Steam Tractor, gold medal; No. 59, "Wellington" Compound Steam Tractor, silver medal.

The judges further recommend that a silver medal be awarded to F. Mills, the driver of E 35, for resourcefulness in bringing his vehicle into Leeds under difficult circumstances, and that a silver medal be awarded to Charles Downs, driver of H 60, for bringing his vehicle into Bristol after a serious accident.

In connection with the punctuality of drivers, the judges further recommend the award of £5 and silver medals to each of the following:—F. Shaw (C 14), M. L. Livings (C 15), E. D. Alexander (C 18), B. Turner (E 40), H. Wand (F 52), J. Kay (F 53), H. Clarke and H. Parlett (H 58), Charles Smith (H 59), Charles Downs (H 60).

The Army Council has decided to grant two diplomas as follows:—CLASS C, No. 19, a Thornycroft lorry capable of carrying 30 cwt., on account of the successful use of petroleum fuel in a four-cylinder internal combustion engine, as it is considered that an engine of this description is most suitable for army use.

CLASS E, No. 40, a Maudslay lorry capable of carrying three tons, on account of the accessibility of the working parts of the engine, which is a very valuable feature from a military point of view.

WITH A MOTOR-CAR THROUGH SOMALILAND.

SOME interesting and exciting details have just come to hand of the trip undertaken by the adventurous young Englishman Mr. B. J. F. Bentley, who, in company with Mr. Wells, left Djibuti in August on an 18-h.p. Siddeley motor-car with a view to crossing Abyssinia and journeying by the Nile Valley to Khartoum. For many miles there is no road, and the travellers spent days on end doing nothing but cutting away bush and removing or breaking up heavy stones to make a passage for the car before they reached Dire Doua.

On their way they encountered considerable danger. "Both in British and French Somaliland, and also in Abyssinia," writes Mr. Bentley, "my trip has been looked upon as nothing short of madness. The Governor of French Somaliland gave me, on leaving, a document disclaiming responsibility for our safety if we proceeded into the interior otherwise than by railway. The only precaution I took was to buy two more rifles for my two boys, and 200 rounds of additional ammunition. From Zeila the British consul gave me an escort of the Camel Corps as far as Hansa, and we had left this place only thirty miles behind us when I began to smell trouble. From the reports we got from the native runners going through, it looked as if we were in for a warm time from the Esa tribe.

"At Lascelle I stopped for water and bought a sheep from a shepherd. We were busy cooking it when a Government boy going through warned us that there were some 400 Esas waiting for us in the bush 15 miles further on. They seemed quite determined to stop us making a railway (as they called it) through their country. An hour later I could see with the aid of my glasses numbers of moving objects in the bush, and the sun shining on their spears gave me no further room for doubt. We decided to move on and take no heed of them, but they waited. They were an ugly looking lot, all fully armed. They demanded 'backsheesh' from us for taking the car through their country. I managed to get the head man aside, and reluctantly parted with £3, and told him to proceed to Gildessa with his followers, and on my arrival there I would deal generously with them; but I quite forgot to mention to him that I was going to Lascarat instead of Gildessa, although the Gildessa route was the better of the two. The result was that while they were waiting for me at Gildessa I slipped through to Addogalla via Lascarat. But bad luck was in store for us. There is a little shanty at Addogalla called an 'hotel,' at which we stayed for a meal. The Abyssinian governor provided a guard for our car while we were feeding. Suddenly there was a tremendous row outside. Wells, myself, and several other Europeans clapped on our helmets and rushed outside to see the cause of the trouble. The car was hidden by a howling mob of some 800 Esas. We slipped back for our rifles, and on our return all the Abyssinian troops had turned out with their rifles loaded. The Abyssinian chief explained that while his men were guarding the car some Esas came up and demanded 'backsheesh.' He told one man who seemed to be the spokesman to 'move on,' which he promptly refused to do. Whereupon the Abyssinian tapped the Esa over the head with his rifle and carted him off in a senseless condition to the police station. The news soon spread to the Esa village, and some 800 of them turned out and surrounded the car and threatened to smash it up. Things were looking very serious for us. The eight Europeans produced their rifles, and there were Wells, myself, and two boys, all well armed, as well as twenty-seven Abyssinian troops. So altogether we numbered thirty-nine well-armed men. We took up our positions behind the wall of the police compound and waited events. Suddenly the Esas cleared off into the bush. Taking advantage of their absence we ran the car into the police compound. Shortly after a few of them returned and gave us the pleasing news that they would wait for us in the bush country.

"It was four o'clock, and I decided to 'phone through to the British Consul at Dire Doua for assistance. An hour later I received a message that the Governor of Dire Doua was sending troops to our assistance, and that we were to remain fast until they came. The following morning the troops arrived, and at 6.30 we moved off with the escort of twenty-five men. At Elba we left the troops, and, after difficulties too numerous to mention, with some rivers and heavy timber, we arrived at Dire Doua. From all over the country we have been receiving telephonic congratulations, even from Emperor Menelik himself. Our getting here is looked upon as nothing less than marvellous. The car is the first vehicle of any description that has ever crossed Somaliland."

OBSTRUCTING A MOTORIST.

At Tunbridge Wells County Bench, a Southborough man was charged with wilfully obstructing the highway near Pembury, to the danger of traffic. Mr. Schlenkhamer deposed that he lived at Pembury, and in August last he was travelling in his motor-car on the Romford road, when he found a van in the way. Witness had to stop his car. The driver of the van was in a house, and when he came out he used strong language, saying he was not going to move his van for a motor-car. The horse and van were left unattended in the road, and witness told the man he would summon him, but defendant only swore at witness. Defendant was fined 2s. 6d. and 11s. costs.

AUTOMOBILE ACCIDENTS.

A COLLISION between a motor-car belonging to the Craven Automobile Company, Skipton, and a three-horse wagonette belonging to Mr. Kendall Chew, also of Skipton, has taken place. The car was being driven to the railway station, and Mr. Chew's vehicle, which was conveying mill operatives from Skipton to their homes at Embay, was proceeding in the direction of the town. The motor-car collided with the horses, and they sustained such injury that two of them had to be destroyed. The motor-car was badly damaged, but the passengers escaped without injury.

SHORTLY after 9.30 p.m. one night last week an accident occurred at Whaplode (Lincolnshire). A motor-car belonging to Mr. L. C. Harvey, of Spalding, and containing Mr. Harvey, his driver, and three ladies, was proceeding from Sutton Bridge to Spalding. The night was dark, and when passing through Whaplode the occupants of the car saw lying across the middle of the road in front of them what they took to be a log of wood. Apparently the object was not seen until the car was too close to avoid it altogether, and the chauffeur—who states that he feared if he passed over one end of what he thought to be the log the other end would spring up and possibly damage the car or injure the occupants—went straight ahead, and passed over it. Both Mr. Harvey and his chauffeur state that the latter, who was driving, was slowing down with the object of going back and removing the obstruction, when they saw a motor-cyclist, bound in the opposite direction, just about to mount his machine. They accordingly shouted a warning to this man, and continued their journey, leaving him to clear away the supposed log of wood. Mr. Harvey and party continued their journey, and on arriving at Spalding passed Police Inspector Cook, to whom he reported that a log of wood had been placed across the road at Whaplode, and asked him to make enquiries, complaining that he had encountered similar obstructions previously. It was not until the following morning that the motorists learned that what they took for a log of wood was a human being. At the inquest the coroner entered a verdict to the following effect:—"That Harry Fortune died from injuries received from being run over by a motor-car, and that the jury were of opinion that the owner of the car, Mr. Harvey, should have pulled up, having run over an obstacle which proved to be the deceased man." The coroner added that he put it in that manner, to show Mr. Harvey was not aware what the obstacle was. The jury agreed with this form of verdict.

A SCOTISH APPEAL.

The First Division of the Court of Session, the Lord President, Lord Dunedin, Lord Kinnear and Lord Dundas on the Bench, heard the appeal in the case of Macfarlane v. Colam on Friday of last week. This was an appeal from the decision of the Sheriff of Inverness-shire in an action at the instance of a carriage hirer against a motor-car owner for damages alleged to have been caused to a carriage and horses belonging to the former, caused by the presence of a motor-car at the side of the road with the engine stopped, near Kingussie, Inverness-shire, where Mr. Colam, the owner of the car, is a summer resident. No fault was proved against the motorist except that, in the opinion of the Sheriff of Inverness, he was in breach of the statute in leaving a motor-car unattended, the provision founded on being Section 96 of the General Turnpike Act of 1831. He mulcted Mr. Colam in £38.

The First Division on the 1st inst. sustained the appeal and recalled the interlocutor of the Sheriff Substitute and found in fact:—(1) That the leaving of the car in the position described did not constitute an obstruction to the highway. (2) That leaving the car for the time without a person in attendance had no relation to the accident. (3) That the same happened through the shying of the horses and the inability of the driver to control them.

Mr. Colam is a member of the Scottish Automobile Club, and the Club contributed towards his costs both in the Sheriff Court and in the Court of Session.

"CARRIAGES" ARE "MOTOR-CARS."

IN the Court of Sessions at Edinburgh a question of the intention of the testator, the late John Denholm, The Mains, Eastwood, Renfrewshire, in the fourth purpose of his will, dated in 1890, has been raised. By that purpose he bequeathed to his widow his "furniture and plenishing, including books, plate, pictures, jewellery, ornaments, and bed and table linen, and also horses and carriages, live stock, plants, and garden and stable implements." Mr. Denholm left estate amounting to £53,000. For many years he kept a brongham and a wagonette, and one carriage horse, but at the time of his death in 1907 he had no horses and carriages, but he had two motor-cars. A question arose as to whether the bequest to Mrs. Denholm carried the motor-cars to her, or whether they formed part of the residue of the trust estate.

The Court held that Mrs. Denholm was entitled to the motor-cars in virtue of the bequest in her favour. The Lord President said he thought one was entitled to construe the word "carriages" in the will of the testator in the light of what the testator himself did. His life showed that he had come to consider as his carriages these motor-cars. The word carriage itself was certainly wide enough to cover any form of vehicle in which one was carried; and the testator allowed his will to remain unaltered knowing that he had actually replaced his horse carriages by motor carriages.

COMPANY NEWS.

THAMES BANK WHARF MOTOR WORKS.—£75,000. To acquire the business carried on at Thames Bank Wharf as E. Henry Jones and Co., and to carry on the business of motor-car and vehicle manufacturers, &c. 112, Grosvenor Road, S.W.

ROSSLEIGH, LTD.—The report of the directors of Rossleigh, Ltd., presented to the meeting held at Edinburgh on Thursday, showed a trading profit during the year ending September 30th last of £5,274, which, after depreciation, &c., gave a net profit of £4,417. This, with the amount carried forward from last year, has enabled the directors to recommend the payment of a dividend at a rate of 6 per cent. on the preference shares and of 15 per cent. on the ordinary shares, and carry forward a sum of about £6,000.

DUNLOP RUBBER COMPANY.—The annual meeting of the Dunlop Rubber Company was held in London on Monday, Mr. Harvey du Cros, M.P., presiding. He said the company was in a very strong and satisfactory position. Its capital was £220,000. The assets were worth £1,000,029, and the liabilities, other than capital, were £82,500, and after deducting the capital there was an excess of £605,000 over every possible liability. He gave statistics showing that the loss for the first year was £724, since when the profits had gradually risen until last year they amounted to £490,527. The total earnings during the nine years were £1,174,099. Having explained the relations between the company and the Dunlop Tyre Company, the chairman dealt with the conditions of the motor trade. There was almost sure, he said, to come a depression in the 'bus motor trade, but it was not correct to say there was anything like a crisis. There was, however, a revolution going on in the trade. It was a great mistake to suppose that there was less demand for motors than formerly. On the contrary, it was increasing. It was larger this year than it had ever been, but the question of the future was one of capital. He prophesied that the small makers would eventually be absorbed by the larger. The report, recommending a dividend of 100 per cent., was adopted.

DENNIS BROTHERS.—The eighth annual report of Dennis Brothers, Ltd., of Guildford, is just out, showing exceptionally good results. The directors recommend paying the usual dividend of 12½ per cent., and carrying forward to the reserve fund the sum of £12,000. This after paying off the amount standing to the goodwill of the company, and also starting an extra building depreciation fund with £2,000.

ROVER COMPANY.—The annual meeting of the Rover Company was held on Tuesday at Coventry, Sir F. Dixon-Hartland, M.P., presiding. In proposing the adoption of the report and the payment of a dividend of 10 per cent. the chairman said the past year had been a very successful one. The Rover Company had been able to increase its earnings, and he ascribed this to the company having taken up the business of motor making. He reminded the meeting that the cost of removing to new works had all been paid out of capital, and called attention to £30,000 goodwill having been written off. Mr. H. Smith (managing director) seconded, and the report was adopted. An extraordinary meeting was afterwards held, when a resolution was adopted for the creation of £50,000 new capital.

A QUESTION OF HIRE.

How long the hirer of a motor-car is to be expected to wait during breakdowns was the interesting point raised at the hearing of an action in the Clerkenwell Court, on Monday. The Park Motor Company, of Tottenham Court Road, sued for £4 10s. for hire of a car.

Mr. Brooks, of Canonbury, the defendant, explained the circumstances of his Easter Monday outing. The journey was to be to St. Albans. Within two miles of St. Albans the tyre punctured, and there was a stop of about forty-five minutes. On the way home, near Watford, another puncture occurred. The six occupants waited in the town two or three hours, and then, the car not being repaired, they decided to return by train. At that moment a car arrived to hold three persons, but they had then taken their tickets.

Mr. Jacobs, solicitor for plaintiffs, said a telephone order was given for a car for three or four people and, it might be, two children. The car was despatched, and six adults entered it for the journey. The first puncture was attended to by the chauffeur. Unfortunately, it being Bank Holiday, there was no place where men were available to repair the second mishap. The defendant counterclaimed for 18s. 2d., representing the cost of railway fares and telephone messages. Evidence was given that on receiving a telephone message the plaintiffs promptly despatched another car, with a spare cover and tube.

Mr. White, for the defendant, submitted that the plaintiffs could not recover. The party was to be taken out and brought back again. They could not be expected to wait for an indefinite time after a breakdown.

The judge said the misfortune did not happen through any fault on plaintiffs' part. The chauffeur did all he could under the circumstances, and had the party waited long enough they could have returned to London by motor-car. The verdict would be for the plaintiffs on the claim and counterclaim.

In view of the great success of the Standard six-cylinder car, Mr. Charles Friswell, chairman of the Standard Motor Company, Ltd., is leaving England on December 6th for India, in order to thoroughly establish the "Standard" business in that country.

PUBLIC MOTOR SERVICES.

TRADESMEN in the Western Road, Brighton, which is the principal route of the motor-buses, are petitioning the local authorities to obtain relief from the alleged annoyance caused by these vehicles.

THE London Cab-Owners' Federation are petitioning the Home Secretary with a view to the introduction of the taximeter in horse-drawn cabs, with a minimum fare of sixpence. The comparative times and fare for a motor-taxicab, a horse-drawn taxicab, and an ordinary hansom for a distance up to three miles are as follows:—

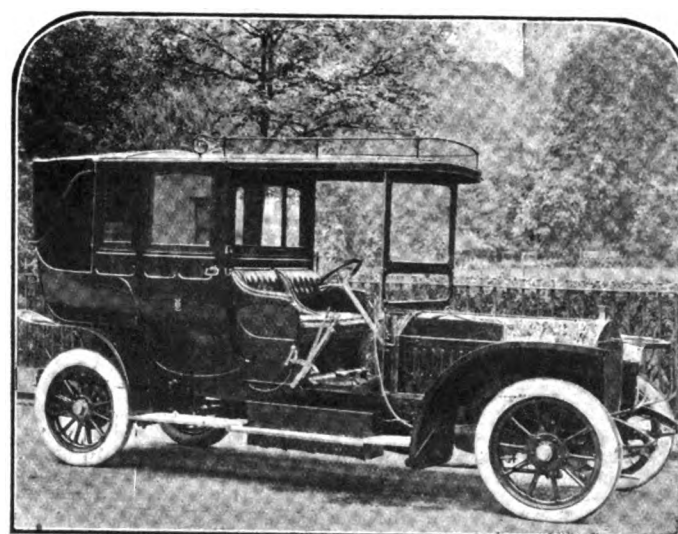
	Motor Taxicab.		Horsed Taxicab.		Ordinary Hansom To-day.
1 mile ...	4 min., 8d.	...	6 min., 6d.	—	6 min., 1s. 0d.
2 miles ...	8 min., 1s. 4d.	...	12 min., 1s. 0d.	—	12 min., 1s. 0d.
3 miles ...	12 min., 2s. 0d.	...	18 min., 1s. 6d.	...	18 min., 1s. 6d.

The saving is in time on the motor-taxicab and in money on the horsed variety.

DURING the ensuing session of Parliament a bill is to be promoted by the Wides Town Council authorising the running and working of motor-omnibuses by the Corporation.

A PUBLIC meeting at Herne Hill has passed a resolution protesting against the use of the Dulwich road and neighbourhood as a route for motor-buses.

THE receipts from the Eastbourne motor-omnibuses for the week ended the 2nd inst. were £144 17s. 1d., and the total number of passengers carried 26,791.



The 40-h.p. Six-Cylinder Napier Landulet recently supplied to Mr. J. Coleman, of Gatton Park, Surrey.

CLAIM AGAINST MOTORIST.

In the Civil Court at the Manchester Assizes, before Mr. Justice Pickford, William Nuthall, of Levenshulme, claimed damages for having been run into and injured by a motor-bronham belonging to Mr. H. N. Bickerton, of Marple, on May 10th, at Denton. In his summing-up the judge said that whilst drivers of motor-cars were bound to be careful there was some obligation also resting on foot passengers. Many persons did not like motor-cars; but they were here, they had come to stay, and the public had to accept it. These vehicles had become such common objects that people crossing highways ought to be on the look out. In ordinary circumstances he should think the jury would have little hesitation in saying that a person stepping suddenly in front of a vehicle which was admittedly running at a speed of not more than four or five miles an hour, without looking, was guilty of carelessness. It was a question for the jury whether the accident was contributed to by any negligence on the part of the chauffeur in not blowing his horn when passing the tramcar. The jury, after a short deliberation, said they were of opinion that there had been negligence on both sides, and judgment was entered for the defendant.

SOME attractive cards have been issued showing the record of successes on "Shell" spirit during the past season.

THE old-established coach-building business of Mr. Frank Allen at 27-29, Long Acre, London, W.C., has been absorbed by the Connaught Motor and Carriage Company, at the head of which is Mr. S. C. Godfrey, late manager of the Victoria Carriage Company. In addition to carrying on the body building part of the business and agencies for Renault and Siddeley cars, the new concern has secured the sole agency for the N.A.G. cars, built by the Neue Automobile Gesellschaft, of Berlin.

FORTHCOMING EVENTS.

NOVEMBER.

- 8th (F.).—Society of Motor Manufacturers and Traders' Dinner, Grand Hotel, Charing Cross. Mr. E. Manville in the chair.
 11th-23rd.—Olympia Motor-Car Exhibition.
 12th-30th.—Paris Motor Show.
 13th (W.).—Annual Dinner of the Motor Union at the Hotel Great Central, London.
 15th.—The "Industrial Motor Review" for November will be published.
 20th (W.).—Institute of Automobile Engineers. Address by Col. R. E. Crompton.
 22nd-30th.—Stanley Show.
 23rd.—The third Olympia Show number of the *Motor-Car Journal* will be issued.
 30th (S.).—Annual Dinner of the North London A.C. at the Midland Grand Hotel, London.

DECEMBER.

- 2nd (M.).—Cheshire A.C. annual dinner.
 4th (W.).—Southend and District M.C. annual dinner.
 5th (Th.).—Exhibition at Berlin.
 7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
 Annual dinner of the Hertfordshire C.A.C.
 18th (M.).—General Committee of the Motor Union.
 21st (S.).—Opening of the Brussels Exhibition.
 26th (Th.).—Annual Reliability Trial of the Motor Union of Western India.

JANUARY, 1908.

- 4th-11th.—Dublin Motor Show.

FEBRUARY.

- 7th-15th.—Manchester Motor Show at Belle Vue.

MARCH.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Nov. 9th—5.20	...	11th—5.16	...	13th—5.13	...	15th—5.10
" 10th—5.18	...	12th—5.14	...	14th—5.15	...	16th—5.9

CLAIM BY A MOTORIST.

IN a case just heard at the Salford County Court, the plaintiff was Ernest Jones, of Urmston, and the defendants were Thomas Ogden and John Jones, of Urmston. It was stated that the defendant Jones, requiring a horse and driver in addition to his own, in order to remove some furniture from Urmston to Knutsford, hired a horse from the defendant Ogden and also Ogden's servant, a man named Haddock. On April 24 last, plaintiff was driving his motor-car in Urmston Lane, when he saw Jones's van with the two horses approaching him with no man in attendance. He slowed down and shouted, but there was no response and the van caught the motor-car, carried away the dashboard, and did other damage. Then the defendant Jones and the man Haddock, who it was stated had been lagging behind, came up, and Haddock, who arrived first, apologised for not being in charge of the horses. Mr. McKeever said the facts had made it clear that he should not ask for a verdict as against Jones, and his Honour gave judgment for plaintiff as against Ogden for the amount claimed—£9—and for the defendant with costs in the case of J. R. Jones. Plaintiff was also given costs against Ogden.

POLICE TRAPS.

NEAR Whinney Lane, on the London Road, at Retford, is a police "control."

A MEASURED distance of 1,100 yards is worked by the police between the toll gate and the cemetery at Alnwick.

MOTORISTS travelling on the Epsom-Leatherhead road should be wary when approaching the former place.

IN the parish of Walberton, on the Chichester road, the police have a measured distance.

AT Skellow and also at Rossington are police traps leading to the West Riding Police Court at Doncaster.

A TRAP is being frequently worked between the Nag's Head and Whinney Lane at Retford.

THERE is a police trap at Ball's Hut, near Arundel, on the hill both ways.

OWING to the extension of the business of the Motor Accessories Company, of 55, Gt. Marlborough Street, W., it has been found necessary by the proprietor, Mr. W. J. Shaw, to take into partnership his brother, Mr. H. E. Shaw, who has a wide experience in motors and accessories.

A SPARKING PLUG'S SOLILOQUY.

So very simple and useful is my construction and purpose, and so seldom am I productive of trouble, considering the severity of the work which is thrown upon me, that the average motorist gives, I am afraid, small thought to the matter of my construction once I am screwed into the cylinder and connected to the coil. Nevertheless in proportion to my size there can be small doubt that I embody more exacting conformity to close and contradictory requirements than any other portion of that curiously perplexing device, the internal combustion motor. First of all, I must be a plug in the absolute sense of the word, capable of resisting high temperatures and high pressures and remaining gas tight throughout all ranges of both and with a liberal allowance for unusual conditions. Second, I must form a perfect insulation for the current, throughout the same conditions, and regardless of the presence of my enemies, oil or soot. Third, I must spark whenever the current is passed through me, which is to say that I must show no tendency to accumulate foreign matter on my sparking points, to become short-circuited for this or any other reason, and that my sparking action must be available not alone throughout a wide range of temperature and pressure conditions, but also throughout the widest possible range of electrical pressures, thus reducing the necessity of frequent adjustment of my friends the contact breaker or trembler. The insulating materials available for my formation, that is to say, those which are capable of resisting the effects of heat, are, I am sorry to say, either brittle, hard to work, or possess properties of expansion under heat so different from those of the metals used in my body as to render me useful only under standard conditions of temperature, unless special provisions are made. All things considered, it is rather more to be wondered at that I last as long as I do than that I fail occasionally under strenuous conditions of servitude.

BUSINESS NEWS.

MR. H. WAYMOUTH PRANCE, A.I.E.E., is open to advise visitors to the Olympia Exhibition with regard to motor-cars generally.

MESSRS. H. M. HOBSON, LTD., have decided to extend the guarantee of the Pognon plug from six months to twelve months.

THE DAIMLER MOTOR COMPANY announce that they have established a depot at No. 3, Plaza Celenque, Calle Arenal, Madrid, where models of the latest Daimler car as well as a stock of spare parts will be kept.

THE Gripwell Tread of the Roberts Non-Skid Motor Tyre Tread Manufacturing Company, of St. Mary's Row, Birmingham, is a tread in which the studs are built up into the canvas and rubber foundation, which is then vulcanised to the cover in the ordinary way, just as a plain round tread. This has been before motorists for months, and no complaint has yet been received by the makers—a fact which speaks highly for its general good quality. The company's detachable bands are proving popular, whilst the "Fixquick" Band is showing equally satisfactory. The Roberts Automatic Tyre Tester is simple in manipulation and a good means to economy in connection with tyres.

THE working parts of the Hotchkiss car which recently completed a 15,000 miles tour in Great Britain and Ireland, under the observation of the Royal A.C., will be on view at the stand of the London and Parisian motor Company, Ltd., at Olympia.

ALTHOUGH they applied for 800 ft. of floor space at Olympia, the British Petroleum Company, Ltd., have to be content with 135 ft. They are trusting, however, to be able to find room there to make clear the merits of both "Shell" spirit and their 760 heavy spirit.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-28, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, NOVEMBER 16, 1907.

[No. 454.]

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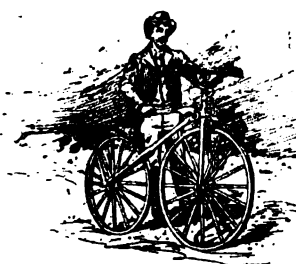
"THE INDUSTRIAL MOTOR REVIEW."

"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.



most fitting way of dealing with the matter until some months after, when the East Sussex County Council secured an Inquiry to secure a limitation of speed. This has now been granted, and the order will shortly be issued from Whitehall. What a chance for the police!

The Future Demand.

At many of the meetings of motor companies recently the chairmen, in moving the adoption of the reports, have referred to some of the tendencies existing in the automobile industry, and have generally confirmed the opinions expressed in these columns with regard to the present position and the outlook for the future. Last week Mr. W. L. Sleigh, the chairman of Rossleigh, Ltd., the well-known Scottish motor agency, spoke at the meeting of that company and mentioned the fact that buyers of big cars at high prices were not very numerous at the moment. At the present time, when the mechanically-propelled vehicle was carrying all before it, and every year becoming less a luxury and more a necessity, it was satisfactory to see manufacturers trying to reduce costs. The consensus of opinion seemed to be that the principal trade would centre around a moderate-priced car about £300 to £400, and of about 16-h.p. to 20-h.p. There would, of course, always be the *modele de luxe* car, the car of the wealthy, from £1,000 up, and there would, in the opinion of Mr. Sleigh, be a certain demand for a small runabout car.

The Last of the Tourist Trophy.

THERE will be no Tourist Trophy Race in the Isle of Man next year on a fuel consumption basis, as the Royal A.C. has come to the conclusion that manufacturers are now in possession of all the data which can be useful to them as obtained from races in which the amount of fuel allowed is limited. The fixing of a definite allowance of fuel for a given distance afforded an easy means of limiting the engine-power and consequently the speed of the competing cars. The Tourist

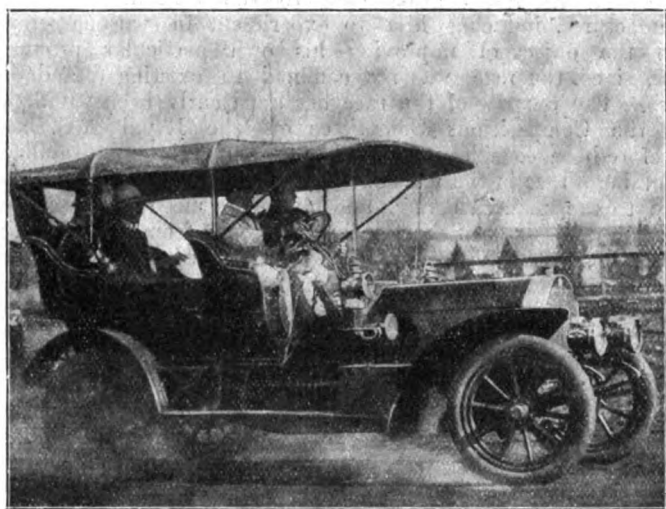
Trophy Race was always a test with the one object of evolving the most efficient and most economical form of touring car of the moderate horse-power required by the ordinary user, and the conditions left a great deal to the ingenuity of the manufacturer, inducing him to experiment in various ways with the object of improving his own particular productions, since the race was not confined to existing standard types. The purpose of the race has apparently been fulfilled, and the Competitions Committee of the Royal A.C. has therefore been considering for some time past the practicability of holding a race in the Isle of Man, which will give considerable scope to the manufacturers, and at the same time compare favourably with any of the Continental races from the sporting point of view. The proposition put forward is that if the sanction of the Island authorities can be obtained a speed race of about 350 miles shall be held there, the race to be based on maximum bore and minimum weight. Cars will be eligible the D²n of whose cylinders does not exceed sixty-four (D representing the diameter of the cylinders and N the number), and which, in the case of internal combustion engines, shall not have less than four working cylinders. The minimum weight will be 1,800 lbs., which shall exclude driver, mechanic, spare parts, spare tyres, tools, but shall include petrol, oil and water.

The Touring Car Defined.

IN June of the present year a sub-committee of the Society of Motor Manufacturers and Traders was appointed to consider the holding of the International Motor Contest of Great Britain next year, and also to secure the definition of a touring car for competition. This has met several times, and the members have now agreed that cars should be divided for the purpose of competitions into a number of classes in accordance with the R.A.C. rating, and that there should be fixed in connection with each class—(a) A minimum total weight including passengers; (b) a minimum surface presented to wind resistance; (c) a minimum resistance area for wings; (d) a minimum distance between the dashboard and back axle; (e) that every car should carry four passengers, except smaller cars, which should be required to carry only two passengers. In order to arrive at the proper weights and measurements in connection with each category, Mr. G. A. Burls tabulated information concerning 243 cars on the market, and upon the results of his inquiry conclusions were come to which form the basis on which the table on page 817 was based. This has now been adopted by the Expert Committee of the Royal A.C., and it is hoped that the definition will be accepted by all motor clubs throughout the United Kingdom in connection with their competitions next year.

The 1908 Event.

FOLLOWING this acceptance of a definition for touring cars comes an announcement of the decision of the Society of Motor Manufacturers with regard to the multiplicity of competitions in which makers are invited to participate. They consider that these have become a tax upon the trade out of all proportion to the benefits obtained, and that next year the Royal A.C. should organise one great event only. Having considered many suggestions as to the form of the Trial, as well as to the system of classification, the committee of the society have decided in favour of classification by cylinder dimension. They are recommending that next year there should be held an International Motor Contest to be organised by a joint committee of the Royal A.A. and the Society of Motor Manufacturers. These they suggest should consist of (a) 2,000 miles reliability trial on the road starting from and returning to London, (b) twenty miles of timed hill climbs to be included in the long distance, and the trial to terminate with (c) a 200 miles race on the Brooklands Track. The records are to be time records throughout, and will consist of time lost (a) on the road, (b) in climbing the hills, (c) in the race on the track, and (d) in filling petrol tanks. The latter record is to be based on the idea that a minute is lost in respect to every gallon filled into the petrol tank of a car throughout the contest. Tyre delays will be duly counted. Detachable wheels and rims will, however,



The above illustration depicts the Star 30-h.p. Six-Cylinder Car, placed by Mr. H. C. Hull, the Colonial Treasurer, at the disposal of the Crown Prince of Portugal during his recent stay in Pretoria. His Royal Highness is seated at the side of the driver, while at the rear is Lord Selborne.

be permitted. It is to be noted that such qualities as silence, flexibility, absence of vibration, &c., which the prospective motorist can judge in the course of a short trial run on his own account, will be ignored in connection with the trial now proposed.

Try, Try, Try Again.

THE old story of Bruce and the spider was illustrated when an unsuccessful attempt on the hour and 100 miles records was made on Friday at Brooklands by Mr. J. E. Hutton on a 120-h.p. Mercedes. Mr. Hutton started at noon, but on reaching the fork on the first lap his petrol pipe broke and he was compelled to make a later start to allow of the defective part being mended. Another start was effected, but the timing apparatus was not ready, and it was with difficulty that Mr. Hutton was brought to a halt. About a dozen people with flags waved for him to stop at the fork, but Mr. Hutton's mind was centred wholly on his car, and it was not until he had passed for the third time that his attention was attracted by the flags. At 2.30 yet another start was made, and it appeared as

if he would have no difficulty in creating new records. The first four laps were covered at about 90 miles an hour, and the engine appeared to be running very smoothly, but in the fifth lap a water joint broke, and he had to abandon all hope of making any further attempt for the day. But Mr. Hutton will try again.

Motor Scholarships.

PERHAPS one of the most important announcements at the dinner of the Daimler Motor Company on Saturday—if we except the intimation that the King has ordered the new badge of the R.A.C. illustrated in our issue of September 7th to be affixed to all Royal motor-cars—was the announcement by Mr. E. Manville that the company had decided to offer a number of scholarships tenable at their works. The directors propose to offer these scholarships to successful candidates in an engineering examination in July next. There will be one major and four minor awards, the holders to be entitled to a two years' course in the Daimler shops at Coventry, together with instruction and supervision in the theoretical side of automobile engineering. In addition the holder of the major scholarship will receive £100 per annum for the two years he passes in the works, while the winners of the minor scholarships will receive £20 yearly during the same period. In order that the Company shall not lose the services of those whom they thus train, the holders of the scholarships must agree to work with the Company for a further two years, at a salary of not less than £150 per annum, if their services be desired. Professor Silvanus Thompson and Dr. Hele-Shaw are associated with the directors in the development of the scheme, which is interesting as pioneering the way for systematic instruction in the motor workshops of this country.

Automobile Instruction.

IN thus initiating a new policy the Daimler Company are to be congratulated. Our columns have recently testified to the universal interest that attaches to instruction in motor-car work, and at most of the polytechnics throughout the country courses of study are being arranged, but it is the first occasion that a private concern has thus boldly gone forward, not only in finding an opening for intellectual young engineers, but in devising a plan of utilising their services when that is complete. One of the most notable features of the development of Motorism has been the presence of so many young men in the business as well as in the shops. Circumstances have conspired to give the industry an influx of young and enterprising fellows, and their learning on right lines is one of the most hopeful signs that the British section of the industry will maintain a proud position in the world's automobile business—not only on the commercial but also on the technical side.

Level Railway Crossings.

THOSE who have motored on the Continent have been painfully aware of the dangers that lurk in the level crossings on the main roads. They are met with more frequently in some parts of France than here, but even in England they are a sufficient feature of the landscape to warrant inquiry by the Motor Union. The Union is instituting this investigation with a view of subsequently approaching the Board of Trade on the matter, and meanwhile information on about eight important matters is required by the organisation with a view of laying a detailed and accurate report concerning these crossings before the Board of Trade. Motorists throughout the country can assist this movement by sending any information they may possess to Mr. Rees Jeffreys, who specially desires information on the following points:—(1) Actual length of time gates are closed for the purpose of allowing trains to pass; (2) number of trains passing per day; (3) condition of roadway over crossing; (4) whether crossing is as wide as road on either side of it; (5) whether portions of trains are

allowed to stand on crossings adjoining stations owing to insufficient platform; (6) whether any shunting is done over the crossing; (7) particulars of any accidents caused by the level crossing; and (8) whether crossings are sufficiently lighted at night.

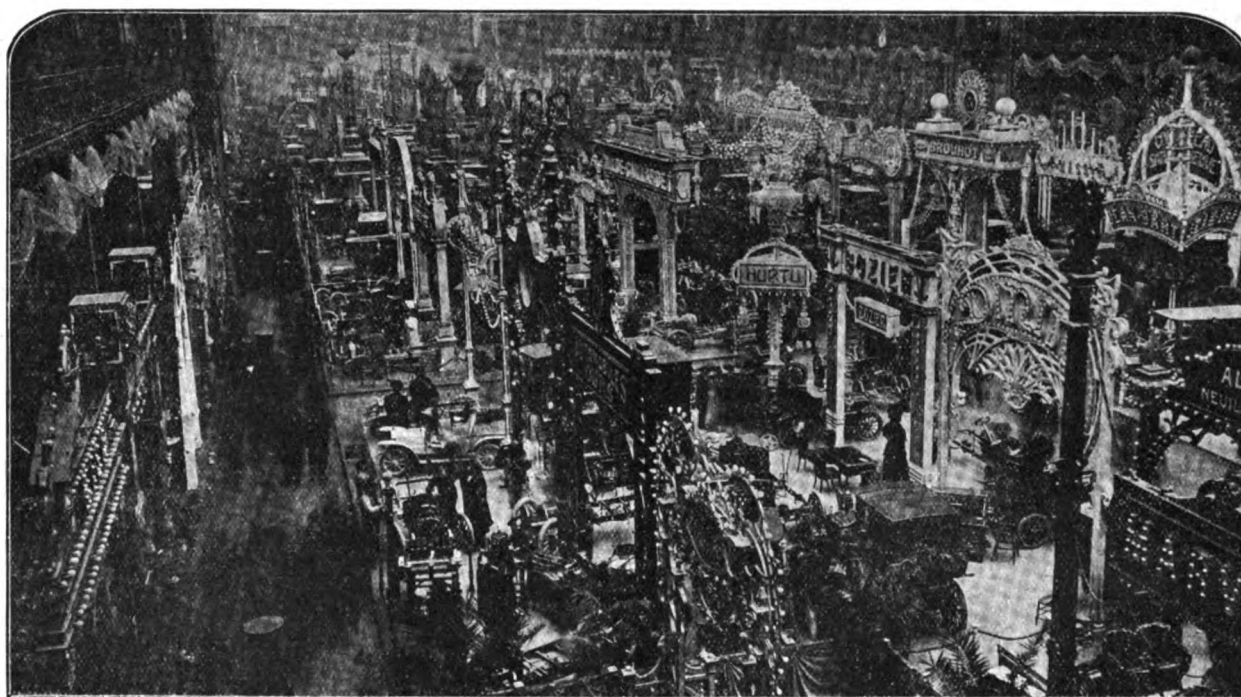
The Western India Trials.

It is expected that the entries for the forthcoming Reliability Trials of the Motor Union of Western India will constitute a record for the Dependency. The event is arousing considerable interest at Bombay, Calcutta, and Madras, while British and Continental competitors should add to the excitement. It will commence on Boxing Day, and continue to December 29th, the four stages being from Bombay to Poona, from the latter place to Kolhapur, from thence to Mahabeshwar, and return to Bombay. There will be five categories, determined by the selling prices of the vehicles in the competition. Mahabeshwar is again included in the itinerary, and there is no more charming journey than that over the beautiful red roads from Panchgani to Mahabeshwar, while the section from Satara

business, and it was not even mentioned that the latter has a high opinion of the White steam car, as have a good many people on this side of the Atlantic.

Motor-car Imports and Exports.

A FURTHER notable decline took place last month in the importation of foreign motor-cars and parts into this country. The number of complete vehicles which reached the United Kingdom during October was 368, their value being given at £153,132. Parts were responsible for an additional £196,540, which gives a total of only £349,672, as against £358,255 in the corresponding month of last year. For the first nine months of the current year the figures are:—Number of cars imported, 4,206; value of same, £1,828,356; imports of motor parts, £2,132,142; total, £3,960,498. For the similar period of 1906 they were:—5,201 cars of a value of £2,199,199; parts, £1,598,686; total, £3,797,885. Turning to the exports of British motor-cars and parts, these continue to show a steady expansion, October's total of £156,416 forming a new record. The number of vehicles shipped during the ten months ending



A General View of the Paris Salon which opened on Tuesday last.

to Kolhapur will be quite new to even those who are familiar with other sections of the route. Mr. N. M. Marshall, who is joint secretary with Capt. Hutchinson of the Motor Union of Western India, is organising the event. Plans are in progress for the camp at Kolhapur to be laid out in most attractive Indian fashion.

The White Car in Vanity Fair.

MR. F. A. COLEMAN, having been "Spy'd" in "Vanity Fair," has now reached another rung on the ladder of fame he has been climbing since he became identified with the White steam cars. Last week he entertained a company of friends and colleagues to dinner at the Ritz Hotel, and demonstrated his excellent powers as a host. The gentlemen present included Earl Russell, Earl de la Warr, the Hon. Arthur Stanley, M.P., Sir Edgar Boehm, Bart., Colonel Holden, Mr. Harvey du Cros, M.P., Mr. C. D. Rose, M.P., Mr. J. W. Hunt, Mr. Heckstall-Smith, and many other well-known men. Only two toasts were proposed, the King of England and the President of the United States. Not a word was said about

with October last was 1,881, of a value of £694,332; to this have to be added parts estimated at £397,838, which gives a combined total of £1,092,170, as contrasted with only £615,665 in the corresponding period of 1906.

Standard Threads.

A CONFERENCE has lately been held between the various organisations connected with the motor trade with regard to the new standard for fine threads adopted by the Engineering Standards Committee being applicable to the conditions of automobile construction. After some discussion, a summary of which appears on another page, there seemed to be general agreement as to the suitability of the British standard fine threads for employment in motor-car construction. Attention was also drawn to the advantage in lightening the existing Whitworth standard fine threads by reducing their width across the flats when employed in motor-car construction. The desirability of adding certain special standard threads to those already standardised by the committee was also considered.

HOW MOTOR CABBIES OBTAIN THEIR LICENCES.

I WONDER if our country cousins, or, for the matter of that, the London public, are aware of the extreme care the Metropolitan Police authorities take of them as regards their safety when travelling, especially in cabs, in the metropolis. Let me just give a brief outline of the ordeal a man has to pass through to gain a licence to drive a hackney carriage propelled by mechanical power, *i.e.*, the taxi-cab.

He must first present himself at Scotland Yard, where a form is filled up stating name, address, age, height, colour of eyes, and description of complexion. He is then presented with a book entitled, "List from which questions may be put to applicants for licences to act as hackney drivers, to test their knowledge of London." The questions, which number roughly about 1,500, consist of routes, squares, hospitals, clubs, public buildings, theatres, police and county courts, &c. Not knowing on which particular page he will be examined, the applicant must perforce commit most of the matter to memory if he desires to pass on his first application (which does not often happen). Catch questions such as "Drive me from Westminster Guildhall to Clerkenwell Sessions House," and again, "Drive me from Broad Sanctuary to North London Sessions House, both, of course, being precisely the same routes, are often put, and if he



A Snapshot in the Rue de la Paix, Paris, showing how motor-cars are now outnumbering horse-drawn vehicles.

fails to answer two out of fifty questions fired at him at railroad speed he (whether absolutely penniless or not is all one to the hard-hearted examiner) is put back for a week to pore anew over the "list from which questions, &c." Answers to all may be found, he is told, in the London Directory, but some want a "bit" of finding.

We take it he passes the "knowledge of London" test. He now receives a "requisition," which is a form he has to have filled up by his late employer and two householders in the district where he resides, to certify that he is capable, by being steady, sober, and of good character, to apply for hire with a hackney carriage propelled by mechanical power. I may add that there is a note to the effect that the applicant must appear for his licence clean and tidy, or the notice curtly tells him that he may be refused. With this requisition he joyfully hies himself to the Motor Cab Company, who, on seeing the requisition, hand him over to an instructor to be thoroughly taught the art of driving their cabs, great care being taken to test him in traffic, hill climbing, and the many police regulations. If a fairly smart man, his instructor pronounces him fit, after the necessary instruction. He is then sent to Scotland Yard with about seven others, and at 2 p.m. is taken in hand by an Inspector, first to reverse the cab through an archway, where so many men, though excellent drivers, fail through sheer nervousness. Such little details as looking backwards too often, one side to the other, or momentarily removing

both hands from the steering wheel in altering his speed lever on coming out, often fails a man, and the much-dreaded "Near side! Next man up!" proclaims that he has failed and cannot, unless petitioning the Commissioner, enter the test for another fortnight—the second failure means a month's wait. Presuming he is lucky enough to pass the reversing test, the Inspector mounts the box and the ordeal of traffic has to be gone through. A favourite route is, out of the "Yard," over Westminster Bridge, where on the other side one is apt to pass a tram on one's off side, crossing Waterloo Bridge, Strand and City. The Mansion House is a particularly tricky centre, as even a good driver might pass on the wrong side of one of the many obelisks, as the order of certain streets is not given until almost reached. Trafalgar Square and Parliament Street are other favourite traps for the novice.

The lucky ones who have passed the driving test give the applicant the friendly "wire" that hand signals more than moderate use of horn are noted with satisfaction by the "powers that be," and when seeing the gouty old colonel ponderously crossing the road in Clubland, to pull up and exclaim, "All right, sir, no hurry"; or in the City, to an excited old lady, "Take your time, madam! I'll wait!" brings forth from the much-dreaded judge, "That's right, my man." Among the 101 things that cause failure and the "Near side, next man up" command are changing speeds noisily, stopping dead between two pavements, thereby causing pedestrians to go round the cab, neglect to give hand signals, remaining too long on tramlines, or behind a crawling "growler," accidental stopping of the engine, non-use of horn, remaining longer than necessary on second speed. One man who failed twice was heard to bitterly remark, "A man has to think of about a dozen things and do four of them all at once," which is about true, and knowing that a lynx-eyed inspector is closely watching every movement of hands and feet, a man can be considered fortunate indeed if he succeeds in getting through the first time.

After he has passed the driving test, and his references are considered good, he is graciously allowed to pay 5s. for his police licence and badge, besides the 5s. motor driver's licence to the L.C.C., which he must purchase before he even touches the steering wheel. Before receiving the cab, and the pleasant news that he may commence earning money, he receives an instructive lesson on the chassis, so that, in case of a breakdown, if he is fairly intelligent and takes an interest in his work, he can repair or put right any little matter which, however simple, often stops a car.

The Motor Cab Company then fit him with uniform and accessories, macintoshes, cleaning coats, &c. He is placed, with a new cab and taximeter complete, on the road, and duly cautioned that politeness and civility cost nothing, and impressed with the fact that wherever he is, and whatever time, if the flag of his taximeter is up he is bound to accept any fare. This will, I think, show the public how carefully the police study their comfort and safety, and also contradict those novelists whose heroes are so often cut off with the proverbial shilling, and, going to a friendly cab proprietor, secure a cab being placed at their disposal. A. N.

IN speaking of the ratios of change speed gears of cars, a simple way of easily obtaining them on any car is as follows:—Engage the clutch and the gears of which the ratios are to be determined. Mark the driving road wheel at its lowest point, and the floor with chalk. Also mark the fly-wheel so as to be able to count its revolutions. Then push the car, counting the revolutions on the fly-wheel until the chalk mark on the driving wheels is again at its lowest point. The ratio will be the number of turns of the fly-wheel to one of the driving wheel. If, for example, the fly-wheel has turned two and one-quarter times, the ratio is two and one-quarter to one. By measuring the distance between the chalk marks on the floor in feet, and dividing it into 5,280, will give the number of turns the driving wheels make in one mile. Multiplying this quotient by the number of turns made by the fly-wheel will give the number of revolutions the motor makes in one mile.

CONTINENTAL NOTES.

The Paris Salon.

The tenth annual Paris *Salon* was opened with great *éclat* on Tuesday last by M. Fallières, the President of the French Republic. The display is, as usual, held in the Grand Palais on the Champs Elysées, and the scheme of decoration and lighting is, if possible, on a more magnificent scale than ever. Every available foot of space is occupied, the exhibits in the main building being confined to pleasure cars and the thousand-and-one accessories and components that go to form the modern automobile. The industrial motor-vehicles, motor-boats, and machine tools are shown in a separate temporary building which has been erected on the Place des Invalides, on the opposite side of the river Seine. This branch shows a considerable extension over last year, and is a busy scene of activity, engines and machines being everywhere shown in operation. In both sections of the *Salon* there are many interesting features which will be fully dealt with in our next and succeeding issues, pressure on our space in connection with the Olympia Show compelling us to hold over our report of that in Paris until next week.

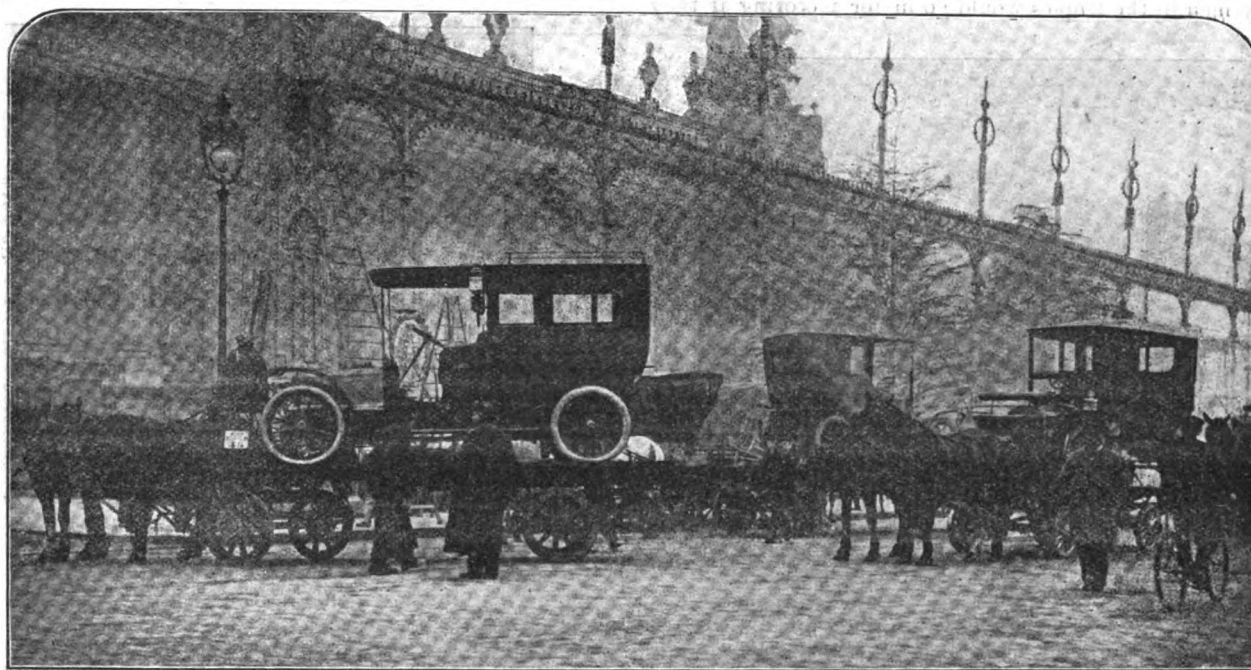
failures or suspensions in the French trade, and it must now be admitted that the industry is passing through a very acute crisis, the issue of which will be difficult to foresee, and may depend upon the hopes held out by the turnover at the *Salon*. The total number of men, including those left for military service, apprentices given leave, and those employed but a nominal number of hours per day, is stated to be quite 10,000. The movement has by no means stopped, and it is fairly certain that a certain number of amalgamations and working arrangements are likely to result from the present situation, more especially as concerns the interior trade of France.

Public Services in Montenegro.

It is reported from Cetinje that the Montenegro postal authorities are preparing to establish a number of public motor-car services for the transport, not only of the mails, but also of passengers.

Luminous Road Signs in France.

Luminous signs are now beginning to be seen in the French Littoral district, to enable chauffeurs to find their way at night. This is the more necessary because of the influx of foreign cars.



Cars arriving at the Paris Salon.

The Position of the French Motor-car Industry.

The gravity of the crisis in the motor-car industry in France may be gauged from the fact that, almost on the eve of the opening of the French *Salon*, the deputy for the Ivry district of Paris called attention in the French Chamber of Deputies to the grave state of affairs, and, in order to impress upon the Government the fact that distress among workmen was already apparent, he proceeded to request an allocation of a thousand pounds in the provisions of the Budget now under discussion for the relief of the indigent families engaged in the motor-car and allied industries. The motion was, of course, negatived, but the figures put forward by the deputy in support of the proposal were eloquent. The commencement of the slack season among motor-car factories, at least in France, is at hand, and at the time when the French deputy made up his return there was an official figure of 4,600 men thrown out of employment, without counting the hundreds who have left for temporary or regulation military service, and there are also numbers in partial employment, and nearly all are working short hours. Since this incident there have been several other

to the southern resorts of France in the early winter and spring. Around Nice are placed electrically illuminated signs instructing motorists to proceed at a speed of 10 kilometres per hour inside the town limits.

Another Light Car Trial.

The Automobile Club of Marseilles has decided to hold a race for light cars in May next year. Three classes will be provided, viz.: (1) Single-cylinder cars up to a maximum bore of 100 mm.; (2) ditto, up to 125 mm.; and (3) four-cylinder vehicles, maximum bore 95 mm.

Miscellaneous Items.

The first licence to a woman driver of a public motor-cab in Berlin has just been issued.—The annual Dutch motor-car exhibition is to be held in Amsterdam from the 17th to the 26th January next.—It is expected that the automobile exhibition in Berlin will be opened on December 5th by the Kaiser.—It is reported that the Nervion Engineering and Shipbuilding Works at Bilbao, Spain, are arranging to take up the construction of motor-cars on the Daimler system.

A DOCTOR'S MOTORING EXPERIENCE IN JAMAICA.

BY JAS. JOHNSTON, M.D.

I HAVE much pleasure in forwarding to the *M.C.J.* some photos of my substitute for a motor-pit. This trestle serves the purpose admirably, is built on a level with what we call a "barbecue," that connects my dispensary and out-rooms. It also has the advantage of being portable; my coloured man takes it down and re-stows it, or puts it up when wanted in twenty minutes or half-an-hour.

My car is a Stanley steamer, and, in my opinion, is just the machine for the colonies. Its fuel is kerosine oil, thus dispensing with the costly (2s. 6d. per gallon) gasoline, but also evading the danger of handling this explosive liquid. The mechanism is so simple that any one with ordinary brains and skill can do all repairs himself. I have had my car now fifteen months, and in that time it has only been on the trestle some half-a-dozen times for minor adjustments. The engine is of 10-h.p., and takes our steepest hills with ease. The burner is 16 inches from the ground, so that ordinary rivers are no obstacle. When fired up in the morning, which takes about as long as would be required to hitch up a pair of horses to a carriage, the pilot light keeps up steam for the day, so that it is ready for any call in an instant. I am not an agent for the car, but I feel sure that many men in the tropics would go in for motoring if they



Dr. Jas. Johnston at the wheel of his Stanley Steam Car.

knew that a ready, reliable, and speedy means of getting over the ground can be had at a reasonable cost in the silent, smooth-running and delightful Stanley.

The terrible earthquake of January last was a sad set-back to Jamaica, and for a time scared tourists from coming with their motor-cars to the island. We, however, presume this to be one of the safest spots on earth now for the next 200 years at least. We have had our earthquake, and for health and facilities for recreation Jamaica stands without a rival. I have been here thirty-three years now; I landed in 1874 a poor consumptive, and can therefore speak with authority on the subject. There are some 1,200 miles of first-class roads well adapted for motor-cars, and the rapid reconstruction of hotels that is now in progress, the ample provision being made for the comfort of visitors to our shores, and the fact that the various lines of steamers running from both the Homeland and the States are booked right up for the coming season, causes us to feel that a bright future lies before our trim little resort, and we will not have long to wait. It is Britain's "New Riviera."

A NEW leather and metal chain case for motor-cars has been brought out by Messrs. Grose, Ltd., of Northampton, and is to be seen on their stand at the Motor Show.

SOME USEFUL NOTES.

THE water-circulating system of petrol cars has reached that state of perfection where it needs little attention other than refilling the radiator, which should be done as often as required. If possible to prevent it, the cooling water should never be allowed to boil. All water used should be strained, to exclude dirt or foreign matter from the radiator and piping.

To replace a cylinder over the piston requires some skill and patience, as considerable difficulty may be found in starting the piston rings into the bore without breaking them. If assistance can be had, one man to lower the cylinder casting and the other to carefully work the rings under the edge, relatively little trouble will be experienced. But if one man alone is to do the work, then the only way to get the rings in place is to put a piece of soft wire around them tight enough to draw them below the surface of the piston—a piece of stout cord will also answer—and after the edge is started cut the wire and take it off.

A CLOGGED silencer will cause loss of power, a trouble which may be detected by cutting out the exhaust box in some way. With a silencer cut-out valve this is a simple matter; if there is no such valve, the silencer or the exhaust pipe may be disconnected in order to make the necessary test, and the opportunity taken of cleaning out the exhaust box.



The Doctor's substitute for a Motor Pit.

THE universal joints on the cardan shaft of a gear-driven car should be given special attention during wet weather. While revolving at a high speed it is almost impossible for any water or liquid mud to lodge on these joints, as it will be thrown away by centrifugal force; but when the car comes to a standstill there is always a certain amount of liquid mud left around these joints, and unless they are well lubricated this will find its way into the joints, and set up a good deal of unnecessary friction and probably squeaking.

THERE are several methods for closing cracks in the water-jackets of petrol motor cylinders, and the best one to employ depends upon the nature and location of the crack and the facilities at hand. One method consists in chipping a dove-tail groove along the length of the crack and pounding this full of solder. Another consists in filling the jacket with a solution of copper sulphate and letting that run (and later ooze) through the crack into a tin pan, into which the cylinder is set, filling it back into the jacket as fast as it runs out. Still another method consists in forming a mould over the crack and filling this with a mixture of plaster of paris and iron filings, then filling the jacket with water. The water getting into the plaster of paris and iron filings will cause this mixture to expand and force some of it into the crack, thereby closing it. The mould must, of course, be rigidly clamped to the cylinder.

THE Pytchley Autocar Company, Ltd., whose garage is in Sheep Street, Northampton, are extending their tyre-repairing department.

THE O.S. patent speedometers, although not directly represented at Olympia by Messrs. W. Searle and Co., are nevertheless to be seen in the hall, where their merits have been well recognised.

THE exports of motor-cars from the United States during the nine months ending with September last reached a value of £992,777, as compared with only £728,835 in the corresponding period of 1906. Of the total the United Kingdom was responsible for no less than £300,788.

THE master of the Blackmore Vale Hounds (Colonel Percy Browne) has issued a notice expressive of the hope that the practice of following hounds with motor-cars will be discontinued. Last season the cars constantly caused foxes to "head," and there was much dissatisfaction at the spoilt sport.

PREACHING at Chester Cathedral on Sunday the Bishop of the Diocese referred to motor-car traffic, and expressed the view that while this should be controlled partly by the law and partly by the action of the local authorities, the real control should come from a public spirit and readiness to consider others on the part of those who own or drive motor-cars.

THE annual Florida race meet is to be held during the last week of March next. A radical change is to be made in the programme, the mile or two-mile record events being more or less subordinated to two long races, one for the racing cars that were built for the abandoned Vanderbilt Cup race on Long Island, and the other for cars of 60-h.p. or less.

THE Anglo American Oil Company, Ltd., have issued a neat pamphlet showing recent motor records which have been won on Pratt's motor spirit. The pamphlet has interest as a chronicle of the important racing and touring events of the year in which Pratt's Motor Spirit has attained distinction by assisting the cars to victory. The illustrations have more than transient interest.

A NEW 10-h.p. steam car known as the "Morris" has lately been put on the market by Messrs. H. E. and F. Morris, of Stroud Green Road, London, N., a firm which has had a long experience of steam automobiles. Pressure on our space prevents us describing the new car at length, but we mention that in outward appearance it closely resembles a petrol vehicle, the engine and boiler being located under the bonnet in front.

ELSEWHERE in the present issue we publish some interesting notes sent us by Dr. Jas. Johnston, of Brown's Town, Jamaica. This gentleman, who will be known to some in this country as the Scotch doctor (from Aberdeen) who in 1902 walked across Africa from Benguella to Zanzibar, is now an enthusiastic motorist. Although he employs a man to clean and oil up his cars, the doctor prefers to drive himself and also makes any necessary adjustments.

UNDER the presidency of Viscount Massereene and Ferrard, the Automobile Co-operative Association entertained a large number of patrons to dinner at the Criterion Restaurant, London, on Monday. In proposing the toast of the Association, Mr. W. Somerville Large, M.I.C.E., explained the objects of the organisation and the system by which illicit commissions are being effectually prevented. The society appears to be gaining a considerable number of supporters, and it is estimated that it is now catering for the users of something like 4,000 cars.

THIS week the new premises of the Motor Agency of the London and Paris Exchange, Ltd., are being opened at 55-59, Shaftesbury Avenue, London, W.C., where the motoring activities of this well-known company will be developed. Their premises are centrally situated so far as the motor industry is concerned, and there is accommodation for about sixty vehicles. The business will be restricted to the sale and exchange of second-hand cars, the London and Paris Exchange Motor Agency having special facilities for bringing intending sellers and prospective buyers together.

HERE AND THERE.

A NEW non-skid pneumatic tyre, known as the "Kempshall," is being introduced by the Kempshall Tyre Company (of Europe), Ltd.

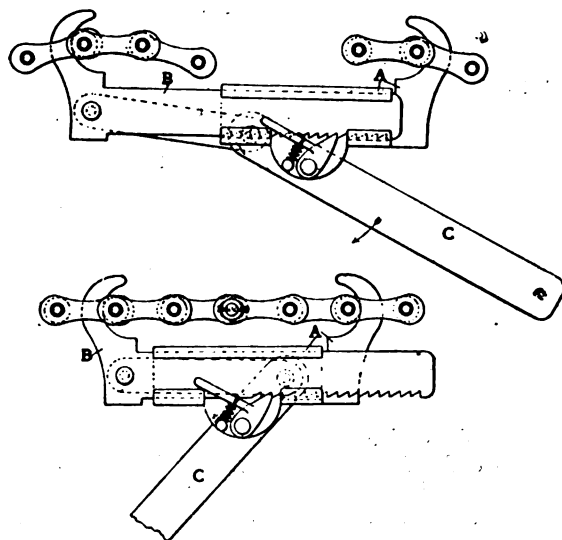
MR. E. T. BRADLEY, 37, Surrey Street, Sheffield, having

qualified for the repair of tyres by the Harvey Frost process, is now adding a department for that work to his business in motor accessories.

THE Middlesbrough Corporation have instructed their borough surveyor to ascertain the costs of municipal motor-wagons as well as the expenses of up-keep, with a view to the adoption of the same if the information he obtains warrants the innovation.

THE certificate of performance of the 48 hours' London traffic trial of the 16-20-h.p. West Aster car, illustrated in our last issue, has been issued by the Royal A.C. The distance run was 482 miles, and the petrol consumption was 16.49 m.p.g., or 27.47 ton m.p.g.

AN ingenious tool to facilitate the connecting up of the driving chains of motor-cars has lately been placed on the market by the "Autok" Fabrik for Radketten, of Berlin, O. 112. The device consists of two tongued parts, A and B (Fig. 1), sliding against each other. The latter part has teeth half way its length



Figs. 1 and 2.

on the lower edge in which a ratchet pivoted to a lug on the part A grips in the toothed rack to hold the chain in place, allowing free use of both hands to connect the chain links. A hand lever C is pivoted to the ratchet lug, and has on its end a link rigidly secured to B. By pulling the lever C to the left the two forked parts draw near each other, as shown in Fig. 2, enabling the connecting bolt to be readily placed in position. An arm is secured on the ratchet, which latter is held in position by a little spring fastened on the lug of A.

THE "Gauthier" whistle will shortly be a familiar sound in our streets, the device of that name now being introduced to the motoring community by Messrs. Gauthier and Co., 8, Great Marlborough Street, London, W. The whistle consists of a brass cylinder, which can be fitted to a tube of any diameter by means of an external ring or washer. The exhaust gas enters the cylinder and is allowed to pass away freely into the atmosphere at the four large apertures. A piston of special construction and self centring, cylindro-conical in shape at its extremity, moves in the body of the cylinder. This piston partially blocks up the four outlets, emitting a high or deep tone, which may be regulated by a screw determining the length of the piston stroke. Thus the whistle can be regulated to suit, first, the motor; and, secondly, the required tone. The Gauthier whistle is operated by means of a cable, and is actuated by a special pedal.

THE Royal A.C. is making an offer for the old War Office site in Piccadilly, W.

FOR driving a motor-car over the turf on Wimbledon Common a motorist has just been fined £2 and costs.

THE "Industrial Motor Review" for November 15th can be obtained from the stand, No. 102, of the *Motor-Car Journal* at Olympia.

THE "Million" Motor Works in the Bath Road, Cheltenham, owned by Messrs. Stretton's, Ltd., are replete with machinery of every description for repair work.

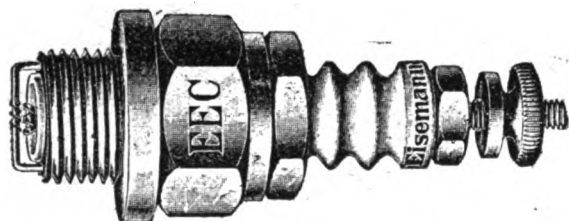
A NEW garage to accommodate between 250 and 300 automobiles has been opened in Hertford Street, Mayfair, W., by the Electromobile Company, of which Mr. Ernest Schenk is chairman.

NEW commercial publications of the Daimler Motor Company include a list of patrons and a collection of testimonials, which establish their claim to have supplied a large proportion of the nobility with motor carriages.

A SYNDICATE has lately been formed in St. Petersburg to introduce a service of motor-buses into the city. Orders for four vehicles have already been placed with the Sud Deutschen Automobilfabrik of Gaggenau, Germany.

GOOD illustrations of close plating and electro-plating are shown by Messrs. Lowe, Bevan and Co. at their stand at the Olympia Exhibition, whereon is a selection of wind screens, Cape cart hoods, &c., of excellent design. Reference to the special features of these will be made in our next issue.

MESSRS. EISEMANN AND CO., of Stuttgart, have just introduced a new sparking plug for use in connection with high-tension magnetos. The central terminal has triple points, shaped



not unlike the points of a gas burner, and across these extends a wire the two ends of which are fastened into the outer shell of the plug at opposite points. Around this wire over the end of the central terminal is wound a short length of platinum wire, from which the spark jumps across to the points of the central rod.

WEIGEL MOTORS, LTD., have sent us a copy of the new catalogue of Weigel cars they have just issued. This includes full particulars of the different models, viz., 25-h.p. and 40-h.p. four-cylinder, and 60-h.p. six-cylinder. The various parts of the chassis are illustrated by reproductions of photographs and line drawings, while several pages are devoted to instructions for oiling and cleaning, and testimonials from users of these vehicles.

ONE of the largest gatherings of automobiles which has ever been brought together for the purpose of a wedding will assemble at the marriage of Princess Louise of Orleans to Prince Charles of Bourbon, which takes place at Wood Norton to-day (Saturday). Over fifty closed cars, consisting of very handsome landaulets and limousines, were sent from the premises of the Motor Supply Company, Ltd., 111, Piccadilly, London, W., on Tuesday and Wednesday, for the service of the many guests attending the function.

DURING the last few weeks more than 120 Rover motor-cabs have been sold to agents by the R.M.C. Syndicate, Ltd., 109, Victoria Street, Westminster, S.W., and other agencies have been established all over the civilised world. Orders for several hundred of the same vehicles are now in negotiation, which amply demonstrates that the Rover motor-cab is expected to become one of the most popular vehicles of the coming year. The Rover Company are now working night and day shifts to cope with the demand for these motor-cabs, of which 500 are to be delivered before the end of next March.

LORD BURGHCLERE and Lord Wandsworth have been elected to membership of the Royal A.C., several members of which were included in the Birthday Honours.

MR. G. CHURCH is the proprietor of the Grand Motor Works and Garage in South Street, Worthing. All kinds of motor repairs are done on the premises by experienced mechanics.

THE London County Council having made application to the Local Government Board for an additional index mark for the registration of motor-cars, the Board has within the last few days issued a fourth index mark consisting of the letters "L.B."

MR. A. BRIDGE, late of Panhard and Levassor, has now joined the Hulbert-Bramley Motor Company, of 96, Upper Richmond Road, Putney, S.W., who are opening capacious premises at 118, Disraeli Road, Putney, where there will be accommodation for about fourteen cars, including private lock-ups.

UNDER the name of "Eatscarbon," Mr. Walter Williams, of Old Town Street, Plymouth, has just introduced a preparation for rapidly removing carbon deposits from the combustion chambers and pistons of petrol motors. The new compound is claimed to have no harmful effect on rubber and metals, and obviates the necessity of taking down the engine cylinder for cleaning purposes.

THE Universal Boiler Fluid Company, of Muckamore, co. Antrim, have sent us a sample of their Osalga liquid compound they have put on the market for removing and preventing the formation of scale in radiators and the water jackets of petrol motors. The firm have hitherto only supplied it in large quantities, but are now arranging for putting it up in half and one gallon tins. The preparation, which will be of interest to those motorists who have suffered from furred-up radiators, is added to the circulation water in the proportion of half-a-pint to four gallons.

MR. A. HOUSE, of the Northern Automobile Company, Ltd., Oak Lane Garage, Manningham, Birmingham, has recently sold a 24-h.p. Stirling single-deck motor-bus to a large colliery company in Yorkshire. The vehicle is to be used as an ambulance and also for carrying stores between the various pits of the colliery. One of the conditions of the purchase was that the vehicle should carry a load of over a ton from Bradford to the colliery company's office, a distance of about twenty-five miles, at an average speed of eight miles per hour, a task which was easily accomplished; in fact, the time occupied in making the trip worked out at ten miles an hour.

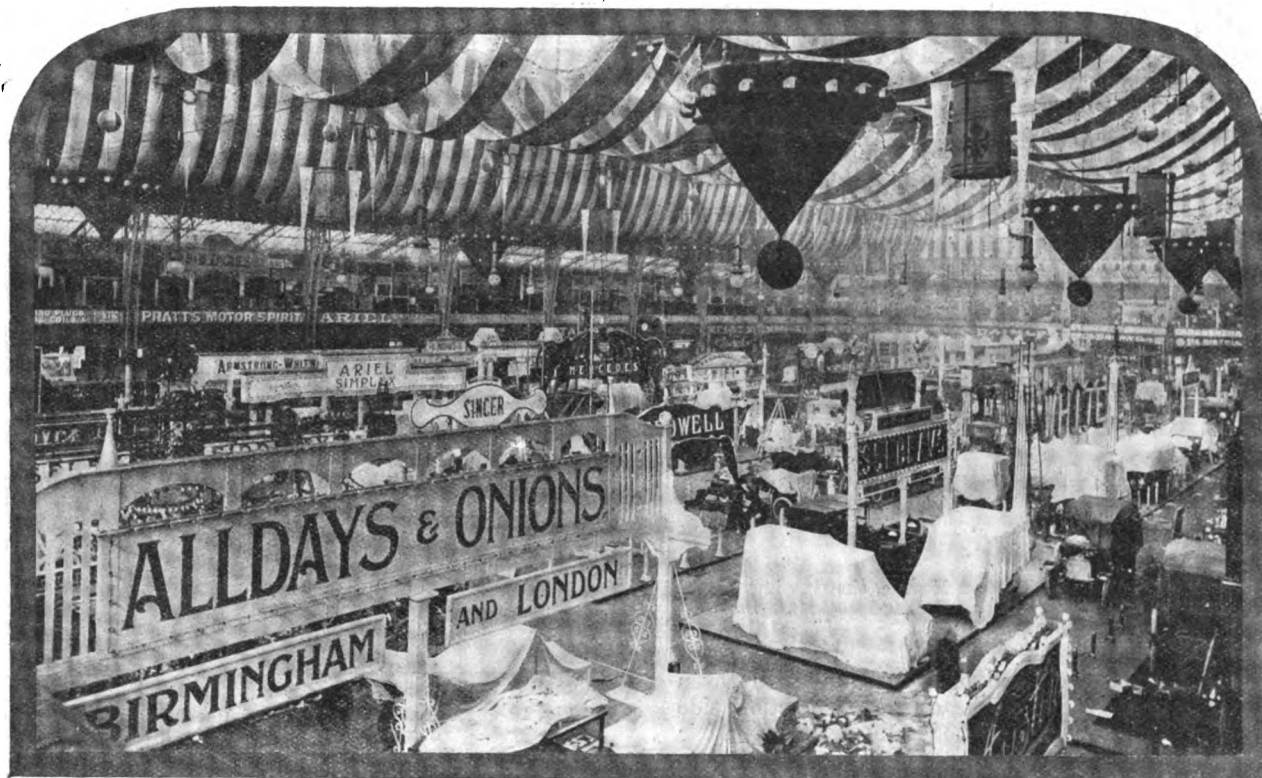
ONE of the Mercedes electric carriages of the Electric Landaulette Company, Ltd., made a run of 64 1-5 miles on one charge, on the 31st ult., under the auspices of the R.A.C. The weight of the car was 1 ton 13 cwt. 2 qrs. 10 lbs., and the passengers were the Official Observer and the driver. The run was to Windsor and back, and then in Hyde Park and streets until the battery was so far exhausted as to be unable to propel the car. The journey from the Club Motor House to Windsor, via Staines—21 3-10 miles—was done in 1 h. 33 min., and the return trip from Windsor via Eton and Colnebrook to Hyde Park Corner was accomplished in 1 h. 36 min., the distance being 23 1-2 miles.

THE engine of the "County" car, made by the Halifax Motor-Car Company, of Weymouth Street, Halifax, referred to in the last issue, has four separate cylinders fixed to a raised joining of the crank chamber, thus providing easy access for detachment, the cylinder extension being carried inside. The tappets for the inlet and exhaust valves, which are on opposite sides, are adjustable. In connection with the cylinder cooling there is a special water-way entrance, causing a spiral flow of water round the cylinders in circles to the exit. The crank shaft is provided with five bearings—one between each crank. The clutch is self-contained in the flywheel, thereby avoiding all end thrust, and is easily adjusted by three springs. The gear-box gives three speeds and reverse with a direct drive on the top speed. The transmission is by bevel gear to a live axle, and the road wheels run on a double row of ball bearings on an extension of the axle casing, the weight thereby being taken off the driving axle proper. The car is equipped with a side-entrance body having comfortable accommodation for five persons.

The Olympia Show.



(Continued from page 778.)



A General View of the Show.

SOME TENDENCIES IN DESIGN.

BEFORE continuing our review of the exhibits at the Olympia Show, which was opened on Monday last by the Duke of Connaught, it may be of interest to briefly survey the general tendencies of the design of motor-cars as exemplified in the vehicles that are now on view. When one tries to pick out any particular tendency in so vast a field as motor-car construction, a good many difficulties which hitherto had not been noticed spring up immediately. Of course, the mere attempt would in some measure at least assume a certain amount of knowledge. At the time this article was written, although it was naturally impossible to be *en rapport* with all the latest details, still we were able to gain information, and sufficient anyhow to show clearly what the future will be on many points. The engine is probably the first thing thought of, and is developing in two ways. First, the multiple-cylinder type has come to stay, even in the six-cylinder pattern, whilst its power is, on the whole, moderate. There are new six-cylinders of 15-h.p. and 20-h.p., for example, which seems to point to the fact of a certain demand for them. On the other hand, the four-cylinder type is in the majority, and, in these powers, is really quite as efficient as its larger brother. In regard to another important point, that of ignition, the accumulator is practically dead and buried, being ousted by the magneto. After all, the average motorist, though he may be somewhat dense on a good many points, has by this time learnt to put greater trust in the manufacturers. Of course, it is quite true that in years gone by ignition caused a great deal of trouble, but it is hardly likely at this stage that manufacturers would fit what was unsuitable. At Olympia one is able to see numerous instances of magnetos displacing the battery,

for the past season proved that as far as the ignition is concerned trouble very seldom occurred even in classic events.

Much attention has been devoted to automatic lubrication, and quite time, too, as the long-suffering engines think. What they have endured in the past while the careless driver either starved them or overdosed them so disgracefully that they had in self-defence to protest is pretty well known now. As regards the carburettor, many ingenious experimenters have spent weary hours in trying to solve the problem how to mingle air and petrol correctly, and still crowds of expectant enthusiasts are dabbling with the vexed problem of carburation. Of the making of automatic shutters, self-acting springs or regulators and the like, there is no end, and finality is not yet. Certainly a great advance can be seen in some types, for instance the G. and A., and some of the multiple-jet and the jet-controlled types. The improvements are great enough, indeed, to make it no uncommon thing now for a motorist to run half as far again on the same amount of fuel as last year; the average carburettor is, however, hardly ideal, though one or two exhibits at Olympia are very promising.

In regard to transmission the live axle type has gained a great deal of ground, many cars being fitted with it this year as an alternative to the chain. It has proved so satisfactory in all types of 1907 cars as to be very popular with the public. At the same time the chain drive is retained by many who think that it is, if not more reliable, at any rate easier to repair; the chains are now, however, generally encased to exclude dust and make them noiseless, a long desired step in advance. The present exhibition has numerous instances of the use of four speeds, in a few cases both third and top being direct drive. Gate change-speed control is also in great favour, as it is invaluable for night driving. The multiple-disc clutch still retains its old ground, supported some-

what faint-heartedly by its first cousin the plate type, which has been greatly improved. There are no particular developments in the frame, steering, springs, or road wheels, excepting that a wider steering lock is found as a rule.

A good point in the new cars is the choice purchasers have of different chassis lengths in regard to garage accommodation. As most readers are aware, cars used to be turned out in an arbitrary length which caused a good deal of trouble in housing them, but now purchasers have a selection of two or three different lengths. The same thing can be seen in the body work, as not only is there a choice of style and size in many cases, but, what is better still, the price is largely optional. The coachwork runs

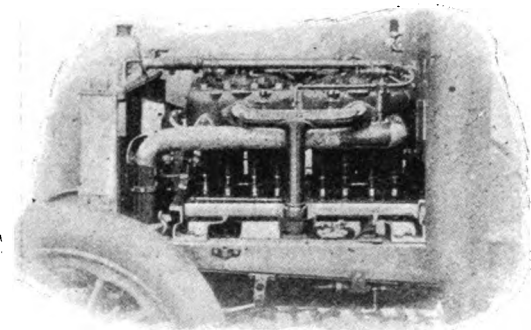


Fig. 18.—View of Valve Side of Daimler Engine, showing how the exhaust pipe is now taken to the front of the car instead of towards the dashboard as before.

to two extremes, on the one hand being very luxurious, even excelling the Pullman car, while on the other the practical side is not lost sight of, and the man of moderate means has a fair choice for so small a sum as £40, and even £25.

On the whole, the motor-cars of 1908, while showing a great wealth of detail improvement, are not very different from the present ones. The point of view of the passenger and owner have been especially studied, and accessibility and facilities for repair have been carefully provided. In view, then, of the

the following changes in the design may be taken as applying to the whole of the Daimler vehicles, whether driven by chains or without. A new departure in the engine is the placing of the valve cam-shaft within the crank chamber, the angular-placed valves being operated through a curved striker acting upon the valve-stem through the medium of a rocking arm. The crank-shaft is made hollow, and is carried on five bearings, in place of three as formerly. Two systems of

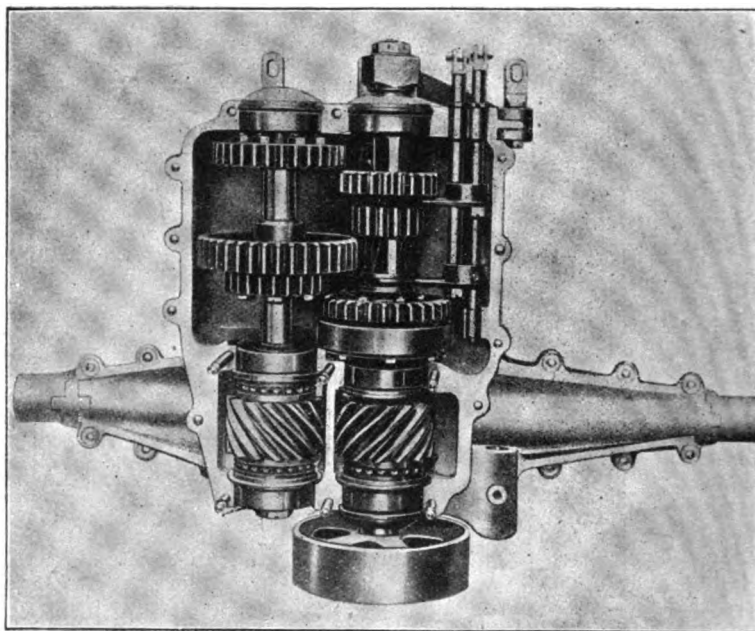


Fig. 19.—Sectional View of new Daimler Change-Speed Gear, showing double worm drive to differential shaft.

ignition are provided—magneto and coil and accumulator. The latter system has one trembler and four coils, one in series with each plug placed just above the cylinder heads. It is claimed for this arrangement that it permits of the employment of very short high-tension wires and a low-tension distributor, which latter is mounted on the top of a vertical bevel-driven shaft. As regards the water circulation, a centrifugal pump has been introduced, and the radiator and fan have both

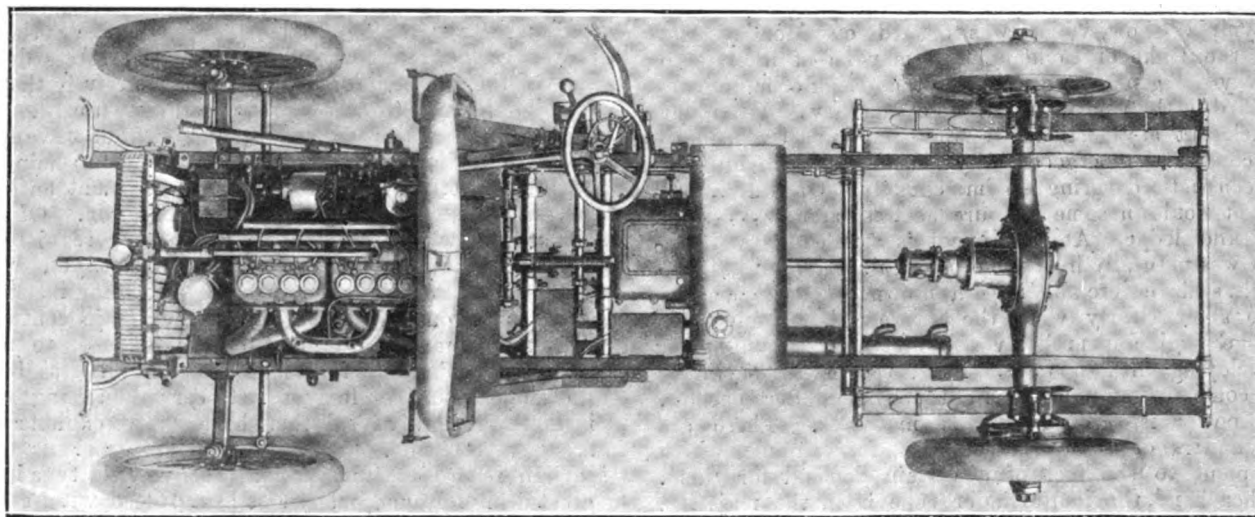


Fig. 20.—Plan of Chassis of Daimler 30-h.p. Live Axle Car.

immense value of detail improvements, their sound qualities and lower prices, the motor-cars of next year will appeal to the public as they have never done before.

The Daimler Cars.

For the 1908 season the DAIMLER COMPANY are making four sizes of chain-driven cars—36-h.p., 42-h.p., 48-h.p., and 58-h.p., the 36-h.p. and 48-h.p. vehicles being made in four lengths of chassis, and the 42-h.p. in three, and the 58-h.p. in two lengths. The most striking Daimler departure for the 1908 season is, however, the introduction of two live-axle models of respectively 30-h.p. and 38-h.p., the first having a bore and stroke of 110 mm. by 130 mm., and the latter 124 mm. by 130 mm. Except where specifically stated,

been modified to give greatly increased efficiency. The pump has duplicate outlet pipes, a pipe being taken from each of these to one pair of the four cylinders, thus ensuring that both water-jackets shall be effectively and equally supplied with the circulating cooling water. Passing now to the transmission, we note that the leather-faced cone clutch is retained. The gear-box on the live-axle vehicle is adapted to give, in addition to the reverse, four forward speeds, with the direct drive on the third. The axle-casing is pressed out of sheet steel in one solid piece, and so designed with a removable panel at the rear that the whole of the bevel gear can be removed without disturbing either axle or wheels. All the 1908 Daimler cars are fitted with four-cylinder engines, the cylinder dimensions of the motors on the chain-driven vehicles being—36-h.p. 120mm. by 150 mm., 42-h.p. 130 mm. by 150 mm.,

48-h.p. 140 mm. by 150 mm., and 58-h.p. 154 mm. by 140 mm. As will be seen from Fig. 19, a radical change has been effected in the transmission in the chain-driven cars, the usual bevel drive between the gear-box and the differential being replaced by two pairs of spiral gears, one transmitting the power when the third speed is directly engaged, and the other when the first, second, fourth, or reverse gears are in mesh. Furthermore, dust and oil tight chain cases of aluminium are now being fitted to the 42-h.p. and 58-h.p. cars. These are so arranged that the adjustment to take up any wear in the chains is effected by rotating eccentrically-mounted bushes which surround the countershaft ends on either side of the chain-sprockets. These cases are also so arranged as to take the place of the usual radius rods. The gear case has the effect of

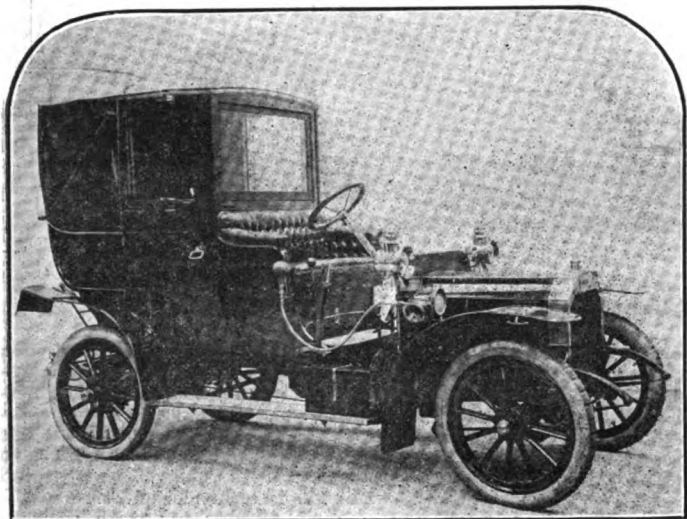


Fig. 21.—The Vauxhall 12-16-h.p. Landaulet.

rendering the car extremely silent, as well as adding to the life of the chains. A large inspection cover is arranged in the side of the case to allow of the removal of waste grease and oil and the inspection of the chain. The brakes on all the Daimler cars are now arranged to be operated in the opposite way to the usual practice—that is to say, the hand lever actuates the gear brake and the pedal those working on drums attached to the rear wheel hubs. On the chain-driven cars the gear brake is not now fitted on the differential shaft, but, as is shown in Fig. 19, on an extension of one of the gear-box shafts, the same as in live-axle vehicles. Owing to lack of space, the cars on view only number four, these comprising a 30-h.p. 9½ ft. wheel-base live-axle chassis, fitted with a "Black-down" type of landaulet body, painted Royal blue, lined light blue, and upholstered in blue leather and cloth; a 42-h.p. 10½ ft. wheel-base chain-driven car, with an "Aston" type of landaulet body, painted light green, lined light green, upholstered in green leather; a 42-h.p. chain-driven chassis, with an "Hazlewood" phaeton body, painted cream, lined red, upholstered in red leather, fitted with Cape cart hood and glass wind-screen; and a 42-h.p. 11½ ft. wheel-base chain-driven chassis, with a "Longleat" limousine body, painted red, lined gold, upholstered in red leather.

The Vauxhall Cars.

Although only exhibiting one type of car—a 12-16-h.p. four-cylinder vehicle—the display of VAUXHALL MOTORS, LTD., Luton, is an interesting one, and the polished chassis on view will well repay inspection. The engine has separately-cast cylinders 3½ in. bore by 3½ in. stroke; a special type of automatic carburettor furnishes the mixture, while the ignition is by accumulator and single coil, a synchronised high-tension distributor being employed. For those who prefer magneto ignition provision is made for fitting this without difficulty. A noteworthy feature of the Vauxhall vehicles is that the lubrication of the engine is effected by a small pump which forces the oil continuously into the main bearings and through the hollow crank-shaft on to the big ends of the connecting rods. As only the correct amount of oil can be supplied, the annoyance of over-lubrication is obviated. The transmission is through a metal-to-metal cone clutch, and gate-controlled change-speed gear, giving three speeds forward and a reverse, cardan shaft and bevel gear to a well-supported live axle. The vehicle has a wheel-base of 8 ft. 6 in., thus enabling a roomy side-entrance body to be fitted to the chassis. The complete cars on view include two double phaetons, one having a Cape cart hood and front glass screen, a landaulet (Fig. 21), and a two-seated car with leather kit-box at the back, this vehicle being well adapted for touring purposes.

The Niclausse Cars.

A new series of cars to this country is seen in the Niclausse, made by an old-established engineering concern of that name in France, and the British concession for which has been secured by the VICTORIA CARRIAGE WORKS, LTD. Three sizes are being made—15-h.p., 20-h.p., and 35-h.p.—all being fitted with four-cylinder engines and cardan shaft transmission to a live axle. The frame, which is of pressed steel, is inswept in front to allow of a wide

lock. The motor (Fig. 22) has four separately-cast cylinders, with the crank-shaft slightly *desaxé*—that is, the centre point of the cylinder is slightly to one side of that of the crank-shaft. The mechanically operated interchangeable valves are placed on opposite sides. The carburettor is of a special automatic type, while the ignition is by a high-tension magneto with a fixed firing point. Retarding the ignition when starting is rendered unnecessary owing to the fitting of a half-compression device in conjunction with the exhaust valves, which is automatically brought into engagement when the starting-handle is used. The lubrication of the motor is effected under pressure by means of a small gear pump. The water-cooling on the 20-h.p. and 35-h.p. cars is by a centrifugal pump driven direct from the engine shaft. A circulation of air through the radiator is effected both by a fan at the rear of the same and by the vaned arms of the flywheel. The engine is fitted with an automatic governor acting on the carburettor, which is claimed to effect an economy in petrol consumption. This can be put out of action by an accelerator pedal, while the speed of the motor can also be separately regulated by a lever on the steering-wheel, which actuates a variable lift to the inlet valves. The clutch is of the multiple-disc metal-to-metal type. The gear-box is fitted throughout with ball bearings. A double sliding gear is adopted, controlled by a single lever, giving four speeds forward and a reverse, with a direct drive on the top. The transmission is by means of a double-jointed cardan shaft of a special design, in which the use of universal-joint pins is obviated. The rear road wheels are mounted on ball bearings on the axle casing; the axles themselves have thus only the driving effort to withstand, the power being transmitted to the road wheels through the hubs. The steering gear is provided with means of readily taking up any wear; it has also a very wide lock, allowing the turning of the car within a small radius. The suspension is effected by four long side-springs and one transverse spring at the back. The brakes, which are effective in either direction, are all so arranged that when the foot or hand lever is operated the clutch is first withdrawn; the foot brake is also so connected that it automatically throttles the engine when the brake is applied. Altogether, the Niclausse form an interesting addition to the list of French-built cars.

The Withers Car.

The display of MESSRS. WITHERS AND CO., LTD., London, W., comprise three highly-finished 30-h.p. vehicles. The motive power is supplied by an Aster four-cylinder engine, with two systems of high-tension ignition—Eisemann magneto and coil and accumulators. The standard gear box is adapted to give four speeds forward and a reverse, with direct drive on the top, the control being by a single lever working in a "gate." One of the cars on view, however, is fitted with the Wicksteed patent change speed gear. The final transmission is by a cardan shaft and bevel gear to a well-designed live axle. Ball bearings are used to all parts except the engine, and the frame, which is raised at the rear to give clearance for the differential casing, is supported on

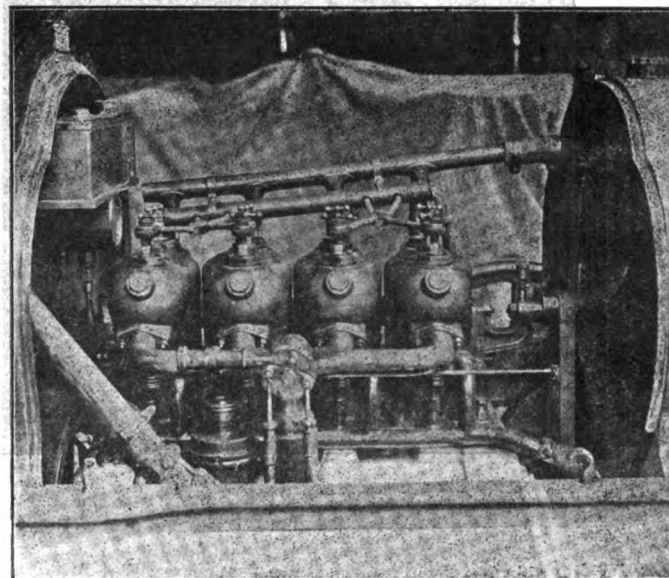


Fig. 22—View of Inlet Side of Niclausse 15-h.p. Motor.

five long springs. A new arrangement for starting the engine from the driver's seat is fitted to one of the vehicles. This is known as Page's, and consists of a hand lever which actuates a double ratchet device mounted on the front of the motor. In addition to the main petrol tank, which is provided with pressure feed, a small gravity supply tank is provided as a reverse. The cars on view include a limousine with detachable top, a limousine-landaulet, and a Berlin-limousine. The body of the latter, which is of the firm's own construction, is of novel design, a small door being provided in the centre of the front seat, which is provided with a detachable cushion, so that a passenger can change his position and ride either inside or out, without having to descend on the road.

The Wasp Car.

An interesting new 50-60-h.p. six-cylinder car, known as the "Wasp," and constructed by the THAMES BANK WHARF MOTOR WORKS, LTD., is to be seen at the stand of the Euston Motor Company. Fig. 23 shows the car fitted with a side-entrance double-phaeton body, but that exhibited has a Pullman limousine body with detachable sides. The chassis is fitted with a six-cylinder engine, having cylinders 130 mm.

now located in new works at Clapham, S.W., and have produced a new 35-45-h.p. six-cylinder car (Fig. 24) which makes its public *début* at the Show. The frame, which is of pressed steel, is supported on five springs, a transverse spring supplementing the usual four longitudinal ones. The engine, which is of a neat and clean design, is of a relatively slow-running type, 38-h.p. being developed at a speed of 1,000 revolutions per minute. The cylinders, which are 110 mm. bore by 150 mm.

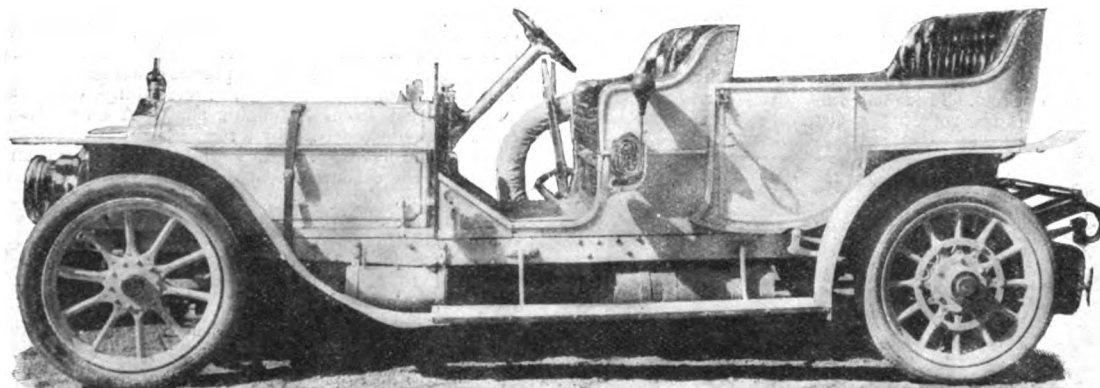


Fig. 23.—The Wasp Six-Cylinder Car.

bore by 140 mm. stroke, cast in pairs, and the valves arranged on opposite sides. The Xenia automatic carburettor is employed to furnish the mixture, while two systems of high-tension ignition are provided. The speed of the motor is controlled by both hand and foot levers. The transmission is through a metal-to-metal clutch, comprising two large shoes, which expand inside the fly-wheel. The change speed gear is of the usual sliding type, giving three speeds forward and a reverse, the drive being by double-jointed cardan shaft to the live axle. The latter is of strong construction, and drives the hubs through dog clutches,

stroke, are cast in pairs. The valves are all mechanically actuated off a single cam-shaft. The ignition is dual, both magneto and coil and accumulators being provided, a high-tension distributor being used in connection with the latter system. The lubrication of the motor is effected automatically. The upper part of the crank chamber has three partitions, one for each two pins of the crank, with oil reservoirs alongside the webs to the main journals. A large pipe is cast down the centre of the webs and the ends of each partition, by which oil is fed under pressure to the journals. The lower part of the crank chamber has three wells to

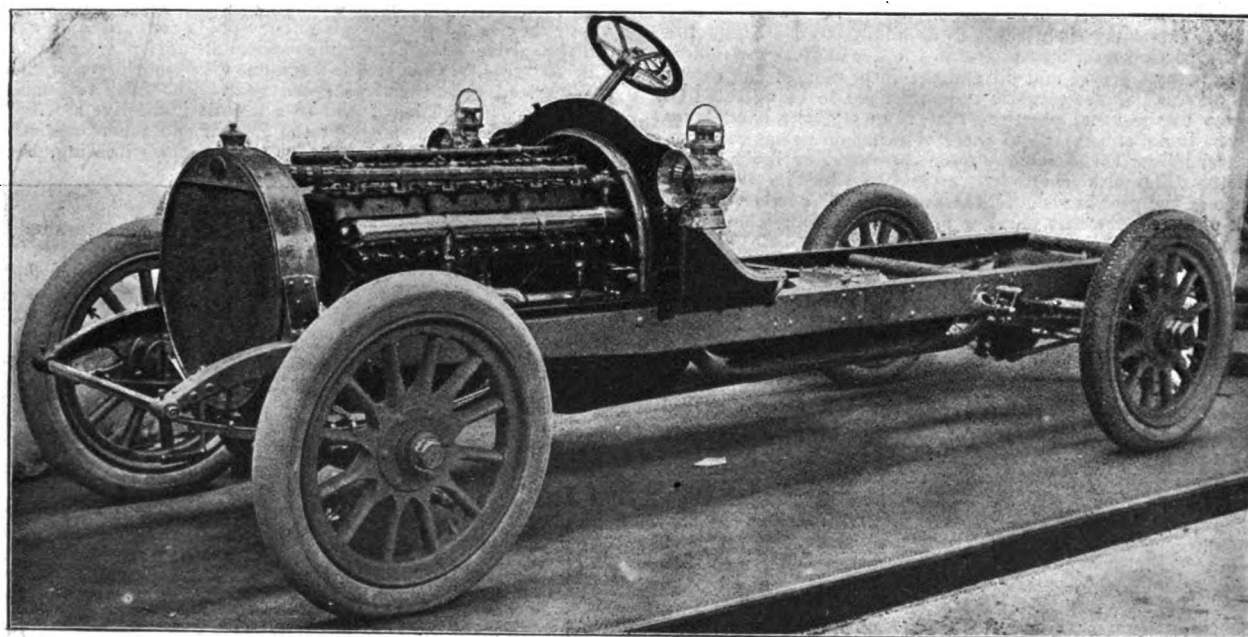


Fig. 24.—The M.M.C. 35-45-h.p. Six-Cylinder Chassis.

the weight of the car being supported on the axle casing. Ball bearings are used to all parts. The vehicle has the appearance of being both speedy and smooth-running. At the same stand is to be seen a 15-h.p. Courier car, fitted with one of the Coventry Simplex Company's four-cylinder engines. The latter has the valves arranged all on the one side, a noteworthy fact being that the crank shaft is fitted with ball bearings. The transmission follows the usual design of live axle cars, the clutch being of the leather-faced cone type. The vehicle is fitted with a side-entrance double-phaeton body, and is listed at a moderate price.

The M.M.C. Six-cylinder Car.

All old motorists will, we feel sure, be glad to witness the reappearance of the MOTOR MANUFACTURING COMPANY, LTD., which was one of the first firms in the motor trade in this country. The company are

carry the requisite lubricant for each pair of crank pins, and can be removed as a whole, leaving all the bearings in position. The cover for the timing case is in one piece, and forms a complete oil-tight joint. The radiator, which is of the honeycomb type, is provided with an air-inducing fan. The clutch is of the multiple-disc type, and the change-speed gear, which has "gate" control, gives three speeds forward and a reverse, with direct drive on top. The standard transmission is by a cardan shaft and bevel gear to a live axle, although a side chain drive can be supplied where desired. The live axle is of a strong design, and the casing of the driving and driven bevel pinions is so arranged that different sizes of wheels can be fitted to render the gearing best suited to individual requirements. A notable feature of the design is that both the foot and hand operated brakes are all on drums attached to the hubs of the rear road wheels, one working

internally and the other externally, both being compensated. With the exception of the engine crank-shaft, ball bearings are fitted to all parts, even to the valve cam-shaft. The wheel-base of the vehicle is 10 ft. 6 in., which enables a roomy closed or open side-entrance body to be fitted. The M.M.C. Company are also arranging for the production of a 25-35-h.p. four-cylinder car on similar lines for the 1908 season. The excellent wearing qualities of the old M.M.C. cars have won for them many friends in the motoring world, to whom an inspection of the new models can be recommended.

Clyde Cars.

The exhibits of Messrs. G. H. WAIT AND Co., Leicester, comprise an 8-10-h.p. two-cylinder two-seated car, a 12-14-h.p. three-cylinder four-seated car, and a 16-20-h.p. four-cylinder side-entrance double phaeton. The engines are of the White and Poppe type, the special feature being the improved inlet pipe from the carburettor, which

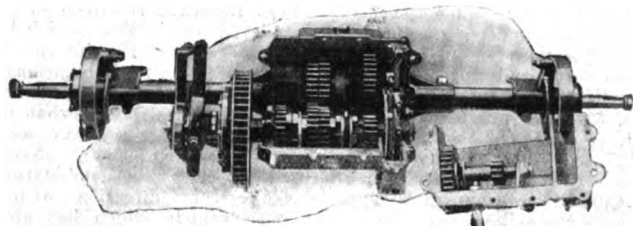


Fig. 25.—The Clyde Change-Speed Gear.

insures each cylinder taking its charge direct from the mixing chamber, thus ensuring a constant supply to all cylinders. The principal point of the Clyde cars lies in the transmission mechanism. The engine is located at right angles to the usual position, i.e., the crank-shaft is parallel with the wheel axles. A long and silent chain connects the crank-shaft through the clutch with a short countershaft mounted in front of the rear axle. This shaft carries the change-speed gear, which is adapted to give three speeds and reverse, the drive being transmitted direct on all speeds to the back axle. The gear, which is controlled by a lever working in a "gate," is of the type in which the pinions are always in mesh, the required pair being brought into action by means of dog clutches. The arrangement is such that any speed can be obtained from the neutral position, without it being necessary to pass through the others. This system of transmission has shown itself to be very efficient, proof of which is found in the success which has attended the Clyde cars in the various hill-climbing competitions in which they have been entered.

with tubing, joint, or gear. The method of attachment also facilitates the use of interchangeable bodies. The frames are suspended on five springs, while in all the cars the working parts, such as engine, gear, &c., are completely enclosed and protected from dust, mud, &c., by steel casings fitted under the chassis, which can be removed with ease. These casings taper from the centre towards the front and rear, the shape preventing the air resistance and reducing the amount of dust which usually follows a car to the smallest possible amount. The 15-h.p.

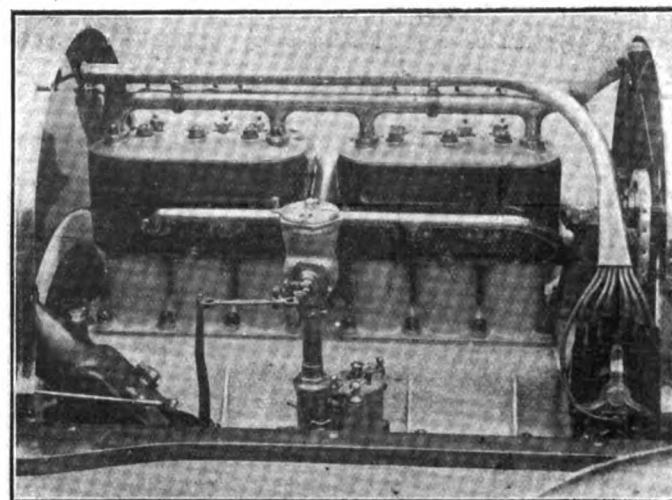


Fig. 26.—The Engine of the Delaunay-Belleville 15-h.p. Six-Cylinder Car.

four-cylinder car has been specially designed for town use with covered bodies, or for touring with light open bodies. The cylinders are cast in pairs, the dimensions being 98 mm. bore by 122 mm. stroke. The valves are arranged on one side of the engine, being operated off a single cam shaft. The high-tension magneto and water pump are situated in a readily-accessible position in front of the motor. The lubrication is on the well-known Delaunay-Belleville pressure system. The radiator fan is fitted with a special belt adjustment, which can be regulated with ease. The carburettor is of the automatic type, with the spraying

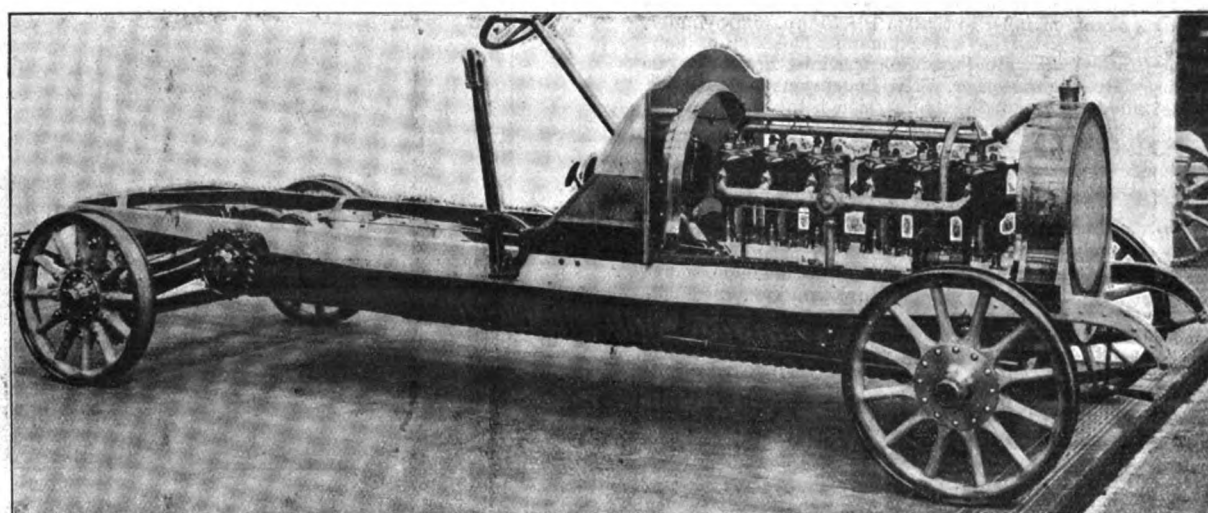


Fig. 27.—The Chassis of the Delaunay-Belleville 40-h.p. Six-Cylinder Car.

The Delaunay-Belleville Cars.

For the 1908 season a wide range of these cars is being made, comprising six different types—15-h.p. four-cylinder, 15-h.p. six-cylinder, 20-h.p. four-cylinder, 28-h.p. four-cylinder, 40-h.p. four-cylinder, and 40-h.p. six-cylinder, the first three having live axles and the others side-chain drive. The motor and its component parts, the water and petrol tanks, &c., are all grouped together on the fore part of the chassis, thus forming a unit in which tubing, joints, and other parts are reduced to a minimum. The driving and transmission gears are entirely connected to the steel frame, so that the whole mechanism and its accessories are independent of the carriage work. The body is attached to the chassis by means of four bolts, which need only to be unscrewed to remove the body from the chassis without the necessity of interfering

jet on the lower part and the extra air valve on the upper portion. The suction of the engine produces two gas currents, which are directed on to a double cone from opposite directions, thus ensuring complete pulverisation of the fuel. The throttle lever is situated on a fixed sector on the steering wheel, and is so arranged that the speed of the engine can be set to a given number of revolutions, and further acceleration be obtained by a pedal which acts independently in regard to opening the throttle to the maximum. The clutch is of the leather-covered cone type, and, as the male portion is centred on an extension of the crank shaft, the alignment is constant and certain. The male portion is formed of high-grade rolled steel, which allows a much lighter form of cone to be used than if the same were a casting, and the reduction of weight of the clutch components and shaft is such that

the revolving mass quickly comes to rest when the clutch is withdrawn, thus allowing change of gear to be made without any objectionable grating noise. The clutch spring exerts its pressure directly on the centre of the clutch, and the tension is easily regulated. The change-speed gear has two sliding sleeves, and a reduction in the size of the gear-box has been effected by using a special system of assembling the gears, which enables much shorter shafts to be used. Four speeds and a reverse are provided, with a direct drive on top speed. The back axle runs on ball bearings, and the driving shaft is fitted with a spring drive, which effectually absorbs the shocks due to starting and stopping. The 15-h.p. six-cylinder chassis has been introduced to meet the demand for a car that can be used for town work, in addition to ordinary

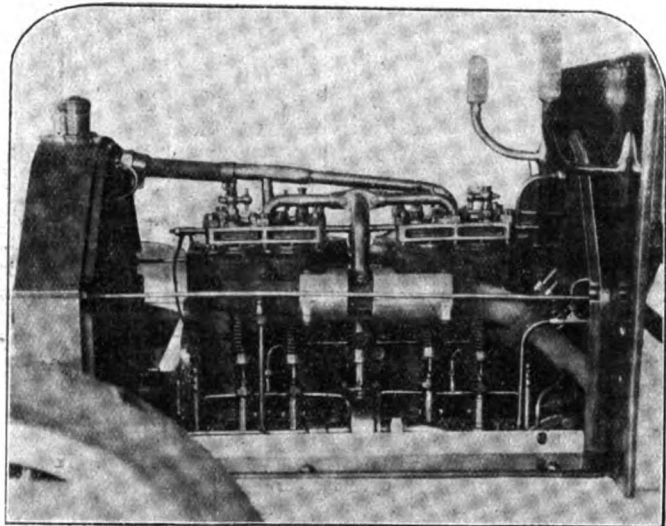


Fig. 28.—View of Engine of Daimler-Mercedes 35-h.p. Four-Cylinder Car.

touring purposes, and yet combine smooth running and silence with a low running cost. The chassis is identical in construction in everything except the engine with the 15-h.p. four-cylinder. As will be seen from Fig. 26, the cylinders are cast in groups of three, and the valves are arranged all on one side. The cylinder dimensions are 85 mm. bore by 120 mm. stroke. The ignition is high-tension magneto, and is fixed in a similar position on the crank chamber to that of the 15-h.p. four-cylinder, and the same remark applies to the water pump. The 20-h.p. four-cylinder car has separately-cast cylinders, with the inlet valves on one side and the exhaust valves on the other. The dimensions are 110 mm. by 130 mm. stroke, and, owing to the compression being greater than in the smaller types, a compression-release device is fitted to enable the motor to be started without difficulty. The carburettor is situated on the right-hand side of the motor, and its component parts are so arranged that dismantling is facilitated in order to inspect same. The ignition is high-tension magneto, and the magneto machine and water pump are arranged symmetrically on the front of the engine, and coupled to their respective cam shafts. They are attached by means of a steel band, which makes a rigid attachment by the use of a single screw. They are driven from the cam shafts by cardan joints composed of a washer hollowed out in the form of a cross, the method of arrangement being such that these parts can be easily dismantled. The clutch is of the leather-covered cone type, the cone being cast in aluminium. The clutch spring is so fitted that there is no end thrust from same when engine is running. The tension of the spring can be easily adjusted by means of two screws placed in an accessible position. A ball thrust-collar is fitted where the fork which withdraws the clutch operates. The clutch is coupled to the main gear shaft by means of an intermediate shaft fitted with two cardan joints, which allows the gear-box and clutch to be easily removable as separate units. The back axle runs on ball bearings. The differential casting is extended to the centre crossbar; it is connected to it by means of a case containing shock-absorbing springs. This arrangement necessitates the use of a cardan shaft with two universal joints, but it has the advantage of reducing to a minimum any shock that may take place when starting or stopping the car. The hand brakes acting on the rear wheels are of the internal expansion type; they consist of a drum and a hub upon which the two brake-shoes are secured. The opening and closing of the shoes is produced by a set of levers designed to enable great pressure to be applied. Metal friction-plates are riveted on the shoes, and their shape is such that in whatever direction they may be travelling they fling off any foreign body which may come in contact with the surface. Fig. 27 gives a view of the chassis of the 40-h.p. six-cylinder chain-driven car. The engine comprises six separate cylinders of the same bore and stroke as the 28-h.p.—viz., 115 mm. by 130 mm. The crank shaft is of one piece, and supported by a bearing between every crank throw. The ignition is by high-tension magneto, and in order to facilitate the starting a half-compression device is fitted. The clutch

is of the leather-faced cone type; the declutching movement is obtained by twin cams acting upon a ball thrust bearing. The position of this collar can be adjusted in order to maintain the same position in the event of the cone having worn slightly and penetrated further into the flywheel. The clutch is connected to the change-speed gear by an intermediary shaft with a universal joint at each end. The sprocket bearings are supported independently on the frame of the chassis, while the back axle is so designed that chain cases can be easily fitted. The lubrication of all working parts of the motor is effected by means of oil circulation under pressure, actuated by a valveless pump driven direct from the crank shaft. The patent for this system was granted on January 14th, 1897, and Messrs. Delaunay-Belleville have applied it to hundreds of their steam engines of horse powers ranging from 10 to 7,000 h.p. As regards complete cars, the exhibit of the BURLINGTON CARRIAGE COMPANY, LTD., the British agents for the Delaunay-Belleville vehicles, comprises a 40-h.p. limousine designed to give ample accommodation for seven passengers. The exterior is an exquisite scheme of colour, being a special shade of Bordeaux red lined in relief, and with the undercarriage and wings picked out in lines which blend in a harmonious manner with the general scheme. The interior is in French cord, and the upholstering of the seats is most luxurious. A multiplicity of fittings, such as speaking-tube, electric light, travelling cases, &c., are provided. A 28-h.p. landaulet has a somewhat novel hood, so arranged that the leather part, even after a heavy season's work, will be practically as smart as when new. Needless to say, the body work is of the highest class, the combination of the Burlington Company's experience in this direction with the Delaunay-Belleville chassis resulting in a vehicle which has already achieved popularity in high circles, not only in this country, but abroad.

The Daimler-Mercedes Cars.

Two interesting chassis of the Daimler-Mercedes cars built at Sheffield are to be seen at the stand of Mr. E. H. JONES, a 35-h.p. four-cylinder and a 60-h.p. six-cylinder. Interest is largely centred on the latter, which is shown for the first time, and is an excellent example of modern high-grade automobile construction. The cylinders, which are cast in pairs, are 110 mm. bore by 140 mm. stroke. The valves are arranged on opposite sides, being operated by cams formed solid on their shaft. The ignition is by low-tension magneto, provision being made for advancing or retarding the firing point from the steering wheel. Both foot and hand control of the throttle are provided, the carburettor being of a special automatic air-regulating type, combining means of varying the petrol jet by a lever on the dashboard. A mechanically-operated lubricator driven off the water pump shaft is

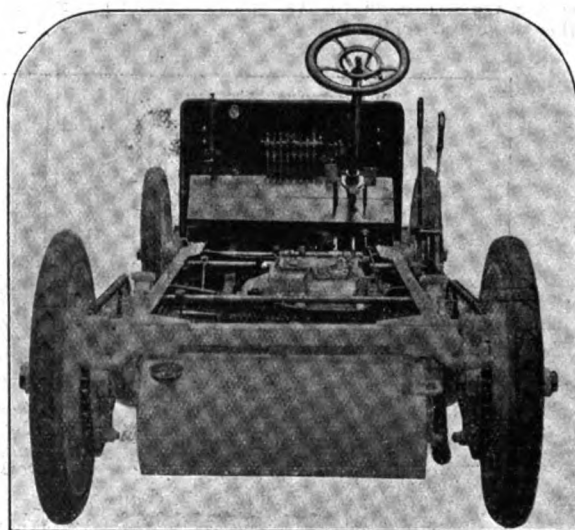


Fig. 29.—Rear View of Chassis of Daimler-Mercedes 35-h.p. Four-Cylinder Car.

fitted, by means of which the engine receives oil in direct proportion to its speed. The lubricator is placed under the bonnet, leaving the dashboard free, except for a single tube that acts as a tell-tale. The water is circulated by a gear-driven centrifugal pump. The air draught is assisted by means of vanes embodied in the flywheel, and, in addition, a fan is fixed behind the honeycomb radiator. The latter, it may be added, is supported on pivots, so that no strain, and consequent leakage, is transmitted to it. The clutch is of the multiple-disc type; the "gate"-controlled gear-box gives four speeds and a reverse, with a direct drive on the top. The final drive is by side chains. Ample brakes are fitted; on the countershaft there are two band brakes working in unison with each other, and operated by a pedal, while on the rear wheels internal expanding brakes are fitted, these being operated by either the extreme right pedal or by the side lever, the brakes

having a dual connection. Ball bearings of extra large diameter are used throughout the engine, transmission, and wheels. The 35-h.p. four-cylinder car (Figs. 28 and 29) has already been described in the *M.C.J.* In general arrangement it follows the design of the 60-h.p. car dealt with above, the bore and stroke being the same. In view of their relatively low price, the Daimler-Mercedes cars are well worthy of attention. At this stand is also to be seen a new all-steel road wheel, which is claimed to be not only stronger but considerably lighter than the usual type.

The Sheffield Simplex Six-Cylinder Car.

One of the features of the Show is the new Sheffield-Simplex 45-h.p. six-cylinder car exhibited by the SHEFFIELD-SIMPLEX MOTOR WORKS, LTD., of which Mr. Percy Richardson is the managing director. The

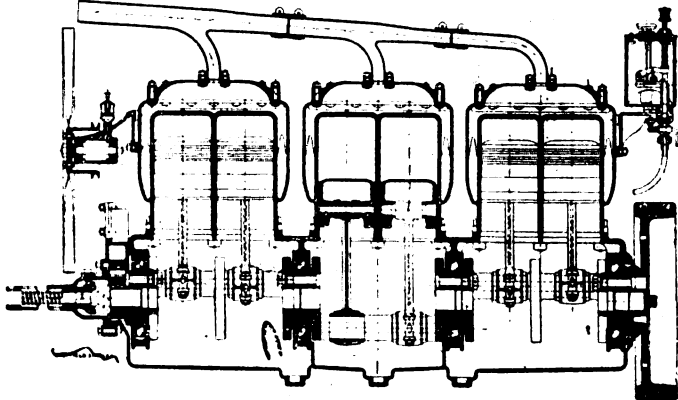


Fig. 30.—Sectional Elevation of "Sheffield-Simplex" 45-h.p. Six-Cylinder Engine.

vehicle is a successor to the Brotherhood car, and, while retaining many of the features of the latter, quite a number of improvements have been introduced, as will be seen from the following description. The engine (Fig. 30) has the cylinders cast in pairs, with the valves all located at one side. Each pair of cylinders exhausts into a separate pipe connected at its lower end with the main exhaust pipe. The cylinder dimensions are $4\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke. The carburettor is of a special automatic type, in which an air-tight float chamber is employed. Connection is made between the upper part of the chamber and the admission pipe, so that the suction of the engine acts both on the float chamber and the jet. In this way not only an economy in fuel is effected, but a more perfect mixture ensured. The admission pipe is of a square section, and while occupying a relatively small space, is so arranged internally

fitted with readily-detached spring caps are formed in one side of the engine support arms, these forming a means of quickly replenishing the oil supply in the base-chamber at any time. Large inspection holes are provided in the bottom of the base-chamber, the mud shield below being so arranged that it can be readily removed to give access thereto. The control of the engine speed by means of a lateral-moving pedal, as introduced on the Brotherhood car, is retained, but this has been improved by mounting it on a ball bearing. Ball bearings are fitted not only to the crank shaft but also to the camshaft—in fact, it may be said that

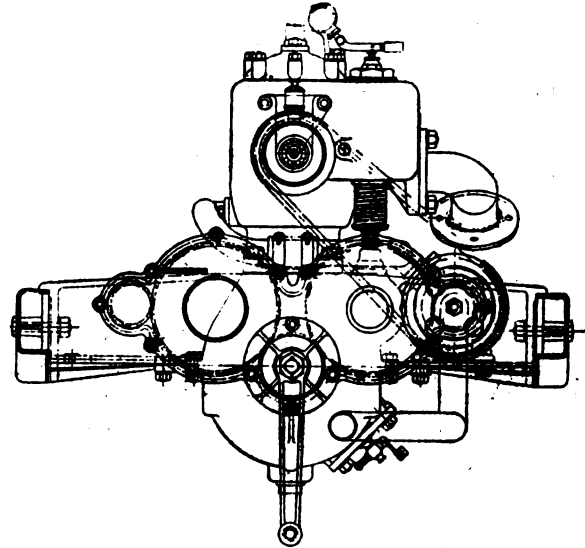


Fig. 31.—Front Elevation of "Sheffield-Simplex" 45-h.p. Six-Cylinder Engine.

they are used throughout the car. The crank shaft bearings are supported in the top half of the crank-chamber, enabling the bottom portion to be removed without disturbing any of the parts. A simple but useful addition is seen in a small projection cast on the sides of the cylinders, which form supports for a screwdriver or any other available tool to enable the valves to be detached with a minimum of trouble. The clutch (Fig. 33) is of the Hele-Shaw type, the pedal operating it being connected to the foot brake. The first portion of the travel of the pedal disengages the clutch, the further movement applying the brake. The gear box, which is "gate" controlled, gives three speeds forward and a

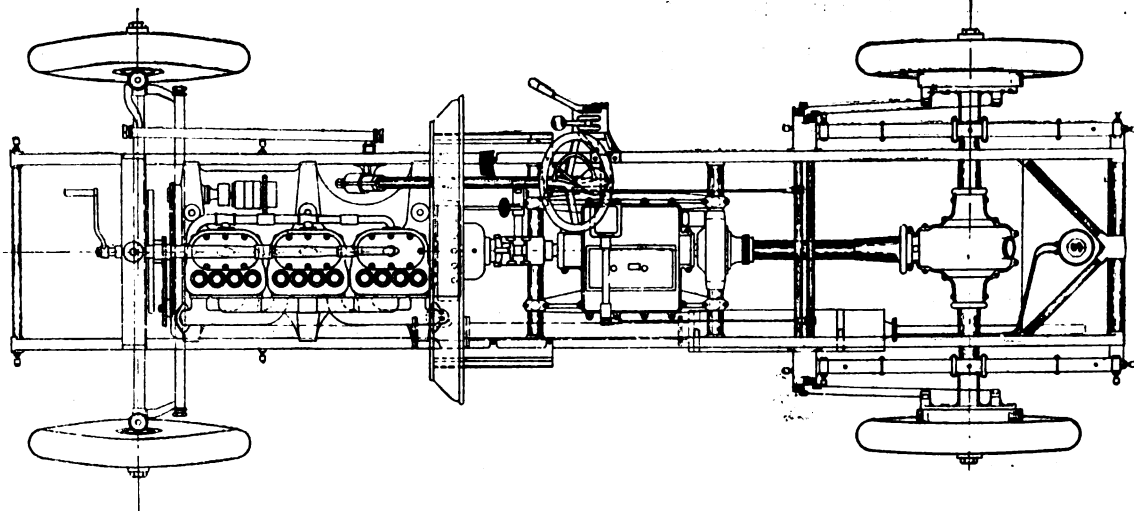


Fig. 32.—Plan of Chassis of "Sheffield-Simplex" Six-Cylinder Car.

that a full supply of gas for each cylinder is ensured. Two systems of ignition are provided, the feature of the high-tension magneto being the combination therewith of a low-tension contact maker for the accumulator system. Attention may also be drawn to the high-tension ignition wiring; the wires for the six cylinders are all moulded together in insulated material and encased in vulcanite, an innovation both interesting and useful. The water circulation is maintained by a gear-driven pump of special design. It is located on the valve side of the motor, and can be easily detached. The radiator is of the usual honeycomb type, but of a distinctive shape. It is provided with an air-inducing fan driven off the pump shaft. The radiator frame is made with only one joint, so that the risk of leakage is reduced to a minimum. Holes

reverse, with a direct drive on top speed. The gear shafts are hollow and of large diameter. A point about the change speed control mechanism is that in place of having to slide the lever and sleeve to operate the gear change, the lever is furnished with a fulcrum giving a freer action, greater leverage, and obviating any tendency of the selecting lever to bind in its bearings. From the gear-box the power is transmitted by a cardan shaft and bevel gear to the live axle; the whole of the cardan shaft is enclosed in a casing (see Fig. 37), which acts as a torque rod. The forward end of the casing terminates in a globular joint, which not only forms a shield for the joint, but allows for movement of the back axle in all directions. A support for the globular joint is carried by a cross member on the frame. Fig. 35,

which gives a plan and elevation of the rear axle, shows that the latter is of the arched type, and allows the wheels to be splayed as in chain-driven vehicles. This style of construction is rendered possible by introducing two barrel square joints on the live axle, one on each side. These are shown at B, Fig. 36. The latter illustration shows that the differential case is split horizontally, and can be readily detached; moreover, by taking off the axle caps and withdrawing the shafts from the barrel-square joints the bevel wheel and the differential gear can be entirely removed from the chassis. As will be seen, the differential gear

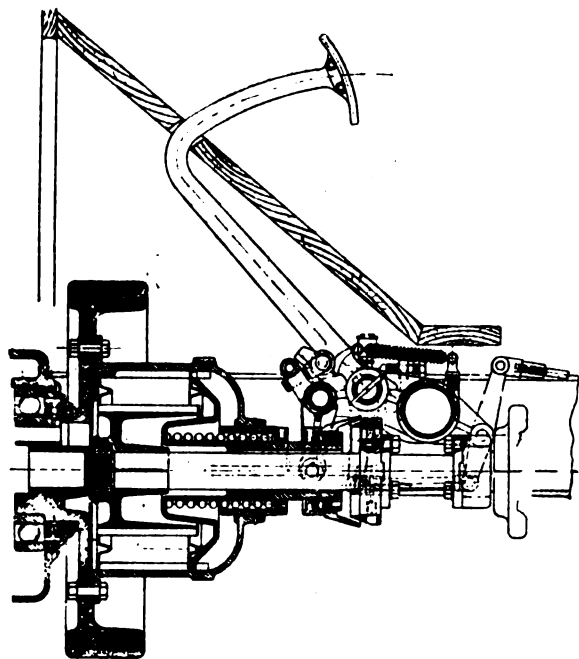


Fig. 33.—Sectional View of Clutch of "Sheffield-Simplex" Six-Cylinder Car and Operating Gear of same.

is of the spur pinion type. The weight of the car is carried on the axle casing, the axle driving the road wheel hubs through dog clutches. The brakes of the car are also of an interesting design. Both the foot and the hand-controlled brakes are centred on drums attached to the hubs of the rear wheels, and are of the internal expanding type. A view of the drum is shown in Fig. 35, from which it will be seen that each brake acts on a separate surface. The frame is of pressed steel, and

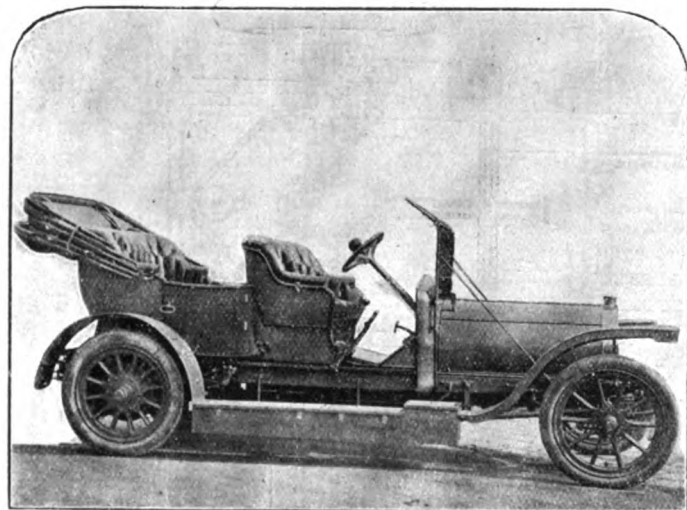


Fig. 34.—The "Sheffield-Simplex" 45-h.p. Six-Cylinder Touring Car.

is quite straight, the front and rear ends being tied together by cross bars. The chassis is supported on five springs, which are of the type introduced on the Brotherhood car—i.e., they are provided with means of lubricating each leaf. A good feature, too, is seen in the fitting of grease cups to all the spring shackles. The feature of the steering pivots is that they are set slightly out of the perpendicular in order to make their centres coincide with the point of contact of the road wheels on the ground, and so facilitate steering. Special attention is drawn to the lubrication, an interesting form of mechanical lubricator being fitted to the dashboard. There are five pumps in the lubricator, actuated by a chain-driven cam shaft. Three of them are connected to the engine,

one to the gear-box, and one to the universal joint of the cardan shaft. From the latter the oil flows through the cardan casing to the differential case and thence along the axle to the road wheels. The complete cars on view include a limousine, a landaulet, and an open touring car to seat five persons, with Cape hood and glass screen. In the latter luggage space is arranged under both the front and the rear seats, a sliding luggage grid being also located under the back seat. Tool lockers are provided, as also accommodation for accumulators and acetylene generators in boxes under the side steps.

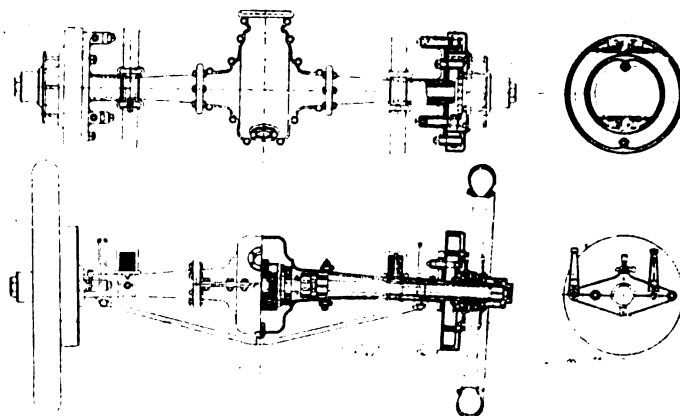
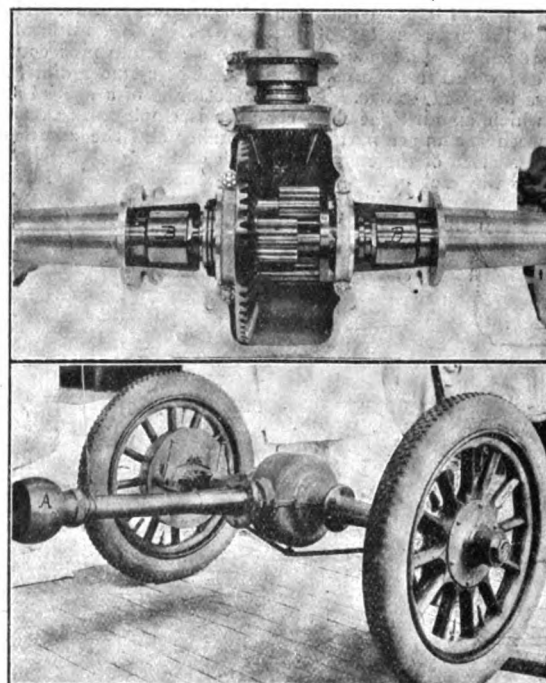


Fig. 35.—Part Sectional Plan and Elevation of Rear Axle of "Sheffield-Simplex" Six-Cylinder Car, showing inclined road wheels, spur differential gear, double hub brakes and improved brake operating toggle cam.

The Jackson Car.

As usual, Messrs. R. REYNOLD JACKSON AND Co. make an interesting display of the Jackson vehicles, which, in view of their relatively low



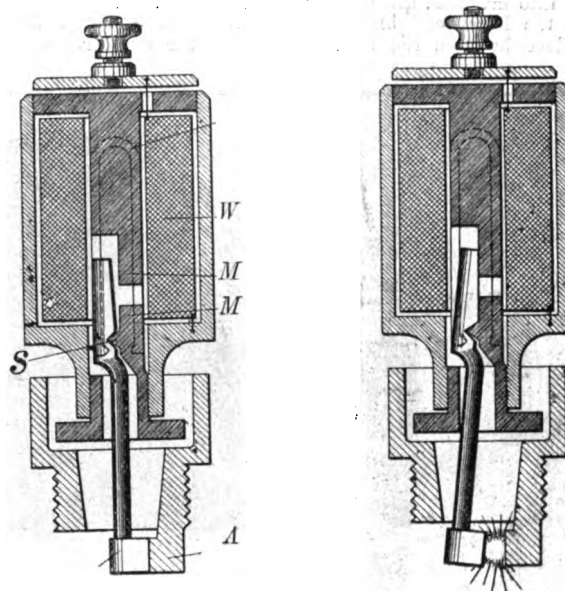
Figs. 36 and 37.—View of Bevel Gear Drive on "Sheffield-Simplex" Six-Cylinder Car, the top half of the differential casing being removed. This illustration also shows the spur differential gear and the barrel-square joints B, which allow the live axle to be arched. The lower picture is a view of the Rear Axle of the "Sheffield-Simplex" Six-Cylinder Car, showing the spherical joint at the forward end of the cardan shaft sleeve; the latter acts as the torque rod.

prices, combined with sound construction, have rendered them exceedingly popular. A prominent place on the stand is given to the novel two-seated car illustrated in a recent issue of the *M.C.J.* This vehicle, which has the appearance of a miniature racer, is fitted with a De Dion 8-9-h.p. engine, driving through a leather cone clutch and three-speed gear-box to a live axle. Other cars on view include a 6-h.p. phaeton and an 8-h.p. dogcart, both being fitted with De Dion engines. Various detail improvements have been introduced into these vehicles with the view of increasing their reliability, while to render them more comfortable to the passengers a transverse spring at the rear is now included in the suspension system.

The De Dietrich Cars.

The De Dietrich cars are exhibited by Messrs. JARROTT AND LETTS on two different stands, the French-built vehicles being displayed on one, while the other is devoted to the new British-built De Dietrich. Dealing first with those which hail from across the Channel, it may be stated that four models are on view—14-18-h.p., 18-23-h.p., 23-35-h.p., and 40-50-h.p. The last three have four cylinders, with the interchangeable valves arranged on opposite sides; the ignition is by low-tension magneto, with automatic advance according to the speed of the engine. At the same time, a hand control is fitted, so that the firing point can be set to any desired position. To facilitate starting a half-compression device is provided in connection with the exhaust valves. The lubrication of the engine is effected by a pump driven off the cam shaft, the oil tank being located below the engine supporting arms on the exhaust side. A new clutch of the metallic disc type, with an adjustable spring tension, transmits the power to the gear box through a universal joint, which allows for any slight distortion of the frame whilst travelling over rough roads, and also permits the clutch to be dismantled without disturbing the engine or gear box. The latter, which is "gate" controlled, provides four speeds forward and one reverse. By a new arrangement the third and fourth speeds are driven direct from the engine to the counter-shaft. The main shaft carries at its rear end two bevel pinions, each meshing with its corresponding bevel wheel on the differential shaft. On the first, second, and reverse speeds the power is transmitted through a bevel pinion on the side shaft to a separate bevel on the differential. There are thus three pairs of bevel wheels in connection with the driving gear. Special attention has been devoted to the brakes. The rear road wheels have two large drums, to which are attached the driving sprockets. Inside these drums are expanding segments, operated by means of a "pull-on" hand lever. A compensating device is fitted to equalise the pressure on each wheel, and further provision is made to absorb the shocks which would otherwise be thrown on the brake gear whilst travelling over rough roads with the brakes on. The differential shaft is provided with two brakes operated by a single pedal. Fig. 40 depicts the latest departure of the De Dietrich Company—a 14-18-h.p. live axle car, designed for use as a town car. The engine is a smaller model of the chain-driven types, high-tension magneto ignition being, however, fitted in place of low tension. The clutch is of the metal disc type, while the gear gives four forward speeds and a reverse. The rear axle is similar in design to that in the 20-30-h.p. car mentioned below. The frame can be supplied either curved, as illustrated, or straight, the former facilitating the fitting of very low carriage bodies with roomy side doors. As regards the British-built Lorraine Dietrich, in which considerable interest is being shown, only one type is at present being turned out—a 20-30-h.p. model, this being very much on the lines of the 14-18-h.p. referred to above. The car has been designed to suit English roads, and, having a long, low frame, can be fitted with either touring or town carriage bodies. The engine has four cylinders cast in pairs, 110 mm. bore by 130 mm. stroke, fitted

ball bearing at the forward end of the crank shaft. The gear box provides four speeds forward and one reverse, operated by a "gate" controlled lever. The drive is transmitted to the live axle by means of a cardan shaft, which is supported by a cold-drawn taper steel tube, the latter acting as a torque rod. The rear axle is very strong in design, is oil-retaining, and fitted with ball bearings. The road wheels are mounted on the outer casing, and are driven by dog clutches fitted in the wheel hubs. In this way the actual driving shafts do not have to bear



Figs. 38 and 39.—Sectional Views of new Bosch Low-Tension Make and Break Plugs employed on the 1908 Mercedes Cars.

any of the weight of the car. The rear axle is of the arched type, enabling the road wheels to be splayed, as in chain-driven cars. This is obtained by introducing a special form of joint in the live axle. Self-lubricating ball bearings are fitted throughout the chassis, while shock absorbers are now provided on all the cars.

The Mercedes Cars.

We have already given some particulars of the 1908 models of the Mercedes cars built by the GERMAN DAIMLER COMPANY, together with

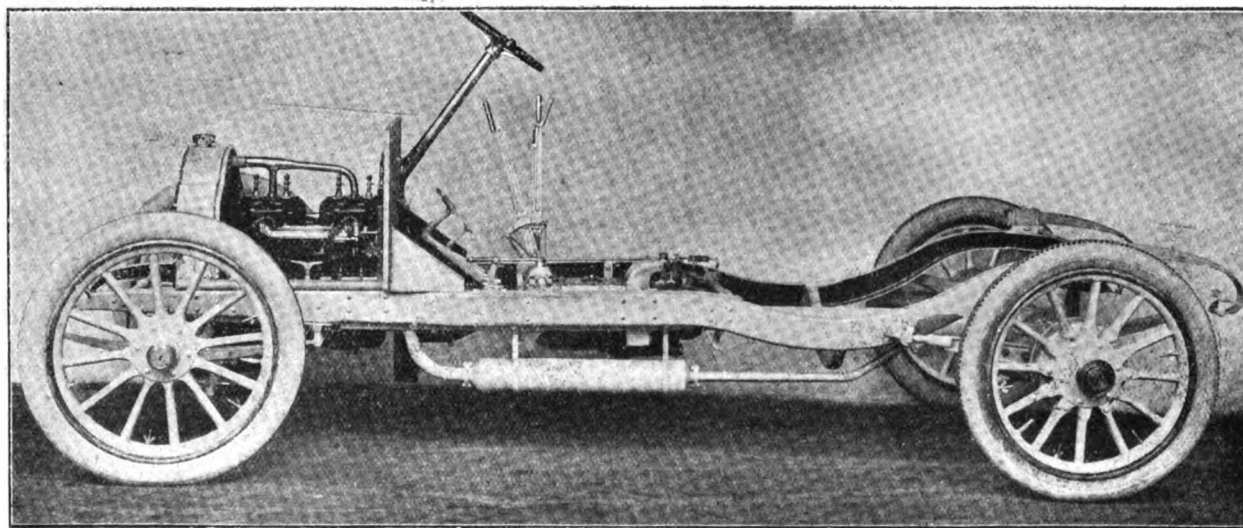


Fig. 40.—Chassis of De Dietrich 14-18-h.p. Car.

with low-tension magneto ignition, so arranged as to automatically adjust the firing point to secure the greatest efficiency at all speeds. The lubrication is automatic, starting when the engine is started and ceasing automatically when the motor is not running. It is operated by means of mechanical pumps, which force the oil up to a sight-feed lubricator on the dashboard, it being afterwards pumped under pressure to the various bearings. A feature of the engine design is the adoption of a

two illustrations. As we previously pointed out, one of the new departures is found in the ignition. While the low-tension system is retained, the usual make-and-break rod and tappets are all done away with, their place being taken by a neat electro-magnetic arrangement arranged in the form of a sparking-plug of little more than the usual size. The new system, which has been developed by Herr Bosch, makes use of an ordinary low-tension magneto, the current from which

passes through a distributor, which conveys it in turn to the different cylinders. Figs. 38 and 39, for which we are indebted to the *Allgemeine Automobil Zeitung* of Vienna, give two sectional views of the make-and-break plug. The latter comprises a lever which works on a pivot S, and the lower end of which is normally in contact with the piece A. M are the pole-pieces of an ordinary magnet, round which is a coil W. As the distributor makes contact with the different cylinders, a current of electricity passes through the winding W, which, converting the pieces M into magnets, attracts the upper end of the lever, as shown in Fig. 39, the lower end breaking away from A, a large, fat spark taking place between the two, so igniting the explosive charge. A

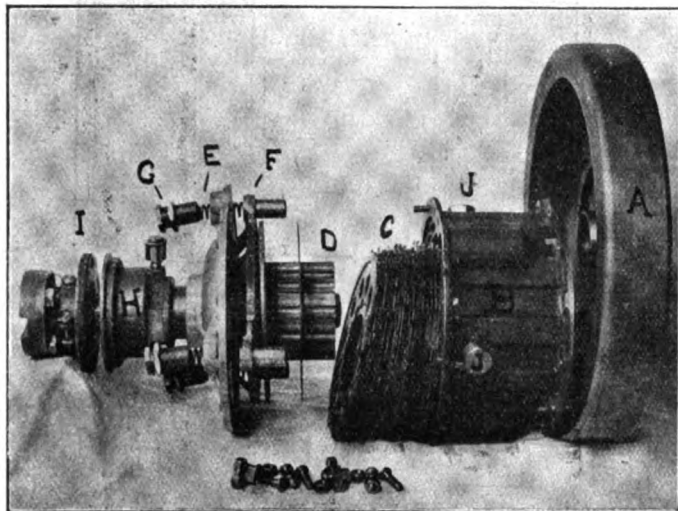


Fig. 41. - Details of Clutch on Napier Cars.

spring causes the lever to return to the position shown in Fig. 38. The ignition is, as will be seen, somewhat on the lines of that known as the Simplex, introduced a few years ago in this country.

The Napier Cars.

Three cars and a chassis, all fitted with six-cylinder engines, form the exhibit of Messrs. S. F. EDGE, LTD. The vehicles on view comprise a 30-h.p. side-entrance touring car with a Cape hood, a 40-h.p. chassis, a 40-h.p. double landaulet, and a 60-h.p. Pullman limousine. The new 30-h.p. Napier chainless car has so recently been described in the *M.C.J.* that no further reference to the chassis is necessary. Its rela-

be entirely enclosed. The speciality of the hood is that it can be opened out or shut up by one person alone simply by turning a small handle fitted on one side. This operation opens the hood entirely in one minute from its folded state behind the rear passengers to its position extending half-way over the bonnet, and *vice versa*. Fig. 42 gives a view of the chassis of the 40-h.p. car, which, as will be seen, is fitted with the Rudge-Whitworth detachable wire wheels. The engine cylinders are cast in pairs. The valve tappets have adjustable tops, with the object of taking up wear, and, in addition, each tappet is fitted with a small coiled spring, which automatically holds the tappet up to the valve and eliminates noise. The Napier synchronised ignition by accumulator is used, one coil in conjunction with a contact-maker and a high-tension distributor fires each sparking plug in its turn, and ensures absolutely accurate timing in each and every cylinder. A magneto can be fitted, if desired, instead. The carburettor is of a very simple type, combining a throttle-valve and automatic air intake and an auxiliary air-valve controlled by the driver. The throttle lever on the steering wheel is set to give a maximum speed of about twenty miles per hour, the increase above this being made by a foot-controlled accelerator. The drive of the engine is transmitted to the gear-box by the Napier multiple-plate clutch. Fig. 41 shows the various parts of the clutch dismantled. The plates or discs C are made of different metals arranged alternately, one set being carried by the box B and the other by the boss D. The discs in the box B are free to slide inside the same, but not to rotate; similarly, those carried by D can slide, but not rotate, on the boss. To convey the power of the engine from the flywheel to B, and through the discs to D, all the plates are thrust together by means of springs E pushing the plate F. This forces the whole of the plates towards the flywheel, and, on account of the number of discs employed, while each disc has relatively to convey only a very small amount of power, the total amount of gripping surface is very great. Three adjusting screws G are provided; the thrust-block H is for releasing the clutch, and as this is drawn away from the flywheel it approaches a disc, I, which acts as a clutch brake to enable the first and reverse speeds to be engaged silently. A removable stud J is provided to enable lubricant to be poured into the clutch-box, which forms an oil-tight bath for the plates to run in. The change-speed gear, which is adapted to give three speeds forward, runs on no less than seven ball bearings. The sliding wheels do not move on a square shaft, as usual, but on a castellated shaft having eight grooves. The top gear is a direct drive, and when in use the gear-box merely acts as a long bearing for the driving shaft transmitting the power to the live axle. The propeller shaft and live axle shafts are steel forgings; the latter have the differential wheels in one piece solid with them, and the whole of the live axle runs on ball bearings. Other features of the design are the straight side-members of the frame and deep section pressed steel cross-members braced together with tie-rods. The torque rod is widely splayed at the rear end, where it is attached to the casing of the differential gear, and is connected at the front end to the chassis by the medium of a ball-joint held between an upper and lower spring strongly compressed in a vertical box suspended from a hinged joint. The frame

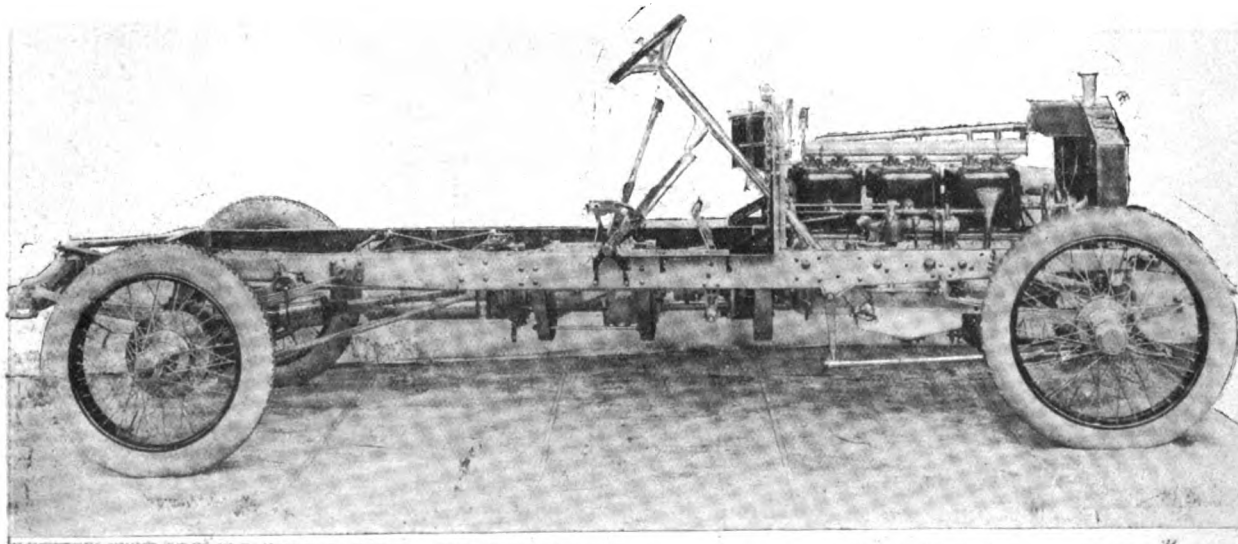


Fig. 42. - Chassis of Napier 40-h.p. Six-Cylinder Car.

tively low price brings the six-cylinder car within the range of a large clientele, and we are informed that already over 300 have been ordered. The car exhibited has an open touring type body. The rear seat is designed to give ample room for three occupants. The space under both back and front seats is designed to take spare parts, and a reserve tyre can be carried in a convenient bracket fitted on the right-hand side of the driver over the platform step. An entirely new patented design of Cape hood is fitted, this being covered with waterproof material and provided with attachable side-curtains and a roll-up screen with windows to let down at the back of the driver's seat, enabling the rear of the car to

is suspended on five long springs, which, in conjunction with the Napier "road equalisers," prevent any road shocks being transmitted to the passengers. The 60-h.p. chainless chassis on view is fitted with a Pullman limousine body, with ample seating accommodation in the interior for five persons—three on the main seat and two on large and comfortable additional seats arranged so that the occupants face forward. These two seats when not in use fold up against the side of the car, leaving the whole of the interior space available for the occupants of the hind seat. A folding table is fitted, divided in the centre. The roof extends forward over the driver's seat, and is supported in front by two hollow

steel pillars attached to the dashboard; over this is fitted a large glass wind-screen for the protection of the driver and passenger at his side. Throughout the whole scheme of this car comfort has been studied. A thick felt pad extends over the floor, on the top of which is a pile carpet of a shade in unison with the buff ribbed cloth of the upholstery. The woodwork, including interior panels and window-frames, is of polished mahogany. All the windows, with the exception of that at the back of the car, are arranged to open, and silk blinds on spring rollers are fitted throughout. Three handsome electric lamps are in the roof; means of communication between the passengers and driver

the valves are placed on opposite sides. The bore is $3\frac{1}{2}$ in., and the stroke $4\frac{1}{2}$ in. On this car the ignition is by low-tension magneto; the make and brake gear is located on the top right side of the motor, and is operated through a worm gear-driven shaft. Means are provided for advancing and retarding the ignition. The carburettor is of the Grouville-Arquembourg automatic type. The transmission is through a leather cone clutch, three-speed gear box, and cardan shaft. The latter is provided with a casing, which acts as the torque rod. The exhibit also includes the C.S.B. 25-30-h.p. side-entrance car built for the Maharajah of Bikanir. The car has also an engine with four cylinders in

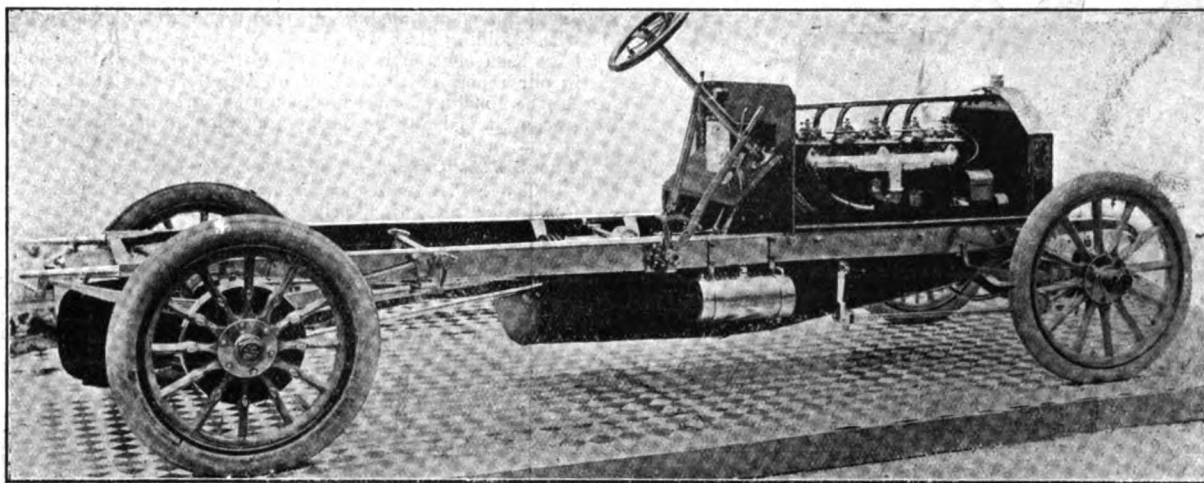


Fig. 143.—Chassis of S.P.A. 60-h.p. Six-Cylinder Car. (See page 806).

are provided, also ash-trays, mirrors, and all the various fittings necessary to a well-appointed car. The central portion of the roof is arranged to accommodate luggage, and a ladder is provided, folded neatly out of sight in a box.

The Straker-Squire Cars.

Prominent in the display of Messrs. STRAKER AND SQUIRE, LTD., are two new British-built vehicles. One of these is a new 12-14-h.p. car, known as the "Shamrock." The motor comprises four cylinders cast in pairs, 85 mm. bore by 85 mm. stroke, the valves being arranged on one side. The ignition is by coil and accumulators, the contact maker

one casting. The dimensions in this case are 110 mm. by 130 mm. Low-tension magneto ignition is adopted. All the valve gear is enclosed by large aluminium plates with bayonet catches. Large inspection doors are provided in the base chamber for obtaining access to the crank shaft bearings. The control of the engine is by a single lever working on a quadrant on the steering wheel, which actuates the valve lift from zero to $\frac{1}{2}$ on the quadrant, the other $\frac{1}{2}$ of quadrant being half compression, which is used only for starting purposes. The shaft of the admission cam is hollow, and presents, opposite to each valve, a slot in which a cam works perpendicularly to the axis, and allows of it sliding freely and without play. In the interior of this shaft, and made from a single

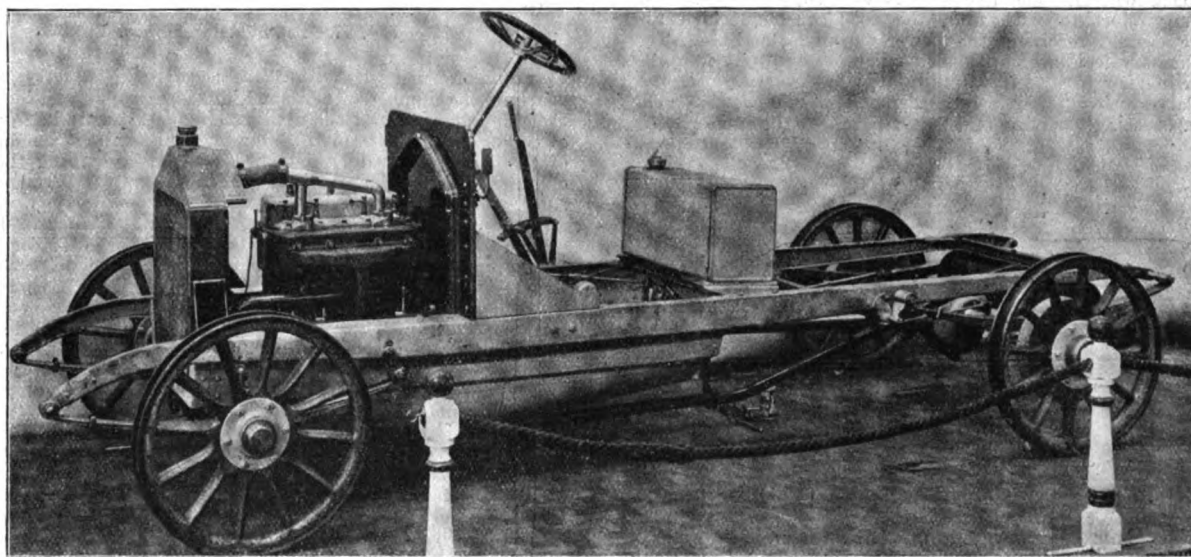


Fig. 44.—Chassis of the Straker-Squire 16-20-h.p. Four-Cylinder Car.

being located on the upper end of a vertical spindle driven off the cam shaft. The spindle is extended downward to operate the oil pump. The water circulation is on the thermo-siphon system, no pump being employed. The clutch is of the leather-faced cone type. The gear box is adapted to give three forward speeds in addition to the reverse, the transmission being by cardan shaft and bevel gear to a live axle. The brakes are all centred on the rear road wheels hubs, twin brake drums being provided to each. The vehicle is built with two-seated body, and should prove a speedy little car. The other new model is a 16-20-h.p. car (Fig. 44), the four cylinders of which are all in one casting, and

piece, is another shaft, which carries, at the point where the cams are, an eccentric, which supports and controls the movement of the cams. The end of this shaft extends outside the hollow shaft, and is connected by a pinion wheel with the control lever on the steering wheel. The hollow shaft is rotated directly by the engine. It follows, then, that as the control lever is moved over the quadrant, the eccentrics are rotated, and the cams having to mount on them, a variable lift is given to the valves. The engine is lubricated by a rotary pump in the lower portion of the crank case, which draws the oil from a sump and delivers it to the different bearings. The change speed gear is of a patented

type, providing for the teeth of the respective gear-wheels becoming engaged previous to any load being thrown upon them. The three speeds and reverse are obtained by two sliding trains, which are movable on the shaft. In order to obtain the speed desired one slides the corresponding train upon the shaft, engagement with the gear-wheels then takes place without grinding or shock, because the train is still free, and has to overcome its own inertia till it revolves at the same speed as the train on the other shaft. A dog-clutch secures the wheels in their respective positions. The actuation of the two sliding trains is

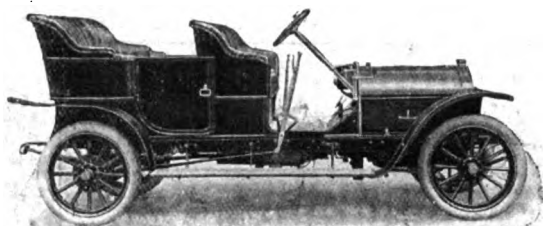


Fig. 45.—The Siddeley 14-h.p. Side-Entrance Double Phaeton.

effected by a single lever working in a novel form of quadrant. The final drive is by cardan shaft to a live axle.

The Siddeley Cars.

The WOLSELEY TOOL AND MOTOR CAR COMPANY, LTD., are showing six samples of their "Siddeley" cars—three being in the form of complete vehicles and three being the chassis only. They consist of one four-cylinder 14-h.p., two four-cylinder 18-h.p., one four-cylinder 30-h.p., one four-cylinder 40-h.p., and one six-cylinder 45-h.p. All except the last mentioned, which is chain-driven, are of the live axle type. The new models for 1908 are three in number—the 14-h.p., the 18-h.p. type de luxe, and the 40-h.p. live axle. The first mentioned has a four-cylinder engine of 3.9-16 in. bore and 4 in. stroke, giving under R.A.C. rating 20-3-h.p. The cylinders are cast in pairs, with the valves located on one side. Thermo-siphon cooling is employed, and very large water-pipes are fitted. Coil and accumulator electric ignition is standard, but magneto can also be had at an extra charge. The commutator is arranged in front of the dash and above the rear cylinder. A noticeable feature of this, as, in fact, in all the engines, is the separation of the carburettor from the throttle and auxiliary-air valves, the former being located on the right of the motor and the latter mounted immediately above the inlet pipe on the left. Between the leather-faced cone clutch and the gear-box a universal joint is provided. The three-speed gear-box has a three-point suspension, and is exceedingly compact. The drive is direct on top speed. The foot-brake is of the external type on the propeller shaft, and the side-brakes are internal, expanding in drums on the back wheels. The live axle is well supported, and has only the driving effort to withstand, the road wheels, which are mounted on the casing, receiving the power through the hubs. The vehicle, which has a wheel-base of 8 ft. 9 in., is an exceedingly interesting model, and, in view of its general suitability for everyday use and touring and relatively low price, a large demand may be anticipated. The new 18-h.p. chassis is founded on the old model of the same power.

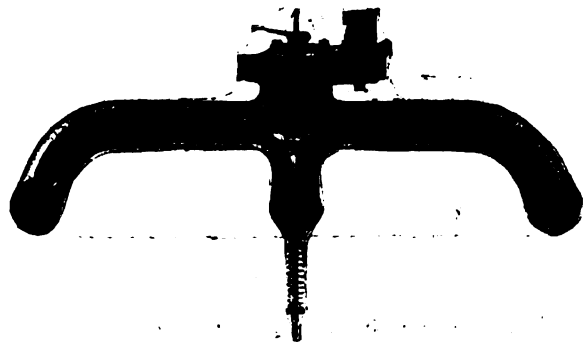


Fig. 46.—The Inlet Pipe and Throttle of the Siddeley Cars.

but it has various improvements. For instance, magneto as well as high-tension ignition by coil and accumulators is provided, while a gear-driven pump in the base chamber forces oil to all the engine bearings direct. The contact-maker is now brought up just above the rear cylinder and in front of the dashboard. The gear-box is "gate"-controlled, and gives four forward speeds, the direct drive being on the third. The new model 40-h.p. four-cylinder live axle car has been produced to meet the demand for a more powerful light touring vehicle. The bore of cylinders is 5 in. by 5½ in. stroke. It is equipped with high-tension magneto ignition, as well as coil and accumulators. The transmission is through a metal cone clutch, four-speed gear-box, with direct drive on the third, cardan shaft and bevel gear. The other "Siddeley" models for 1908 are as follows: 10-h.p. two-cylinder, 18-h.p. four-cylinder standard, 30-h.p. four-cylinder chassis, and 40-h.p. chain-drive and 45-h.p. chain-drive. On all the cars the Elastos detachable flange rims will be fitted, if desired, at a small extra charge, and a

prominent feature is the provision in connection with the rear axle of all cars of 14-h.p. and over of the Wolseley shock absorber, illustrated in the last issue of the *M.C.J.*

Argylls, London, Ltd.

Unfortunately, owing to cramped position in the Annexe, ARGYLLS, LONDON, LTD., are only responsible for two cars—viz., the 16-20-h.p. with a seven-seated limousine body by Mulliner, of Northampton, and a 14-16-h.p. Argyll landaulet. Both cars are painted in a rich dark coach blue, with black mouldings with a fine primrose line. The interior of each is tastefully upholstered in buff cord and fitted up with all necessary little details to add to the comfort of the occupants. An extension is provided over the driver's seat of each car, and is fitted with a folding glass wind screen and luggage rail. Several improvements have been effected in the 1908 14-16-h.p. model, these being referred to in our report of the exhibit of Argyll Motors, Ltd., Alexandria, N.B. As the 16-20-h.p. car has given such great satisfaction during the past season, it is being retained as a standard model for 1908 without any alteration to the chassis except to facilitate minor adjustments.

The S.P.A. Cars.

The S.P.A. cars, which made their debut in this country at the Cordingley Show in April last, are now being handled by the S.P.A. MOTOR COMPANY, LTD., of 7, Harrington Road, London, S.W. For the 1908 season four sizes of these increasingly popular vehicles are being made—viz., 20-h.p. and 40-h.p. four-cylinder, and 30-h.p. and 60-h.p. six-cylinder, the cylinder dimensions of the first and third being 95 mm. bore by 120 mm. stroke and of the second and fourth 130 mm. by 145 mm. The cars (Fig. 43) made by La Societa Piemontese Automobili Ansaldo-

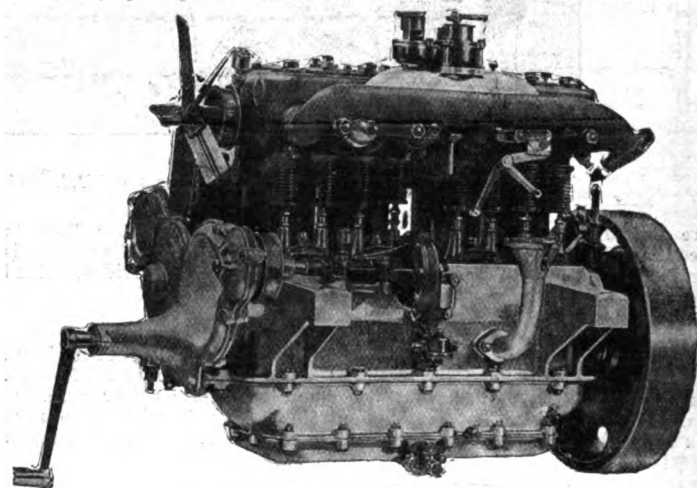


Fig. 47.—The Siddeley 30-h.p. Engine.

Ceirano, of Turin, Italy, are all the live axle variety, and, except as concerns the number of cylinders, are identical as regards the details, so that the following particulars may be taken as applying to all. The object of the designer has been to so arrange the leading components that any of them may be readily detached without disturbing the others. The cylinders are cast in pairs, and have the valves arranged on opposite sides. The carburettor is of a special automatic type, claimed to give an exactly proportioned mixture at all engine speeds. The ignition is by low-tension magneto, the make and break of two cylinders being actuated by a single cam mounted on the upper end of a spindle which passes up through the cylinder-head casting, so giving free access to the valve springs, and enabling the inlet pipes to be so arranged that the mixture from the carburettor has an equal distance to travel to each of the cylinders. The clutch is of the multiple-disc type, and the change-speed gear, which is adapted to give four speeds and a reverse, is controlled by a lever working in a gate. On the top speed the drive is direct through the cardan shaft and bevel gear to a well-supported live axle. The latter is of the arched type—a practice which is now becoming general with Italian designers; two bevel pinions are mounted on the extension of the cardan shaft, these gearing with their own bevel wheels on the live axle. The end thrust is in this way claimed to be balanced and the strain on the axle reduced. Ball bearings are, of course, fitted to all parts except the engine. Altogether, the S.P.A. vehicles are excellent examples of modern high-grade automobile construction.

The "Covey" Speed Indicators.

The "Covey" patent speed indicators and speed recorders have been so recently referred to in our columns that on the present occasion it will suffice to say that they are to be seen on the stand of the COWKY ENGINEERING COMPANY, LTD., of the Archer Works, Kew Gardens, S.W. The "Covey" trip mileage recorder shows the distance run and should not be missed by visitors, who will also be interested in the Extension speed indicator, which comprises two dials, one fitted on the dashboard and the other on the inside of the body of the car in combination with a clock for the use of passengers. Sound workmanship as well as scientific principles of design have combined to give the necessary reliability to these devices.

The Argyll Cars.

For the 1908 season ARGYLL MOTORS, LTD., are turning out five models—viz., 12-16-h.p., 14-16-h.p., 16-20-h.p., 26-30-h.p., and 40-h.p., all fitted with four-cylinder engines and live axles. A great many changes and improvements have been effected in the 14-16-h.p. car, with the view of making the parts simpler and more efficient. The frame is the same design as the 1907 model, of inverted U section, with the front spring pockets pressed out of the same material as the side-runners, giving a maximum of strength with the minimum weight of material. In addition to extra long rear side-springs, a transverse spring has been

introduced, which render it more complete. The first is that it is possible to alter the proportion of air to petrol while the engine is running, and thus obtain the best mixture. The second point is that it is possible to shut off all connection with the petrol jet, and allow nothing but pure air to enter the engine. This, in addition to giving considerable braking power, serves to remove any deposit of carbonised oil from pistons and plugs; and, last, but not least, by destroying the vacuum produced when the throttle is closed, prevents oil from being sucked up into the cylinders. All the operations are performed by one lever, the arrangement being such that, when the valve is full shut, fresh

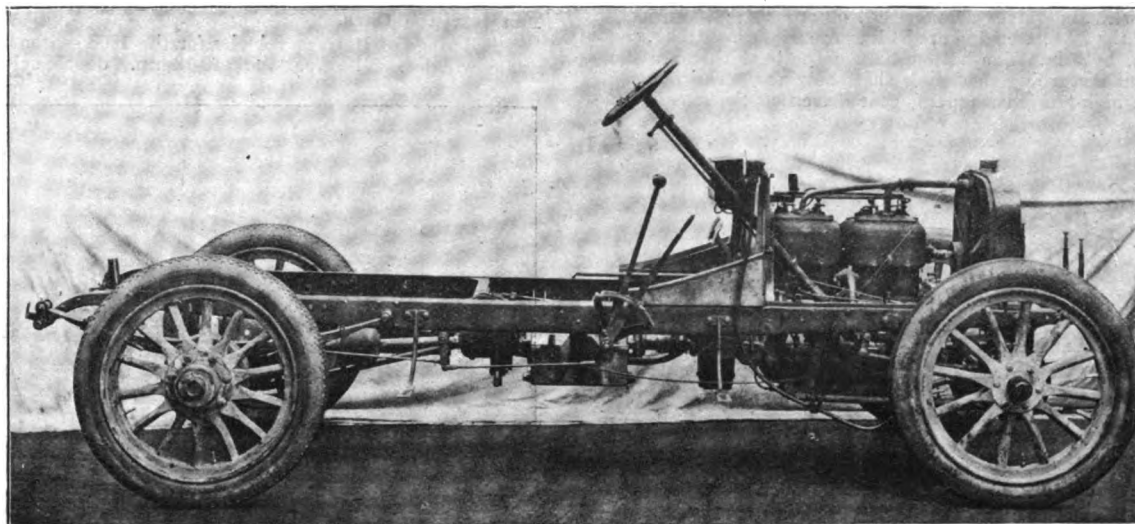


Fig. 48.—Elevation of Chassis of Argyll 40-h.p. Car

fitted, making the springing of the car most comfortable. The engine is of the same design as last year, but the cylinders and pistons are of entirely new pattern; the water-jacket has been made more accessible, and fitted with large top cover, while the piston has been lengthened and lightened. The section of the carrying arms of the engine crank case has been altered to secure sufficient space for the steering-gear box, thus enabling more rake to be given to the steering column. The lubrication of the engine bearings has also had considerable attention, a pressure-fed system having been adopted. A small geared oil pump is fitted to the rear end of the motor, driven by the exhaust cam shaft,

air only passes into the engine. The clutch is of the metal disc clutch type, a new and simpler disengaging gear having been adopted. The drive is taken to the gear-box through a universal coupling, designed to allow the clutch to be dismantled when necessary, without interfering at all with the gear-box. The change-speed gear is of the usual "Govan" type, giving three speeds forward and a reverse. The universal joints on the cardan shaft are of an entirely new design, the centres of the two cross pins passing through one another. The sliding movement is taken up in a fork at the rear end. To outward appearance, the live axle is similar to that fitted last season, but the hubs

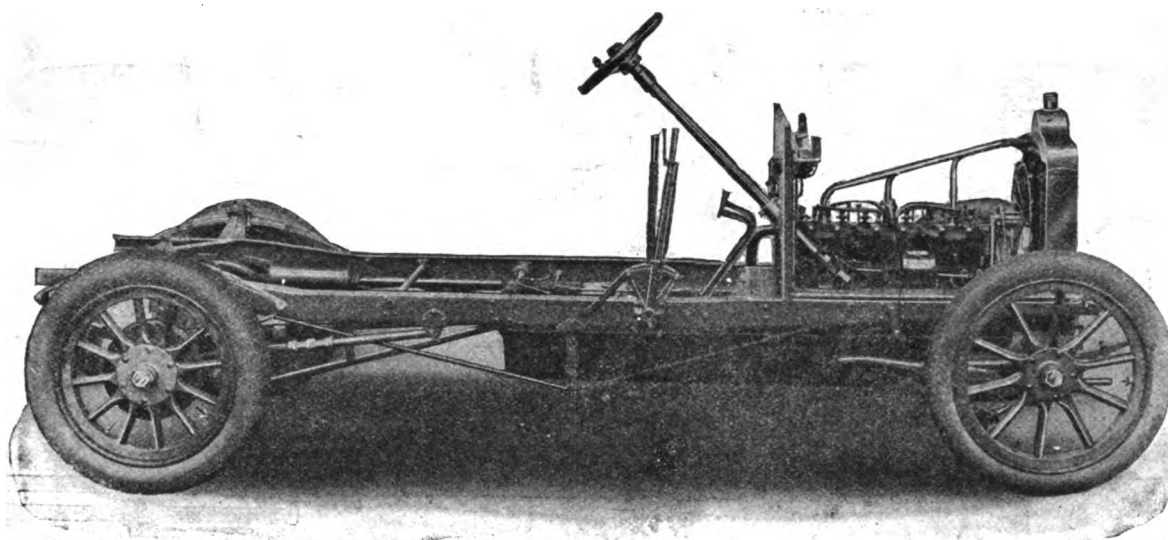


Fig. 49.—Chassis of "Standard" 40-h.p. Six Cylinder Car.—(See page 88.)

which lifts oil from a sump in the bottom half of the crank case, and forces it to the main bearings, through oil-ways in the crank shaft, to the connecting rod big ends. A specially-designed tell-tale is fitted to the dashboard to enable the driver to see that the system is in perfect working order; a test cock is also located in an accessible position in the crank chamber for convenience in filling the oil reservoir to the proper height. The engine is provided with the new "Argyll" carburettor, recently illustrated in the *M.C.J.* The device has several novel points; in addition to performing the ordinary functions of an automatic carburettor in a very perfect manner, two extra features are

are now arranged to run on extra large ball bearings on extensions of the axle casing, the drive from the live axle to the hubs being by dog clutches. One of the 14-16-h.p. cars on view is fitted with a limousine body, finished in blue and upholstered in grey ribbed cloth. Another model of the same power has a side entrance double phaeton of the "Modele de Luxe" type. The body has special dimensions, and every care possible has been taken to ensure the passengers' comfort. The exhibit also comprises a chassis of the new 40-h.p. car, but, as this was fully described and illustrated in the *M.C.J.* only a few weeks ago, no further reference thereto need be made.

The Standard Cars.

A car which has, under the ægis of Mr. Friswell, gained considerable prominence during the season is the Standard, built by the STANDARD MOTOR COMPANY, LTD., Coventry. For 1908 two models are being made—20-h.p. and 40-h.p., both being fitted with six-cylinder engines. Both vehicles are, generally speaking, on similar lines, so that the following particulars, except where specifically stated, may be taken to apply equally as well to one as to the other. The cylinders are cast in pairs, with the valves arranged all on one side; the dimensions in the case of the 20-h.p. engine are $3\frac{1}{4}$ in. bore by $3\frac{1}{4}$ in. stroke, and of the 40-h.p. 4 in. by 5 in. The bottom half of the base chamber can be detached without disturbing the crank shaft bearings. The ignition is by Simms-Bosch high-tension magneto, gear driven off the same shaft

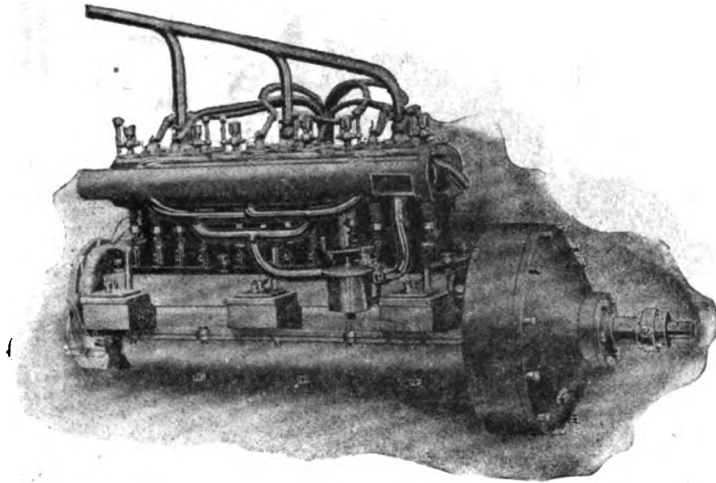


Fig. 50.—View of Carburettor Side of "Standard" Six cylinder Engine.

as the water pump. A feature of the automatic carburettor is the ease with which the various parts can be detached for inspection. A tubular radiator is employed, this being of extra large size, enabling a fan to be dispensed with. On the smaller car the lubrication of the motor is effected by gravity through a sight feed rack on the dashboard, while on the 40-h.p. a pump is provided, this being fixed to the lower half of the crank chamber. The central portion of the latter is made in the form of a well. The pump forces the oil through a filter,

detachable with equal facility. The differential casing is of the spur pinion type; the casing surrounding it is fitted with a large detachable cover at the rear, to enable the gear to be examined. Ball bearings are used throughout the gear-box and axles. The chassis is of such a length as to permit of a roomy closed or open side-entrance body to be fitted to either model. The vehicles are British built throughout, and are noteworthy for their silent and smooth running, as well as for their moderate price.

The Darracq Cars.

The range of Darracq vehicles for the 1908 season comprises 7-9-h.p. single-cylinder, 8-10-h.p. and 10-12-h.p. double-cylinder, 14-16-h.p.,

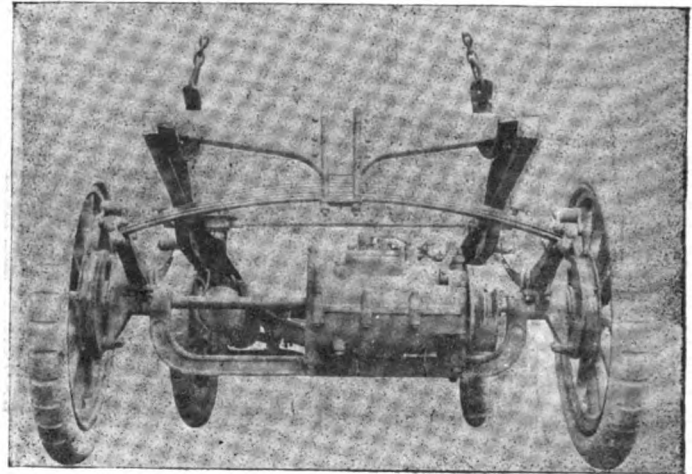


Fig. 51.—Rear View of Chassis of Darracq 18-h.p. Car, showing the H-section back axle, change-speed gear and differential box.

18-h.p., 25-35-h.p. four-cylinder, and 50-60-h.p. six-cylinder. Principal interest centres on the new 14-16-h.p. and 18-h.p. models, the design of which, while not entirely novel, inasmuch as a car on somewhat similar lines was exhibited by M. Henriod at the 1906 Paris Salon, is a striking departure from current practice. The details appended, while applying more particularly to the 18-h.p. type, may also be taken as appertaining to the 14-16-h.p. The frames are splendid examples of pressed steel work, the difference in section at different points to form

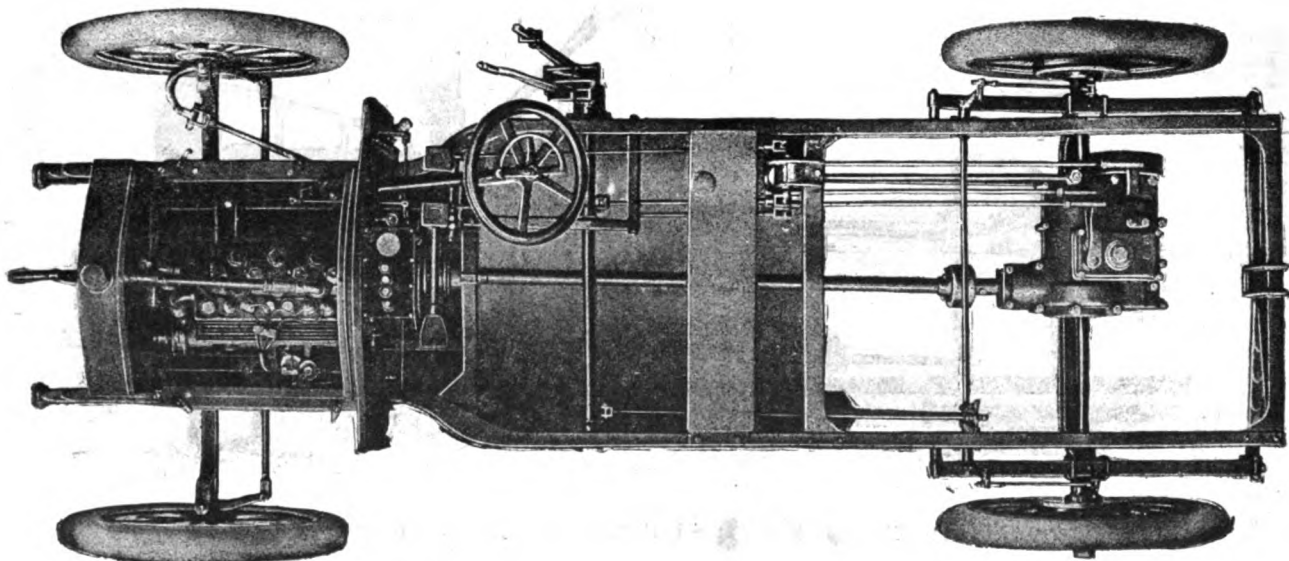


Fig. 52.—Plan of the Chassis of Darracq 18-h.p. Car.

and distributes it to the different bearings of the engine, the surplus oil running back to the well. The clutch is of the metal-to-metal type, consisting of a single plate held between the flywheel and a floating ring. The gear-box is very compact, reducing the length of the shafts to a minimum. The three speeds and reverse are controlled by a lever working in a "gate." On the top speed the drive is direct through a cardan shaft to the live axle. The universal joints are of a special design. It is exceedingly simple, but somewhat difficult to describe, in the absence of illustrations. It may be stated, however, that no pins or nuts are used in its construction. By loosening one bolt, the cardan shaft can be readily removed from the chassis, the bevel pinion being

supports for various parts of the car's mechanism being noteworthy. The side-members are inset in the front to increase the steering lock, and set up at the rear to give a lower centre of gravity to the complete car. The chassis is suspended on semi-elliptic springs back and front, with a supplementary transverse spring behind. The four cylinders of the motor (Fig. 53) are cast *en bloc*, with the valves all on the one side. Cast integral with the cylinders is an expansion chamber for the exhaust gases, having longitudinal ribs to assist in dissipating the heat, a single pipe leading from this expansion chamber to the silencer; a similar method is adopted in regard to the inlet valves, one pipe leading from the carburettor to a port formed midway in the hollow

casting running the whole length of the engine, and having communication with the inlet valve ports and interior of the cylinders. The cam shaft operating all the valves is enclosed in the top of the aluminium crank case, the valve tappet guides being held in position by a single screw, so that removal is an easy matter. Over the valves are fitted neat screw-in plugs, those over the inlet valves accommodating the sparking plugs. The cylinders, which have a bore and a stroke of 100 mm. by 100 mm., are held to the crank case by bolts and nuts on either side, two of the holding bolts passing through the cylinder flanges extending downwards, and serving to hold the lower and detachable half of the centre crank shaft bearing in place. The end bearings are fixed in a similar way, so that the bottom half of the crank case has no connection with the bearings, and can be detached without in any way disturbing these parts. A hinged inspection door is also provided in the base chamber, to enable the big ends to be inspected. The carburettor, pump, and magneto are mounted on the engine, which thus forms a complete unit. The carburettor has a single jet and auxiliary valve placed on the top, the air ports being opened by the same hand lever that manipulates the throttle. A foot accelerator is also fitted, inter-connected with the hand throttle. The ignition is by high-tension magneto, which by slackening one nut can be withdrawn from its seating on the top half of the crank case. To all intents and purposes the ignition is fixed, inasmuch as there is no connection from it to the steering wheel. The advance and retard mechanism is connected to a horizontal rod ending with a brass knob, which projects just outside the front of the chassis immediately below the radiator, and alongside a similar knob on the end of the carburettor "tickler." This latter is rather unique. Instead of the usual small bell-crank lever for

latter, being deeply bowed, brings the horizontal ends in a line with the differential driving shafts on either side of the gear-box, passing through the solid axle, and driving the road wheels through the medium of a dog clutch. The construction of the change-speed gear elements can be seen from Fig. 54, which shows the large bevel wheel on one end of the primary shaft and the differential gear at the other. The sliding elements are fitted to the primary shaft, with a dog clutch for the direct drive. Three speeds forward and one reverse are provided, operated by the single lever, which has a "gate" control. Ball bearings are fitted to all parts. The box containing the change-speed gears and differential can be removed *en bloc* by unscrewing four bolts. The foot-brake drum is placed on the end of the secondary shaft of the gear-box on the outside, the brake shoes being of the internal expanding metal type. The rear road wheels are fitted with similar brakes placed in the usual position. The innovations will probably be called daring in some quarters, and certainly they are of such an unconventional nature that they are creating a considerable amount of interest in motoring circles. It may be presumed, however, that such radical departures would not be adopted unless they had been thoroughly tested; in fact, the system has been employed on the Darracq racers for the last three years. The complete cars on view include an 18-h.p. with a standard open touring body of the Roi des Belges type, with seating capacity for five persons. The 25-35-h.p. car has cylinders of a bore and stroke of 120 mm. by 120 mm. Double high-tension ignition is fitted, while the change-speed gear, which is situated in the usual position, gives four forward speeds and a reverse, operated by a "gate" controlled lever. The chassis in all other respects is the same as the well-known 1907 20-28-h.p. type. It is, however, now supplied in two lengths, one suitable for a double

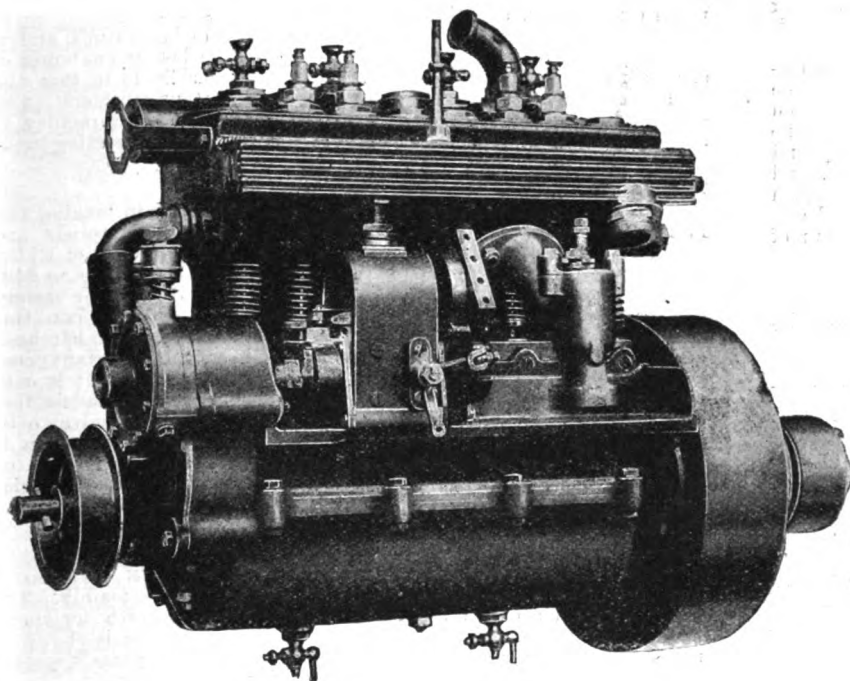


Fig. 53.—The Darracq 18-h.p. Motor.

lifting or depressing the float spindle, in order to flood the carburettor, a small slotted wedge-shaped piece of steel normally rests with its thin end under the float spindle, the latter, of course, resting in the slot. When the wedge is pulled forward by the outside knob on the end of the connecting spindle, the thicker section of the wedge lifts the float needle valve. The lubrication of the engine is effected from a reservoir placed on the dashboard, having feed pipes to different parts of the motor, the oil being forced through sight feeds by a pump driven by a belt off the cam shaft. An auxiliary hand oil pump is also fitted. The water circulating pump is of large capacity, and placed in front of and in direct contact with the detachable section of the crank case covering the train of gear wheels, it being operated by the same wheel which operates the magneto. The leather-faced cone clutch is fitted with springs under the leather to give a more delicate engagement, provision being made for adjusting the tension of the springs. The most striking feature of the new car is the transmission, the change-speed gear elements, differential, and bevel gearing being all contained in one casting disposed on a solid rear axle with independent parallel driving shafts. One long cardan shaft conveys the power from the clutch to these driving shafts, and the usual centrally-located gear-box being eliminated. The axle proper, which carries the road wheels, is solid for the greater part of its length, and is of H section forged nickel steel, the ends assuming a horizontal position, and being bored through to accommodate the driving shafts. The gear-box (Fig. 54), containing the change-speed gears, differential, and driving bevels, is of oblong shape, and is bolted in a transverse position on the top of the solid axle. This

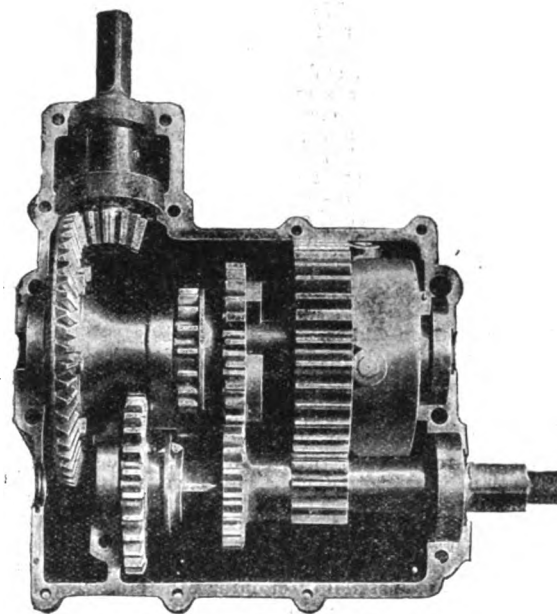


Fig. 54.—The New Darracq Change Speed Gear.

phaeton and the other for a limousine. The continued demand for a six-cylinder car is responsible for an entirely new type. The chassis is modelled on the same lines as the 25-35-h.p. vehicle, due allowance, of course, being made for the increased horse-power of the motor. The engine dimensions are 120 mm. by 120 mm. bore and stroke. The car on the stand is of the well-known limousine type, with a seating capacity of seven people.

Vacuum Mobiloils.

Nowadays the merits of the productions of the VACUUM OIL COMPANY, LTD., of Norfolk Street, Strand, London, W.C., are so well-known that reference thereto need not be lengthy. Suffice it to say that the company is represented in the gallery at the show by a large selection of their vacuum mobiloils. These are specially prepared for various purposes, that known as A being for the cylinder and crank chamber lubrication of water-cooled engines, and B for air-cooled engines, as well as for the single-cylinder type of water-cooled motors. Other special oils are for gears, and also for steam cars. Included in the range of specialties displayed is a Mobilubricant which is employed for all purposes where grease or solidified oil is generally required. For electric cars the company have the "Electra" oil; other specialties comprehended in the display including vacuum graphite grease for the lubrication of chains, a leather oil for leather lined clutches, and the "Hecla" oil for the cylinders of engines employing steam superheated above 500 deg. F.

Pratt's Motor Spirit.

The familiar green cans in which Pratt's motor spirit has been conveyed for many years draw the attention of visitors to the stand of the ANGLO-AMERICAN OIL COMPANY, LTD. Here, too, will be found the white cans similarly identified with the transport of the company's 760 spirit. As usual, additional interest is given to the exhibit by a collection of samples of petroleum and its products, as well as models and sketches illustrating various methods of handling and transporting the same. The organisation of the business so that Pratt's motor spirit can be obtained in every village throughout the country is an achievement of no small importance to the motorist. For wherever he goes, throughout the United Kingdom, supplies of Pratt's motor spirit are available.

Acetylene Lighting, &c.

Although the demonstration of acetylene lighting by the ACETYLENE ILLUMINATING COMPANY, LTD., 268-270, South Lambeth Road, S.W., naturally constitutes the main attraction at their stand, attention must be drawn to the specimens of work done by the dissolved acetylene method of autogenous welding with the oxy-acetylene blowpipe. The company make a special feature of the repair of cast iron and steel, broken gear cases, cracked cylinders, &c., and the examples on the stand prove the justice of their claim as to the effectual character of the work done. Cheapness and rapidity are also other merits which will appeal to many of our readers. With reference to the dissolved acetylene for the illumination of motor-cars, the company may be congratulated on the success they have met in getting their cylinders placed in motor depots throughout the country, the sign "D.A." being now very familiar in all the leading and many of the smaller places throughout the country—so that those who adopt the system need have no qualms as to not being able to secure replenishment of the cylinders, made in a standard size of 20 cubic ft., wherever they may be on tour. The acetylene is supplied clean, dry and purified ready for use. The cylinders are filled with a porous material soaked in acetone, gas is then pumped into the cylinders and is dissolved by the acetone. When fully charged the pressure in the cylinders is 150 lbs., and as the pressure is released the gas is given off until the cylinder is exhausted. The standard dissolved acetylene lighting set for cars consists of a 20 cubic ft. cylinder, a key and stirrup block, and a combined regulator and pressure gauge, and having thus acquired the outfit the motorist can light up his car with perfect safety and great economy. The entire absence of smell and the extreme cleanliness of the arrangement are points in favour of the system for which the Acetylene Illuminating Company, Ltd., is responsible. The latest device to further ensure the economy of Dissolved Acetylene is the introduction of a bye-pass so that the gas can be turned down in traffic or when the car is to be left standing for any time.

Pullman's Non-Skids.

Among the makers of non-skid bands and similar devices calculated to ensure the safety of motor-cars on uncertain roads Messrs. R. AND J. PULLMAN, LTD., of the Westbrook Mills, Godalming, Surrey, have attained distinction. They have been able to combine long acquaintance with the leather industry with a practical knowledge of motoring, with the result that their specialities have not only early attracted attention when introduced, but have maintained their reputation through many seasons of service. Their "Leather" non-skid band is their "latest word" in this connection. Here we have a band that is a combination of leather and rubber with hardened rivets embedded in the latter so that they cannot penetrate through to the tyre—thus preventing any possibility of injury thereto. The band is vulcanised on to form part of the tyre, and can be replaced when the rivets are worn, when the tyre will be found as good as new. An automatic auxiliary air valve, by means of which petrol consumption can be appreciably reduced, is also shown on this stand, where are also Pullman's well-known tyre levers to facilitate the removal and fixing on of all tyres and a selection of leather specialities. The fact that Messrs R. and J. Pullman Ltd., have been established as leather dressers for 200 years should give confidence to those who adopt their motor gloves and gauntlets, electric chamois leather for cleaning purposes, &c. Their "Kaspine" lubricant is another excellent production exhibited at Olympia.

Bowley's Motor Spirit, &c.

In the original "bright red cans" the motor spirit of Messrs. BOWLEY AND SON is made known to visitors to the gallery. The experience of the firm in the distillation and refining of motor spirit dates back a long way into the history of the industry, and the standard grades have given proofs of their efficiency under the most trying conditions. Several qualities of fuel oils are shown as well as "Carmeline" for oil engines and motors, the firm's "Champion" motor oils and motor greases, and Messrs. Bowley and Son's lubricating oils for all classes of machinery. With regard to lubricants for motor-cars, too much caution cannot be taken in procuring a thoroughly efficient lubricating oil for petrol motors. Many oils which pass muster in ordinary cases fail when used on an engine working for long spells up to its maximum capacity; the heat and strain on the piston far exceeds that of an engine running on intermittent work, and unless an efficient, suitable oil is used, there is excessive strain and wear set up, with consequent loss of power and ultimate breakdown. It is, there-

fore, particularly necessary, for the efficient lubrication of petrol engines, to use an oil with a high flash-point to stand the heat in cylinders without carbonising, and sufficient viscosity to thoroughly lubricate the hot pistons. Messrs. Bowley's "Champion" oil meets all the requirements of an efficient and reliable oil for this purpose; it will not "gum," give any acid reaction, nor at increased temperatures appreciably lose its viscosity. Attention may also be drawn to Benzolite, which is rapidly coming to the front.

A New Non-Skid and Tyre.

At the stand of Messrs. J. LIVERSIDGE AND SON, LTD., 196, Old Street E.C., will be found a new non-skid band which has distinctive features that should favour its trial by motorists who have given thought and study to the problem of skidding. In his new device the inventor has sought to combine ideas and produce a band that can serve its purpose under any conditions. In place of the usual metal studs he has alternate steel and rubber studs with conical heads, so that resiliency is not sacrificed, and yet there is sufficient metal surface on the roadway to prevent slipping on greasy surfaces. This new non-skid, known as the "Scott," is made as a band in all sizes for pneumatic tyres, and we shall anticipate a run on a car fitted with the device with more than ordinary interest. The well-known "De Nevers" grooved solid tyres are also shown in 2½ in., 3 in., 3½ in., 4 in., and 5 in. sizes. On this stand will also be found the K.T. tyre, which is now to be seen on many vehicles—both private and public—in the streets. This is a pneumatic stud or non-spring tyre. The rubber is made in a long, flat strip with projecting studs, which have an air space below. A circular perforated steel boltless rim, with holes to receive the studs, encloses the rubber, so that the stud heads are the only projection. The air spaces are closed with steel washers, some of which are lapped to take the screw ends of the bolts making the attachment with the wheel. The rim with the rubber is forced over the binding rim of the wheel under compression, and the whole arrangement is ready for the road. The appearance of the tyre resemble a double row of large studs, and is obviously well calculated to withstand side-slip, whether on large or small cars. The system of construction is also remarkable in that the tyre throws up little or no mud laterally—an important consideration in congested traffic. Resiliency is not sacrificed, while the durability of the device is undoubted. The K.T. tyre is certainly an interesting innovation and one with a future.

The Palmer Tyres.

Interest in the cording machine that is employed in making the Palmer cord tyres is generally shown by visitors. Motorists are familiar with the merits of these tyres, the new catalogue of which will be useful to all owners of cars applying for the same to 119, Shaftesbury Avenue, W.C. In addition to the Palmer cord tyres a variety of accessories in connection with the same are shown, and visitors to this stand should also inspect the Palmer tyre testing gauge, which has been designed to test the pressure in pneumatic tyres, an important consideration. Simplicity is the keynote of the instrument. It is only necessary to screw the gauge on to the valve and then bend the flexible tube, which latter operation causes the deflating pin of the valve to be pushed inwards. As a perfect joint is made before the valve pin is moved, there is no leakage of compressed air. There are no taps or valves to get out of order, and no fine holes to get filled up. A special bracket is provided for carrying the tester, which may be screwed on to the dashboard or any other accessible part of the car.

Gears.

The exhibits on the stand of Messrs. DAVID BROWN AND SONS, LTD., are such as will interest motor-car manufacturers mainly. The firm have made a close study of the correct form of teeth for spurs, bevels and worms, and the result of their investigations is shown in the 15-h.p. gear cases, worm reduction gears, steering gears, together with a number of rawhide spurs, paper pinions, spur wheels, bevels, &c., which are displayed for examination on their stand. The 15-h.p. gear case, the working of which is being demonstrated, is the outcome of many tests which have been made where the teeth of gears have to withstand sudden and great stress. The adoption of a greater angle of obliquity is said to have increased the strength of these gears nearly 50 per cent., and whilst diminishing the length of teeth, the arc of contact is increased, thus giving a greater efficiency. A gear case similar to that running is dismantled and all the detail parts are available for inspection.

Motor Accessories.

From the very early days of the motor industry Messrs. G. T. RICHES AND COMPANY have been associated with the trade in motor accessories, and from 19, Store Street, London, W.C., they are conducting a wide connection with motorists throughout the country. Hence the interest which attaches to their varied display at the present exhibition. Their accessories, &c., are very comprehensive, from the "Acme" trumpet siren to Plaxeline, the latter a liquid band cleaner removing all grease and gaining favour even where other preparations have failed. Eucalyne, Plaxine, "pamiss" hard soap, &c., as well as a variety of cleaning cloths and other compounds and materials for maintaining the good appearance of both car and driver, are shown. At the stand is a full selection of exhaust whistle alarms, tyre levers, rubber goggles, tyre carriers, &c. The "Store" tool kit is a very type of such indispensable adjuncts to the car, and attention may also be drawn to the Turco

electric vulcaniser, which is proving a useful aid to the motorist in repairing tyre troubles. Messrs. Riches and Company are able to supply all descriptions of general accessories and spare parts for Panhard, Aster, De Dion, Darracq, Clement and other leading motors.

The Milometer.

In addition to their exhibit of Nagant-Hobson cars on the ground floor, Messrs. H. M. HOBSON, LTD., of 29, Vauxhall Bridge Road, S.W., are showing the Jenatzky tyres and other specialities in the gallery. At one of their stands in the latter section of the show the Elliott motor-meter is also demonstrated. This has satisfied many speedy as well as ordinary touring motorists of its accuracy, and, in view of magisterial acceptance—in some places at least—of the calculations of the speed indicator, it should have an increasing popularity. Working parts have been reduced to a minimum, and the variety of indications by the hands is a good feature. It is driven from the front off side wheel by means of a flexible shaft, which can be readily removed for examination. It runs at about the same speed as the front wheel of the car. A strong driving gear is provided, which has the advantage of silence, and the device itself is not likely to be affected by water, dust, and vibration. The movement of the pointer is regular, following the changes in speed exactly and immediately, without going in jumps, recording the mileage per hour. A cyclometer can also be fitted, which is provided with three hands of different colours. The white one makes one revolution of the dial in 100 miles working on a scale which is clearly subdivided into tens and units. Two small blanks are provided on the face where the mileage up to date is shown. The black hand also makes the 100 mile revolution, but also records the progress of the individual trip. In the centre is a smaller red hand making only one revolution per mile and working on a scale which is graduated in divisions of a furlong—very useful for checking police traps. Messrs. H. M. HOBSON, LTD., also show the Pogon plug, which is adopted by the makers of most of the leading cars, as well as the Bougie switch. This is of great assistance in testing the engine, as the particular faulty cylinder can easily be ascertained in cases of misfiring.

Wind Shields, &c.

A new comer to the show is the firm of Messrs. AUSTER, LTD., of the Crown Works, Hertford Street, Birmingham, who show the "Auster" patent wind shield, Cape cart hood and seat fittings, as well as a great variety of locks, handles, fasteners and all classes of furniture in connection with motor body work. They have a good type of double folding wind shield, the advantage of which is secured by the utilisation of the firm's own patent joints. These enable the shield to be adapted to any angle and to afford ample protection from wind and rain. The firm's Cape cart hood can be drawn into position from within the car, thus doing away with the necessity of various props and other fittings which rather complex the operation of opening out for use. By means of the special joint already mentioned any length of throw can be obtained on one prop and at the same time ample head room is given. Some good types of tilting seats adaptable to any position in the car are also on view, as well as a new door fitting which absolutely ensures the security of the door when locked. The ordinary slam lock is sometimes rattled and opened, but with the new fitting of Messrs. Auster, Ltd., this can be locked by a hooked lock and thus effectually secured.

The Coventry Simplex Motors.

THE COVENTRY SIMPLEX ENGINES, LTD., are exhibiting one of their latest type six-cylinder engines at the stand of the Easton Motor Company. This is a very interesting production, the cylinders being cast in pairs with the valves arranged all on one side. The cylinder dimensions are 3½ in. bore by 3½ in. stroke; 25-h.p. being developed at a speed of 1,500 revs. per minute. The company's own type of automatic carburettor furnishes the mixture, a feature of this device being that the jet can be readily dismantled, and that an air dashpot is provided in connection with the automatic air inlet. A neat arrangement of inlet pipe is adopted to insure an equal supply of the mixture to each cylinder. The main shaft is made from a solid forging and runs on ball-bearings, while the cam shaft is arranged so that it can be readily withdrawn. Provision is also made on the base chamber for the fixing of the water circulating pump and a magneto. A high tension distributor is fitted in conjunction with the contact maker, this being located at the upper end of a vertical spindle driven by bevel gear off the half-time shaft. Throughout there is evidence of the engine having been carefully designed and well constructed.

Elastes.

In a recent issue we illustrated and described the moveable flange rim brought out by the ELASTES COMPANY, LTD., of 79 and 80, York Street, Westminster, W.C. They have the device in operation at the show. As we have previously explained, the new rim consists of an ordinary wheel made with a slightly deeper wood felloe. An ordinary metal pneumatic tyre rim with one bead cut away is affixed to this, and when bolted up on the wood felloe the flange completes the bead cut away. A rubber washer is sunk into the wood felloe underneath the flange so as to prevent wet getting in and damaging the cover. The introduction of this rim has made it possible for the Elastex Company to fill with their speciality any tyres which are in fairly good condition. This should extend the operations of the concern, as hitherto only new tyres have been dealt with. The rim can be fitted in about a week, a week longer being required for filling tyres with Elastex. Samples of

Elastex filling are also to be found on this stand. This has been considerably improved from the earliest introduction, and both the resilience and toughness have been increased, with consequent advantages likely to be appreciated by those who have given attention to the merits of this method of abating the worries associated with tyres when on the road.

Jacks, &c.

Messrs. LAKE AND ELLIOTT, who are well identified with the business in jacks, show various types for motor-cars, including an important motor jack, with spinning nut quick adjustment. They have brought out a new type known by the letter H. This has a remarkably quick adjustment and easy lift. The top is simply lifted to the height of the axle and the jack closes automatically when the large collar is slightly raised. The nuts are controlled by a positive motion which renders it impossible for one nut only to be engaged. The easy lift is obtained by the use of a large ball-bearing to take the thrust. A notable feature of the new jack is the excellent workmanship, which is of a higher grade than is often associated with such devices.

Motor Tools.

Messrs. BENEFINK AND COMPANY, LTD., the old-established firm in Cheapside, whose acquisition by Messrs. Gamage, of Holborn, has lately taken place, are represented in the gallery by a full range of various classes of tools for use by motorists. Quite an utilitarian exhibit of cleaning requisites for service in both public and private garages is also made, and in this connection we may mention the safety lamp for such establishments which has been placed upon the market by Messrs. Gamage and is shown at this stand. The motor department of Messrs. Benetink has been thoroughly overhauled, and evidently the Cheapside house is now well able to do for motorists in the City what the Holborn house can perform for motorists anywhere.

The "Atlas" Jack.

Messrs. BROWN BROTHERS have a good selection of motor accessories, and their display will be of interest to motorists generally. Among the specialities on their stand is the Atlas pneumatic jack shown open in Fig. 55. The speed of operation as well as the ease of the lift are points in favour of this speciality, which is well designed for practical efficiency. Having attached the pump, the jack is placed under the car, care being taken to see that the release valve is securely screwed on to its seat. A few strokes with the triple pump will lift the heaviest car; when lifted one or both pins are put in for safety. To lower the jack the pins are drawn and the thumb screw released gently. In addition to their jack Messrs. BROWN BROS., LTD., have several other special exhibits, including the Gabriel horn and a full range of motor accessories they have marketed under the name of "Duco."

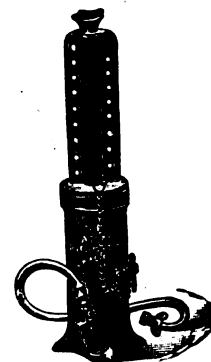


Fig. 55.

These include jacks, lamps, horns, valve springs, levers, &c., the main features of which have been duly set forth in our columns when introduced. In connection with the Atlas jack a triple pump is being recommended, with four strokes of which the jack can be raised to take any car. The importance of carrying efficient tools of this class is recognised by Messrs. Brown Bros., whose "Duco," Nos. 1 and 3, have distinctive merits of their own. The first-named is made of malleable iron with case-hardened gearing, which has an instantaneous adjusting ratchet bar enabling it to be extended by hand in order to bring it instantly in contact with the car. This ratchet bar is also instantaneously released, and telescopes itself into the raising part of the jack by extending (with the fingers) the two round head pins. The telescopic principle of this jack gives a great lift, making it especially suitable for workshop use. The lifting action is quick, and is performed with a minimum of labour, the knuckle joint in the handle obviating the necessity of stooping when working the jack. The "No. 3" Duco jack is fitted with a patent universal hand joint.

Moebius Oils.

Many specialities in motor oils of good quality will be seen on the stand of Messrs. MOEBIUS AND SON, of Howard Road, Stoke Newington, N., whose exhibit includes a wide range. Here is the well-known "Moebius" special "Challenge" motor grease for gear boxes, gear cups, &c., as well as those of the same brand for air or water cooled engines. The "Challenge" motor oils are put up in quarts, half gallons, and gallons as well as in the firm's own patent lubricating can. During many years Messrs. Moebius and Son's oils have been winning a well-deserved reputation amongst practical motorists.

Ignition Specialties.

At the stand of Messrs. THOMSON-BENNETT, LTD., will be found an excellent selection of ignition specialities, including a new High Tension distributor. In this the current is taken from the single coil through the lid by means of a carbon brush pressing on the revolving insulated cam, and thence distributed by a second carbon brush to the several contacts in the outer casing. The brushes make actual contact and there is no jump spark. In advancing and retarding the Low Tension portion is the only part that moves, the High Tension part remaining stationary. This obviates the breaking of wires which so often occurs. Such arrangement is secured by fitting the Low Tension apparatus on

a second base plate which moves for the advance while the main body remains stationary. As the Low Tension circuit is broken before the High Tension there is no burning of the carbons and altogether this new type is a great advance on much previous practice. The Thomson-Bennett single trembler four-cylinder coil has a special feature in the fact that there are four units, each of which is detachable without any tremblers. These contain the separate High Tension Windings. In the central position is a fifth unit with a trembler fitted to it and containing an Auxiliary Primary Winding and a Condenser. These are held in position by a plated bar across the front which at the same time makes the common connection between them. But for the fact that one trembler does all the work the Coil is wired up exactly as a four trembler type would be. Messrs. Thomson-Bennett, Ltd., are guaranteeing the device for twelve months. Many other specialities in ignition are also worthy of inspection on the stand of this well-known Birmingham company.

Ball Bearings.

Messrs. LUDW LOEWE AND COMPANY, LTD., of Farringdon Road, Clerkenwell, E.C., have become so familiarly associated with the D.W.M. ball bearings that mention of their name is almost sufficient clue as to the exhibits at their stand. This year, however, they show an alternative type with solid ball cage which will be of considerable interest to the motor trade. In the D.W.M. Patent Ball Bearings, the ball races are perfectly continuous, there being no lateral grooves or inserted pieces to affect the smoothness of the running, or cause deterioration. This type of bearing, with its individual spring separators, is well known, but the alternative type has only just been introduced. In this the balls are held in a patent cage made of a single piece of bronze. There are no screws or rivets to become loose, or springs to weaken, while the bearing is able to withstand a greater overload. The new bearing, which is illustrated in Fig. 56, has been subjected to severe tests, and as a result can be recommended for motor-cars. It is made to the same dimensions as the older type. Among the other interesting exhibits shown by Messrs. Ludw Loewe

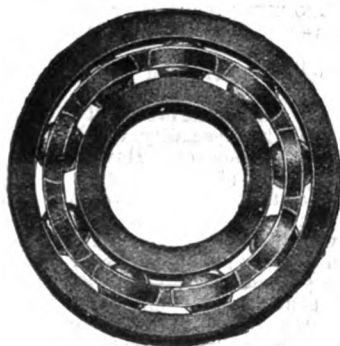


Fig. 56.—The D.W.M. Ball Bearing with Solid Ball Cage.

and Company, Ltd., is a registering caliper for inside and outside measurements. It is graduated on both sides, giving exact readings in inches and millimetres. Another tool serving several purposes is the centre marker, which automatically locates the centre of any section of material. Mention may also be made of the new pocket speed indicator—a convenient and accurate revolution counter which reads direct up to 10,000 revolutions, and can be set back to zero at any time. It can be used for either left or right running spindles, and, like the other tools referred to, can be regarded as thoroughly reliable.

Doherty Radiators.

Radiators play an important part in the good appearance of the modern automobile, and the DOHERTY MOTOR COMPONENTS, LTD., have an especially attractive show in this department. They have been favourably identified with the manufacture of radiators for many years, and on the present occasion show a new type in which the honeycomb radiator is admirably imitated in a way that gives strength as well as lightness. In this a flat vertical brass tube is fitted with corrugated sheets placed on either side so arranged as to give the diamond appearance in front, the gills not being threaded but simply laid along the brass tube. Bonnets, silencers, wings, lubricators, &c., form an important section of the company's display, and attention may well be drawn to a new spare tyre case made in sheet metal capable of being fitted in any position on a car. This case is made in three pieces, the lower semi-circular half being in one, and the upper portion being in two parts, so that it can easily be removed to insert or take out the tyre. The case is absolutely dust and weather proof as well as light-tight. A new carburettor is being brought out by the firm, to which we hope to refer in detail on a later occasion. The Doherty Motor Components, Ltd., are also introducing a new improvement in magnetos, which, however, could not be got ready for the present show, but which should attract further attention to this enterprising concern ere long.

Brooks' Bands, &c.

Messrs. J. B. BROOKS AND COMPANY, LTD., whose name has been well to the front with their non-skid puncture-proof tyres and bands, make an excellent display of their specialities in this department. An important feature of the bands is the patent stud with hardened steel inset

head. This is not merely a case-hardened head but of special dead hard steel, and is designed to obtain a hard wear resisting surface whilst yet retaining the necessary softness in the shank for riveting. Messrs. Brooks and Company make a large show of spare tyre wrappers which are dust-proof and impervious to wet. They enclose the tyre without wrinkling and can be easily fitted with one hand within half a minute, their removal being equally rapid. These tyre wrappers and the firm's circular bags to fit within spare tyres are being made in all colours to suit the upholstery of the car. Patent tool and spare part cabinets, motor tool kits, and motor tourist luncheon and tea outfits are included in an excellent display. A new idea in trunks to fit on the grid of the car is shown, in which two trunks are placed one on top of the other and yet the contents of the bottom trunk can be removed without having to remove the upper one. This is effected by the provision of what is practically a door to the lower device and which is withdrawn to get at the contents. Either trunk can also be employed as a separate convenience.

Engelbert's Oils.

Important in connection with the running of the automobile to its greatest advantage are the oils and greases used in the lubrication of the various parts. Some motorists have not always paid full heed to the necessity of adopting a high-grade oil in this connection until experience has shown the folly of carelessness. In the selection of the oil that is to be employed the reputation of the makers counts for much, for scientific knowledge as well as commercial acumen is essential to the production of the right oils for the right purpose. For the past half century Messrs. Engelbert and Company, 119-125, Finsbury Pavement, London, E.C., have been favourably known as makers of high grade lubricating oils, and when the motor-car began to run on British roads they applied their previous knowledge of engineering requirements to the introduction of oils for the new power. These were supplied to the trade and have enabled many a firm to extend its connections owing to their good qualities and unfailing uniformity. Now, for the first time, Messrs. ENGELBERT AND COMPANY are exhibiting their own productions under their own name, and the attractive cans in which their specialities are sent forth should rapidly become familiar objects in both public and private garages. The motor oil is supplied in gallon and half-gallon tins, as is also an air-cooled motor oil, a gear oil and an oil specially prepared for steam cars. Motor grease is also on view, and the display, which indicates the firm's new policy, should be justified by success. They will also continue to supply to the trade, but private motorists will be mainly interested in this development.

Bowden's Specialities.

The E. M. BOWDEN'S PATENTS SYNDICATE, LTD., have a large assortment of the various useful motor accessories and specialities manufactured by them. The Bowden wire mechanism is on view to demonstrate how power can be transmitted round a corner without having recourse to angle levers and similar devices. The value of a petrol strainer on the fuel pipe is generally accepted, and a new model of petrol strainer will be found to have several features of special interest. There is also shown a new "Automatic Hand Regulated Air Inlet," a long title fully explaining the article referred to; a new exhaust cut out in two sizes, and an improved Bowden Carburettor Agitator which can be adjusted and fitted by any motor mechanic. The exhibit also includes specimens of such well-known Bowden fittings as the Bowden Patent Mileage Recorder, a dashboard positioned recorder which dispenses with the usual flexible shaft transmission; the Bowden Gas Throttle, to regulate the supply of gas to a nicety, and the various Bowden controls for cars. Then there is a variety of motor brakes, including the much-discussed front wheel braking system and a full range of levers for hand and foot for use with the Bowden mechanism, including the new Bowdenloc Lever, a self-locking lever specially designed for use with the Bowden wire mechanism. "Miraculum," the new puncture sealer and rubber preservative now marketed by the Bowden Syndicate, is being demonstrated daily during the Show.

Timber.

Messrs. JOSEPH OWEN AND SONS, LTD., are showing all the materials in timber used in the construction of motor-cars, motor-omnibuses, and automobile vehicles generally. At their stand are samples of oak, birch, mahogany, walnut, canary whitewood, and yellow pine, in planks, boards and panels as required for framing and general body work. Their bent timber exhibits include single and double tonneaus, front seats, front and hind wings, hood sticks, and every description of rails. In wheel wood they also have hickory bent rims, ash felloes and treads, sawn and cleft oak and hickory spokes, dressed and in the rough. A special section of the display consists of mouldings for wind screens.

Motor Frames.

The importance of the frame in connection with motor-cars is too well recognised to need emphasis on the present occasion. Everyone knows that Messrs. RUBERY, OWEN AND COMPANY have become well identified with this section of the industry. They make a good show of their hydraulically pressed and rolled channel motor-car frames. Specimens of pressings used in the manufacture of these are also shown, together with rolled channel angle and tee sections. Their pressed sides and cross-bars can be made in mild or three per cent. nickel steel. The firm are making these frames for motor-omnibuses, motor-wagons and industrial as well as pleasure vehicles, and in addition to the separate exhibit in the gallery their productions will be found on many important stands on the ground floor.

(To be continued.)

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

MR. EDGE'S CHALLENGE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—On October 14th I endeavoured to clear up the state of confusion into which the various challenges between Mr. Edge and myself appeared to have got by making it perfectly clear that I never accepted Mr. Edge's original challenge because of the very elementary reason that the conditions attached to his challenge would have debarred my fastest cars from competing. I then made Mr. Edge a very definite challenge which could not possibly be misunderstood, in order to induce him to really show that he was desirous of fixing up a race between us.

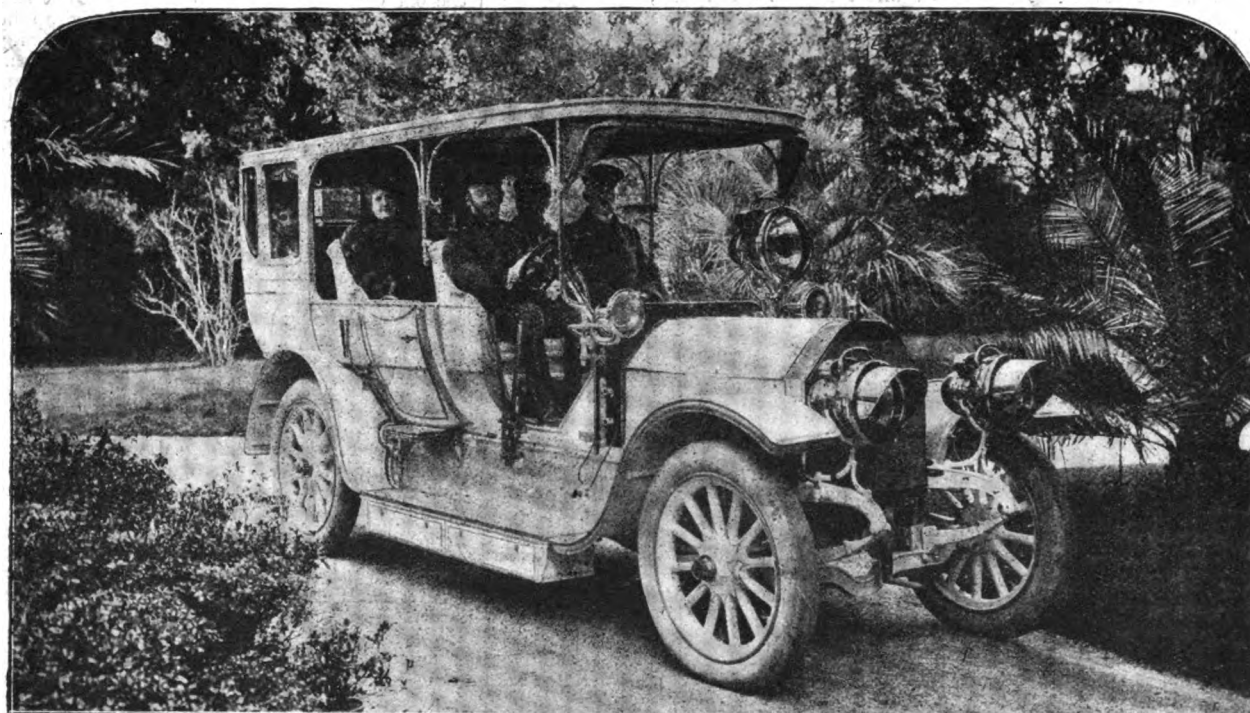
I do not know that anything could have been simpler or fairer than the offer which I made him, viz., to waive all conditions whatsoever, and to race him for a stake of £5,000 for a one mile race to be held in England, the fastest car to be the winner, and the issue not to be confused by any such absurdity as petrol consumption. I also offered Mr. Edge, if he was willing to run the race in France, where it would

MOTOR-BODY DESIGN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, "Common Sense," certainly brings forward in the *M.C.J.* of the 2nd inst. some strong arguments in favour of the tonneau seated body over one class of side-entrance body, and I cannot but think that his experience of the side-entrance car must have been confined to that class of vehicle turned out at a low figure, where the study of outline and comfort in a body is a minor consideration.

His remark as applied to the private omnibus or wagonette is a question of stresses and draught which has to be studied to a nicety by the coachbuilder in all horse-drawn vehicles, but where the question of ease of ingress and egress is brought into consideration, as, for instance, the ladies' town carriage, the brougham and landaulet with the side doors has always held the first position. Where it is possible to describe a complete circle with a 9 ft. 6 in. or 10 ft. wheel-base car in a roadway 32 ft. or 34 ft. wide, it cannot be said that



Queen Margherita of Italy on her latest Itala Car—a luxurious 80-h.p. Six-Cylinder Vehicle.

have been possible to have a straight two miles, to give his car a start of one hundred yards. I think the above conditions surely prove that I was anxious to arrange a short distance race.

In regard to the long distance race, Mr. Edge knows as well as anyone that it is impossible to arrange a long distance road race unless it is to form part of some big International race, and as there appeared to me to be a very simple method of settling the question of the long distance race, I agreed to take the three Darracq cars entered in next year's Grand Prix against the three Napier cars which Mr. Edge has stated he intends to enter, for a stake of £5,000 a side. There could be no fairer test of the qualities of a racing car than to abide by the result of the French Grand Prix, which is admittedly the principal racing event in Europe.

I now would like to state that the only letter which I have received from Mr. Edge in reply is a reiteration of his previous offer to race me for one mile on petrol consumption. What possible interest there could be in a mile race which was not to be won by the fastest car but by the car which used the least petrol it is impossible for me to understand, nor do I think that anyone can be expected to treat such a suggestion seriously. As Mr. Edge apparently has no intention of meeting me in either of the two races in which I have offered to meet him, and is not content to settle once for all the question of whether the Darracq or the Napier has the best claims to be considered the fastest racing car, I must now inform him that I withdraw entirely from any further correspondence or negotiations in regard to any question of a race between us.—Yours truly,

A. HUNTLEY WALKER.

the car is unduly awkward, and if, as your correspondent remarks, there have been fatal accidents that can be attributed to the length of wheelbase of a car in negotiating sharp corners, then the only cause of same is that the car or cars must have been driven at excessive speed around such corners.

"C. S.'s" remarks that side-entrance doors always rattle after a few months' use convinces me more than ever that his bodies must have been of the cheaper class of work and could not have been designed and built by the man whose knowledge of draughts, &c., in vehicles would ensure his fitting a deep door in such a manner that it would divert any current of air caused by the front of car rushing through the air, and prevent same from entering the back of car.

The "delightfully handy side baskets" which chafe the paintwork of the panels and form such a harbour for dust in the wickerwork can easily be compensated for by the long dust-proof tool boxes that can be fitted under the side steps, the tops of which can be utilised for the conveyance of luggage which has to be sent in advance by rail when touring with the tonneau car.

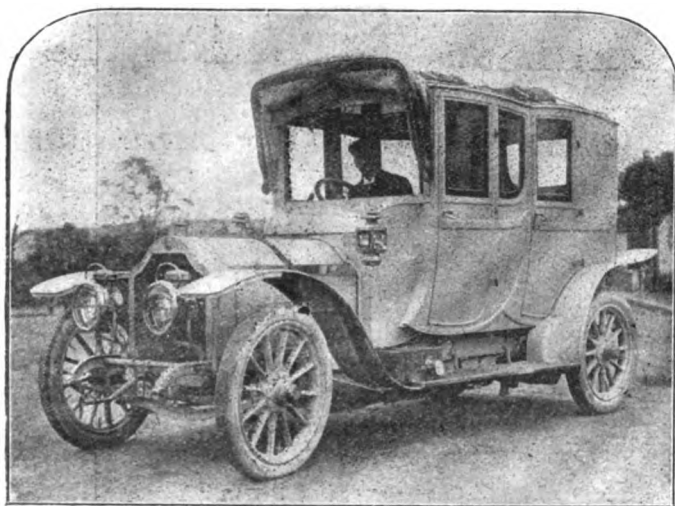
Surely, with all the latest electric and tell-tale lamps on the market to-day, there is not the necessity of occasionally peering over the back of the car to see whether the tail light is lit or not. It has just been argued that the type of car with the driver's seat enclosed is not ideal for driving in traffic, for the reason that, being so free from noise, overtaking traffic cannot be heard, therefore rendering travelling unsafe. No properly closed-in body should produce the drumming noise that "C. S." rightly complains of with this class of car.—Yours truly,

F. G. NORMAN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is now a good deal of talk about luxurious carriage design. If this means luxurious riding over rough roads, and not merely luxurious upholstery, which is comfortable to sit on while the car is at rest, then there is just one way of securing it—suppress the bonnet. The advantages and disadvantages are so very obvious, and the monstrous six-cylinder bonnet has brought them so palpably before people. There are cars costing great sums of money, in many cases owned by people who not only do not drive themselves, but have no inclination to do so, which have all the appearance of having been designed specially for the benefit of the engine, or, at the most, for the driver alone. Taking the space from axle to axle, say 10 ft. 6 in. as a fair average, the bonnet takes up 3 ft. 6 in. to 4 ft., and even on some six-cylinder cars almost 6 ft., the driver's seat, say 3 ft. 6 in. to 4 ft., leaving, at the best, 3 ft. 6 in. for that apparently most unimportant person, the owner. Obviously the owner and his friends cannot squeeze into that space, so the body is prolonged, say, two or three feet beyond the back axle. The owner naturally demands that his carriage shall not be an unreasonable height from the ground, at the same time the wheel must not be too diminutive, so the body and the back axle come rather close together. As a result, stiff springs must be used, or the two will bump together. So here is the unfortunate owner sitting perched over his back axle on a pair of over-stiff springs. The result is great discomfort from road shocks, followed by fatigue.

As we have said, there is only one remedy—do away with the bonnet, and carry forward the body, so that the back seat is well in front of the back axle. We do not think there are many ways of doing this. It has taken us five years to perfect our own method. There is not much doubt about the result, judging by the letters we get, and



Mr. Paul Meyan at the wheel of the 40-h.p. De Dietrich Car which took the first place in its class in the recent Speed Trials at Evreux. The vehicle, as will be seen, is provided with a novel covered body, and weighs, in running order, just over two tons. Notwithstanding this the car covered the kilometre in 40 sec., equal to a speed of about 56 miles an hour.

we have succeeded in getting the comfort without sacrificing power or accessibility or mechanical efficiency.—Yours truly,

NEW ENGINE (MOTOR) COMPANY, LTD.
J. C. MORT, Director.

INLAND REVENUE METHODS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The experience of one of our members a few weeks ago in Scotland will probably be interesting to your readers, as showing the length to which the Inland Revenue are prepared to go when a motorist is concerned, and the discourteous and indeed outrageous manner in which they enforce their demands.

The member in question, Mr. W. P. Cairnes, of Drogheda, a very well known gentleman, when in Scotland a few weeks ago shooting, received an enquiry from the Inland Revenue office, as to whether he held a licence for his man, motor-car, and dogs, brought with him from Ireland. To this he replied:—

Sept. 28th, 1907.

"Sir,—In reply to yours of 24th inst., my residence is in Ireland, and my dogs are licensed there. I am only a visitor in this country for a few days, and never heard of a case where licences, such as you mentioned, were required under such circumstances.—Yours,

(Signed) W. P. Cairnes."

Not having received any reply, and being quite ignorant that such duties could be enforced against a temporary resident, Mr. Cairnes naturally thought the official was satisfied with his reply, that as he was not a resident, no claim existed, when a fortnight later, to his great amazement, he was without warning served with three summonses,

claiming penalties amounting to £451. These were settled by a payment of £8 11s. duty, and 15s. costs.

Whether the department were, under the circumstances, legally entitled to enforce payment of a full year's taxes from a visitor who unwittingly brought a motor-car into the country to use for a few days in connection with his shooting is not my object here to discuss, but I think the quite unnecessarily high-handed and discourteous manner of levying this unjust tax, and serving summonses without any previous demands, should be brought to light, and that if this is the method officials are directed to adopt with visitors to the country, the sooner the directions are altered the better.—Yours truly,

H. S. CHAYTOR.
Secretary of the Irish A.C.

TROUBLE WITH BRAKES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad of your advice as to what I could do to the brakes of a 12-16-h.p. car; it is chain-driven and brakes consist of expanding metal-to-metal (actuated by foot) bands inside drums on the rear-wheels and leather-lined bands worked by side lever outside the same drums. The brakes seem to bind—I think it is the outside ones—and cause the car to lose power, this being especially noticeable on hills, when the car comes back much quicker than it should. I have let them out as far as I can to be effective and jacked up the rear wheels and find they will run freely forward, but give a droning sound and bind on the reverse. I find them hot, too, after a run; the outer ones are in the last hole connected to rod, so that they cannot be let out more. Moreover, they are not nearly so effective with full load up, the side lever going right down before the brakes come on, whereas with three up it only goes about half-way. Should that be so, or is it the fault of the springs, or what? Would the compensating rod be the cause, as by putting the side lever hard on I can turn one wheel a little while the other is immovable?—Yours truly,

J. H. H.

[The trouble experienced by our correspondent would appear to be due to the "give" of the springs causing the brakes to be tightened when travelling; this is often the case on cars fitted with light springs at the back. The levers being fitted to the frame and the brakes to the axle, the give of the springs causes the brakes to be drawn on, this being usually more noticeable when the car is running light.]

BENZOLE AS FUEL FOR PETROL MOTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been running my 12-h.p. Lanchester with a wick carburettor on benzole now for about two months, and am just finishing my second fifty-gallon drum. Before I started using benzole I ran this car 36,000 miles on petrol, so that I can judge the difference, and shall never use petrol again as long as I can get benzole. I have now done over 3,000 miles on it and have made no alteration in any respect to my engine or carburettor. It is as clean as petrol, the engine running cooler on it, much sweeter smelling, and does not soot up the plugs or valves, and the engine starts up from cold as easily as with petrol.

It seems to me that the superiority of benzole as a fuel for internal combustion engines is that the explosion is of a more expansive character, following up the piston throughout the stroke, and this is seen by the remarkable improvement in hill climbing. I buy my benzole from the Staffordshire Chemical Company, but the difficulty is to get it when away from home, and it seems a pity that dealers do not stock what is now becoming recognised as the best and cheapest motor spirit.—Yours truly,

JAS. CADMAN.

THE LIVE AXLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It seems a curious fact that there are still many people who seek to decry the merits of a properly designed live axle system. As one of the earliest constructors to apply this excellent form of driving gear to the motor-car I cannot understand how any really unbiassed man of experience is content to uphold the chain drive. At the present Olympia show practically every maker stages live-axle cars, and this is true whether they are British or foreign. A few at present supply chain-driven vehicles, but, if I may venture a prophecy, this kind of construction will become obsolete in less than a year's time. Some talk of torsional strains in the live axle, others of its weight, while a third section points scornfully at right-angled transmission. These absurd notions are often fostered by "motoring experts," and it seems to me that such gentlemen might study with advantage the pages of your journal before they commit themselves to such extravagant ideas.—Yours truly,

E. H. OWEN.

LOSS OF POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If "Novice" sees that his contact makers are set exactly equal, also that the inlet springs are of the same strength (to test these put them on the valves, place on a tube, they ought to compress with a 4 oz. weight) he will find his engine pull all right. Is the float behind the carburettor? Sometimes the valves, being so light, will stick on their seats, so he must be careful not to over-lubricate.—Yours truly,

E. W. TABOR.

CLUBS AND ASSOCIATIONS.

MOTOR CLUB.

THE committee of the Motor Club have secured No. 6, West Kensington Gardens, in close proximity to Olympia, which will be open during the show period as a branch of the Motor Club. Everything necessary for comfort and convenience has been provided, and the committee are anxious to see if their enterprise will be so appreciated by their town and country members as to justify arrangements of a similar nature in future years.

SOCIETY OF MOTOR MANUFACTURERS AND TRADERS.

ON Friday of last week Mr. E. Manville, M.I.E.E., President of the Society of Motor Manufacturers and Traders, Ltd., presided at the Grand Hotel, Trafalgar Square, London, at a dinner of the society. Among the company present were the Lord Mayor, Lord Montagu of Beaulieu, Sir Albert Rollit, Sir John I. Thornycroft, Major Eustace Jameson, Mr. Roger Wallace, K.C., Mr. C. D. Rose, M.P., Mr. E. Powell, Mr. Chas. Jarrott, Mr. G. du Cros, Mr. A. W. Gamage, Mr. J. D. Siddeley, and Mr. J. E. Thornycroft.

The loyal toasts having been honoured, Mr. C. D. Rose, M.P., submitted the toast of "The Motor Industry and the Society of Motor Manufacturers and Traders." He commented upon the rapidity of the development of the motor-car to its present state of excellence, which encouraged the hope that in the near future the production of cars which were noiseless, smell-less, and dustless, would relieve motorists of that measure of odium which now attached to them and their pursuit. In view of the legislation that must take place in the course of time there must be no cleavage or hesitation in their ranks. In the past legislation had been more or less of a tentative nature; in the future it would be permanent, inasmuch as it would be based upon known facts.

Mr. E. Manville, in the course of his response, referred to the valuable work which the society was doing in the development of the motor industry. During the past year the basis of the society had been broadened so as to include agents throughout the country, and a scheme for the establishment of local centres was being carried out so as to consolidate all interests, and as a practical effort to stop objectionable trade practices. A meeting of agents from all over the kingdom would be held at Olympia during the exhibition, at which it was hoped arrangements for the formation of these local bodies would be completed. The trials of commercial vehicles held by the Royal Automobile Club, assisted by the society, had proved an unqualified success, and had proved the absolute superiority of mechanical traction over horse haulage for commercial purposes. As to the future, the society in collaboration with the Royal A. C. were preparing for the great event of 1908, the touring car trials, which were to extend over 2,000 miles, including hill climbing competitions and a speed trial to finish on the Brooklands track. He hoped the success of this event would be unparalleled, and would render it unnecessary to look abroad for the most important trials. The exhibition at Olympia was cosmopolitan and international. He was glad to be able to add that steps were being taken for the establishment of a benevolent fund for the benefit of persons dependent upon the industry. He was not yet in a position to go into details, but it could be taken as resolved that such a fund would be formed, either by the society alone, or in conjunction with another body.

In conclusion Mr. Manville referred to the services to the society of Mr. Sidney Straker, president three years in succession, to whom on the part of the members he made a handsome presentation.

The toast of "The Guests," proposed by the Chairman, was responded to by the Lord Mayor, and Lord Montagu of Beaulieu gave "The Chairman."

NORTHAMPTONSHIRE.

THE Northamptonshire Automobile Club held its first annual dinner at Northampton last week under the chairmanship of Sir Thomas Hesketh. Earl Russell was one of the guests and proposed the toast of the club.

The speeches of the evening were devoted in the main to a discussion of the future of the motoring industry, dust, and other problems, and the prejudice felt against motorists. Compliments were paid both to the general condition of the county roads and to the administration of justice.

HEREFORDSHIRE.

AS a large amount of correspondence still continues to be sent to Mr. Wilfred Groom as secretary of the Herefordshire Automobile Club, he asks us to remind readers that he left Hereford some months ago. In fact, immediately after Frome's Hill climb he took up the managership of the Edinburgh branch of the Car and General Insurance Corporation.

Communications with the Herefordshire A.C. should be sent to Mr. A. Townsend, High Town, Hereford.

THE AUTO-CYCLE CLUB.

It is difficult thus early to write much concerning the Tourist Trophy race for motor-cycles next year, but it is to be expected that it will be even better supported than that of 1907. That motor-cycling has benefited by this year's competition is undeniable, and many improvements in machines that will be exhibited at the Stanley Show can, in the official view of the club, be traced back to the Tourist Trophy Race of 1907.

AUSTRALIA.

THE Automobile Club of Victoria held the opening meet of the season on Saturday, October 5th, at the "Speedway," Albert Park, Melbourne, about 100 cars turning out. Refreshments were served to members and their friends in a marquee, and afterwards a run of sixteen miles was made to Wordingalloe, where dinner was served at 6.30 p.m.

THE Victoria Motor Cycling Club held a ten mile road race on October 5th, the winner being Mr. A. J. Scarsebrook on a 3½-h.p. Peugeot. Fastest time was made by Mr. W. Jenkins on a 7-h.p. Peugeot, equalling fifty-three m.p.h.

THE Automobile Club of Australia (Sydney) held their annual hill climb on September 28th on the Artillery Hill, National Park, about 120 cars being in attendance. Out of twenty-nine entries the winners were as follows:—

Four-cylinder Class.—Alderman Allen Taylor, 24-h.p. Minerva. Time, 2 min. 1½ sec.

Two-cylinder Class.—Mr. J. O. Fairfax, 10-12-h.p. Swift. Time, 3 min. 21 sec.



Mr. C. H. Kuan, B.A., M.E., of Canton, being instructed in motor-car driving at the National Motor Academy, Notting Hill. He was the first Chinaman to obtain the Royal A.C. certificate for mechanical efficiency.

Single-cylinder Class.—Mr. J. Lawler, 6-h.p. Wolseley. Time, 4 min. 34½ sec.

The distance was 1,320 yards, and the grade varied from 1 in 20 to 1 in 6.

MR. D. F. GODDARD, M.P., of the Ipswich and East Suffolk A.C., has been knighted.

A MEMBER of the Bristol and Gloucestershire A.C., Sir Herbert Ashman, has been created a baronet.

THE West Essex Automobile Club has concluded a very successful season, and at the annual dinner, to be held at the headquarters at Seven Kings (Essex) on January 9th, 1908, medals and trophies to the value of about £50 will be presented to the winners of the various competitions held since April last.

AN UNLUCKY RIDE.

THE charges against two young men of stealing a motor-car, which was recently wrecked by collision whilst travelling through a street at midnight have collapsed at Bristol Police Court. It was alleged they broke into the garage of Mr. D. W. Bullock, of Clifton, drove the vehicle dangerously, and damaged an electric standard, against which the vehicle came to a standstill. Detective-Inspector Tanner now said he did not propose to offer any evidence against defendants, who were discharged. The two men say since they were walking on Clifton Down when an acquaintance driving a motor overtook them and invited them to accompany him on the ride during which the accident happened. The driver, they say, then disappeared, and they also went off, as they did "not wish to be mixed up with any difficulty."

CASES UNDER THE MOTOR CAR ACT.

A DOUBLE DISMISSAL.

On Thursday, the 7th inst., a summons against Mr. Ernest Thorne, tester with Messrs. Legros and Knowles, Ltd., was heard at Kingston. Superintendent Marks conducted the prosecution, and Mr. W. Frampton, instructed by Messrs. Kenneth Brown and Company, appeared for the defence.

The facts of the case were that on the 10th October last, at about 11 p.m., the defendant was stopped near Kingston, and charged with exceeding the legal limit. On the hearing of that summons, although the police swore most positively that the defendant was driving at a rapid rate and far beyond the legal limit, it was proved that this was wholly inaccurate, that inasmuch as the defendant only had small paraffin lamps on the car it would be almost an impossibility to drive at the speed suggested by the police, because the driver would be unable to see, and on many points the police differed in their evidence, with the result that the summons was dismissed. During the cross-examination of the defendant by Superintendent Marks he obtained (*inter alia*) a statement from the defendant that the chassis, which had a general identification number, was not used on trial and the Clerk of the Court was asked to make a note of this. The result was that the police, although the summons for driving at an excessive speed was dismissed, issued a further summons against the defendant for driving an unregistered car. In cross-examination Superintendent Marks denied that the defendant said he was testing the car, and was taking a radiator to Brooklands. The defendant gave evidence, as also did the chief tester of Messrs. Legros and Knowles, Limited, Mr. Sparrow, to the effect that the chassis was being tested with a number of persons on board, and that a radiator was being taken to Brooklands at the same time for the purpose of being attached to another car.

Counsel submitted on behalf of the defendant that the summons must be dismissed. He deplored the methods adopted by the police of



A Metamorphosis at the Show.

Le Rire.

extracting admissions from a witness under cross-examination, and issuing another summons stating that the whole of the evidence given by the defendant on the previous occasion had not been taken down but merely the words that the car was not used for trial purposes, although the defendant added that he was out testing it. The defendant was under the impression at the time that trial purposes meant with an intended purchaser. Counsel further submitted that it made absolutely no difference whether there was one man or ten men on the chassis, or whether the defendant was taking a radiator or pulling another wagon, the primary object was the testing of the chassis, and the Act of Parliament was perfectly plain, and that it was most unfair of the police to work up a case in the way this one had been attempted against the defendant, and he suggested it was pure spite because the first summons had been dismissed.

The Bench after consultation dismissed the summons.

HEAVY HAULS.

Several batches of motorists have lately been before the magistrates at Coventry, Kingston and Grantham, with the usual result. At the Spittlegate (Grantham) Petty Sessions an aggregate of £100 has just been gained for the borough fund in fines on motorists.

THE THIRD TIME OF ASKING.

In Dundee Sheriff Court, William Sim pleaded guilty to two contraventions of the Motor Car Act by failing to have the tail lamp of his car lighted, and refusing to stop when requested by the police. The Fiscal reported that the policeman, who noticed the tail lamp out, whistled to Sim to stop, but he paid no attention. This officer signalled to another further on, and he got on to the middle of the road, whistled, and held up his hand. Accused responded by sounding his horn, and circled round the policeman, and made off. A third officer was apprised, and he succeeded in stopping the motorist. The sheriff fined the accused 10s. 6d. for each offence.

PUBLIC MOTOR SERVICE.

A MOTOR service between Tongue and Wick has been commenced, and the first conveyance of the mails by motor-van has been made in that district of Scotland.

STANDARDISING SCREW THREADS FOR MOTOR-CAR CONSTRUCTION.

A CONFERENCE was recently convened by the Engineering Standards Committee, at the Institution of Civil Engineers, to which were invited representatives from the Royal A.C., the Institution of Automobile Engineers, the Commercial Motor Users' Association, the Agricultural Engineers' Association, and the Society of Motor Manufacturers and Traders. The conference was held with a view of ascertaining how far the series of fine threads laid down by the committee were adapted to the special conditions of design existing in motor-car construction. The chair was taken by Mr. H. F. Donaldson, Chief Superintendent of the Royal Ordnance Factories and Chairman of the Sectional Committee on Screw Threads and Limit Gauges. It might be of advantage if we recalled the fact that three series of threads have been standardised by the committee: 1, British Standard Whitworth; 2, British Standard Fine Threads. 3, British Association.

Some evidence was given by, amongst others, Messrs. Lanchester, O'Gorman, Orcutt, and Godfrey Brewer, and it transpired that for most purposes the existing standard fine threads were deemed suitable for employment in car construction. Mr. Lanchester pointed out that whereas the gradation in the series of fine threads in sizes relating to the strength of the bolts was satisfactory in sizes $\frac{1}{2}$ in. and above, the jump from a 5-16 in. to a $\frac{1}{4}$ in. bolt was proportionally too great and did not allow of sufficient latitude in design. He suggested for the committee's consideration the insertion of an intermediate size. He stated that the screw threads adopted by his firm changed from English to metric pitches at a diameter of 5-16 in., where a convenient relationship existed between these two systems of pitches based on the fact that 8 mm. closely approximated to a diameter of 5-16 in. and he suggested a similar step in the committee's tables. It would appear, therefore, that instead of carrying down the standards to $\frac{1}{4}$ in. before adopting the B.A. metric pitches it would be desirable, at any rate for motor-car work, to make the change at 5-16 in. and to consider the adaptability of this to general engineering work.

Attention was called to the necessity of standardising the thread commonly used on sparking plugs, and which has a 1.5 mm. pitch, since several firms were manufacturing a thread which, though closely resembling this, did not interchange with it.

Mr. Orcutt spoke in favour of the limits laid down by the committee, by the aid of which it was hoped to secure interchangeable work, and referred to the present unsatisfactory state of much of the work turned out by the majority of the bolt and nut manufacturers. To his knowledge, so difficult had one prominent engineering firm found it to secure anything like reasonable accuracy in the bolts and nuts supplied from manufacturers' stock that they were about to institute a nut and bolt department of their own. The difficulty of obtaining reasonably accurate bolts and nuts was confirmed by others present, one member of the committee stating that his firm had already been forced to adopt a similar course to that referred to.

COMPANY NEWS.

DAIMLER MOTOR COMPANY.—The annual meeting of the Daimler Motor Company (1904), Ltd., was held at Coventry on the 7th inst., Mr. Edward Manville presiding. The report showed a disposable balance of £144,395, and recommended a 12½ per cent. dividend on the ordinary shares, in addition to a bonus of 2s. per share, the dividend and bonus being equal to a return of 22½ per cent. The chairman, in moving the adoption of the report, said that the shareholders might regard the balance-sheet as absolutely sound. The available assets of the company as a going concern might safely be taken as exceeding £700,000. Their trade was improving, the number of cars sold this year showing an increase of about 20 per cent. as compared with the sale last year. The report was adopted, and the meeting voted 2½ per cent. of the gross profits to the directors as additional remuneration.

HUMBER, LTD.—Mr. E. Powell presided at the meeting of Humber (Ltd.), and, in moving the adoption of the report, said that twelve months ago he was able to state that the sales of the year then under review were double those of the preceding year, and no less than three times as large as they were during the first year of the company's existence. For the year ended August 31st last they were five times as large as they were in the year 1900. The increase was mainly in the motor branch of the business. As compared with the extent of their present business, the stock as it appeared in the balance-sheet bore a smaller proportion than it did in the average of previous years. It included very few finished cars or bicycles, but was all up-to-date stock, nearly the whole of which consisted of models for 1908, parts of cars, &c., going through the works in the ordinary course. During the coming year several new models would be presented. As to the new works at Coventry, had they had the possession of them during the last twelve months the profit, which was £154,434 against £106,558 in 1906, would have been £25,000, or £30,000 larger. Mr. J. W. Davy seconded the resolution. Mr. Hussey asked if the £25,000 spent upon plant and machinery had been charged to revenue or capital account, and another shareholder asked if the directors would consider the desirability of declaring an interim dividend next year. The report was unanimously adopted, and the additional remuneration voted to the directors at the last annual

meeting confirmed, while a further £1,000 was also voted to the directors for their services during the past year. An extraordinary general meeting was subsequently held for the purpose of increasing the capital of the company by the creation of 100,000 new ordinary shares of £1 each to rank *pari passu* with the existing ordinary shares. The Chairman remarked that they proposed in the first instance to offer the new shares to the ordinary shareholders *pro rata*, and those that were not taken up would be offered to the preference shareholders.

THE CALEDONIAN MOTOR CAR AND CYCLE COMPANY, LTD.—The annual report of this company shows a net profit of £552, which, with the balance of £94 brought forward from last year, leaves to be dealt with £647, which the directors proposed to apply as follows:—In writing off depreciation on plant, utensils, and fittings, being at the rate of 10 per cent. on the cost of the plant at date, say, £80; in paying a dividend at the rate of 10 per cent., free of income tax, £482; and in carrying forward to next account (subject to remuneration of directors) £84 7s. 10d.

S. F. EDGE (1907) (LIMITED).—The statutory meeting of S. F. Edge (1907) (Limited) was held on the 7th inst. Mr. S. F. Edge, who presided, said that 263,058 shares had been issued, and at the present moment only £1,601 remained due thereon. They had made out a balance-sheet for the purpose of arriving at the figures stated in the prospectus, and found that the position up to the end of July was 20 per cent. better than for the corresponding period of last year. A large number of firms had come to the conclusion that big motor-cars were a mistake, and had determined that they would make small ones, but they were going to be just as badly hit, because that class of trade was extremely well catered for by a few existing firms in this country. The directors believed that with Mr. Napier's six-cylinder principle they had absolutely succeeded. In the past the trouble had been that the expense of producing it had limited their market, but during the past year enormous improvements had been made in the factory, with the result that cost prices—and consequently selling prices—had come down. They had specialised, and he believed that it was only the firms able to specialise who could hope to succeed.

DE DION-BOUTON (1907).—A special meeting has been held, when the chairman (Mr. S. F. Edge) gave particulars of the company's working since the date of incorporation. The chairman said that the profits for the six months ended September 30th last being larger than those of the previous year, the board passed a resolution to declare an interim dividend on the ordinary shares at the rate of 8 per cent. per annum, tax free, and to distribute by way of interim dividend among the holders of the deferred shares a sum equivalent to twice the amount payable to the holders of ordinary shares over and above 7 per cent. per annum. In the past there had been a large number of manufacturers, and they had been able to sell their output to the public, but they would not be so easily able to do so in future. The trade would be taken by a few large houses in France, Italy, Germany, and this country. In the past season this company received from the De Dion factory 500 motor-cars, all of which had been sold. For next season the directors had committed themselves with the factory for 1,000 motor-cars, and the orders in hand were twice as large as those booked twelve months ago. In answer to questions, the chairman said that it was not thought desirable to give the amount of the profits for the six months, but they would be set out in the balance-sheet for the whole year.

A. DARRACQ AND COMPANY (1905) LTD.—Subject to final audit it is announced that the net profits for the year ending September 30th last were about £195,000, giving, with the balance of £40,000 brought forward, a total of £235,000 to the credit of the profit and loss account, and that after payment of a further dividend of two shillings per share (making 20 per cent. for the year) on the ordinary shares, the directors will place £100,000 to reserve, and carry forward a balance of about £27,000.

FIAT MOTOR-CAR.—Lord Grimthorpe, presiding on Tuesday at the statutory meeting of the Fiat Motor-Car Company, said that in the organisation of a business such as the one they were now instituting there was a large amount of preliminary work to be gone through. In this connection he might mention the able and useful work which had been performed by Sir William Bell. In the prospectus it had been stated that negotiations were in progress with a view to a contract being made for a garage and for the maintaining of the company's cabs. These had resulted in a contract which secured for the company a magnificent garage at Thames Bank Wharf, near Victoria Station. There their cabs would be maintained, and in every respect properly attended to and looked after. They had secured the services as general manager of Mr. F. Henry Fowler, formerly of the General Motor-Cab Company. As to their cabs, under the contract with Fiat Motor (Limited) they had to be delivered by monthly instalments, and they would expect ten cabs during this month; but he was given to understand by Mr. D'Arcy Baker, of the Fiat Motor Company, that twenty-five cabs would be delivered this month. He was also informed that future deliveries were likely to be ahead of the dates specified in the contract. If these terms were fulfilled it was certainly matter for congratulation to the shareholders that the company would be in a position to commence earning money before the time anticipated in the prospectus.

PARTINGTON PNEUMATIC WHEEL COMPANY.—£75,000. To adopt an agreement with Mr. J. Bridgen, to manufacture and deal in resilient wheels for motor vehicles, &c. 838-9, Salisbury House, E.C.

HAVING been unable to obtain space at the Olympia Show, the Star Cycle Company, Ltd., are exhibiting the "Royal Starling" cars at their depot, the Star Motor Agency, Ltd., 16, Upper St. Martin's Lane, London, W.C.

CHAUFFEUR ACQUITTED OF CULPABLE HOMICIDE.

BEFORE Sheriff Shennan and a jury at Danfermline, John Crawford, motor-car driver, Granby Street, Newmarket, has been tried on a charge of culpable homicide. The libel bore that on September 7th, on the Great North Road, between Crossgates and Cowdenbeath, Crawford negligently drove a motor-car, and caused or permitted it to collide with and run over Isabella, wife of Robert Proud, labourer, Woodend, and injure her so severely that she died later in the Danfermline and West Fife Hospital from the effect of the injuries, and that he thus killed her. More than two dozen witnesses were examined. Some of them stated that the car was being driven at a high speed, but others testified that a moderate rate was observed. The evidence generally was of a matter-of-fact nature. It seemed that Mrs. Proud set out to cross the road, when the car came into view, and that, in order to avoid her, the chauffeur ran on to an embankment. The woman was carried along by the motor, and afterwards run over, her injuries being such that she died about two hours afterwards. In charging the jury, the Sheriff asked them to divest themselves of antipathy to motors, and to regard the case simply as a driving accident. The jury returned a verdict of not proven. Counsel for the defence was instructed by Messrs. W. and W. Finlay, W.S., Edinburgh.

THE SOCIETY OF MOTOR MANUFACTURERS & TRADERS, LTD. TOURING CAR STANDARDS (open Cars only).

STANDARD No.	WIND RESISTANCE AREA		SEATING CAPACITY.	Weight, in complete order, including driver, fuel, tools, and spare parts.	Distance from back of seat to back of front axle, in ft. & ins.	WIND RESISTANCE AREA	
	Upper Limit	Lower Limit				Upper Limit	Lower Limit
1	> 0.64	> 0.16	2 ONLY	< 13	< 4' 0"	< 9'	< 3'
2	> 0.64	> 0.16	< 2	< 17	< 4' 0"	< 9'	< 3'
3	> 12.0	> 30	< 4	< 21	< 4' 9"	< 13'	< 3'
4	> 16.0	> 40	< 4	< 25	< 5' 0"	< 13'	< 4'
5	> 20.8	> 52	< 4	< 27	< 5' 9"	< 14'	< 4'
6	> 25.6	> 64	< 4	< 30	< 6' 0"	< 14'	< 4'
7	> 32.4	> 81	< 4	< 32	< 6' 0"	< 14'	< 4'
8	> 40.0	> 100	< 4	< 35	< 6' 3"	< 15'	< 4'
9	> 46.4	> 116	< 4	< 37	< 6' 6"	< 15'	< 4'
10	> 52.8	> 132	< 4	< 40	< 6' 6"	< 15'	< 5'

> GREATER THAN
< LESS THAN



1. Distance from Dash to Back Axle:—In the case of "curved" or "dished" dashboards, the measurement is to be made from the back of the foremost plane, portion of such dashboard. Cars which so far depart from the usual design as to render the determination of the dashboard's position difficult, or impossible, shall be deemed to have a dashboard 28 in. forward of the front portion of the Driver's seat.

2. In measuring Bodies for Wind Resistance Area, the Mean width at the widest part—usually the back—is to be taken. The height is to be measured from top of frame to top of body including any projecting upholstery. If the frame be bent upwards at the rear end, then the Height is to be taken from the level of top of frame before such upward bend occurs. The bodies contemplated in Table 4 are Open Touring Bodies only.

3. By the "Vertical Projection of the two front wings" is to be understood the Sum of the two rectangles indicated in dotted line in the accompanying sketch. All touring cars are to have as much Wing Area to the rear wheels as to the front wheels.

MALICIOUS DAMAGE.

AT the Saxmundham Petty Sessions, on the 31st ult., at the instance of the Motor Union, Alfred Cook, Ipswich, was charged under the Malicious Damages Act with causing damage to a car belonging to Mr. E. V. Storey, of Caterham Valley, at Blythburgh. Defendant pleaded not guilty. The prosecuting solicitor stated the damage to the car was of little moment to his client, and he would be satisfied with compensation for the damage done to one mudguard, which amounted to £1 9s. 6d. Defendant was fined 5s., costs 15s. and £1 9s. 6d. damage or fourteen days' imprisonment.

FORTHCOMING EVENTS.

NOVEMBER.

- 20th (W.).—Institute of Automobile Engineers. Address by Col. R. E. Crompton.
General Committee of the Motor Union.
22nd–30th.—Stanley Show.
22nd.—The third Olympia Show number of the *Motor-Car Journal* will be issued.
23rd.—Last day of the Olympia Show.
26th (Tu.).—Annual Dinner of the Aero Club at the Savoy Hotel.
30th (S.).—Annual Dinner of the North London A.C. at the Midland Grand Hotel, London.
Last day of the Paris Motor Show.

DECEMBER.

- 2nd (M.).—Cheshire A.C. annual dinner.
5th (Th.).—Exhibition at Berlin.
7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
Annual dinner of the Hertfordshire C.A.C.
11th (W.).—Southend and District M.C. annual dinner.
Incorporated Institute of Auto. Engineers—Mr. Dugald Clerk on the "Principles of Carburettors."
18th (M.).—General Committee of the Motor Union.
21st (S.).—Opening of the Brussels Exhibition.
26th (Th.).—Annual Reliability Trial of the Motor Union of Western India.

JANUARY, 1908.

- 4th–11th.—Dublin Motor Show.
9th (Th.).—Dinner of the West Essex A.C. at Seven Kings.

FEBRUARY.

- 7th–15th.—Manchester Motor Show at Belle Vue.
12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
15th (Sat.).—Auto-Cycle Club Annual Dinner.

MARCH.

- 21st–23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Nov. 16th—5.9	...	18th—5.6	...	20th—5.4	...	22nd—5.2
" 17th—5.8	...	19th—5.5	...	21st—5.3	...	23rd—5.1

CLAIM AND COUNTER-CLAIM.

AN action to recover £16 12s. for damages to a motor-car was brought in the Manchester County Court by Mr. William White, builder and contractor, of Sheffield, against Mr. Thomas Wild, carrier, of Gorton. The defendant entered a counter-claim for £12 as depreciation in the value of a horse, £2 as charges by a veterinary surgeon, and £2 for five days' keep of the horse and loss of time in attending to it. After hearing the case, Judge Parry said this was another of the cases in which there was an element of doubt raised by the conflicting nature of the evidence. Either the driver of the dray did not take the precaution of looking up and down the road before leading his horse out or did not look properly, because in that event he could not have failed to see the motor-car. He gave no signal whatever to the driver of the car, and was clearly negligent. There was also the question to be considered as to whether the plaintiff also was not negligent. Under ordinary circumstances he should have been able to pull up as soon as he saw the horse and dray in motion. But in this case it happened that the exit from the goods yard was pointing at such an angle towards Hyde that he thought he was justified in assuming that when the horse actually started moving it intended to go in the direction of Hyde. Then when the carter, instead of doing this, began to cross the road the car driver was thrown into an enormous difficulty; for to avoid an immediate collision he had to decide in a moment whether to try to stop or to gain space by pulling away to his right. He did the best he could by pulling across the road, and there would therefore be judgment for the plaintiff, with costs on the claim, and judgment against the defendant on the counter-claim.

POLICE TRAPS.

ELTHAM Road, Eltham, has now its police trap.
The police in the county of Durham are being urged by the county authorities to more persistent action against motorists.
EWELL is the centre of energetic police trapping just now.
MAIDSTONE ROAD, North Cray, has its motor trap. Victims caught therein are summoned to the Bromley (Kent) Petty Sessions.

POLICE vigilance is being noted at the Wansford cross-roads, near Peterborough.

MANCHESTER ROAD, Bradford, is being well watched by the police, although "traps" do not appear to have been established there yet.

SEVERAL traps have been laid in the neighbourhood of Epsom, notably on the London road, where there is a measured furlong.

SEVERAL police traps are shortly to be established at Beckenham, Kent, at the suggestion of the local Council.

ROAD REPORTS.

LANARKSHIRE.—Messrs. A. Colville and Sons, of Motherwell, N.B., are offering the Middle Ward District Committee of the Lanark County Council a quantity of steel slag for the purpose of testing its value in road repair work. It will be tried on three stretches of 100 yards each.

LINDFIELD.—The Lindfield Parish Council is making application to the County Council for a speed limit of eight miles per hour "for all traffic" cars through the village.

AUTOMOBILE ACCIDENT.

A SERIOUS accident occurred the other day in Kennington. The 40-h.p. Fiat car, belonging to Mr. Seymour Hicks, illustrated in our issue of the 26th ult., was being driven from the Aldwych Theatre to Mr. Hicks's residence at Merstham, when, near Kennington Church, it collided violently with a lamp-post and was wrecked. In the car were Mrs. Hicks (Miss Ellaline Terriss), Miss Barbara Deane, and a maid. The latter was thrown heavily against the side of the car and sustained a bad gash on the forehead. Miss Terriss and Miss Deane, though badly shaken, were uninjured. The car was much damaged.

BUSINESS NEWS.

MESSRS. W. SEARLE AND COMPANY, 33, Glasshouse Street, W., are instituting a competition which will be of interest to all interested in their speedometers.

THE COVENTRY SIMPLEX ENGINES, LTD., Coventry, have appointed the Euston Motor Company, Ltd., 124, Euston Road, N.W., their London agents, who are exhibiting at Stand 164, Olympia.

THE Daimler Company have received an order from the Metropolitan Water Board for a 30-h.p. Stoneleigh limousine car with a wheel base of 10½ ft.

MESSRS. EDWARD WOOD AND COMPANY, LTD., of 88, Cannon Street, London, E.C., send a copy of their catalogue of steel structures, which, doubtless, will be of service to some of the motor firms who may contemplate extensions during the next few years.

WE learn that Mr. A. Hirst has terminated his connection with the Compagnie des Magneto Simms-Bosch, Ltd.

THERE was an error last week in the prices given in the advertisement of the Darracq cars. The price of the 14-16-h.p. car with a short chassis is £335, and £355 with a long chassis, the vehicle in both cases being fitted complete with a standing touring car body.

MR. G. CALLOW, who has been in the business for some years, has taken offices and showrooms at 19, Bride Lane, Ludgate Circus, E.C., from which he is able to supply wire, copper and asbestos washers, coils, plugs and all classes of motor accessories.

MR. G. D. HOWARD is now representing the Non-Skid Tread Manufacturing Company, of Chesterfield Gardens, Harringay, N.

REPAIRS to both covers and tubes of tyres are now undertaken by the Samson Leather Treads and Tyre Company, Ltd., 1, New Burlington Street, London, W., whose non-skids are attracting much notice at Olympia.

WE have recently had a further opportunity of visiting the works of the Acme Rubber and Tyre Company, of 343, St. Vincent Street, Glasgow, and were interested in several important developments of their non-skid. It is one of the most notable non-skids on the market. It contains no leather, and is composed of rubber and steel, every part having a large washer to ensure the same being permanent. The company fit all patterns of treads, and will supply samples of rubber and fabric to those interested.

THE revised prices of the Itala cars were given wrongly in the advertisement which appeared in our columns last week. During the past few days the directors have announced that for the future the prices of the new 1908 models will be as follows:—20-30-h.p. four-cylinder, £650; 35-45-h.p. four-cylinder, £850; 50-60-h.p. four-cylinder, £1,100; 60-h.p. six-cylinder, £1,250; and 80-h.p. six-cylinder, £1,350.

THE BRIGHTON AND SUSSEX MOTOR AND CARRIAGE WORKS, LTD., 18A, Cannon Place, Brighton, have recently carried out a successful alteration upon a 1902 type 25-32-h.p. Mercedes, by lengthening the chassis two feet and building a double landaulet body seating seven in place of the former tonneau. The car has since run about 7,000 miles, frequently with seven or eight passengers, revealing neither deficiency in power nor defects in reconstruction. Two similar cars are now in course of alteration at the company's works.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, NOVEMBER 23, 1907.

[No: 455.]

Published Weekly by CORDINGLEY & CO., 27-33, Charing Cross Road, London, W.C.

"THE INDUSTRIAL MOTOR REVIEW."

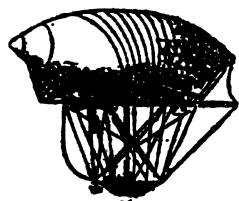
"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



ON Monday, at the London United Institution, Mr. Eric S. Bruce, hon. secretary of the Aeronautical Society of Great Britain, made some interesting remarks on the subject of aeroplanes. He paid a tribute to the work of M. Santos Dumont, who had made the first flight within a time limit. The aeroplane was simply an old friend—the kite—promoted from a toy to an implement of science, and to be the basis of the modern flying machine. Before man would be able to master the air he would have by his intellect to do what the sea-gull was doing instinctively, and be able quickly to alter his wings and position so as to counteract the disturbing forces which upset the equilibrium of his machine. Where the flying machine failed was in lack of stability to withstand the unseen forces of the air, which threw it off its balance. What was to be done to enable man to conquer the difficulty? He believed they were on the dawn of a new hope in the application of the gyroscope, the rotary motion of which counteracted another motion. Mr. Bruce believed there was a future in the application of the gyroscope to preserve the stability of the aeroplane. Personally, he had greater hopes in the application of the gyroscope than in any other complicated invention that had been brought forward. If it could supply aeronauts with this balancing power would it not be a most striking example of the uses of simplicity?

Instruction in Motor-Car Engineering.

At the last examination of the City and Guilds of London Institute there were 144 students examined, 51 of whom passed. These were from a total of 569 who attended instruction in 28 classes. Commenting on the results, the examiners say it is evident that the candidates who sat for the examination were not sufficiently well acquainted with the rudiments of general engineering to commence specialising in motor-car engineering with advantage. In the ordinary grade this is particularly noticeable, inasmuch as a large percentage of the candidates were unable to express their ideas in rough sketches such as an engineer could easily read. The general standard of the answers given this year is far below that of the answers given last year, and this is, no doubt, primarily due to the insufficient preliminary knowledge to which reference is made above, but, from characteristic mistakes being common to sets of papers, it is manifest that the teaching is also at fault. This is also indicated by the lack of method and order in the manner in which the localisation of the cause of misfiring was

attempted. From the way in which platinum has been called into request for constructing various electrical parts of ignition apparatus it is also clear that sufficiently detailed instruction has not been given to the candidates on the point. Many of the candidates who attempted the question on float chambers fell into the ludicrous error of representing a float chamber ball valve as a common cistern ball-cock, and a number represented the feed pump for a small steam generator as an ordinary circulating pump for the cooling system on a petrol car. On another page we give a selection of the questions that were set.

The R.A.C. and the M.U.

THE intimation by the committee of the Royal Automobile Club to "determine the agreement dated the 20th day of February, 1906, and made between this club and the Motor Union of Great Britain and Ireland," has provided a topic of conversation at Olympia this week. Rumours had, however, previously discounted the effect of the news, and most people merely regarded it as a repetition of what was generally understood would take place. The interest taken in the club by the King has made it very desirable that the parent authority in motoring matters should be above the controversies of the industry—a fact which, perhaps, has had more to do with the severance than has been commonly suggested. The club will now proceed to formulate a scheme whereby, after the termination of the agreement, all the advantages hitherto enjoyed by the Scottish, the Irish, and the provincial clubs, as well as individual members, will be extended to them by the Royal A.C. It is of interest to note that the total membership of the local clubs included in the Motor Union exceeds 11,000, and that in addition the number of individual members is 4,700. The Automobile Association has 5,000 members.

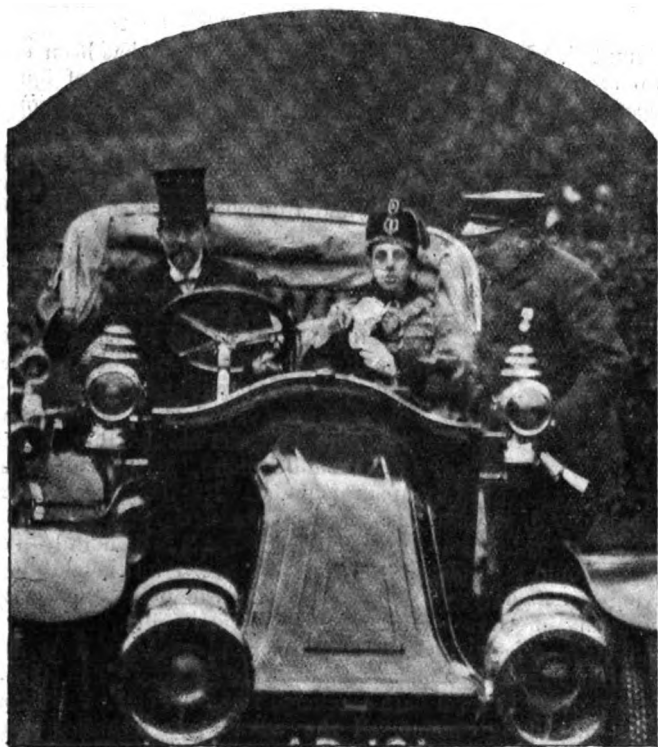
North of the Tweed.

A RECORD has undoubtedly been made in the past season so far as the number of motorists touring Scotland is concerned, and, despite the harsh welcome accorded by the Revenue authorities to those from the Emerald Isle, there have been many motor-cars in the Highlands from all parts of the United Kingdom. The visitors' books at the hotels tell a tale of prosperity, while the activity of the garages and motor repair shops has been really abnormal. Probably the Scottish Reliability Trial has been responsible for some of this favour, the event securing great publicity for the roads of northern Britain as a touring ground. The record of petrol sold in Perthshire is fairly indicative of the great number of motorists who have been travelling that way of late. At Pitlochry, that charming resort near Killiecrankie, three firms alone have supplied 21,000

gallons—sufficient for journeys probably extending 300,000 miles. In the city of Perth itself one agent—Mr. Buchanan Shiell—has supplied nearly as much to motorists. In some village districts sales of 2,500 gallons by small agents are also reported, and at Crieff, which, it must be remembered, is on the road to Oban and the West of Scotland, Messrs. D. Millar and Sons have sold over 25,000 gallons. Figures such as these afford a fair criterion as to the development of motorism in northern Britain.

A Protective Service.

So many accidents have occurred when automobiles have been wrongfully taken from their garages by their drivers without the knowledge of their employers that interest will be felt in a "Protective Service" that has been promoted in the United States for the purpose of suppressing such undesirable, if not dangerous, habits. Practically the work is based upon the plan of the scouts of the Automobile Association in this country, men being appointed to frequent the favourite drives and



The Royal Wedding at Wood Norton.—King Alfonso of Spain on the Duke of Orleans' Renault Car.

resorts of New York and district reporting daily to headquarters the licensed numbers of all cars that appear to be in use without the knowledge and consent of their owners. The idea is proving popular, and its successful operation should secure a material reduction of the repair bill while ensuring a longer life for both car and tyres. It is notable that often when accidents occur here the evidence subsequently proves that the vehicles have been used without the knowledge of the owner, and thus motorists are given a bad name which is largely undeserved. They will therefore appreciate the idea that underlies the Protective Service to which we have referred.

Paris and London.

EVIDENTLY the authorities of the Paris Salon are not unmindful of the advantage of securing the attendance of motorists from this country, and for the first time London hoardings have been brightened with pictorial announcements of the Paris Automobile Exhibition. The fact that two shows in London and Paris are in progress at the same time emphasises

the international character of the industry. It is significant, too, of the eagerness with which the French trade are watching their British rivals that advertisements of their show should have blossomed forth on the boardings of London. But with all the blowing of horns and attacks on our trade the walls of the city will not fall so easily as did those of a historic city in the olden days.

A Sign of the Times.

It is a commonplace saying nowadays that the motor-car will revive the ancient glories of the road and bring back prosperity to the countryside. Its influence is great, and many a wayside inn has been refurbished and made gay again by the coming of the car. Hotel-keepers who have had associations with the horse, and whose prosperity has lain that way in the past, need not regard the automobile as an enemy. Rather should they welcome it as an ally as doth the good host of Huntingdon, who thus proclaims his modernity and enterprise in an advertisement in a local journal:—

W. YARNOLD,
JOB MASTER,
SWAN INN, HUNTINGDON.
MOTOR CARS

AND
POSTING IN ALL ITS BRANCHES
ON MOST REASONABLE TERMS.

Telephone: 0192.

Telegrams: "Yarnold, Huntingdon."

A Presentation.

MONDAY was an important day at the Motor Exhibition, for not only did King Alfonso of Spain visit Olympia, but there was a gathering of participants in the Scottish Trial to do honour to one who richly deserved the distinction. Everyone knows that upon the shoulders of Mr. Robert J. Smith, the secretary of the Scottish Automobile Club, fell the brunt of the work, and that to his courtesy, patience, and consideration has been due much of the success of that event. This fact has been recognised by the competitors, who on Monday presented Mr. Smith with an illuminated address and a gold watch as a small token of the esteem and regard of all who took part in the Trial. Messrs. J. D. Siddels, Eastmead, C. Johnson, T. Shaw, and Colonel Mulliner voiced the feelings of the subscribers, and in concluding the pleasant proceedings Sir John Macdonald, the Lord Justice Clerk of Scotland, added the appreciation of the automobilists over the Border.

Trouble in Shetland.

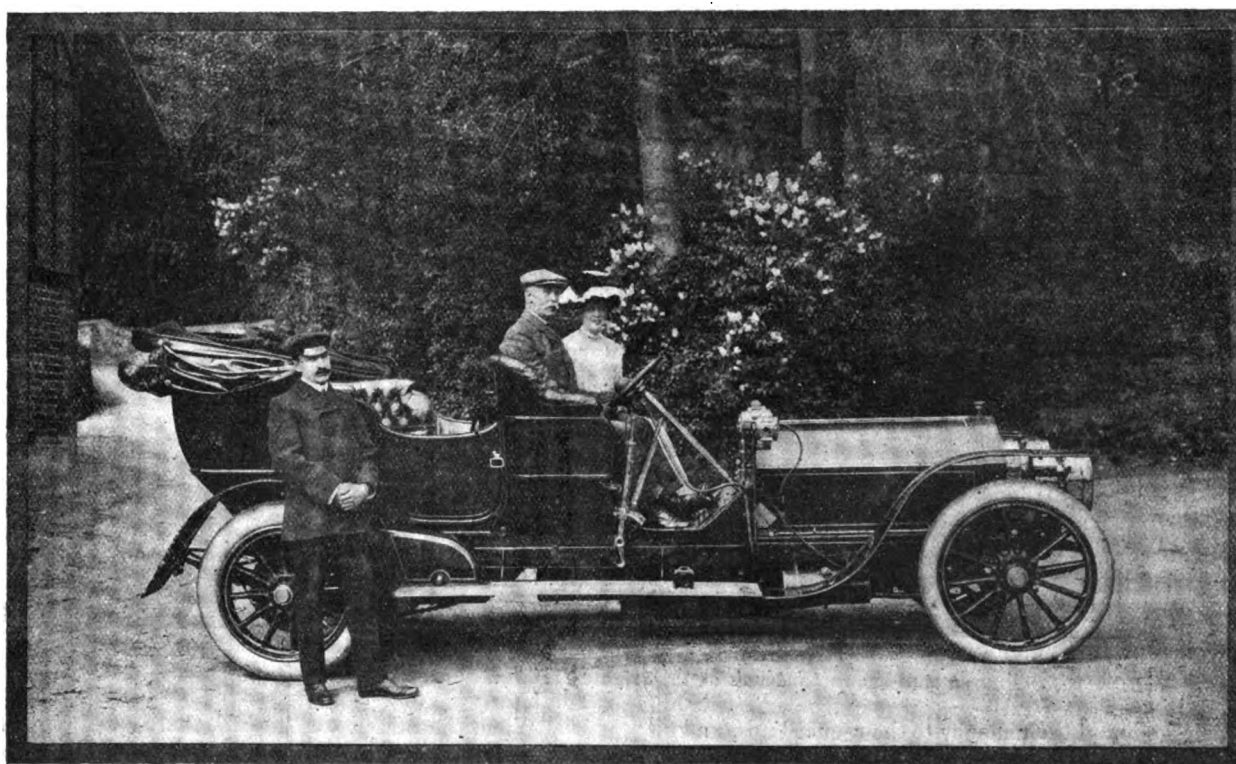
Now that the motor-car has got into the Shetland Islands legal difficulties are arising to worry the good people of the islands. At a meeting of the Mainland District Committee of Zetland, held recently, a letter was submitted, written on behalf of Mr. Miles Walker, of Johannesburg, regarding the damage which was done to his motor-car at the road at the temporary bridge near Voe. The car had sustained damage to the extent of £25. The letter further stated that the road there was not safe for vehicular traffic, and hence the claim against the County Council. If the money were not paid within a certain period a summons would be served. The members of the committee thereupon considered various alternatives to payment of the amount. The idea of a counter-claim for damage done to the roads was considered, and also proposals to prohibit motor-cars from travelling over those roads, or restricting their speed. But, unfortunately, in the particular case under discussion the car had been on the road, had damaged the bridge, and hurt itself. Eventually, after a prolonged discussion, the matter was remitted to the surveyor to learn the facts of the case.

Accidents in the Streets.

THE energetic secretary of the Highways Protection League has been writing to the papers again with regard to the number of accidents that have occurred in the last few months resulting from motor and horse-drawn traffic respectively. Most people will, however, be prepared to wait for the annual returns of the police on the subject before drawing conclusions. Although a more reasonable attitude is now being adopted by the general Press with regard to accidents in which motor-cars figure, either as aggressors or as the victims, it must not be forgotten that only a small minority of accidents to horse-drawn vehicles ever reach the public ear, and yet those who are on the roads frequently are well aware that these are constantly occurring. The point, however, is not as to the proportion of accidents concerned with either form of traffic, but as to the best means to be taken to minimise the risks of each, and if our friends of the Highways Protection League would confer with some of the motoring organisations on this point some good would probably result.

The Care of Tyres.

VISITORS to the show have been able not only to see cars, but also to pick up some practical hints of real service. In the gallery quite a collection of useful suggestions could be gleaned regarding the care of tyres. There was one expert advising a novice to be generous with French chalk in the outer cover for the benefit of the inner tube. The deleterious effect of rust on the rims, of the acid from the accumulators on the covers, of strong light on rubber, and other risks to tyres were duly enforced, and often the advice was of a positive kind. The necessity of relieving the tyres of the weight of the car when standing idle for many days was also dilated upon, as well as the advisability of taking corners slowly, not only to avoid accidents, but also to save the strain on the tyres. Probably the most repeated advice in the tyre section has been with regard to keeping the tyres well pumped up according to the weight of the car—and here every firm has now its own tabulated views set forth in catalogues and lists which indicate that the makers themselves realise the proneness of motorists to err.



Mr. C. D. Rose, M.P., the Chairman of the Royal Automobile Club and the Motor Union, at the wheel of his 75-h.p. Mercedes car.

A Driverless Car.

THE spectacle of a driverless car has been made familiar to the pleasure-seeking public by means of the biograph. Seen from a comfortable seat it causes amusement; brought into actual reality it would occasion alarm. Proof of this was given the other day in the streets of Forfar, when what might have been a serious motor accident took place. It was, however, fortunately attended by no untoward consequences beyond slight damage to the vehicle. The car, which belonged to an English party, and was occupied by several ladies, was drawn up in front of a shop. During the temporary absence of the chauffeur it appears the vehicle began to move down the street. After proceeding for some distance minus its guide, and causing no little excitement to the occupants, the car was diverted by a grocer's van, and ultimately came to a standstill. The occupants, beyond the alarm, were none the worse for their experience. But what might have been?

Excessive Watering of Roadways.

ATTENTION is again being directed to the alleged excessive watering of the roadway at Kingston by the local authorities, and almost one of the first acts of Mr. W. A. Russell, the new secretary of the Cyclists' Touring Club, has been to appeal to the ratepayers of the borough to insist that their Council shall give heed to recent representations which have been made on the subject. Several accidents are said to have occurred on the Bridge at Kingston, which is approached by roads often in a very greasy state. Excessive watering of roadways, in the centre of which is a wood-paved tramway track, is certainly to be deplored, not only in the interests of those who cycle, but also on behalf of those who motor.

THE Edinburgh Town Council now owns motor-cars which were supplied by Messrs. King and Co. from their showrooms in Bank Street, The Mound, Edinburgh.

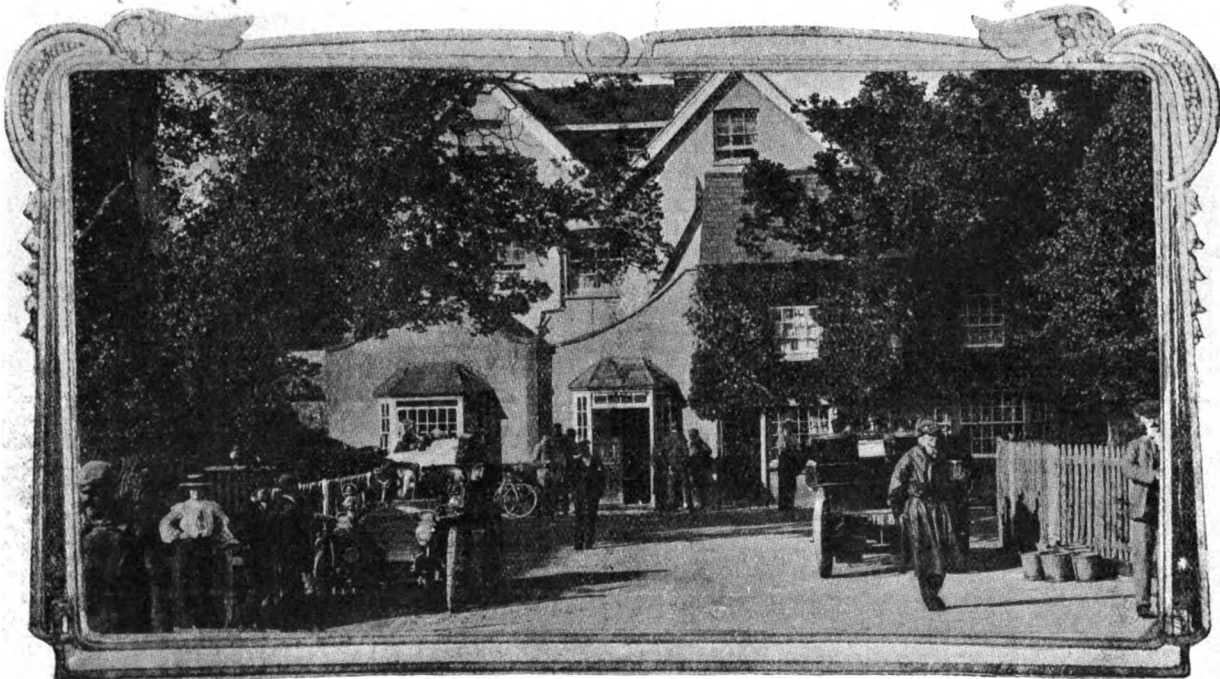
GODS IN OLYMPIA.

NOW there lieth between the Blood which is in Kensington and the Via Aperta at the Hammer of Vulcan a spot named Olympia, huge to look upon, rounded as to its roof and with frame wrought cunningly of metal. There dwell the gods in whom lies Power; and the custom is among men to go on journeys even in the dark month which comes next after the Equinox from the ends of the earth to Olympia, that they may behold their gods and offer much gold to those who keep their shrines. Oft-times, after many months, they to whom they offer gold become gods of their own, and they hold parley with their erstwhile friends in manner magnificent. When the pilgrims come at their journey's end—now some there are who drive in chariots like unto the gods themselves; some walk wearily on foot; some have traversed many a mile in the belly of a great worm which crawls in the earth; some are drawn in a strange and cumbrous vehicle which they call "For all"—all cloaked in furs and garments of curious design whereby the rain may not enter to hurt, nor the cold to be a stumbling-block—they pay their

whose breast was a riband of blue, and in whose hand was a statue of gold, "for in that Isle which is in the centre of three lands, throwing out three legs which stretch from Greeba o'er all the provinces, I won a trophy of mark and . . ."

"If 'tis of trophies that we speak," interrupted the lordly Talbot, "I have such a store as hath never been before in the days of the trade, garnered from all quarters where such things may be had for the winning."

Thereupon there arose a loud murmuring from all around and Daimler, who sat in the midst, said he had had many a weekly win, and Weigel said he was speedy to a fault, and Iris had won a medal in Caledon, and Argyll gave trophies away, and there was Vulcan, and Napier, and many another. And they joined in wordy strife, and there was much wrangling, for every god had won something, and none knew which was supreme. So to drown the noise of conflict there was music made by some who sat apart betwixt Heaven and Earth, and there was heard a voice and a cry which echoed with sounds of lament from a place where trumpets, which sound to battle, were bought and sold.



A well-known Landmark on the Brighton Road—the Chequers at Horley.

homage to their gods and their money to their guardians, and so depart.

But it fell on a day that there came no pilgrims, the law of that land forbidding; and those who kept the shrines were glad and sat at home weighing books in the balance, and considering their position. (Some there were who had much to consider.) So the gods conversed together, and this was the manner of it. It was Itala who began, travel-stained yet triumphant, and she lay in a bower of green and said: "These mortals add year by year impiety to impiety! To-day there came one to me saying, 'What a dirty old thing, whatever is it?' forgetting that I had sped from Pekin, which is in the East, to Paris, which is in the West, with a prince in my bosom, and had crossed the swamp and desert of two Continents without failing!"

And Dedion said, "Aye, truth! For thy brother heard similar hard words, who accompanied thee in that journey, though his strength was but the strength of ten horses."

Then quoth Bibendum, "My strength is as the strength of ten, because my rubber's pure."

Fia-Torino next replied, "Though such deeds as these be great, pray remember my prowess! I carried off spolia opima from three fields; I was First In All Trials, and to me was awarded the D.S.O. of the Motor Show."

"I, too, am among the Gods of Speed," cried Rover, across

When the tumult was hushed, there spake a small voice saying, "My masters, I am but a child and a new-comer amongst you, for I was born in Bristol, and my home is in the Avenue which leads to the fountain where laughing girls sell flowers, and timid damsels see all who pass. But I bear the triple green leaves of a distressful island, and my heart is full of hope." And the gods clapped their hands and cried "Welcome, little sister!" Then there arose a god, whom some had likened unto a vacuum-cleaner in jest, for he had no valves in his heart; and Panhard, who required no word of introduction, and there were Pilgrim and Gladiator, and a god of size and weight whose line was saffron and whose name was Mercedes, and they lifted up their clutches together and sang, and rattled their chains in tuneful chorus. And one whose name was Ford, though some called him Perry, strung numbers together in wondrous fashion (for he was a poet), and he recited these verses to them all assembled:

"This yearly show that sees us here again,
How oft hereafter will it wax and wane?
How oft hereafter perchance look for us
Here at Olympia?—And for some in vain."

And a deep silence fell, and three cylinders cracked in their anguish, and a voice cried "Sold!" and a tyre was put on in ten seconds, and great lights glared as at night.

J. B.

The Paris Motor Car Show.



The Exterior of the Grand Palais in which the Salon is held.

WITH even more than the usual *éclat*, the French Tenth Annual Exposition opened its doors on Tuesday last week, with the united hopes of the entire French motor industry centred in the efforts which have been unusually strenuous this year to get the show into shape nearly a month earlier than usual. The organisers are to be congratulated upon the success attending their efforts, for the splendid setting of the Grand Palais has been made resplendent with gorgeous stands more luxuriously appointed than ever, so much so that the visitor, native or foreign, may well be tempted to loosen his purse-strings beyond the limit which would be obtained by a prosaic show-room display. At least, if surroundings have any effect at all, then the background of the finest that French art can produce is calculated to have the greatest and best. Business is generally expected to be about four times the value of the goods exposed, and this year there are forty million francs' worth of cars and accessories insured in the Grand Palais, which means a probable figure of over six million pounds as turnover, resulting from the show.

This year there are 1,100 exhibitors of French nationality, and 300 foreign firms, an increase of 75 in the former and 100 in the latter. The floor space of the stands is 40,000 square metres, against 28,000 in last year's show. It is expected that at least half a million paying entries will be made this year. The tenth annual show is admittedly the most glorious to date.

The French naturally place a great importance on the show, and the President of the Republic was accompanied by the Minister of Commerce and the Minister of War on his rounds on the opening Tuesday morning. Things have changed within the past ten years, for at the first exhibition a public Minister was hardly prevailed upon to visit the exhibition in the small tent in the Tuileries gardens; and it is on record that his final remark on leaving the show was, "But it is very ugly, after all."

The majority of the stands are those of last year, but there are a few new ones. The De Dion is striking in its size and novelty, representing a Chinese gateway, reminiscent of the Pekin-Paris race. The feature of the show, apparent at the first glance around, is the presence of the small car in great variety and number. The heavy touring car has lost ground, and the present vogue is strong for the average of 15-20-h.p.

There are, of course, plenty of smaller cars to be seen, but this size of four-cylinder vehicle would appear to be the popular demand for the coming season, if we except the cry for the cheap *voiturette*, a cry which is oft repeated and never satisfied with the production offered, for the French makers do not appear to hit the mark in this respect. Prices are being quoted more freely than was the case a year ago, but little confidence should be placed in the value of French prices at this present moment, for events in the near future may place a different complexion on the matter. They show but slight diminution over those of the 1907 chassis. One or two are apparently endeavouring to obtain popular favour by a cheap chassis, notably Clement-Bayard with a 14-16-h.p. four-cylinder at 7,500 francs, and Darraqu an 8-10-h.p. two-cylinder at a price which compares well with that of the Sizaire-Naudin *voiturette*, which, with its single cylinder and light armoured wooden framework, is being offered for 3,500 francs. The cheap-and-nasty chassis for full-sized cars is not so apparent as it might otherwise be, for various reasons which it would take a column of space to explain. All firms are preparing to manufacture in large series, and apparently fully recognise the fact that to hold their own in the world's trade their efforts must be somewhat Americanised.

The well-known and established firms do not this year depart much from their standard practice, and what modifications there are appear to be more in the nature of additional details than change in design. In fact, no one appears to expect anything very startlingly new this year—and they will not be disappointed; for, although standardisation is as far on the horizon as ever, yet the well-tried designs and principles are not lightly to be given the go-by unless tangible advantages are to be derived from the modifications to be adopted. The tendencies of the present show are, of course, interesting. The chain cover question is still somewhat in abeyance, but is making headway slowly. The Westinghouse Company fit an oil-bath chain cover. The Charron, Mercedes, and others retain their last year's cover. The matter appears to be more the result of apathy on the part of the purchaser, or the growing use of the cardan shaft may have something to do with it, for the latter is creeping into use on larger powered cars. The Fiat

how a 20-30-h.p. live axle car this year, and there are several six-cylinder cars fitted with cardan in preference to chain drive. For town vehicles of small power the cardan is most universal. The multiple-disc clutch is growing in favour and ousting the leather-faced cone variety, which is used mainly for the small cars. The high-tension magneto ignition is all powerful, especially in the six-cylinder brigade, with accumulators as a reserve, this, of course, implying that the low-tension magneto is dropping slightly out of favour.

The matter of chassis is apparently reaching finality in the adoption of steel and nickel steel with U section, whilst the tubular frame has practically disappeared from the show. The casting of cylinders in groups of two, three, and four, and even six, as well as singly, has not made any headway or tendency to a definite solution, for the same firms offer four cylinders in groups or separately, and no settled opinion appears to hold sway. But further statistics from an annual show would be misleading, and the tendency must be gathered from individual practice as much as from the generality of chassis exhibited.

About thirty firms display over fifty six-cylinder models. These vary from the neat 15-h.p. of the Lorraine-Dietrich and Delaunay-Belleville concerns to the 70 or 80 nominal horsepower of the Italian contingent. High-tension ignition is the rule, but Brasier, Mercedes, and Itala models have low-tension ignition as alternative. Six cylinders in one casting are met with in the new Beatrix model, and a few firms show all six separated. Twos and threes, however, are in the majority. Perhaps the



M. Gustaves Rives, the Baron de Zuylen and the Marquis de Dion receiving M. Fallieres, the French President, at the Paris Salon.
From a Caricature by "Mich" [in the "Auto."]

two most striking sixes on show are the Gobron-Brillié, with its double-piston type of motor well demonstrated by the working model on the stand, with glass cylinder walls, and the Berliet. The last mentioned is remarkable from the fact that it is capable of giving a powerful aid to the motor at times of need—what the French call *un coup de collier*. When running down hill or at times when the full power of the motor is not needed, the motor operates a geared double stage air-pump, of which the casting is inside the bonnet to the left of the motor block. This air is stored in a tank until the time arrives for the great need, when by a simple manoeuvre of a ratchet on the steering wheel the air, under a high pressure, is turned into the cylinders, there to help the horse-power output. The six-cylinder model of 4-inch bore and $4\frac{1}{2}$ -inch stroke, nominally 60-h.p., thus gives 100-h.p. under the influence of the compressed air arrangement. Berliet appears to have carried out the details with great care, and the present model is the result of a three years' study. The idea offers great possibilities to the design of cars along these lines. This is, however, not the only type of vehicle which has an auxiliary power, although the other application is of a very different nature. It is, in fact, the *micle*, or petrol-electric, system offered by Girardot, and is based upon the Pieper patents (Figs. 1 and 2). The aim of the designer has been to present a car which offers no encumbering levers, no troublesome speed-changing devices, no starting handle, no controlling organ—in fact, nothing but a steering wheel and the clutch and brake pedals.

This ideal is obtained by the addition of a dynamo-motor to the petrol group. When the latter is unable to give the desired output the electric motor, supplied at 50 volts 25 amperes from a Tudor 24 cell battery, comes to its aid and proves a most useful adjunct. As soon as the petrol group is again able to take care of the car, the motor acts as a dynamo and recharges the battery, something after the style of the Raworth regenerative control. The motor is mounted at the rear of the engine group and on the same shaft extension. The speed of the car is regulated by controlling that of the dynamo, by a ratchet on the steering wheel. There is an auto-regulator for the admission of gas to the cylinders, according to the speed of the dynamo. One lever on the steering wheel serves for the starting and backward motion, and the second serves to regulate the speed. These and the two pedals above mentioned are all the mechanism to be seen. The model shown is robust and of excellent general design, and is meeting with great success. It is certainly one of the best of the increasing number of electro-petrol or mixed type of cars on show.

It would be too much to expect the Renault firm to make any radical change from their excellent design. Their modifications this year are small and partake of the nature of additions and luxurious embellishments. One of the additions to the town model four-cylinder 10-14-h.p. has been an automatic self-starter, operated from a third pedal of small proportions. The pedal actuates a rod which descends to the shaft, just in the rear of the clutch, and it engages with a pinion on the latter. A few strokes of the pedal with the clutch engaged is sufficient to start the engine. A bronze case protects the mechanism, the whole apparatus being simple and neat. On the larger models Renault fits the compressed air type of self-starter, the compressor being in front of the engine and geared to the shaft. There is also an attachment to permit inflation of tyres from the reservoir. The starting is done by means of a small lever on the dashboard, after turning a small wheel allowing contact to the cylinder of compressed air beneath the chassis. The exhibit comprises a four-cylinder 24-30-h.p. model with a very luxurious body by Rothschild, including a table raised from the floor, camping outfit, electric lighting, lavatory and picnicing outfit, all very ingeniously hidden from sight. Three-quarter springs are fitted to the chassis, following a very general practice at the Show this year.

On the Charron cars the chain case of last year—then an experiment—has been retained for next year's models. A slight innovation in the chassis consists in the rubber blocks which are laid at intervals on the wooden battens covering the frame. These act as buffers for the bodywork. A large three-quarter spring is fitted to the rear wheels, from which the chassis is suspended by the intervention of a vertical rod. Their new 90-h.p. model is conceived on similar lines to the existing types, and is fitted to a neat chassis giving a weight of about 21 cwt. The firm's practice regarding the casting of cylinders in one block, and also singly, is evidently not a fixed one, since there are both varieties on view.

The Rheims Company building the Scar car show one or two novel dispositions. Their automatic oiling system is good for a run of 200 miles, without any attention whatsoever. The form shown on the stand attached to a six-cylinder crank-shaft includes a scoop-shaped intake revolving with the crank (Fig. 5), and ending in a tube connecting to the crank-bearings; the oil is forced into these tubes as the crank revolves, thus insuring perfect lubrication of the bearings. A cam shaft inside the main cam shaft is another disposition of mechanism which is happily found. This inner shaft facilitates starting by independently operating the exhaust valves.

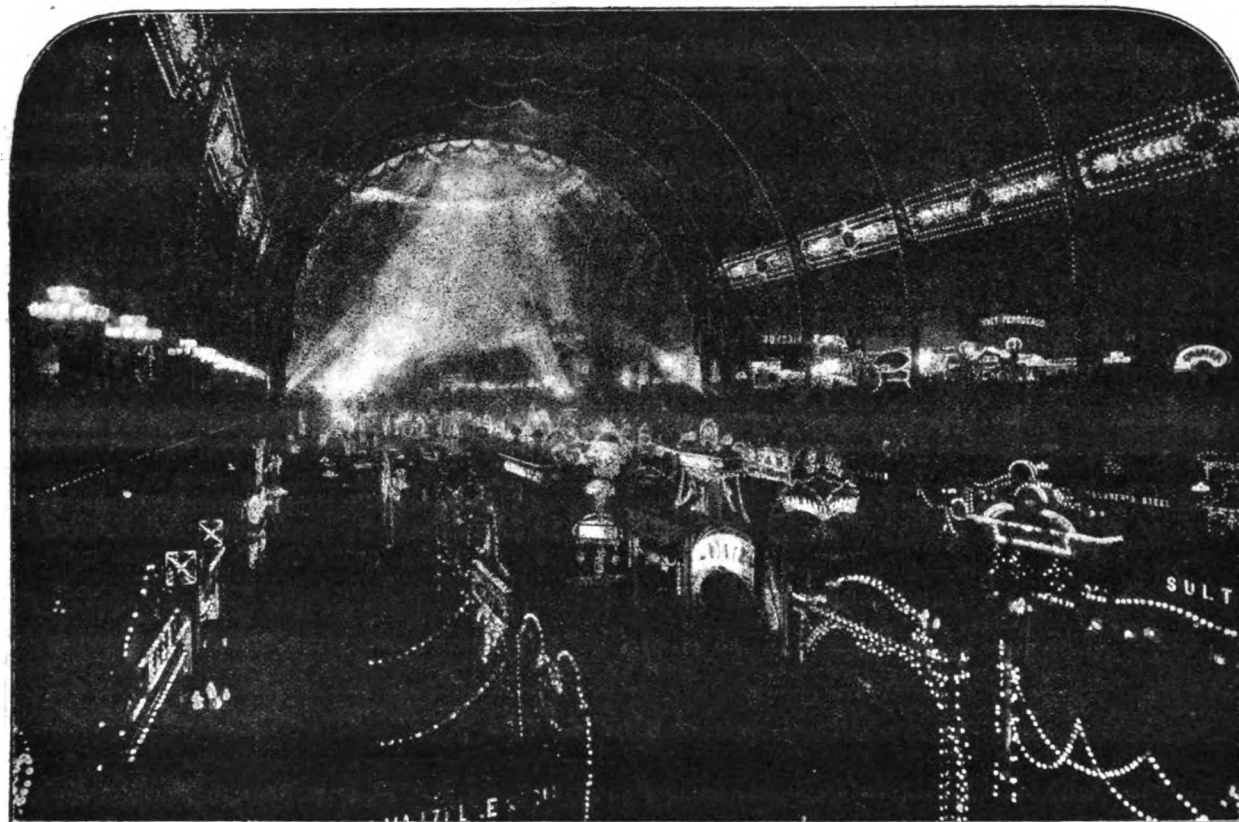
The Burlat car, and more especially the motor, comes very near to what is termed a freak car, especially in these days, when a certain standard practice allows that the motor should be relatively fixed and the crank revolving. In the Burlat motor the cylinders themselves revolve around the crank shaft. The arrangement is by no means so clumsy as it would appear at first thought. There are two cars, one fitted with a four-cylinder motor and another with two groups of four cylinders, making an

eight-cylinder engine. The latter is not extraordinarily long, owing to the arrangement of the cylinders in groups of four around the crankshaft at 90 deg. interval. The arrangement allows one ignition per every fourth thrust by means of a rubbing contact at one point on which the sparking plugs break contact, thereby producing ignition. The speed of the motor can be easily varied from 150 to 1,100 revolutions per minute, at which latter speed the valves are held open by centrifugal force, thus avoiding racing. The axis of the crank-shaft is eccentrically placed relative to the central rotating point of the four-cylinder motors, the cylinders being thus offset. The whole arrangement is most curious, and as a rotating motor it is one of the most successful ever presented. The carburettor is automatic, and the mixing chamber is in the crank case, the crank movement assuring a perfect mixture. The gas is taken from the base chamber, and thus all feed tubing is abolished. Finally the piston rods are rigidly fixed to the cranks. Criticism is very freely aimed at the motor, but it is impossible to de y

not only has places for the ladies in the inside of the phaeton, with its many panelled windows and bright yellow trappings, but in addition to the driver and a seat beside him the car will accommodate two other persons over the top of the car, the footboard forming a protection to the driver's head. There is a hood over the two outside seats, and the whole arrangement gives a really smart appearance. As regards changes in general design, the Darracq Company are fitting the special combination gear-box and live axle, which is being shown at Olympia, so that its features do not need repetition in this week's number.

Among the firms having given renewed attention to the braking system may be mentioned the Westinghouse Company, which firm is also fitting stout sheet-iron covers, with oil bath, to the driving chains (Fig. 3), a most successful application. The Brouhot brake mechanism also deserves attention from the fact that the rods are equalised, giving a direct pull on the two rear drums from a rod exactly in the line of the axis of the car.

The La Buire Company show a new spring-mounted live



The Paris Salen.—A View of the Interior of the Grand Palais at night.

that there is much simplicity and good general design bestowed on the details of this novel creation.

The Panhard models are largely replicas of those of last year. Braking by means of air admission to the engine is introduced, although many leading firms discouraged the idea for some long while. This year's novelty consists in the automatic supply of oil according, not to the speed of the motor, but to the output. Not a drop too much oil is fed to the motor, no matter what speed the group is running at. The firm have acquired a licence for the Saurer automatic starter, which is of the compressed air type, and fits the device to specification. This also allows a tap for connection of the air reservoir to the tyres, and a pressure gauge is provided for the latter. The firm stands to its guns in respect to the retention of armoured wood chassis.

The Darracq Company, which is making a great bid for popularity in respect to its 1908 prices, has not a great deal to show in the way of novelties. On the stand there is a car which reminds one very much of the old-fashioned stage coach, for it

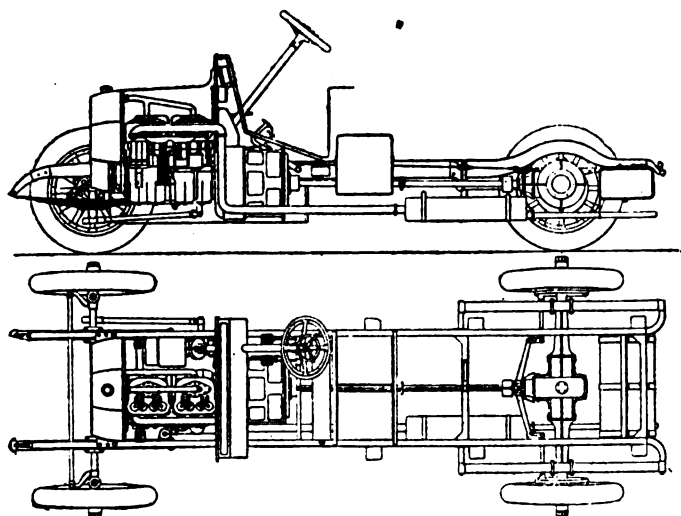
axle without joints, a new oil bath disc clutch, and a new carburettor with multiple spray jets, permitting an economical and efficient running under all conditions of operation. A patent device is provided for greasing the shackles of all the springs, and finally a specially supple rear suspension, the lower half of the elliptic rear spring being lengthened and raised in front as much as possible with inlaying shackle to the top half of the elliptic spring, which extends downwards, too, at its rear extremity as much as the lower half extends upwards in front. The usual excellent workmanship is, of course, quite irreproachable.

The Gobron-Brillié is perhaps one of the most expensive cars in the show. The 70-h.p. six-cylinder twelve-piston model is attracting a deal of attention, and the motor also drives an air compressor which operates a self-starter. The reservoir is below the chassis on the off side, and has tap connections for use in inflating tyres. The car has two clutches worked by one pedal, the first, being metal-to-metal, coming first into operation; the second being leather faced, and comes into action when the pedal is further depressed. The use of alternate exhaust pipes

allows one to cool whilst the other is in use. A working model of the type of double-piston motor is to be seen, and the glass cylinders allow the whole mechanism to be well examined. The motor is, of course, adapted to the use of denatured alcohol fuel, the firm supplying the engine for the Paris alcohol-burning motor-buses.

Besides the engrossing interest offered by the presence of Nazzaro's racer, there is to be seen on the Fiat stand a 20-30-h.p. cardan shaft model, a new departure in large cars for this firm. The back axle casing is strengthened by being bolted vertically along the centre line. The rear wheels are set slightly out of the vertical plane, together with their live axle shafts, this being intended to avoid the inplaying of the wheels in case of overloading. A force pump is now fitted for lubricating, this being geared to the crank and situated inside the base chamber. A 35-45-h.p. and a 60-70 h.p. six-cylinder model are also presented as the acme of the Italian firm's production.

The De Dietrich Company has lately purchased an immense works at Argenteuil, close to Paris. On their latest vehicles the clutch runs in oil, and is remarkably smooth in action. The shock absorbers arranged to take the side strains are worth attention. A new system of lubrication consists in the pumping of oil from the base chamber. All the models are chain-driven except the town carriage. The 15-20-h.p. six-cylinder is a very neat model, with cylinders 80 by 120 mm. It is actually the



Figs. 1 and 2.—Elevation and Plan of G.E.W. Combination Petrol-Electric Car. (See page 824.)

smallest six-cylinder in the show. The Delaunay-Belleville six cylinder has cylinders 85 by 120 mm., and has a slightly higher maximum capacity. The feature of the chassis is the low-lying construction, allowing the fitting of very roomy doors.

Another of the Italian invaders is the Bianchi, which also deserves special mention. This year a new 70-h.p. type is exhibited, including, amongst other features, a double bottom to the petrol tank acting as a drain for the impurities in the oil. Steel rods are used in place of flexible cables for the brake operation. Another model is the 15-20-h.p. four-cylinder type with raised rear frame. The consumption of fuel on this car is stated not to exceed $2\frac{1}{2}$ gallons per sixty-two miles. A 40-h.p. model is also displayed.

The Hispano Suiza, the only Spanish built car, and made at Barcelona, is well worthy of notice. The workmanship and material are quite up to the best modern practice, and the simultaneous control of the double ignition is a good point, as is also the patent steering device. [The new models are dealt with in our Olympia show report.—Ed. M.C.J.]

The Itala firm show some very fine models this year, but none have any changes of importance from their standard practice. Their 60-h.p. and 75-h.p. six-cylinder cars are very attractive and of excellent design. It is difficult to make any criticism of the cars turned out by this firm.

The particular interest of the Peugeot Company's stand

centres in the chassis of the new six-cylinder car, Figs. 6 and 7. The engine has the cylinders cast in pairs, with the valves on opposite sides, the bore and stroke being respectively 130 mm. by 140 mm. The clutch is of the multiple-disc type, and the four-speed gear-box gives a direct drive on top to the differential shaft, the transmission then being by side chains to the rear road

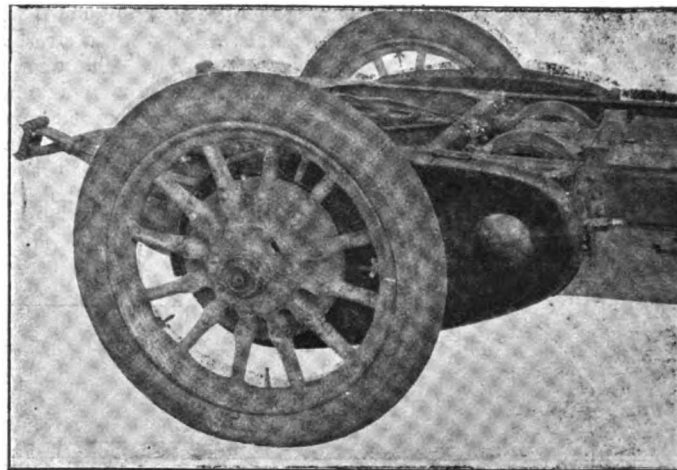


Fig. 3.—The Chain Case on the Westinghouse Cars. (See page 825.)

wheels. Throughout the vehicle has a robust construction, and should fully maintain the Peugeot reputation for reliability. The Peugeot series of models for the 1908 season comprises 9-h.p. single-cylinder; 10-h.p. two-cylinder; 18-h.p., 28-h.p., and 50-h.p. four-cylinder; and the 60-h.p. six-cylinder above described.

An interesting car built at Lyons, which so far has not been seen in England, is the Cottin-Desgouttes. This is on the usual lines of chain-driven vehicles, the series ranging from 12-14-h.p. four-cylinder to 30-50-h.p. six-cylinder. The 12-14-h.p. is a new model intended for town carriages. From Fig. 8, which gives a general view of the Cottin-Desgouttes motors, it will be seen that the magneto is conveniently arranged. The carburettor is of special design; it is exceedingly economical in fuel, as was proved in the recent Coup de la Presse Contest. The auxiliary air-supply can be regulated from the dashboard, while the whole carburettor can be dismantled by removing one nut. The clutch is of the multiple-disc type, of special design, and

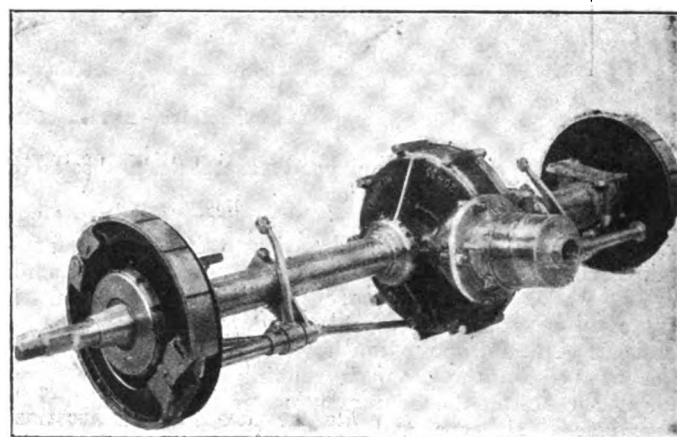


Fig. 4.—The Renault Back Axle. (See page 824.)

in other directions the details are of the most up-to-date character.

Les Etablissements Dubanot, who are now represented in Great Britain by the Car Supply Company, Ltd., of 34, Knightsbridge, London, W., are making four four-cylinder models for the 1908 season. The 12-h.p. has the cylinders cast *en bloc*, while

in the others they are in pairs. A feature of the design is that the engine and gear-box are built up in the form of a unit (Fig. 9), so that any tendency to distortion is eliminated. The ignition in all cases is by Simms-Bosch high-tension magneto, while lubrication is effected by a pump operated off one of the cam shafts. In the smaller model the water circulation is on the

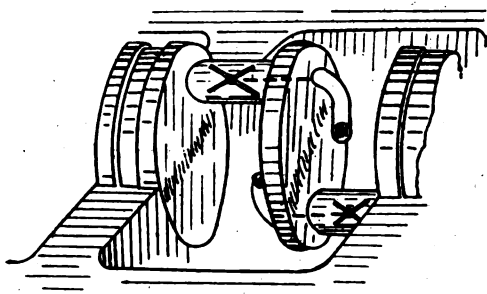
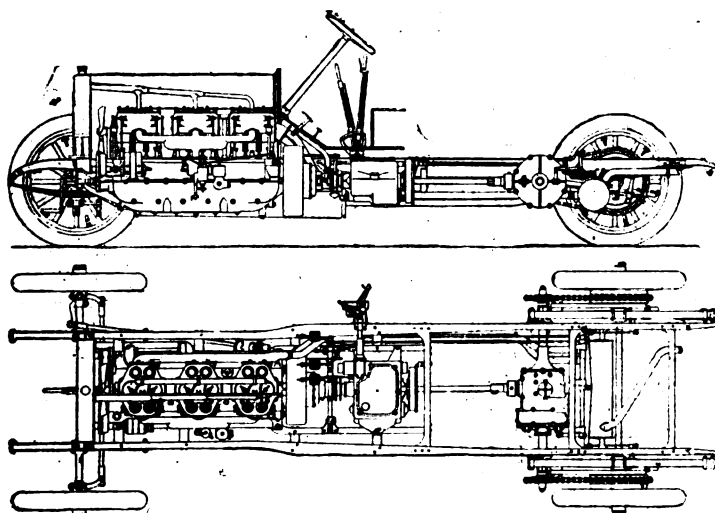


Fig. 5.—Crank Oiling System on the Scar Car. (See page 824.)

thermo-syphon system, while in the others it is maintained by a gear-driven pump and honeycomb radiator. The 12-h.p. and 15-h.p. have fibre cone clutches in place of the usual leather facing, while the 22-h.p. and the 35-h.p. models have multiple-disc clutches. The transmission is through a ball-bearing gear-box and cardan shaft, with joints at both ends, to the live axle. The differential case of the latter is provided with a detachable cover so that the gears can be readily inspected. In view of their moderate price the Duhanot cars should quickly become popular amongst British motorists now that they are being introduced into England.

Among the voiturette fraternity there is much strenuous effort to get a presentable car, and at a moderate price. Inventors are tumbling over each other in the effort to obtain popular favour, but there is a vast chasm between the best cheap voiturette on the French market and the small car presented at bottom price by the leading makers, including the Darracq and the Sizaire-Naudin. The latter, although called a voiturette, deserves a place among the small car section, and, in fact, by its performances, has obtained a special distinction this year by a prominent stand in the Grand Palais.

There is a deal to be seen in the way of friction-driven vehicles, and there may be half-a-dozen firms of more or less



Figs. 6 and 7.—Plan and Elevation of the Peugeot 60-h.p. Six-Cylinder Car. (See page 826.)

repute which offer examples to the public gaze. The public admire the price but not the value offered therefor, and pass on with a sigh. The Turricum is one of the best variety of friction drive, and the Parvula goes a step further by giving a double plate drive, the rear plate also rubbing against the driving shaft by means of a flexible transmission by an endless cord surmount-

ing two superposed pulleys. It has been repeated oft and oft during the present show that the man who presents a sound voiturette at a moderate price will make a fortune, just as the one or two makers of excellent small cars are doing. The case of the three wheelers is somewhat different. The tri-cycle construction was in a more advanced state from which to make a start. The tri-cycle has long received attention at even the best makers, De Dion and Leon Bollée having turned out some creditable examples in the early days of motorism. The tri-cars offer, of course, the driver's seat and one or two others, thus immediately giving an advantage over the voiturette on four wheels. Besides, the tri-cycle could not ape the small car, try as it will, and this is the mistake that the voiturettes are still blindly falling into. Thus the few firms making tri-cars are selling perhaps a limited yet certainly a remunerative output.

The present vogue of aeroplane and dirigible experiments is causing quite a number of firms to produce light motors. The movement will do a deal of good in producing light motors for use on small cars. Air-cooled systems are largely patronised. Among the older firms the Buchet motor is one of the best. The Esnault light motor designed especially for aeroplane and airship work, is attracting much notice. For a new engine the Esnault is of excellent workmanship, and its features give it an originality

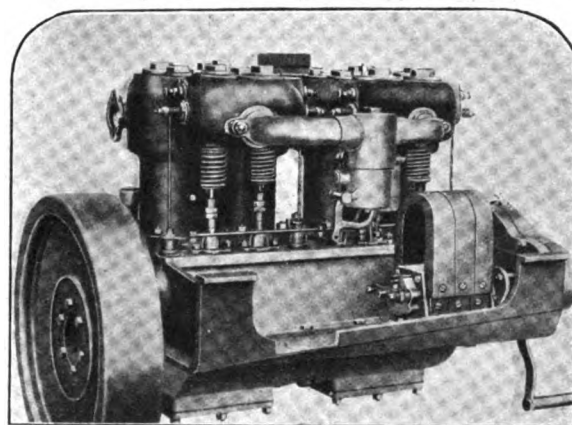


Fig. 8.—The Cottin-Desgouttes 24-40-h.p. Motor. (See page 826.)

without obtaining for it the reputation attaching to certain other new productions. The groups shown in the Salon include a seven-cylinder model sectioned to show the operation. The cylinders are arranged in groups of four and three, the latter behind the former. All the cylinders occupy a sector of about 70 deg. distributed fanwise. The cams for each group are on the rim of a circular plate, mounted directly on the motor shaft. There are two lifts per cam, one lift giving the exhaust and the second closing the exhaust and opening the inlet valve. The appearance and operation of the motor appears to be very satisfactory, and the experiments made with it on the Esnault aeroplane confirm the confidence of the inventor. The motor is air-cooled, and weighs about 100 lbs. for 35-h.p. nominal output.

The familiar V-shaped arrangement of the cylinders of the Antoinette motor meet the eye under a tasteful stand, on which are shown a model aeroplane, with motor in position. The engine is run without carburettor, but has a force pump for the fuel feed; a carburettor, however, can be fitted. Generally, the feed is made by means of compressed air stored in a cylinder, and an air-compressor is fitted in consequence. The famed motor of extra light construction is, of course, well known as regards its general lines. The firm is obtaining much success this present year both in hydroplane, aeroplane, dirigible, and motor-car departments. The 100-120-h.p. sixteen-cylinder motor, with 105 mm. bore and stroke, 1,400 revs. per min., weighs but 290 lbs. complete, and consumes not more than three-quarters of a pint per horse-power hour.

Among the accessories, the Autoloc device for all kinds of transmissions, whereby the desired position is automatically obtained without effort and without any trouble in unlocking,

has made progress. The makers of shock absorbers appear much in the same position as in 1906. The specialists in radiators, springs, &c., are still specialising, but appear to wait upon the constructors for the next move. There are one or two firms who are prepared to sell complete chassis, minus the motor. The idea may be good for those experimenting with engines, but the palmy days of the business are past. The builder of the motor makes up his own chassis, or there is nothing in the business. Tyre makers are as busy as ever, and it would appear that the coming season is going to see some rate cutting in this line—in fact, the movement has already commenced. Spring wheels are to be seen galore, but their comparison would need a volume. Tyre-fitting materials are increasing in number, but removable rim devices do not appear to be so prominent as prophesied. It has been found that the idea was somewhat puffed, and tyre troubles are now not so frequent that their repair necessitates the carrying of a spare rim, of which the bolts are apt to loosen and cause trouble in their own particular way.

In the carriage-building section there are one or two ingenious body-lifting devices on view. There is a patented device by which the front seat of a short chassis can be pivoted forward, not sideways, to allow a side entrance. Another arrangement is a rolling top hood or *capot*, stowing away at the rear of the car in an almost invisible manner after the fashion

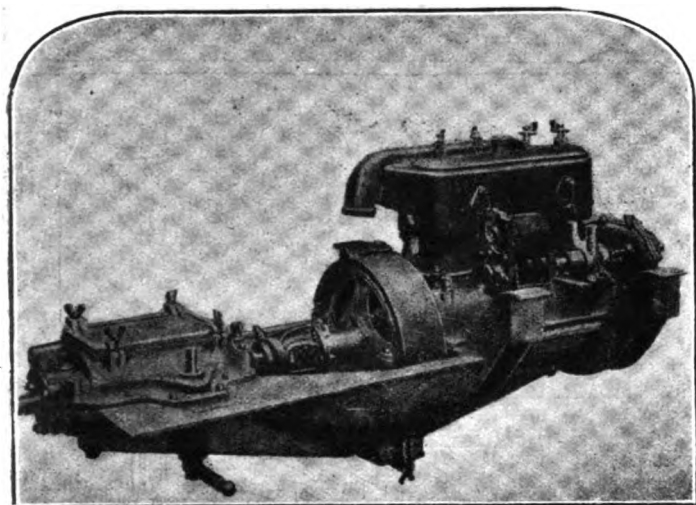


Fig. 9.—The Daimler 12-h.p. Engine, Clutch and Gear-Box complete as a unit. (See page 826.)

of roller blinds. When this is unrolled it is secured to two perpendicular posts, one on each side of the dashboard, which latter telescope out of sight when the hood is rolled back. It is a neat contrivance, and, of course, fully patented in all civilised countries. The general luxury seen a year ago in the best bodies is even more accentuated. The bodies of some cars are suspended, with independent springs, quite apart from the driver's seat and that alongside him. Another neat arrangement is a doctor's visiting phaeton, in which the seat next the driver is included in the enclosed portion, and is fitted with a marble top table on which the doctor may lay his instruments or sort various accessories during the run between patients' houses. A small bookcase is formed below the table, and a first aid outfit carried. There are, in fact, more bodies of all descriptions than ever before, and the general quality is good, with less of the American cloth variety to be observed.

Among the successes of the present *Salon* must not be overlooked the retrospective show, which occupies a very considerable space in the temporary building erected on the Esplanade des Invalides. It extends for some fifty yards on each side of the main entrance, and is two or three cars deep on either side, comprising fifty or sixty cars in all. The first and earliest-made car is a very creditable attempt by a French military genius towards making a road steam-engine, in the year 1760. The steering wheel, driver's seat, form of chassis (of 10 in. oak

beams), and wheels with iron studs in the tyres, would remind one very much of even the recent street cars for shifting material; but there the comparison ends. In front of the single driving wheel, ahead of the car, is a huge caldron for generating steam. The two pistons act directly on the wheel, and the clumsiness of the transmission rods is more than apparent from comparison with the next attempt, dating, however, a hundred years or so later. The early attempts of Serpollet, of Leon Bollee, and of De Dion are all on show, including also the Mors and the Jenatzy cars—a most interesting series of "old junk" that could well be found on the Continent. Even the Daimler first models are on view. A glance through the models would make one imagine that a page of ancient history were open before him, but a look at the neat card description of each model, with the dates—1895, 1896, 1898 and 1900—together with the racers of later date, bring one forcibly back to the contemplation of the immense and almost lightning-like progress which has been made during the present century. This feeling is more than accentuated if the visitor has just made a round of the chassis in the Grand Palais. And yet in the years 1897–8 there was a certain Forest, of Brest, experimenting with a six-cylinder explosion motor, cooled by water, vertically arranged by pairs, three cranks on one shaft, magneto ignition and operated valves. There are also steam road 'buses made in the year 1878 and thereabouts as well as the early tri-cycles, steam, and others of the nineties. The first Renault, the first Panhard, the first Mors, there they all are, telling with forceful silence the tale of struggle and success which is the main reason for their reappearance during the present year. As the French candidly say, were it not for the famous English Road Act, the French would not be in their present powerful position *vis a-vis* the motor industry. If the Paris Show is worth a visit, it is worth it for one feature alone—the retrospective exhibition in the Invalides, a fitting place for the old warriors, too.

A GARAGE and repair shop has been opened at Carlyle Place, Abbeyhill, Edinburgh, by Messrs. Brierley Bros.

THE borough of Salford, following the example of London, Sheffield, Glasgow, and Swansea, is to have a motor ambulance.

MESSRS. CHAMBERS MOTORS, LTD., of Belfast, have had a very successful season following the performance of their cars in the Scottish Trial.

LONDONERS near St. Paul's Cathedral on Wednesday afternoon saw a motor-bus on fire. The flames were ultimately extinguished by a motor fire engine from the Watling Street station.

FOLLOWING imitations of the mediæval writing, Mr. Reginald Rigby has written and illustrated some quaintly humorous poems, which are published by Messrs. Sealey, Clark and Co. under the title of "Motorynge in ye Myddle Ages." The work is decidedly interesting, and will help to beguile a weary hour.

MRS. R. A. JONES is contributing to the Journal of the Southend and District Motor Club an account of their first motor tour. At Shrewsbury they found the Clarendon a comfortable hotel, with a more reasonable tariff than they had discovered at Oxford, Monmouth, and Worcester. At Lichfield they were equally well pleased with the George Hotel.

MESSRS. WELTE AND OWENS, LTD., whose business was established about three years ago under the style of the "Enterprise" Motor and Accessory Company, have built up quite a large trade in motor accessories, and at their large depot at Colquhitt Street, Liverpool, hold a large stock of all the principal fitments at present on the market. The company are also the district agents for the Hotchkiss and Vulcan cars.

MESSRS. MONNET, PLASSE AND CO., 20, Store Street, Tottenham Court Road, W., issue a useful list of "a few important motor accessories," including the Nieuport plug for small cars, the Rapid American tyre inflator, actuated from the flywheel and pumping up a 120 mm. tyre in a couple of minutes, the Python horn, the "Monnauto patent road clearer," otherwise a horn with a deep musical note, the Carpentier plug, &c.

MR. A. MORRIS THOMSON, having resigned his appointment at Alexandria, N.B., has joined the Darracq Company as consulting engineer.

A COUNT on behalf of the Dunlop Pneumatic Tyre Co., Ltd., on Tuesday, the 12th inst., showed that on the cars exhibited at Olympia there were 2,181 tyres, of which 1,205 were Dunlops.

THE King of Spain spent a long time at the Miraculum stand at the Olympia Motor Show on Monday, and had two demonstrations of the efficiency of Miraculum given to him, being much interested in the matter.

THE enterprise of the committee of the Motor Club in securing premises at 6, West Kensington Gardens, for a branch club during the Motor Show, has been amply rewarded. About a hundred members have sat down daily to lunch, and about half that number to dinner.

THE Darracq dinner at the Café Royal, London, on Friday, the 15th, was an enjoyable function, in the course of which Captain Rawlinson referred to the foresight displayed in designing cars well ahead of the selling season. Speeches were also made by Messrs. Dunn, J. Keele, Huntley Walker, G. Heath, T. Garner, and H. B. Cook.

THE Union Motor Car Company, of Denbigh Street, Belgrave, S.W., supplied the 20-30-h.p. Renault landaulet which was selected by the King of Spain for his use during his visit to the Duke of Orleans at Wood Norton on the occasion of the Royal wedding. The car was driven by Mr. Wolstencroft, one of the partners in the above firm.

IN the R.A.C. dust trials the order of merit of the first three in the class for makers' standard cars at 20 m.p.h. were:—One 24-32-h.p. Porthos, two 30-h.p. White, and three 12-16-h.p. Wilson-Pilcher. For amateurs' cars the first three places were taken by Mr. D. Mooney (20-h.p. Stanley), Mr. A. F. Slee (10-h.p. Renault), and Mr. F. Hughes (20-h.p. Dennis).

THE Shrewsbury and Challiner Tyre Company, Ltd., have issued a new catalogue of their patent detachable rim, in which the under sides of the ordinary pneumatic rim are engaged firmly by the upper bevelled edges of the device, securing easy attachment and firm security when fixed. The process of manipulation is simple, and copies of the pamphlet can be obtained from the company's offices at Kay Street, Ardwick, Manchester.

THE older specialties of the E. M. Bowden's Patents Syndicate will be mostly shown at the Stanley Show, as at Olympia, in a new and improved form, including specimens of such well-known fitments as the Bowden patent mileage recorder, a dashboard positioned recorder which dispenses with the usual flexible shaft transmission; the Bowden gas throttle, which regulates the supply of gas to a nicety; and the Bowden controls for cars to suit all patterns and all tastes.

THE New Speedwell Motor Company, Ltd., have sent us a couple of photographs of the new works they have erected on the Staines Road, Hounslow, and into which they will be moving during the course of the next few weeks. Arrangements are being made to continue the manufacture of Speedwell cars at Chiswick right up to the eve of the removal, so as not to interfere with deliveries. The new buildings occupy just over half an acre of land, and provision is being made for extensions to be carried out to the extent of about another acre.

THE official certificate of the Royal A.C. with reference to the petrol consumption trial of the 12-16-h.p. four-cylinder Argyll cab describes the test as consisting of 2½ hours running in London traffic, a distance of 20½ miles being covered, and the amount of fuel used being 7 pints, or 23·4 miles per gallon. A run in the country was then taken, 2 gallons 1 pint 8 oz. of petrol being used, equivalent to 24 miles per gallon. Pratt's Borneo spirit was used in both runs, and the specific gravity, taken immediately before the start, was ·765 at 58 deg. Fah. The roads were heavy for the greater part of the country journey. The engine accelerates quickly, even on top gear from a slow speed, and the car was easy to handle in traffic.

HERE AND THERE.

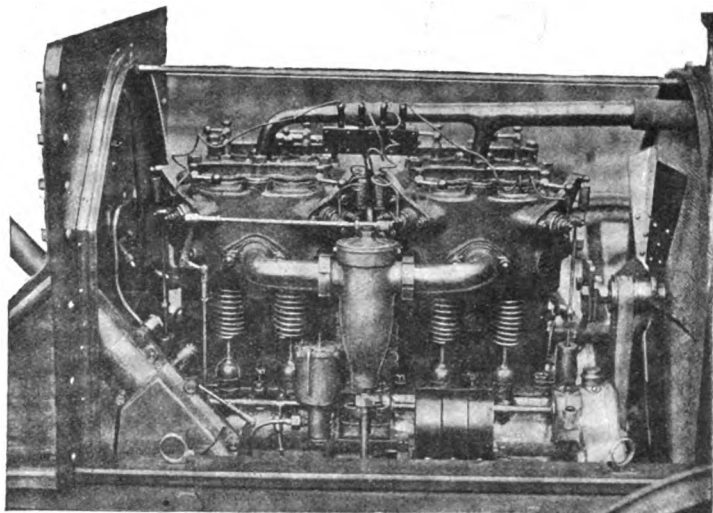
UPON a 12-14-h.p. Argyll chassis the Metropolitan Asylums Board are building their own ambulance body for the conveyance of patients.

THE latest catalogue issued by Messrs. Van Raden and Co., Ltd., of Foleshill Road, Coventry, gives an excellent description of the manufacture of spun glass accumulators upon which the firm have specialised.

MESSRS. DENNIS BROS., of Guildford, have sent us an illustration of the new design they have got out of a three ton petrol motor tip-wagon. It is designed for speeds up to ten miles per hour.

DURING their stay in this country the German Emperor and Empress are using Daimler cars. On Saturday last no less than nine vehicles met the Kaiser at Paddington Station, and he afterwards made a tour of London with his suite.

MR. PAUL BRODTMANN, managing director of the Continental Tyre and Rubber Company (Great Britain), Ltd., had the honour of being presented to the German Emperor at the reception held at the German Embassy on the occasion of the Emperor's visit to London. Mr. Richter and Mr. Ulrich, of the same firm, were honoured in the same way.



The Daimler-Mercedes 35-h.p. Four-Cylinder Engine.
(See page 800 last issue.)

"MOTOR UPKEEP" is the title of a new pamphlet issued by Messrs. Philip Beresford, Ltd., of Cecil House, Charing Cross Road, W.C., which will be of value to many prospective motorists in assisting them to a selection of their car. The firm undertake to maintain vehicles at an inclusive cost, and generally to make pleasant and economical the path of the motorist.

ARGYLLS HAMPSHIRE, LTD., Southsea, have recently supplied a 14-16-h.p. Argyll to Admiral Sir Percy Scott, who is in command of the Mediterranean Fleet. The car has been taken away by him on his flagship "Good Hope," and will be put ashore at every convenient place as a means of carrying out his various official visits, and also as a means of exploring the districts. Another naval motorist who has lately acquired a 14-16-h.p. Argyll is Admiral Robinson, of H.M. Dockyard, Portsmouth.

AN improvement has been brought out by Messrs. E. W. Willard and Company, of Paradise Street, Birmingham, in connection with their "Elouard" screen, recently described in the M.C.J. We have seen one of these mounted with a polished brass frame, the bottom portion of which was shaped to suit the dashboard of a 10-12-h.p. Darracq car, thus doing away with the usual method of filling up the space between the top of the dash and the bottom of the screen with wood. The screen looked extremely smart, and the makers tell us the extra cost is but trifling.

THE Star Hotel, High Street, Southampton, now possesses its own garage with inspection pit.

THE Military Tournament and Motor Gymkhana held at Lytham in August last resulted in a profit of £80.

REPAIR works for motor-cars have been established at Torquay by the Torquay Garage and Motor Works.

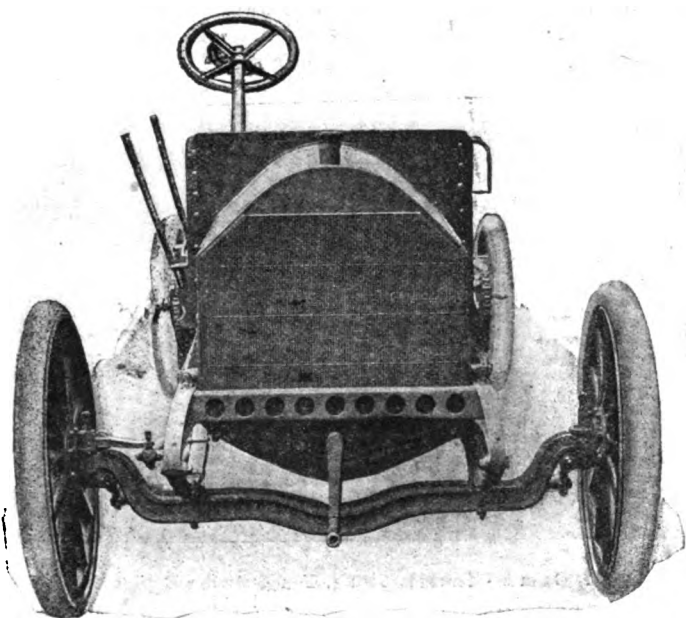
THERE are no less than 1,403 exhibitors at the Paris Salon this year, as against 1,235 at that held in December, 1906.

A LIST of the foreign duties on motor-cars is published by the West End Motor-Car Packing Company, 132, Grosvenor Road, Westminster, S.W.

A "MOTOR-CAR LIVERY BUSINESS" is now being conducted in San Francisco by ten chauffeurs of that city, who have entered into a little combination on their own account.

A BILL dealing with the lighting of vehicles in Scotland on the lines of the measure which is shortly to become law in England, Wales and Ireland is to be drafted by the Scottish A.C.

THE Rajah of Mudhol has ordered a 35-h.p. seven-seated Daimler car from the Bombay Motor Car Company, Ltd., while the Maharajah of Mysore has just taken delivery of a new 14-16-h.p. Fiat landaulet.



Front View of the Daimler-Mercedes 60-h.p. Six-Cylinder Car.
(See page 800 last issue.)

THE second motor sale held by Messrs. Hampton and Sons at Brooklands on Wednesday contained over thirty entries. As on the previous occasion, prospective purchasers were able to try the cars free of cost round the track on the morning of the sale.

WE hear that the Redbridge Motor Works, of Redbridge, near Southampton, are at present building a 60-h.p. eight-cylinder engine for a racing car. There are a number of interesting features in the engine, notably in the provision of an auxiliary exhaust. The crank-shaft will have a bearing between each cylinder, ball bearings being fitted at the two ends.

A FEW days ago a fire broke out at the Irish town of New Ross, which was likely to extend almost throughout the place until it was arrested by the arrival of several firemen from Waterford with lengths of hose and all the connections for the hydrants. These were summoned by telephone in the night and driven from Waterford to New Ross by Mr. W. F. Peare, the well-known motor agent of Waterford, who will be remembered by many of our northern readers as having taken part in this year's Scottish Reliability Trials. Thanks to the celerity with which he was able to take assistance, further disaster in the town was averted.

THE Paisley Town Council is considering the adoption of a motor fire-engine for the borough.

THE Dunlop Pneumatic Tyre Company have undertaken a selling agency for Elastex in the United Kingdom.

IN the High Street, Grays, Mr. G. E. Carter has a motor garage open day and night for the convenience of motorists journeying in that corner of Essex.

THE Shanklin (Isle of Wight) District Council has decided to erect three notice-boards at the entrances to the town warning drivers of motor-cars to reduce speed in the streets.

THE Renard road train is completing a tour of Ireland, and during the last few days has been located at the garage of Messrs. John Robson, Ltd., Chichester Street, Belfast.

MESSRS. TAVENDALE & Co. have a splendid garage at Lawrencekirk, N.B., and another at Murrayfield, Edinburgh. They have been busy on repair work throughout the season.

AMONG the minor exhibits at Olympia is a new card game known as the "Motor," which is to be seen on the stand of Messrs. Gamage, and will doubtless be played by motorists to beguile some winter hours.

THE improved 1908 pattern of the Continental non-skids has much shorter studs than heretofore, and with the increased canvas backing gives the tyre even more mileage than in the past, while in no way reducing its effectiveness as a non-skid.

FROM the Daimler Company comes a handsomely got-up book describing a motor-car picnic in Spain, and a tour of a Daimler car in the same country. The work is fully illustrated by photographs, and is of an exceedingly interesting character.

A GAMAGE motor clock fitted to the dashboard of a 30-h.p. Whitlock-Aster car, and belonging to Mr. Sydney Francis, A.M.I.M.E., was recently being driven through Forest Gate when the car took fire and was completely destroyed, notwithstanding the efforts of the fire brigade. The remarkable circumstance about the incident, however, was the fact that the clock on the dashboard, after its extraordinary baptism of fire and water, was found to be still going. The glass of the clock was cracked all over, the soldering of the case gave way, the rim of the case parted with its flange and has lost its glass, the packing in the interior of the case was quite soddened—but the clock is still keeping good time.

AN excellent catalogue of their specialities has been issued by the Validus Non-Skid Motor Tyre Company, at whose headquarters at 109, Victoria Street, Westminster, S.W., can be seen a full selection of their unpuncturable leather non-skids; leather and rubber non-skids vulcanised to the tyre by cold process, and detachable non-skids which are easily fitted and detached either to new or worn tyres. The company have in stock a large selection of newly retreaded tyres, and also call attention to their Validus rubber retread, into which canvas insertions are made, rendering it specially suitable for heavy cars. This form of retread partly acts as a non-skid without causing any resistance to the steering of the vehicle. Reference is also made in the list to the Validus horn and attachment by means of which the rubber bulb is dispensed with. The construction of the horn is so simple there is nothing to get out of order, and it has a smart appearance when fitted to the car.

AN ingenious six-stroke petrol engine, devised by Mr. A. Rollason, of Long Eaton, Derbyshire, is described in the last issue of the "Birmingham University Engineering Journal." The arrangement is not only ingenious but gives an exceedingly high efficiency, tests made with the engine showing that at full load, at speeds varying from 300 to 1,000 revolutions per minute, the consumption of petrol was 0.54 lb. per i.h.p. hour, and 0.66 lb. per brake h.p. hour. The thermal efficiency of the engine per i.h.p. was 25.0 per cent., while the heat rejected to the water jacket was only 30.7 per cent., and exhaust 44.3 per cent. The analysis of the exhaust gases gave carbon dioxide 6.3 per cent., oxygen 8.7 per cent., and the exhaust contained no carbon-monoxide or hydrogen, and was clear and odourless. The compression of the engine was 75 lb. per square inch, and the mean pressure shown on the indicator cards was 90 lb. per square inch. The mechanical efficiency of the engine was 82.5 per cent., which must be considered a very good performance.

CONTINENTAL NOTES.

A German Motor Racing Track.

A scheme to establish a motor racing track in the neighbourhood of Berlin is at present under consideration. The course, which would be about 10 kilometres long, is situated near Teltow.

A Live Axle Mercedes Car.

We learn from a reliable source that the German Daimler Company, which has hitherto confined its productions to chain-driven vehicles, intends shortly to place a live axle car on the market.

The Motor-Car in War.

The French Minister of Commerce presided at a banquet given on Thursday last week to celebrate the opening of the

motors. Four of the designs submitted were rejected on the grounds that they did not meet the regulations laid down. The first prize has been awarded to the apparatus entered by Messrs. Chauvin and Arnoux, while honourable mention is given to that of Messrs. Wills and Cheron.

Public Services in Spain.

A public motor-bus service has been started between Caceres and Trugillo. The vehicles used are of the Suddutsche (Gaggenau) single-deck type, the body being divided into two compartments for first and second class passengers. The motive power is supplied by a 36-45-h.p. four-cylinder engine.

Miscellaneous Items.

A State service of motor-omnibuses is to be established next year between Passau and Zwiesel, Bavaria. The route is via Tittling and Schoneburg, and passes through a picturesque por-



Prince Alexander Solms, the President of the Austrian Automobile Club, on his 40-h.p. Graf-Stift Car at Gratz.

[Allgemeine Automobil Zeitung.]

tenth annual motor-car exhibition in Paris. Covers were laid for no less than 1,200 guests. General Picquart, the Minister of War, laid stress on the usefulness of motor-cars for military purposes, and on the great rapidity with which the troops had received supplies by this means during the recent manoeuvres.

Industrial Vehicle Trials in Italy.

The Italian Automobile Club, in conjunction with the Touring Club of Italy, is making preparations for the holding of a reliability trial of industrial motor vehicles and omnibuses to be held in the neighbourhood of Plaisance, Italy, in September next year.

Petrol Consumption of Motor-cars.

Six competitors entered for the competition organised by the Association Generale Automobile, of Paris, for the best apparatus for measuring the consumption of spirit in petrol

tion of the Bavarian Forest.—An epidemic of motor lamp stealing is just now prevalent in Paris.—The Great Berlin Motor-Omnibus Company is on the point of making an experiment with a combination petrol-electric motor-omnibus, which has been built in conjunction with the Siemens-Schuckert Works Company.—It is reported that Thery, the old racing champion, will again be seen at the wheel of a Brasier in the leading motor races next year.—An Automobile Club has just been formed at Salzburg, Austria.—A motor-bus service is being started in Paris between the St. Lazare and Lyons railway stations.—The German Ministry of the Interior has ordered an enquiry to be made into the present state of the automobile industry in that country.—A company has just been formed in Milan under the title Tattersall Automobilista Italiano, to establish a large depot for the sale of second-hand cars in Milan, as also a garage and a motor school.

The Olympia Show.



(Continued from page 812.)

The B.S.A. Cars.

The name B.S.A. is so well known in the small arms and cycle world that the advent of the BIRMINGHAM SMALL ARMS COMPANY, LTD., in the motor industry is a matter of more than ordinary interest. Two models are being made, both having live axles and four-cylinder engines, the 18-23-h.p. having cylinders 98 mm. by 120 mm., and the 25-33-h.p. 115 mm. by 130 mm. The cylinders of the latter are cast in pairs, and the valves are located on opposite sides; in the 18-23-h.p. they are all on the left side. In both the automatic carburettor is set close in to the middle pair of cylinders, so that there are no inlet pipes in the ordinary sense of the term. The exhaust cam shaft has half-compression cams to facilitate starting. The crank shaft has a bearing between every throw, the latter being supported on the top half of the crank case, enabling the bottom portion to be removed without disturbing the bearings. On the 25-33-h.p. car the water circulation is maintained by a pump, while on the smaller car it is on the thermosiphon or gravity system. The radiator is attached to the frame through a pivoted joint, to prevent any strain being thrown on it. The smaller engine has high-tension magneto ignition; the larger one has both Simms-Bosch low-tension magneto and accumulator and coil ignition systems. The make-and-break cams are mounted on the

has been devoted to the design of the various details and to the selection of materials, in order that the cars shall fully uphold the B.S.A. reputation.

The Pilain Cars.

Three examples of the Pilain vehicles are shown by Mr. A. PELLANT on this stand—viz., 24-h.p., 40-h.p., and 60-h.p., all provided with motors having four cylinders. The 24-h.p. is fitted with a very handsome limousine body, the 40-h.p. is shown as a chassis, whilst the 60-h.p. is displayed with a touring body in the grey, and unfinished. In the motors of the 24-h.p. and 40-h.p. types the cylinders are cast in pairs, whilst the 60-h.p. has separately-cast cylinders. Low-tension magneto ignition of the Simms-Bosch type is fitted to all models, but some modifications have been introduced in the method of operating the tappets and trip gear. The clutch has been remodelled, and is now of the metal disc type, without intermediary springs. Transmission from the clutch to the gear-box is by means of a cardan shaft. Four speeds are provided, both the third and fourth being direct drives. This is obtained by dog clutches engaging with the respective bevel pinions. The third-speed bevel-pinion shaft is, in fact, a sleeve fitting loosely on the main shaft carrying the fourth-speed bevel, and of course engages with its particular crown wheel carried on the differential

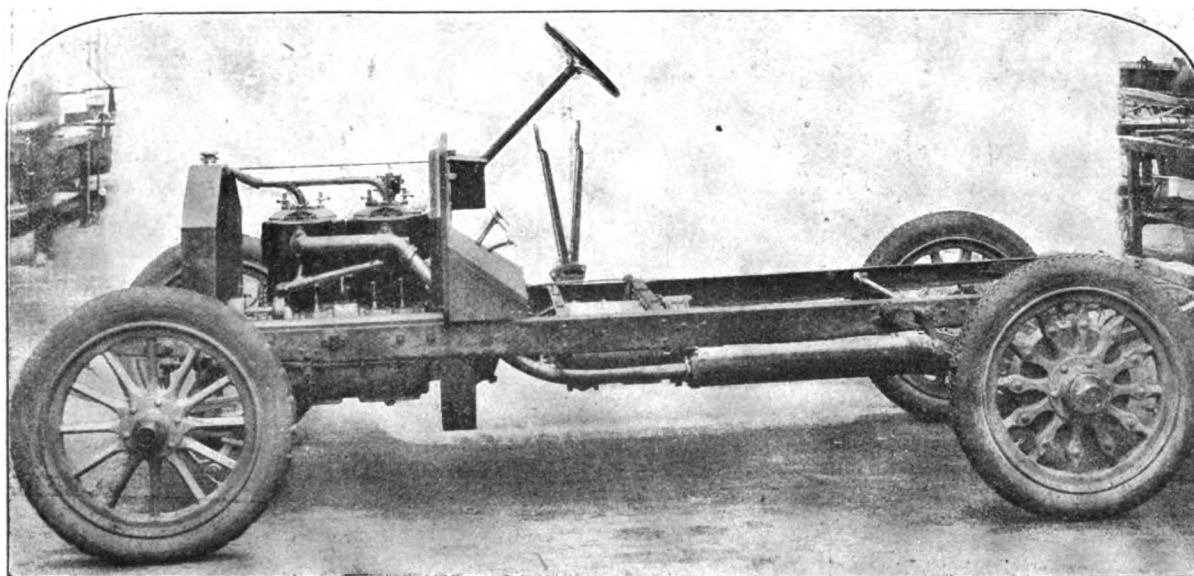


Fig. 57.—Chassis of the B.S.A. 25-33-h.p. Car.

upper end of vertical spindles, driven by skew gearing off the cam shaft. The flywheel, which has its arms formed to act as a fan, is a crucible steel casting. The clutch is of the metal disc type, the discs, which are of steel, being provided with narrow radial slots to facilitate the escape of oil when the clutch is engaged. An Oldham type of joint is employed between the clutch and gear-box to allow for any want of alignment between the two parts, and also enabling either to be readily dismounted. The gear-box on the larger car is adapted to give four forward speeds, and on the smaller model three, in addition to the reverse. On the top speed the drive is in both cases direct, the control being by a lever working in a "gate." The selecting rods are enclosed within the gear-box; the latter is in one piece, and is provided with a large inspection lid. The shafts are of nickel steel, short and heavy, the sliding shaft being castellated. The cardan shaft is provided with universal joints at each end, while the bevel gear is well supported. The road wheels run on heavy ball bearings carried on a solid forged steel tubular axle sleeve, with heavy flanges securely bolted to the differential case, the power being transmitted to the hubs by the castellated ends of the live axle. The differential gear is of the ordinary bevel type, having pinions gearing into two bevel wheels of large diameter. The back axle is so arranged that by removing the cover to the differential case the bevel gear can be readily removed. The pedal brake works on a drum on the end of the gear-box, and is water-cooled. The hand brake operates direct on the back wheel hubs, and is of the internal expanding type. The brakes are of strong construction, with facilities for easy adjustment in case of wear, and the shoes are all lined with cast iron. The frame is narrowed at the front to increase the steering lock, and raised at the rear to clear the axle. From the foregoing particulars it will be seen that, while no startling departure from current practice has been introduced, careful attention

shaft. The latter is provided with universal joints at each end, through which power is conveyed to short cardan shafts on each side, which in turn convey power to the cardan shafts through the intermediary of a spur wheel engaging with an internally-toothed ring rigidly fixed to the road wheels, which latter are carried on spindles turned at the ends of the H section rear axle. The conveyance of the power from the differential shaft to the road wheels by the medium of these specially-jointed cardan shafts certainly permits all rack from road inequalities to be absorbed before damage can result to the gear on the road wheels. The gear-box is of course furnished with ball bearings throughout.

The New Leader Cars.

THE NEW LEADER MOTORS, LTD., Apsley, Nottingham, have contented themselves with displaying only one of their models. The one chosen is the 10-12-h.p., but this is shown in four styles—viz., a polished chassis, a four-seated side-entry phaeton, and two examples of two-seated cars. In general, the models retain the essential features of the 1907 models, but slight modifications have been effected in detail. For example, the cylinders have now a bore of 90 mm. and a similar stroke, whilst formerly the stroke was only 85 mm.; the chassis has been widened, and the back axle redesigned, so that the wheels are now made to run on the outer sleeve. An Oldham joint has been introduced between the clutch and the gear-box, permitting the more easy withdrawal of the male clutch member. The carburettor remains unchanged, and, in view of the 32.7 ton miles per gallon attained in the Scottish trials, it would certainly seem undesirable to vary this appliance. Whilst still marketing the 18-22-h.p., the 24-32-h.p., and the 12-16-h.p. types manufactured, the company are, we understand, making every effort to secure an increase in the popularity of the excellent little 10-12-h.p. chassis, which, according to R.A.C. rating, gives 19-h.p.

The Hotchkiss Cars.

Considerable interest is being taken in the display of the parts of the 45-h.p. six-cylinder Hotchkiss car, which made the long-distance reliability run under the observation of the R.A.C., that are to be seen on the stand of the LONDON AND PARISIAN MOTOR COMPANY, LTD. For the coming season attention is being devoted to three models—a 16-20-h.p. and 30-40-h.p. four-cylinder and a 40-50-h.p. six-cylinder *modele de luxe*, the most striking departure being the substitution of long plain bearings to the crank shaft in place of the ball bearings

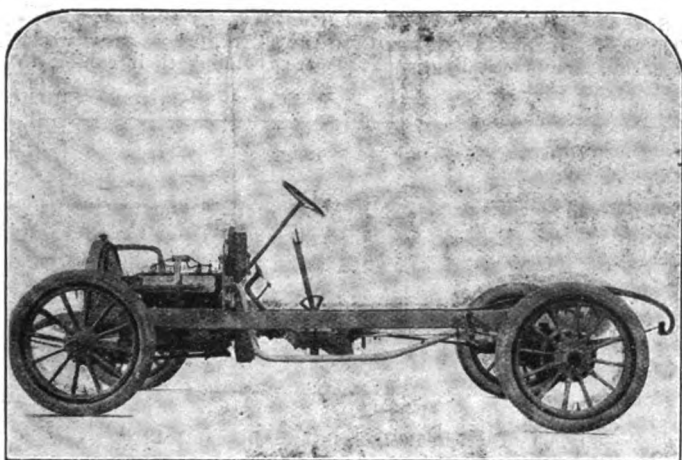


Fig. 58.—Chassis of the Hotchkiss 16-20-h.p. Car.

hitherto employed. Fig. 58 depicts the chassis of the new 16-20-h.p. model, which is provided with a four-cylinder engine, having a bore and stroke of respectively 95 mm. and 110 mm. As will be seen from Fig. 59, the cylinders are all in one casting, with the valves all operated off a single cam shaft. The ignition is by high-tension magneto, and the speed of the motor is controlled by both hand and foot levers. The ignition wires are not only well protected, but a different colouring is given to each wire, so that it may be seen at a glance to which cylinder it rightly belongs. The inlet and exhaust passages to all cylinders are cast as part of the water-jacket, thus doing away with a considerable amount of piping and joints. The lubrication is by drip feed on the dashboard, the amount of drip being accurately regulated by plungers, which can be set to drip to the correct amount required for the different bearings. The oil tank is situated near the engine, so that the lubricant is always kept warm, and a constant and even flow ensured.

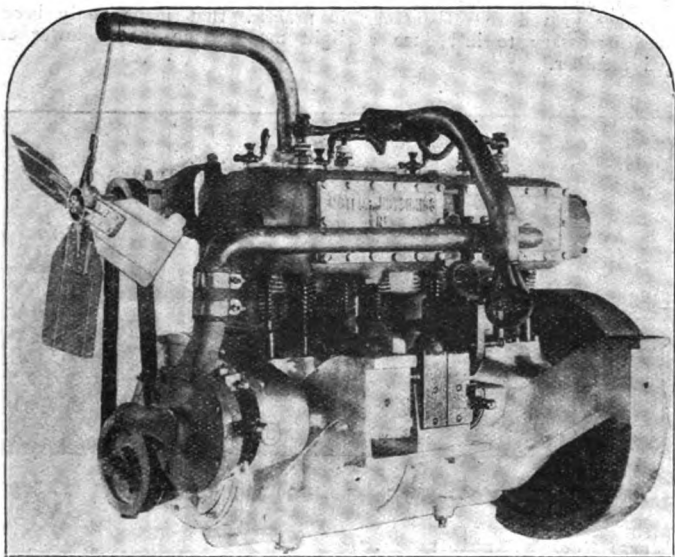


Fig. 59.—The Hotchkiss 16-20-h.p. Engine with the four cylinders in one casting.

A new type of carburettor—the Grouvelle-Arquembourg—furnishes the mixture, while a feature of the water circulation is the provision of taps at the lowest part of the water-jacket to facilitate drawing off the water in frosty weather. The leather-faced cone clutch, which is entirely closed inside the flywheel, is provided with a simple means of adjustment. A double universal joint is fitted between the clutch and the gear box to allow for any want of alignment between the two

parts. Four speeds and a reverse are provided by a "gate"-controlled gear-box, the shafts of which are of nickel steel, and are mounted upon ball bearings. From the gear-box the power is transmitted to the rear axle wheel through a cardan shaft provided with a joint at each end. These joints are thoroughly lubricated, both of them being covered with a dust-proof cap filled with grease. The rear axle casing is formed of two tubular arms, which are bolted at their inner extremities to a steel case containing the bevel and differential gear, the upper portion of the case being easily detachable for inspection purposes. The rear axle is a very well-designed piece of work; all the parts run on ball bearings, large ball thrusts being also provided to take up the end thrust on the bevel pinions and crown wheel. The live axle casing carries on its end the wheel bearings, which are driven by the live shafts in the usual way, the latter not being required to carry any of the weight of the vehicle. It is a notable feature of the Hotchkiss car that no provision is made in the way of torque rods or radius rods, and, in view of the fact that this feature is retained, it is presumably found to give satisfactory results in practice. Another point of interest, and one which will appeal to motor body builders, is the fact that all the mechanism is kept below the level of the top of the frame. Altogether, the new model is an interesting vehicle, and one which should fully maintain the Hotchkiss reputation. The complete cars on view comprise an exceedingly handsome 30-40-h.p. four-cylinder landaulet and a 40-50-h.p. six-cylinder, also fitted with a landaulet body.

The Hispano-Suiza Cars.

Messrs. WEBLEY AND SCOTT, Weaman Street, Birmingham, are showing through their London agents, the Motor Syndicate, Ltd., of 27, Maddox-street, W., examples of the excellent Hispano-Suiza cars. A chassis of the new six-cylinder 30-40-h.p. type is displayed, as well as a complete vehicle of the 40-50-h.p. four-cylinder type, this being

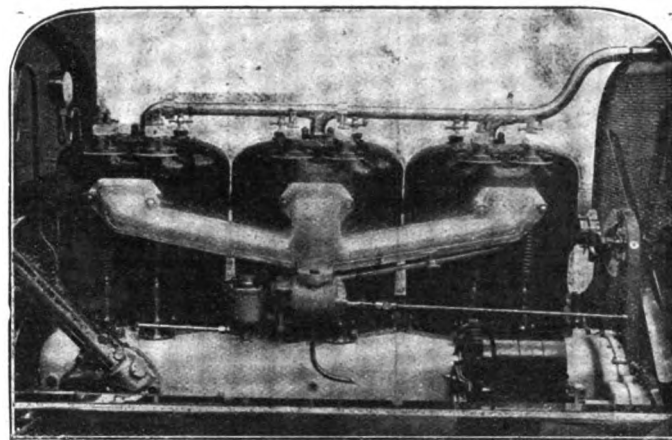


Fig. 60.—The Hispano-Suiza Six-Cylinder Engine.

fitted with a double phaeton body of Spanish construction, capable of comfortably seating seven persons, with an emergency seat for an eighth. The chassis is of the "Birkigt" type, being essentially composed of two frame plates of pressed nickel steel, connected at the back by a cross-plate of the same metal, and in the front by the engine and change-speed gear. These two parts, constructed independently, are connected by an annular joint ensuring the mathematical centring of the shafts. The mass formed by the union of the engine and gear-box is secured to the chassis by six feet and extensions of the metal sheet close the spaces left free. The whole is bolted together, and offers an efficacious resistance to deformations of any kind, the whole mechanism being thus perfectly protected without resorting to the use of any additional shield. The motor of the 40-50-h.p. type has cylinders with a bore of 130 mm. by 140 mm., whilst the cylinders of the 30-40-h.p. have a bore of 100 mm. by 130 mm. In each instance the cylinders are cast in pairs, with the valves arranged on opposite sides, mechanically operated. Lubrication is effected by pump operated from the exhaust valve cam shaft, the big ends receiving their oil by way of the hollow crank shaft. Hand as well as foot control of the throttle is provided, and the clutch pedal is also connected up to this control, but in such a way as to permit acceleration even when the clutch is fully withdrawn. In the six-cylinder car ignition is by high tension, a Simms-Bosch magneto and independent accumulator equipment being provided, with a separate coil. The clutch is of the disc type, plates of steel and phosphor-bronze being alternately employed. The gear-box is of specially compact design, and is carried very close to the clutch. The transmission is by cardan shaft, the joints running in oil; and, in addition to radius rods, a tapered channel steel torque rod is fitted. The brakes are well arranged, that on the main shaft being provided with mechanism permitting a wide adjustment of the exterior contracting jaws. We were informed that the weight of the 30-40-h.p. six-cylinder chassis without tyres does not exceed 17 cwt., and, if this be so, a reason can be found for the strong claim made that these vehicles are extremely economical in tyres.

The Iden Cars.

An exceedingly novel design of landaulet (Fig. 61) is shown by the IDEN MOTOR COMPANY, LTD., Coventry, the front wheels acting both as drivers and steerers. The engine—a two-cylinder V-type of 12-h.p.—is located under the driver's seat, and in front of it, instead of to the rear, as usual, are the clutch gear-box and cardan shaft, which convey the power to the front axle through bevel gear. The clutch is of the Iden patent metal-to-metal type, and the "gate"-controlled change-speed gear gives three speeds and a reverse. The front axle drives the

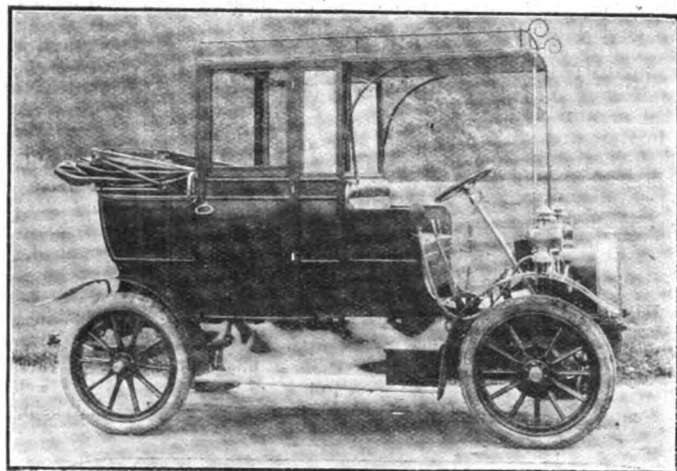


Fig. 61.—The Iden 12-h.p. Front-Driven Landaulet.

steering wheels through universal joints in the hubs, while the steering pivots are supported by the forked ends of a casing surrounding the axle. The brakes are also formed in conjunction with the forward pair of road wheels, the arrangement being claimed to furnish a car which is quite free from any tendency to skid. The vehicle is built to carry four passengers inside, and has an extended canopy over the driver's seat, specially built to hold luggage. During a recent trial one of these landaulets was driven up Reigate Hill with four passengers and the driver, and travelled three-quarters of the way on top speed, finishing the well-known gradient on the second speed, a creditable performance for a 12-h.p. vehicle. A 12-h.p. landaulet with the ordinary type of chainless transmission to the rear axle is also on view. This has a four-cylinder engine, with separately-cast cylinders, and the valves all located on one side. All parts of the mechanism are arranged so

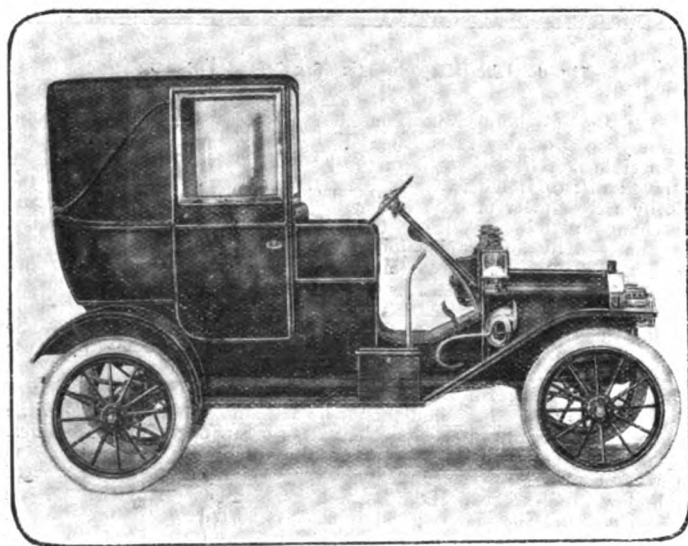


Fig. 62.—The Ford 15-18 h.p. Landaulet.

that they can be got at with a minimum of trouble. In view of their general simplicity and sound construction, combined with their very moderate price, the Iden cars are well worthy of attention.

The Ford Cars.

A varied and interesting range of the Ford 15-18-h.p. four-cylinder cars is to be seen at the stand of Messrs. PERRY, THORNTON AND SCHREIBER, LTD. Formerly this car was only supplied as a two-seater, but it can now be equipped with a three-seated body, a side-entrance double phaeton, or a landaulet, an illustration of the latter being given

in Fig. 62. The latter vehicle and the four-seated car are fitted with a longer chassis and stronger axles and springs than the two and three seated models. The four cylinders of the motor are cast in pairs, with the valves all on the same side, and mechanically operated. The ignition is by coil and accumulators, while the circulation of the water is effected by pump. Two speeds and a reverse are furnished by a gear of the epicyclic or planetary type. The final drive is by a single-jointed enclosed cardan shaft to a live rear axle. Expanding ring brakes are fitted to the rear wheel hubs, while the throttle and ignition levers are located on the steering column.

The Speedwell Cars.

The new SPEEDWELL MOTOR COMPANY, LTD., whose new works at Hounslow are practically completed, are confining their exhibit to

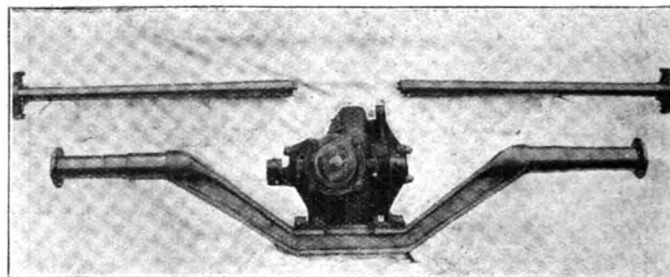


Fig. 63.—The Speedwell Back Axle Dismantled.

four examples of the Speedwell 24-30-h.p. cars, one of which we illustrate in Fig. 64. The engine and magnetos now being fitted to these increasingly popular vehicles are of the Aster Company's manufacture. The mixture is furnished by an interesting carburettor provided with triple petrol spraying jets and arranged to give a correct proportion of air and spirit at any and all engine speeds. The lubrication of the motor is effected by a mechanical pump placed in the base chamber, and amongst other advantages it is claimed for this system that with one supply of oil the engine lubrication is carried on mechanically for over 1,000 miles without any attention being necessary. The circulation of air through the radiator is partly induced by the usual belt-driven fan and partly by the flywheel, the arms of which are cast in the form of a ventilator. As regards the transmission, we note that all the gear shafts are kept short and stiff and are mounted on ball bearings, while new features comprise a spring drive and a universal joint, wherein special provision has been made for replacing worn parts. Fig. 63 illustrates the Speedwell Company's special design of back axle, in which the weight of the car is carried by the lower fixed axle, the rotating shafts having only the driving effort to withstand. This was introduced a year ago, and was fully described in the M.C.J. at the time. The system has proved so satisfactory in practice that it has only been deemed necessary to introduce a slight modification in the lower or forged member.

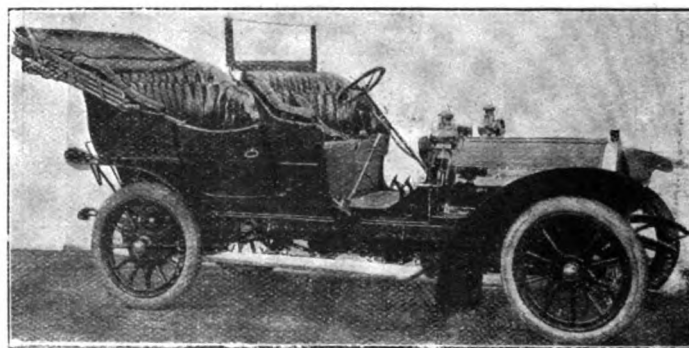


Fig. 64.—The Speedwell 24-30-h.p. Car.

Messrs. Keele's Exhibit.

The well-known firm of agents, Messrs. J. KEELE AND CO., have a neat stand in the annexe, on which are staged examples of the three leading makes of cars for which they have taken the agency for the coming season. These include an example of the 18-h.p. Darracq, fitted with a handsome Roi des Belges phaeton body by Messrs. E. and H. Hora, a 20-h.p. four-cylinder "Belsize" with standard side-entry phaeton, and an 18-22-h.p. "Enfield" with a tulip form double-entry phaeton body. Each of these cars are described in other columns in the review of the stands of their respective makers, and, with such a choice of serviceable vehicles, Messrs. Keele should have but little difficulty in thoroughly satisfying the wants of their extensive clientele.

The Coventry Humber Cars.

The 1908 programme of the Coventry branch of the HUMBER COMPANY comprises two four-cylinder vehicles, 10-12-h.p. and 15-h.p., and a 30-h.p. six-cylinder car. The first-named model, which will appeal to a large number of motorists of moderate means, has been re-designed, a new feature being the adoption of a pressed steel frame. The engine, which, with the gear-box, is supported on a tubular sub-frame, has cylinders 84 mm. bore by 95 mm. stroke. The crank case is now divided horizontally, so that the bottom half can be removed to give access to the big ends without disturbing the bearings. Other detail improvements are found in the pump, which is brought up into a most accessible position, while the contact-maker is located high up at the front of

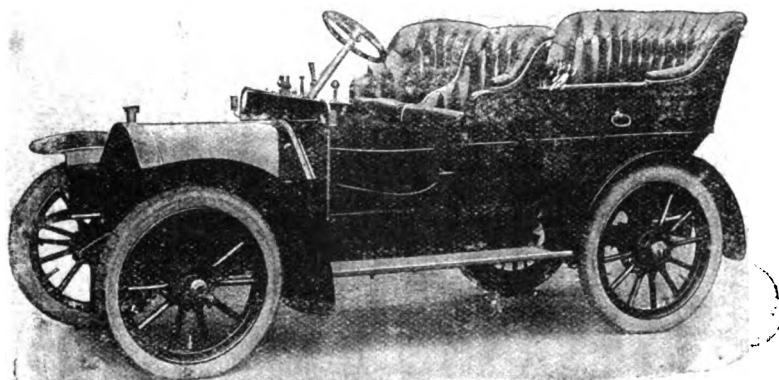


Fig. 65.—The Coventry-Humber 10-12-h.p. Car.

the engine. The three-speed gear-box, which is made in one piece, is now "gate" controlled. The shafts all run on ball bearings, and the gear strikers are entirely enclosed. The front axle is of tubular construction, terminating in knuckle-ended malleable castings. The 15-h.p. car remains, generally speaking, unaltered, although several minor changes have been made in the details. The engine cylinders are $3\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke. Two systems of ignition are fitted, the magneto being now arranged at the side of the engine instead of under the footboards. The lubrication of the motor is effected by a pump with sight feed. The "gate"-controlled gear-box is fitted with ball bearings throughout. As regards the transmission, which is by a cardan shaft and bevel gear to a live axle, we note that the two joints are now fitted with

The Talbot Cars.

The new 35-h.p. British-built chassis (Fig. 67) is the centre of attraction at the stand of CLEMENT-TALBOT, LTD. The engine is of new design, having the four cylinders, 120 mm. bore by 120 mm. stroke, cast in pairs, with the valves on opposite sides. The carburettor is of the Talbot special automatic type, ensuring a perfect mixture at all engine speeds. The ignition is by high-tension magneto, the firing point being controlled from the steering wheel. A reserve system by coil and accumulators is also provided for, the contact-maker being

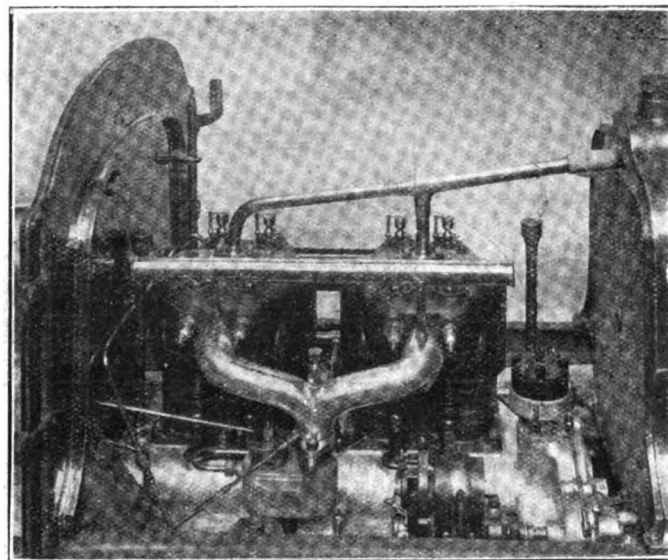


Fig. 66.—The Talbot 35-h.p. Engine.

located in a convenient position. The lubrication of the motor is effected by a small pump driven by a cam off the inlet valve cam shaft and located in the base chamber. This forces the oil through sight feeds on the dashboard to the main bearings of the engine, which are drilled through, as is also the crank shaft. The crank shaft journals are also drilled, thus lubricating under pressure the big end bearings. An oil tank is also provided in the usual position on the off side of the chassis frame, this having an exhaust by-pass forcing oil up to the

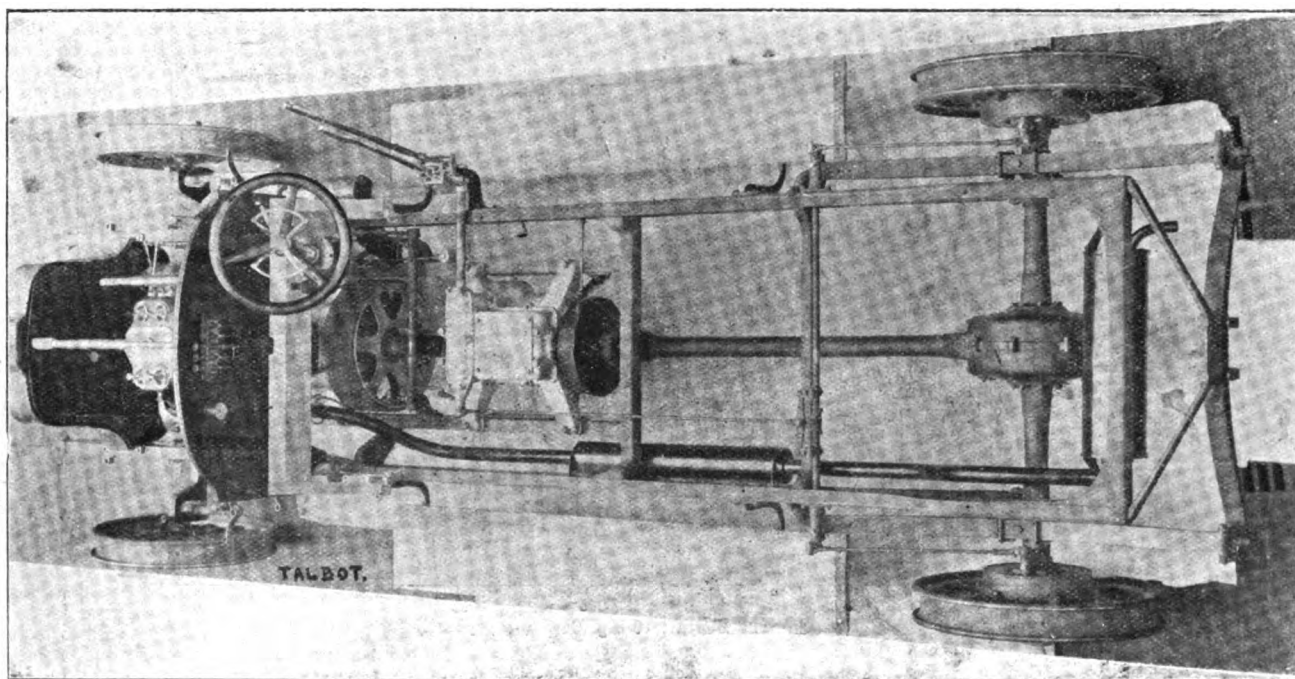


Fig. 67.—Plan of Chassis of Talbot 35-h.p. Car.

ball bearing pins. The six-cylinder vehicle has the cylinders cast in pairs; the bore is 4 in., and the stroke $4\frac{1}{2}$ in. The details generally follow the design adopted in the four cylinder models, the various parts being, of course, strengthened to adapt them to the greater power. The Humber cars are among the most popular of British-built vehicles, and the new models should fully uphold their reputation.

sight-feed on the dash. The latter can be shut off at will, and is quite independent of the force pump feed. An extra hand pump is also provided. Lubrication is thus efficiently provided for, being entirely automatic and independent of any attention on the part of the driver, a glance at the two sight feeds in the forced pressure circuit being sufficient at any time to show that the constant level in the base chamber

is maintained. The transmission is through a large-diameter, leather-faced cone clutch having buffer spring below the leather, to a "gate"-controlled four-speed gear-box, and thence by cardan shaft and bevel gear to a live axle. The weight of the car is taken by the axle casing, the axle itself driving the hubs of the wheels through its octagonally-shaped ends, and having only the driving effort to withstand. The engine and gear-box are carried on a sub-frame, and the main pressed steel frame is supported on five springs. With the view of increasing the silence of these already quiet cars, duplicate silencers have been

there are many points of interest. The four cylinders of the engine are cast in pairs, and are 110 mm. bore by 130 mm. stroke. The forged steel crank shaft runs in three long phosphor-bronze bearings. A new departure is seen in the ignition, which is by high-tension magneto, the sparking plugs being fitted in the inlet valve caps. In order to facilitate starting, the engine is provided with a half-compression device acting on the inlet valves. The carburettor is a special patent type. The additional air supply and the throttle are controlled by the accelerator pedal, thus simplifying the control to a remarkable degree.

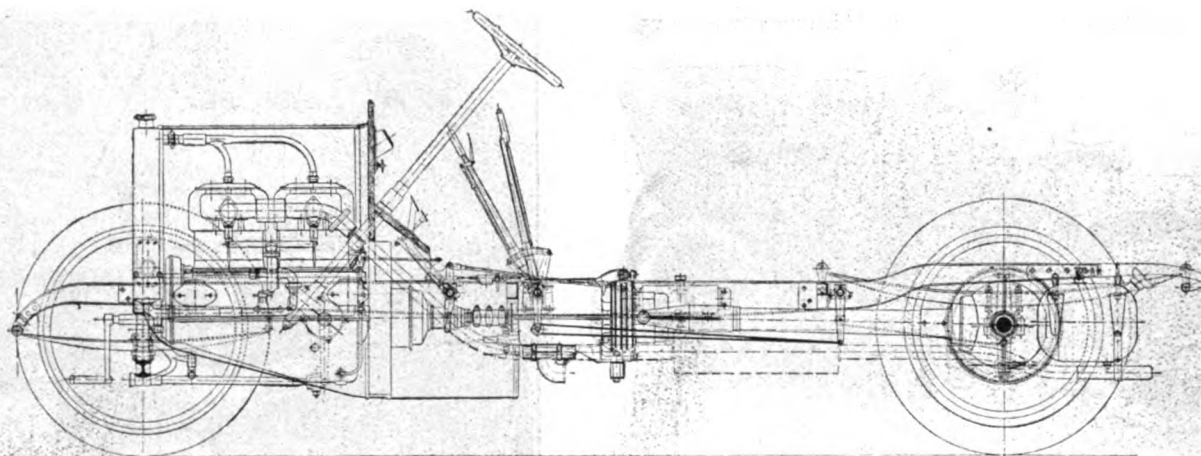


Fig. 68.—Chassis of the Fiat 28-35 h.p. Live Axle Car.

adopted. A 25-h.p. Talbot with limousine body, by Rothschild, is also on view. The four cylinders are cast in pairs, and are 105 mm. bore by 120 mm. stroke. Two systems of high-tension ignition are provided, while the transmission is the same as in the 35-h.p. vehicle. The new 18-h.p. Talbot has an engine comprising four separately-cast cylinders, 90 mm. bore by 117 mm. stroke. The lubrication on this vehicle is by exhaust pressure, a sight-feed lubricator being fitted on to the dashboard. The Talbot cars have earned a high reputation during the past season, their successes in the various hill-climbing competitions having brought them well to the front, a position which, judging from

The aluminium base chamber is cast in two pieces; the lower half serves the purpose of an oil tank for the lubrication of the engine, its capacity being about two gallons. An oil pump fitted on the back of the base chamber is driven by the exhaust valve cam shaft. It draws up oil from the lower part of the base chamber, and forces it into the crank shaft bearings and through the crank shaft to the connecting rod, big end bearings and the gudgeon pins. The superfluous oil is driven out by centrifugal force, and lubricates the cylinders and pistons. As the connecting rods and crank shafts do not dip into the oil, no excess of oil gets past the piston rings into the explosion chamber. Smoking

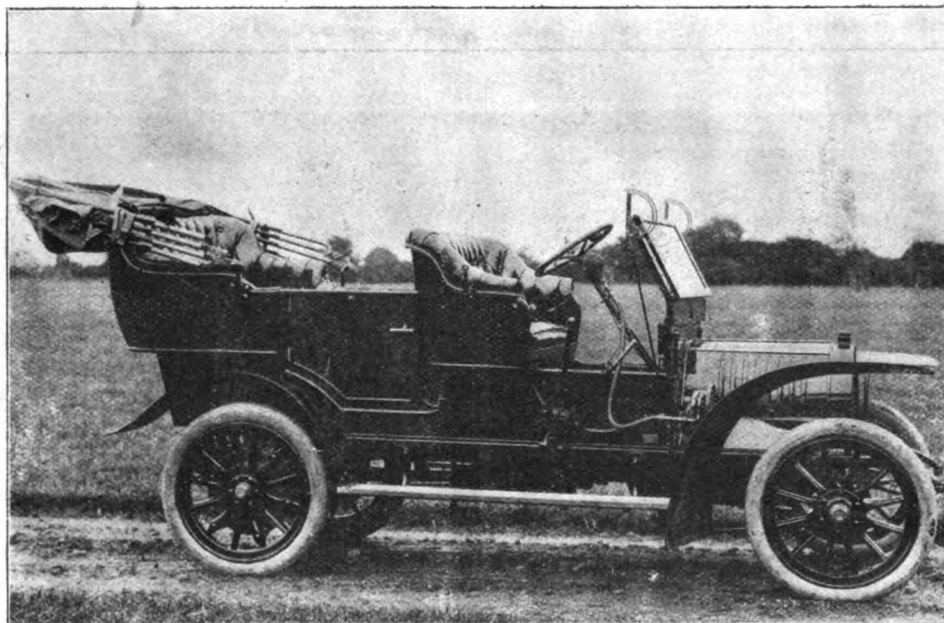


Fig. 69.—The Bentall 16-h.p. Car. (See page 837.)

an inspection of the new models, is likely to be fully maintained during the coming year.

The Fiat Cars.

Among the cars which deservedly enjoy a high reputation in this country are the Fiat, the success of these Italian-built vehicles in the leading races during the past season having brought them into great prominence. Two new models are to be seen at the stand of FIAT MOTORS, the first being a 28-35-h.p. live axle machine (Fig. 68), in which

and also fouling of the plugs and valves is therefore entirely eliminated, and a minimum consumption of oil ensured. The water pump is of the centrifugal type, driven by a pinion in mesh with the exhaust half-time pinion. The honeycomb radiator is supported on special trunnion brackets, giving a flexibility which minimises the possibility of damage from excessive vibration. The efficiency of the cooling is increased by the action of the flywheel fan drawing air through the radiator. The clutch is of the well-known Fiat steel disc type, but improved in detail. The discs run in oil, and are forced into contact

by means of a spring. The change-speed gear is "gate"-controlled, and gives a direct drive on the top speed. Ball races are fitted to all bearings in the gear-box, and particular attention has been paid to the lubrication. The cardan shaft is enclosed in a casing which is supported at the front end in a crescent-shaped bearing attached to the frame in such a way that the casing as well as the shaft can follow the contour of the road without straining the mechanism in any way. The dismounting of the cardan joint is extremely simple, and can be effected by removing one bolt, while the necessary lubrication is obtained by an oil-tight leather cap filled with grease. The back axle is of exceedingly strong design; the casing is of pressed steel, the two parts being bolted vertically together along the centre line. The axle

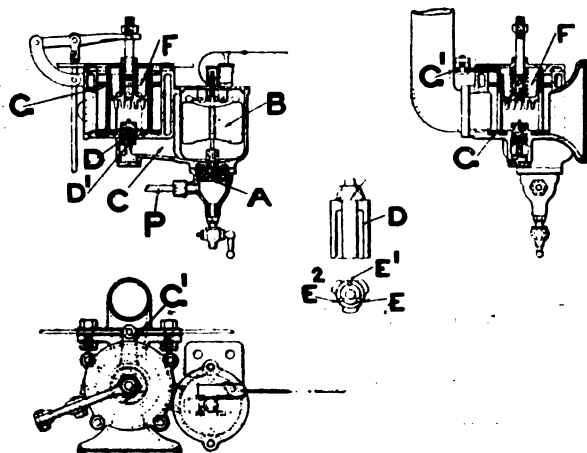


Fig. 70.—Sectional Elevations and Plan of the Bental "unchokable" Carburettor.

is furthermore of the arched type, each half of the live axle being set slightly out of the horizontal plane, so that the rear road wheels are splayed about three degrees off the perpendicular. The foot brake consists of a double adjustable band working on a large drum fixed to the cardan shaft. As soon as the pedal is depressed a jet of water is automatically thrown upon the drum in order to keep it cool. The back brakes, which are actuated by a hand lever, are of the internal expanding type. Passing now to the 45-h.p. six-cylinder car, a polished chassis of which is on view, the cylinders are cast in pairs, each pair being in one with the water-jacket. A pressed steel cover placed on the top of each cylinder can be easily removed by simply unscrewing two nuts which allow the cover to be lifted up, thus facilitating the inspection and cleaning of the water-jacket. The valves are all the same size and interchangeable, the inlets being on the right side and the exhaust on the left side of the engine. The crank shaft is of forged steel, the centres of the journals being bored out. It is supported by four bearings of bronze lined with anti-friction metal. The flywheel is of cast steel, of large diameter, and is provided with fan-shaped arms. The lubrication and ignition is on the same system as the 28-35-h.p. car described above. The carburettor is of the automatic type; the air for the mixture is carried from a casing round the exhaust pipe by means of an aluminium pipe, the auxiliary air supply being governed by the opening of the hand and foot controlled throttle, ensuring a perfect mixture at all engine speeds. A branch from the oil circulation is taken to the foot accelerator in order that the pressure of the oil may be used as a cushion to prevent the throttle being jerkily opened. The clutch is of the multiple disc type, greatly improved in detail. The steel discs are of large diameter, half the number being carried by a cylindrical box attached to the flywheel, the other half being mounted on a drum carried by the gear shaft. The change-speed gear is of the sliding pinion type, giving four speeds forward and one reverse. The gear-box is carried by four arms attached to the frame, and is easily detached. The differential shaft, which runs on ball bearings, carries the two sprockets, from which the drive is transmitted to the road wheels by side-chains. Gear cases are now fitted to the driving chains, these being so fitted as to allow the radius rods to be adjusted without difficulty. The frame is made in two lengths—viz., long and extra long, and is constructed of two stamped steel side members inswept towards the front to obtain a wide steering lock. It is held together by cross members, also of stamped steel, and is supported on manganese steel springs. The steering gear is of the worm and segment type, the segment and the spindle being made of forged steel hardened and ground. Lubrication is effected by means of a grease cup attached to the case. The knuckle joints of the steering rods are provided with steel bushes, the pins being also of steel, and provided with grease cups. The foot brake is of the band type, and works upon two drums, one on the fixed gear shaft and the other on the differential shaft, the pressure on the two drums being equalised by a compensating device. Hand-controlled internal expanding brakes working in steel drums are fitted to the back wheels. Shock absorbers are, we may add, provided in conjunction with the springs.

The Bental Cars.

The Bental cars, made by Messrs. E. H. BENTALL AND CO., are staged in two types, the 9-h.p. having two cylinders and the 16-h.p. with four cylinders, the first mentioned being shown fitted with a brougham body having a detachable top. The 16-h.p. (Fig. 69) is exhibited both as a chassis and with two types of bodies, one being a single landaulet with extension front and windscreen, and the other a side-entry touring car. In main features of design but little alteration has been made from the 1907 model; in fact, in the motor the only alteration is the fitting of the Bental "unchokable" carburettor as a standard in all models, low-tension magneto ignition being retained, as are also the method of suspension of the frame, the fibre-faced clutch running in oil, and the form of "locking" change-speed quadrant peculiar to these cars. Some simplifications have been introduced, however, in connecting up the change-speed lever to the operating levers, a ball-jointed rod with long sleeve being provided in lieu of the somewhat complicated system previously adopted, whilst the entry of the operating rod into the gear-box is still at the top thereof, as in previous models. The brake gear has been modified, and both pedal brake and hand lever brake are made to operate quite independently on the rear road wheels. The brake drums carried on the latter are provided with two projecting flanges, the one set of brakes expanding synchronously on the outer flanges, whilst the other set operate on the inner flanges. The type of live axle previously employed is retained, as well as the lubrication of the motor and its half-time gear wheels by splash, the feed being maintained by pressure from the exhaust. The Bental carburettor now universally adopted possesses some novel features of considerable interest. The main detail is that in place of multiple jets with fixed apertures a valve-like arrangement permits of the three minute orifices being enlarged at will until flooding is caused. This is certainly a valuable feature in the case of impurities clogging the jets, more especially as the control is worked from the steering wheel. As will be seen from Fig. 70, the tube P carries the petrol supply to the strainer A, from whence it passes to the float chamber B, which is of the usual type. From B it passes by passage C to the special unchokable jet D, shown enlarged in the centre of the illustration. The jet D is constructed similarly to a valve, and is held against its conical seating by the spring D1. In the conical part of the valve are three grooves E, E1, and E2, through which the supply of petrol normally passes. In the event of any jet getting stopped by impurities, it can be immediately released by depressing the jet valve by means of the plunger F, which also regulates the richness of mixture. As before stated, the plunger F can be raised or lowered from the steering wheel. When lowered the mixture is enriched, whilst continued lowering brings the plunger into contact with the jet valve and depresses it, thus clearing the jets of any obstruction unconsciously on the part of the operator. A similar movement, of course, also floods the carburettor, and this movement can also be controlled from the starting handle. The control of the admission of the gases to the cylinders is effected by the rotating valve G through the lever G1. When moved to the left of the position shown in the drawing the valve is opened and extra air admitted at the same time, whilst a reverse movement causes the valve to be closed, and free air admitted at such times as when running down hill.

The Thames Cars.

An interesting display of the Thames cars is made by Messrs. W. T. CLIFFORD-ELARP, LTD., prominence being given on the stand to

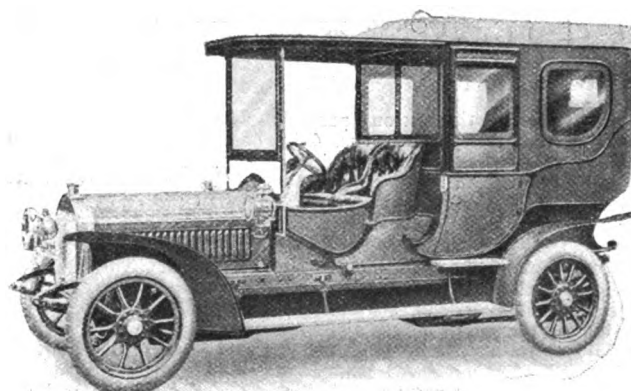


Fig. 71.—The Thames 50-h.p. Six-Cylinder Car.

a fine 50-h.p. car built for Mr. J. Penn, of Norwich. The vehicle is fitted with a handsome limousine body, painted a myrtle green and upholstered in light cloth. A second and interchangeable touring side entrance is provided for the same chassis. The chassis retains the main features embodied in last year's pattern. The engine comprises six cylinders of a bore and stroke of $4\frac{1}{2}$ in. by 5 in. respectively. The carburettor has been improved, and has now a double jet, rotary throttle, and automatic air supply. The lubricating system has received careful attention, the crank shaft being drilled to allow the oil to be forced through it to the upper side of the connecting rod bearings.

The ignition is by high-tension magneto, coil and accumulators being also installed as a reserve. The contact maker and distributor for the latter is driven by skew gear off the rear end of the inlet valve cam shaft. The crank shaft, which is balanced, is supported on four long bearings. A point about the radiator fan is that the aluminium blades, which are of special design, are cast in one with the boss and pulley. The clutch is of the metal-to-metal cone type, running in oil. The gear gives three speeds forward and a reverse. When on direct drive the countershaft is completely out of gear, while it may also be mentioned that the "gate" quadrant and lever connections are all mounted on the gear-box. The final drive is by a well-designed cardan shaft and bevel gear to a live axle. The differential is of the spur wheel type, the sun wheels being cut solid with the driving shafts, which have a dog clutch fitted on the end of each for driving the rear road wheels. The construction of the axle is such that the weight of the car is carried by tubes fixed securely to the axle casing, which prevents any strains, other than the torque due to drive, coming on the driving shafts. Ball bearings and ball thrust washers are provided throughout, and the gear runs in oil. A special adjusting arrangement is fitted for getting perfect adjustment of the bevel pinion with the crown bevel, thereby securing very quiet running. A feature of the car is the arrangement of the rear springs, which act as radius rods, the chassis being, as it were, towed along instead of being pushed. The silencer is of a special condenser type, the gas being taken through a series of small tubes, no baffle-plates being used. The 45-h.p. six-cylinder car is on similar lines, the cylinder dimensions in this case being 4½ in. bore by 5 in. stroke. The ignition on this car is by synchronised coil and accumulators. A new vehicle is seen in a 15-h.p. car fitted with a luxurious landaulet body, an inspection of which shows the chassis to comprise a number of interesting features. The engine, clutch, and gear-box are, for instance, so arranged as to form a single unit, so that

lower horse power has cylinders of 130 mm. bore and 140 mm. stroke, whilst the 50-70 h.p. has a bore of 150 mm. and a stroke of 160 mm. The chassis give evidence of very careful thought in design, whilst from the point of view of manufacture neither finish nor material leave anything to be desired—in fact, it is one of the best of the many excellent new models recently introduced from Italy. The frames are both of pressed steel, swept inwards in the fore part and combined at the rear; and in both cases the side members carry both the gear-box and the motor. The cylinders are cast in pairs, the barrels being separate, but terminating in a single flange plate for bolting to the crank chamber. The valve chambers are all on the left side of the engine, the valves being operated by a single cam shaft. The carburettor, which is water-jacketed, is carried on the valve side of the motor, whilst on the other side is located the shaft actuating the ignition tappets, a Bosch low-tension magneto being employed. The carburettor is not provided with an automatic air valve, but has its piston throttle valve so designed that extra air is proportionately admitted into the mixing chamber as the piston valve is further opened. The petrol feed through the jet is also adjustable in a somewhat ingenious but simple manner, and is not in proportion to the diameter of the petrol aperture. The jet is cut square across on the top, and a square-ended set screw, having an exact parallel face to the top of the jet, is screwed down thereon until the space between the face of the set screw and the face of the top of the jet is such that petrol passes out between them in the proper proportion. A permanent air inlet is provided for the starting and slow running of the engine, but this is closed so soon as the piston throttle is operated for acceleration. The control is both by hand from the steering wheel and by pedal from the footboard. A neat point in the construction of the car is that neither the induction tubes nor the water tubes have joints of any kind. The clutch is of the multiple-disc type, without springs, small studs on alternate discs causing the adjoining plates to

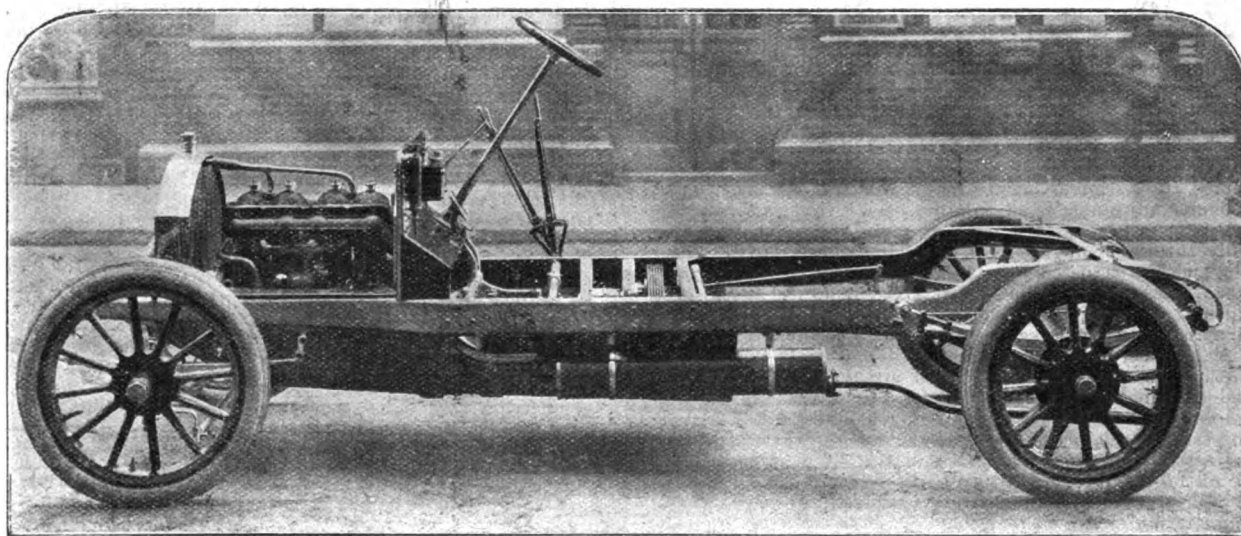


Fig. 72.—Chassis of Züst 18-24-h.p. Live Axle Car.

it is impossible for the various parts to get out of alignment. The engine is of the two-cylinder type, 4 in. bore by 3½ in. stroke. The valve stems are enclosed by a detachable plate. The water-circulating pump and high-tension magneto are located in front of the engine, the spindle driving them being at right angles to the crank shaft, and operated through skew gear. The carburettor is so arranged that the opening of the spraying jet is automatically varied by a needle valve in accordance with the auxiliary air inlet opening. The jet is also exceedingly accessible, the parts above it being so fitted that by loosening a single nut they can be instantly removed in one piece. The lubrication of the motor is effected by a pump in the base chamber. The pedal controlling the metal-to-metal cone clutch also actuates one of the brakes. The three-speed change gear is operated by a lever on the steering column. The final transmission is by cardan shaft and worm gear in place of the usual bevel on the back axle. The chassis is made suitable either for private or public service work. With the exception of the engine, ball bearings are used throughout all the Thames cars, which are splendid examples of modern automobile engineering.

The Züst Cars.

The FARMAN AUTOMOBILE COMPANY, LTD., show on an extensive stand examples of this excellent car, including a 28-40-h.p., fitted with a beautifully designed and finished landaulet, with front extension and wind screen. A polished chassis of the 50-70-h.p. type is also displayed, as well as an example of the live-axle 18-24-h.p. model (Fig. 72), also in chassis form. It may be remarked that whilst the 28-40-h.p. and the 50-70-h.p. are chain driven, the 18-24-h.p. is provided with a live axle and an accompanying propeller shaft. Excepting in the dimensions of the engines the 28-40-h.p. and the 50-70-h.p. are identical in design. The

act themselves as springs. The gear-box is of sound design, and very neat; two sets of driving bevels are employed, the left-hand driving bevel being withdrawn from meshing with its companion on the countershaft when the car is on any speed but the highest. Two brakes are provided on the countershaft—one on either side of the gear-box—both being operated by one pedal. Internal expanding band brakes operating in drums on the road wheels are actuated by the hand lever. In the 18-24-h.p. model the carburettor is not water-jacketed as in the larger types, hot air being drawn from the cylinder walls, but the same adjustable jet is employed. As before remarked, this model is provided with a live axle, which is of the customary "rocking" type. The clutch is similar to those of the large models, whilst a drum of very large diameter on the main shaft behind the gear-box carries an internal expanding brake, the road wheels being furnished with brakes of similar design. Like the larger models, semi-elliptic hanger springs are employed at the rear. Gate change-speed gear is used, and in this case, as the gear-case is carried close up to the clutch, the selector rods are quite short, and are carried in the gear-box instead of in a separate aluminium casing. As in the larger models the flywheel is cast with webs, which act as a fan, inducing air through the radiator. The motor of the 18-24-h.p. type has cylinders with a bore of 100 mm. and a stroke of 130 mm., and in this case Eisemann high-tension ignition is employed.

The La Buire Cars.

Prominent among the excellent French-built cars on view are the La Buire vehicles, shown by the British agents, the HOLLINGDRAKE AUTOMOBILE COMPANY, LTD. Prominence is given to a polished chassis of the 24-30-h.p. six-cylinder model, the feature of which is that the engine (Fig. 73) has the cylinders cast in sets of three, with the valves

on opposite sides. The bore and stroke is respectively 92 mm. by 120 mm. Large inspection doors are fitted to the sides of the base chamber to enable the crank shaft bearings to be readily inspected. The lubrication is maintained by an ingenious form of paddle pump operated off one of the cam shafts, the oil being drawn from a sump in the base chamber and delivering it through eight feeds on the dashboard to the different parts of the motor. The water circulation is maintained by a rotary pump driven off one of the cam shafts. The radiator, which is provided with an air-inducing fan, is of the Apprin honeycomb type. The carburettor is of the La Buire Company's special type, so arranged that when the car is running down hill free the throttle can be entirely closed and only air allowed to pass into the cylinders, thus not only cooling the engine, but allowing it to be used as a brake. The ignition is by Simms-Bosch high-tension magneto, advanced and retarded by a lever on the steering wheel; a novel fitment is also seen in a pedal-controlled switch on the dashboard, enabling the current to be cut off and the engine stopped by a touch of the foot. The clutch is of the disc type, and the gate-controlled change-speed gear gives a direct drive on the top speed through the cardan shaft and bevel gear to the live axle. The differential gear is of a special type patented by the La Buire Company; it allows of the back axle casing being arched, which gives extra strength to this important part. From Fig. 75 it will be seen that the driving bevel spindle B is carried right across the differential gear case in ball bearings. The right portion of the live axle E is rotated by the bevel pinion C meshing with the larger crown wheel, while the left part E is driven by the driving bevel pinion D meshing with the smaller crown wheel. Both the bevel pinions are carried on a hollow sleeve produced inwards, and carrying at their inner ends the sun wheels F. These in their turn mesh with four satellite bevel pinions carried on the spindles of a star piece in the usual way. The gear ratios of the two pairs of bevel gears are alike, although the number of teeth in each pair of wheels is not equal. By this arrangement it is

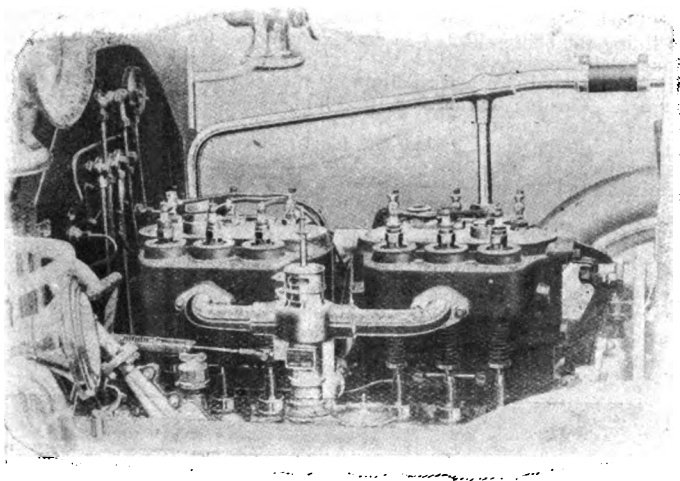


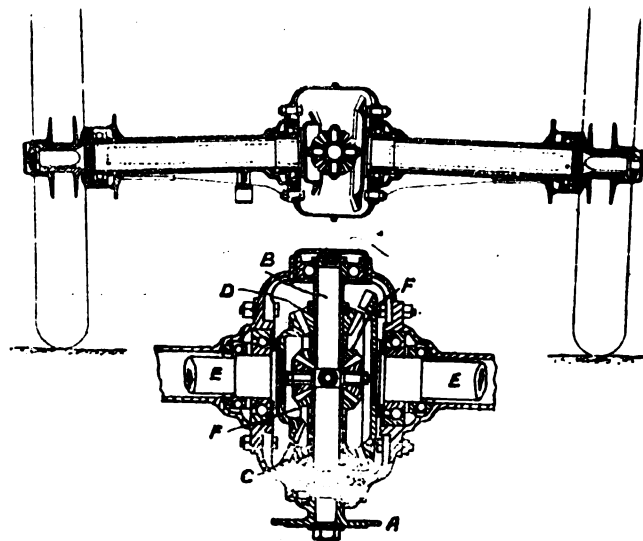
Fig. 73.—The La Buire 24-30-h.p. Six-Cylinder Engine.

possible to give a slight degree of angularity to the live axles of the rear road wheels. The frame is of pressed steel, narrowed in front to increase the lock of the steering wheels, and raised at the rear to give clearance to the differential; the rear springs (Fig. 76) are of the full elliptical type, while ball bearings are, it is almost needless to add, employed to all parts except the engine. The car has the usual foot-operated brake on the gear, while those on the rear wheel hubs can be actuated either by hand or foot. Another new vehicle intended for use as a town carriage is a 10-14-h.p. model, the four cylinders (75 mm. bore by 120 mm. stroke) of the motor being in one casting, and with the valves all on one side; except that the gear only gives three forward speeds, while the 24-30-h.p. has four, the general arrangement is the same. Those motorists who have a *penchant* for speed will be interested in the smart little 15-20-h.p. *voiture de course* to be seen at this stand.

The Deasy Cars.

The DEASY MOTOR CAR MANUFACTURING COMPANY, LTD., are producing three models for the coming season—viz., 25-h.p., 35-h.p., and 45-h.p. The first mentioned is practically an evolution of the 24-h.p. of the present year, and, generally speaking, the essential features are common to all types. The improvements made are rather of detail than of principle, although many of the alterations effected are of interest. The three-point suspension of the frame is superseded by a four-point suspension, and, whilst the frame itself is still constructed of ash with steel fitch-plates, the practice of sweeping in the fore part of the side members is done away with, and the sides are now straight between their extremities, except in the highest-powered type, where an upward sweep is given at the rear. Whilst the clutch remains the same in construction, the method of its operation is different, and a greater smoothness of engagement and disengagement is certainly secured. The foot brake now acts on a drum placed in front of the universal joint, the contracting band being of wide diameter.

In other particulars the gear-box and propeller shaft remain the same, excepting that the sleeve of the shaft is now of steel instead of aluminium, as heretofore. The live axle remains as before, excepting that, as in the case of the propeller shaft, the aluminium casing previously employed has been replaced by a sleeve of steel. In addition to other modifications in the frame, previously mentioned, the rear end member is now varied, inasmuch as steel tube of cylindrical section



Figs. 74 and 75.—Sectional Elevation of La Buire Arched Rear Axle and Enlarged Sectional Plan of Differential Case.

is employed to couple up the side members in lieu of the ash and steel fitch-plate previously utilised. In the motor and its mechanism the principal change has been made in the suspension of the former; it is now carried on short arms bolted direct to the sides of the frame, its suspension on springs having been abandoned. The only other notable change is the giving up of the bridge piece over the valve chambers and the screwing in of the plugs in substitution. The roller couplings of the control rods have been increased in size, and the facilities for dismantling the magneto have been considerably increased. A finished example of the 35-h.p. car, first seen at Brooklands in the early autumn, fitted with a luxurious limousine body, is displayed on the stand, as well as one of the 45-h.p. type fitted with a two-seated body of more or less racing design.

The Penman Motor Car Bodies.

Mr. A. C. Penman, of the MOTOR CARRIAGE WORKS, Dumfries, has managed to convey to visitors to the Exhibition some idea of the extremely well designed and constructed bodies which are built by him in the far North. The least ornate of those displayed is fitted to a North British Drummond chassis of 16-20-h.p., and takes the form of a side-entry touring car in natural walnut wood, the centre panels being relieved by *papier-mâché* imitation cane work; the upholstery is carried out in imperial red polished buffalo hide. A double extension hood and wind screen is fitted with luggage carrier in the rear. Perhaps

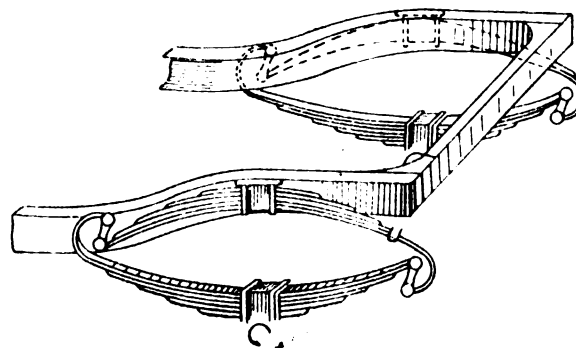


Fig. 76.—Rear Spring Arrangement on the La Buire Car.

the most novel and interesting feature of this body, however, is that the interior is provided with double floor board, the upper being hinged in two halves and so arranged that it is capable of being folded, and by means of a rack made to assume an inclined plane of any desired angle, thus forming an exceedingly comfortable foot rest. Another body takes the form of a *landauet de luxe* finished in dark holly-green, relieved in fine lines of two lighter shades, and provided with front extension and

wind screen, fitted to a 20-h.p. Deasy car. Another fine example of the carriage-builder's art is mounted on an Arrol-Johnston chassis, and takes the form of a very luxurious and commodious limousine. Its leading feature is that the whole of the upper part is dismantlable from the lower panels, leaving when removed a most elegantly-formed open touring body. The jointing is so skilfully done that the closest examination is necessary to detect it. A distinct novelty is displayed in a new front glass screen, which gives the chauffeur an uninterrupted view without the intervention of glass, and at the same time prevents the admission of rain or strong air currents. In the main screen is an

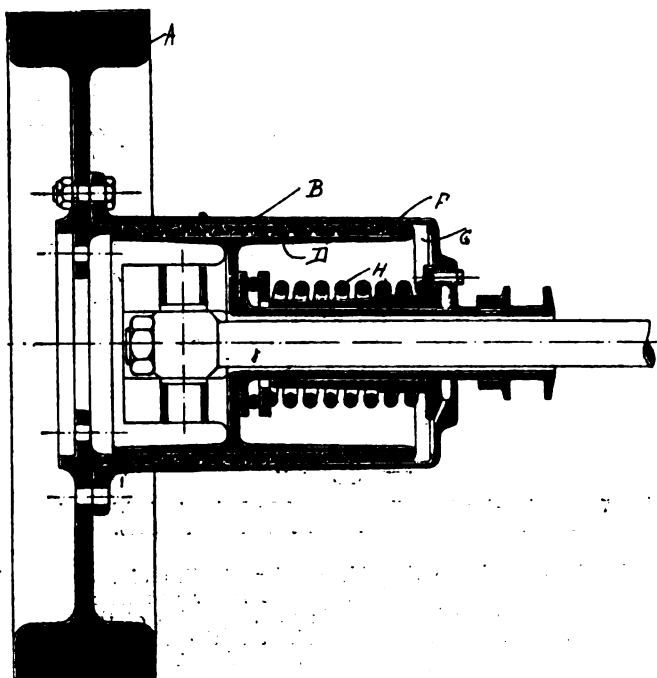


Fig. 77.—Sectional View of Horch new Multiple Metal-to-Metal Ring Clutch.

opening on the vision line, and this is guarded by two pieces of glass carried in neat metal brackets, inclined at opposite angles above and below the opening. The upper inclined glass projects farther than the lower, and is carried at its upper extremity into close contact with the screen glass; the lower inclined glass ends some distance from the main screen, the air currents and the rain thereby finding a vent. The appliance is apparently practical, and furnishes one of the best solutions yet offered of that very complicated problem of giving protection and yet a view uninterrupted by accumulations of rain spots.

The Horch Car.

The HORCH MOTORS, LTD., of Shaftesbury Avenue, London, W., display an example of their 18-22-h.p. car, fitted with a landaulet body, with front extension and wind screen by Maythorn, of Biggleswade, and a chassis of their new six-cylinder 50-60-h.p., want of space precluding the staging of their popular 35-40-h.p. four-cylinder car. The new production follows very much on the older lines of the firm's four-cylinder models, the cylinders of the engine being cast in pairs, the overhead inlet-valves being actuated by rocking levers, to which motion is communicated by long tappet rods worked from the same shaft as that operating the exhaust-valves. The latter are immediately under the inlet valves, the valve-box being on the left side of the engine. The cylinders have a bore of 115 mm. and a stroke of 128 mm. The carburettor is of the multiple-jet type, and is placed very high. In order to equalise the suction of each pair of cylinders, a baffle plate is placed in the main induction chamber, from which are three leads to each pair of cylinders, the firing order being one, two, three, six, five, four. The crank chamber is cast with a web plate, which also forms an apron, and provides a means of suspension to the side members of the frame. The crank-shaft is carried on plain bearings, a journal being provided between each pair of cylinders. Magneto ignition is fitted, and this device, as well as the mechanically-driven pump, is actuated through fibre dog clutches. Lubrication is by pressure to the dashboard, and thence by six force pumps operated from the cam shaft to the desired points. The exhaust pipes are provided with expansion joints. The clutch is metal-to-metal, of peculiar construction. It is shown in section in Fig. 77; it consists of a series of split rings of the nature of piston rings between two telescoping drums, arranged in such a manner that when one of the drums is moved in the axial direction, or the two drums are moved one against the other, the coupling rings are each pressed against the inner and the outer surface of the drums, whereby a coupling of the two drums is effected. The fly-wheel, A, is provided with a sleeve or drum, B. A drum, D, mounted on the

clutch shaft, is inserted in the sleeve, B. Between the inner surface of B and the outer surface of D are placed split rings, F, having triangular cross sections, and kept in position by means of a ring, G, in the drum, B. A spiral spring, H, presses the driven drum, D, against the friction rings, so that in consequence of their oblique surfaces the latter are pressed against the inner surface of the drum, B, as well as against the outer surface of the drum, D. The gear-box gives four forward speeds, the shafts all having double ball bearings at the rear end, some four inches intervening between each bearing. The propeller shaft is provided with universal joints of peculiar design, which possess points of great merit. In addition to the contracting brake on the main shaft at the rear of the gear-box, which is worked by a pedal, two internal expanding brakes operate on drums on the rear road wheels, the rings being placed side by side, one set being worked through a pedal and the other by the hand lever. When this latter is used, the gear lever is retained locked in a neutral position. The whole exhibit is a thoroughly interesting one, the clutch, universal joints, and carburettor all meriting very close examination.

The Vinot Cars.

Messrs. W. COLLE AND SONS, LTD., of Kensington High Street, London, W., in addition to displaying several very fine examples of carriage bodies constructed by them, also exhibit on their stand the 16-24-h.p. Vinot cars in the latest type, but the six-cylinder car (Fig. 78) with chain drive is not shown, nor is the new 12-16-h.p. model with cardan shaft transmission. The Vinot chassis fitted with bodies are of the chain-driven 16-24-h.p. and 24-32-h.p. types, already so well and favourably known. In the last-mentioned case a very handsome de luxe limousine is provided, every possible refinement in the way of fittings—folding armed subsidiary seats, &c., being brought to the aid of a very harmonious whole. The limousine is of the rotund or "Berlin" form, and has glass panels at the sides, corners, and at the rear. The flat windows and lights are furnished with silk blinds. The colour scheme of the exterior is in the very darkest and richest burgundian red-brown, with black mouldings, the centre panels being relieved in rich carmine, the lining-out being effected in dark vermilion. On the 16-24-h.p. type a landaulet limousine is fitted, the panels being carried out in dark green with black mouldings, and the lining is carried out in a very light shade of green. Turning to the new 16-24-h.p. Vinot chassis, the motor and its accessories remains the same as in the chain-driven model of 1907, the only difference being that the fan to the radiator is driven off the other cam shaft, and that it is now carried in an eccentric bearing permitting infinite adjustment; the clutch is varied slightly, and cardan joints are fitted between it and the gear-box. The control of the engine is by throttle only, the ignition being fixed. Lubrication is by pump to dash, and thence by gravity. Either three or four speeds are provided, the gear-box and road wheels now being provided with ball-bearings. The brake on the main shaft, as well as those on the road wheels, are of the internal-expanding type with copper liners. The five axle is of strong design, and full provision is made for accessibility to the various working parts. Whilst in general design following out well-established

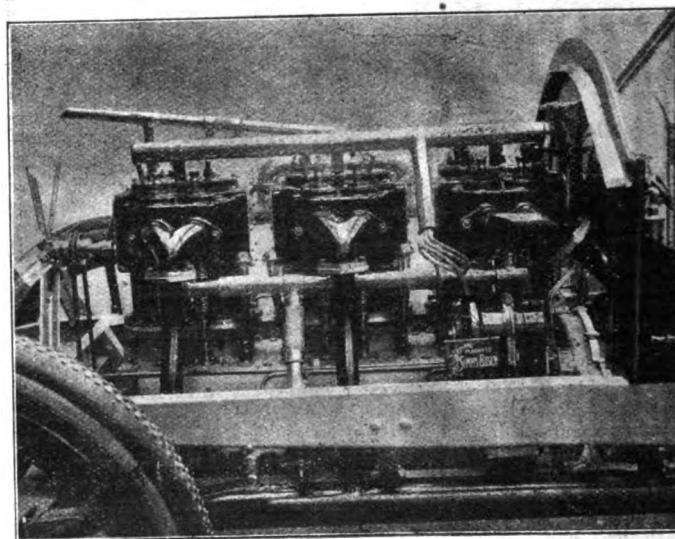


Fig. 78.—The Vinot Six-Cylinder Engine.

practice, the new Vinot is very cleanly designed, and well constructed. The most novel feature of the new model consists in the extremely ingenious change-speed lever selecting and locking device; by means of pins working in cams the various selector plates are operated, and the remaining speeds automatically locked. A trigger on the control lever unlocks the backward selector guide, and, on this gear being withdrawn, it automatically falls and again locks itself. We may add that the British concessionaires for the Vinot cars are Messrs. T. J. Harman and Co.

The Scout Cars.

The Scout cars of Messrs. SCOUT MOTORS, LTD., Salisbury, are staged on a commodious stand in the annexe, and comprise examples of the two-cylinder 12-h.p. type, and the four-cylinder 15-h.p. and 20-h.p., and six-cylinder 30-h.p. The 20-h.p. is fitted with a double landaulet body of excellent design, the 15-h.p. and 30-h.p. having five-seated touring phaeton bodies, and the 12-h.p. a four-seated body with side entry of simple design, but very comfortable and roomy. The engines of all types have their cylinders cast separately, the bores and strokes being respectively 90 mm. by 115 mm. in the 15-h.p. and

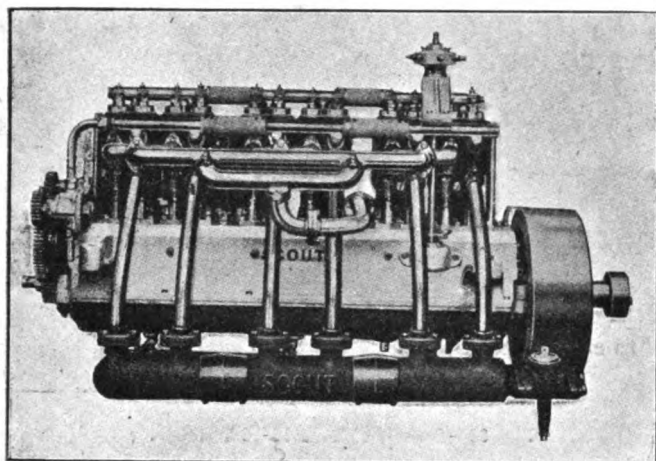


Fig. 79.—The Scout Six-Cylinder Engine.

102 mm. by 115 mm. in the 12-h.p., the 20-h.p., and the 30-h.p. All types are provided with three forward speeds, direct drive of course being given on the top gear. Ball bearings are employed throughout the chassis and gear-box, and transverse rear springs are fitted to all models. Many refinements are to be found in the general construction, and include the provision of a dial and needle carried on the bottom end of the vertical commutator shaft, the needle designating the number of the cylinder which is next in order to fire. The flywheel is divided up in its periphery also with tell-tales which, when brought into line with a fixed pointer, show the suction, compression, firing, or exhaust strokes of each cylinder. Perhaps the most novel of the new features introduced for the 1908 season is in the male portion of the clutch, which is of the ordinary cone type. Instead of being furnished with the leather face and the three buffer springs previously employed, this member is now provided with cork studs. These studs are in section

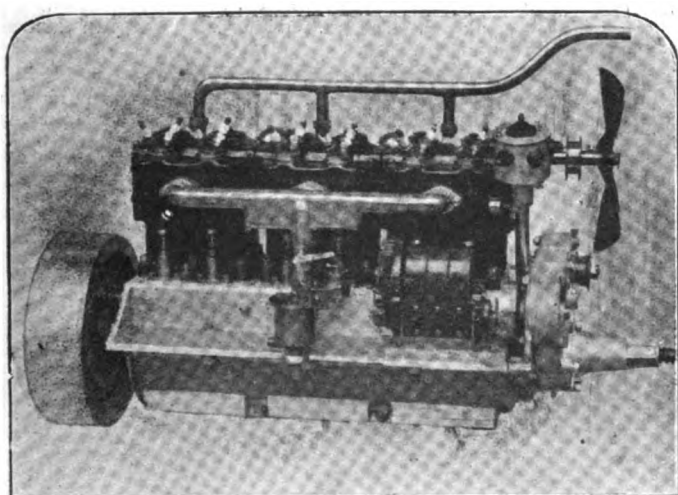


Fig. 80.—The Vulcan 40 h.p. Six-Cylinder Engine.

about the size of an ordinary bottle cork, and about one-half the length of a wine cork, and are driven into suitable bosses formed in the aluminium casting which forms this member. It is claimed that this departure ensures greater graduation of engaging and disengaging, and that, even when water or oil is placed on the surface of these studs, the slip is no more than is necessary, and that in actual transmission of the power they are more efficient than any other facing material. Claim is also made for decrease in expense and greater ease in replacement. The firm also make high claims for their arrangement of induc-

tion pipes, whereby an equal supply of gases to each cylinder is assured.

The Vulcan Cars.

The VULCAN MOTOR COMPANY, LTD., Southport, the agents for whom are the London and Parisian Motor Company, Ltd., have an excellent display of moderately-priced cars, ranging from a 14-h.p. four-cylinder to a 40-h.p. six-cylinder. The latter is the company's latest production, and will well repay inspection. The engine (Fig. 80) has the cylinders cast in three pairs, the bore and stroke being 4 in. by 4½ in. The valves are arranged on opposite sides, operated off separate cam shafts, and there are two systems of ignition—magneto and accumulators, the latter having a synchronised high-tension distributor. The clutch is of the leather-faced cone type, and the gear-box, which is controlled by a lever working in a "gate," is adapted to give four speeds forward and a reverse, with direct drive on the third speed. The transmission is by a cardan shaft and bevel gear to a rear live axle. The latter has only the driving strain to withstand, the weight of the car being carried by the axle sleeve. The power is communicated to the hubs of the rear road wheels by dog clutches on the ends of the live shafts. The latter are so arranged that they can be withdrawn, enabling the large bevel wheel and differential gear to be lifted out. The details of the vehicle are all on modern lines; for instance, a joint is provided between the clutch and gear-box to allow for any want of alignment between the two parts, and also to enable either to be dismantled without disturbing the other. The engine is provided with both foot and hand control, and the car is adapted to receive any type of carriage body. We may add that ball bearings are used to all parts, except the motor. The Vulcan 25-30-h.p. car is on similar lines to the foregoing, the main difference being in the engine, which comprises four cylinders; 4½ in. bore by 4½ in. stroke. The 14-h.p. Vulcan differs in but few respects

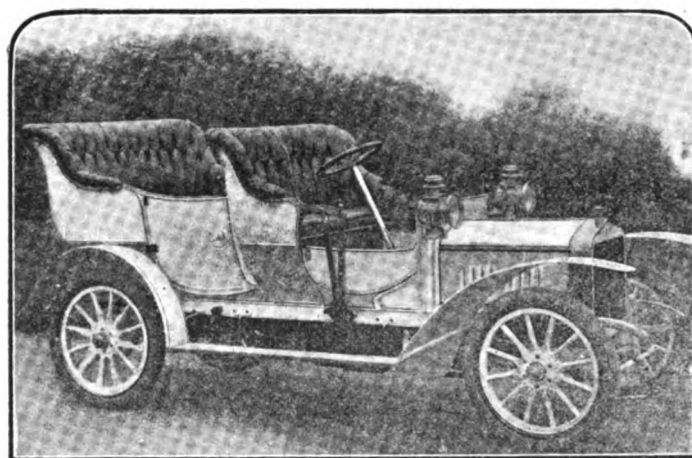


Fig. 81.—The Vulcan 14-h.p. Double Phaeton.

from the 25-30-h.p.; the cylinder dimensions are 3½ in. bore by 4½ in. stroke. The ignition is by high-tension magneto, a reserve by synchronised coil and accumulators being also provided. The carburettor is of the automatic type, of simple design. The distributor is placed at an angle in an accessible position in front of the engine. The two ignitions have distinct wiring circuits with separate plugs, these being fixed in V-shaped carriers over the inlet valves. The lubrication is effected by pressure from the exhaust through sight feeds on the dashboard. The clutch is of the leather-faced cone type, with the spring placed above and exterior to the shaft. The change-speed gear, which is "gate"-controlled, gives three speeds forward, with, in this case, direct drive on top. In the Vulcan cars the design is such that each part of the transmission can be taken down without disturbing any of its neighbours. Ball bearings are used to all parts except the engine. The rear of the chassis is supported on three-quarter elliptic springs. Altogether, the Vulcan cars bear evidence of careful and well-thought-out design, and their moderate price should bring them many purchasers.

The Critchley-Norris Cars.

The CRITCHLEY-NORRIS MOTOR COMPANY, who have hitherto confined their attention to industrial motor vehicles, make their debut with an interesting pleasure car in the shape of a 35-40-h.p. landaulet. The engine, a four-cylinder Crossley, has the cylinders cast in pairs, with ignition by low-tension magneto. The clutch is of the expanding metal-to-metal type, and on the shaft between it and the gear-box universal joints are provided, which prevent undue strains being set up when travelling over rough roads. A special feature is the Critchley-Norris gear-box, which is made without any horizontal joint, a large inspection cover being provided at the top. The removal of the end plate allows of the easy withdrawal of all the gears. The differential is enclosed in the same casing, but has a separate inspection cover. The change-speed gear is controlled by a "gate" lever. The final drive is by side chains to the rear road wheels.

The Brasier Cars.

The display of Messrs. MANN AND OVERTONS, LTD., includes an example of the well-known Brasier 30-40-h.p. car, which has undergone but little change in design, for which they are British agents. The four cylinders are cast in pairs, with the valves all arranged on one side; the dimensions being 112 mm. bore by 130 mm. stroke. The crank shaft is *desaxé*—that is to say, it is slightly out of line with the centre of the cylinders. Ignition is by low-tension magneto, the operating shaft being located overhead, with the strikers so arranged that each may be taken out independently of the others. The carburettor is of the automatic type, the additional air supply for the mixture being regulated automatically by means of a small conical valve. The leather-faced-cone type of clutch is retained, a double-jointed shaft connecting the clutch with the gear-box. The latter is adapted to give four speeds forward and a reverse, with single operating lever working in a "gate." On the top speed the drive is direct to the differential shaft, from which the power is conveyed to the rear road wheels by side-chains. Ball bearings are fitted to all parts except the engine.

The Weigel Cars.

WEIGEL MOTORS, LTD., have two of the British-built Weigel chassis on view—25-h.p. and 40-h.p., both fitted with four-cylinder engines and live axles. The 25-h.p. is the new model, but as this was fully described in a recent issue of the *M.C.J.*, it need only be mentioned that the cylinder dimensions are 110 mm. bore by 120 mm. stroke, and that the specification comprises high-tension magneto ignition, centrifugal pump, fan-assisted honeycomb radiator, multiple-disc clutch, three speeds forward, with direct on top, rocking "gate" change-speed lever, cardan shaft to special live axle, and ball bearings throughout, except engine. The 40-h.p. car has cylinders 130 mm. bore, 140 mm.

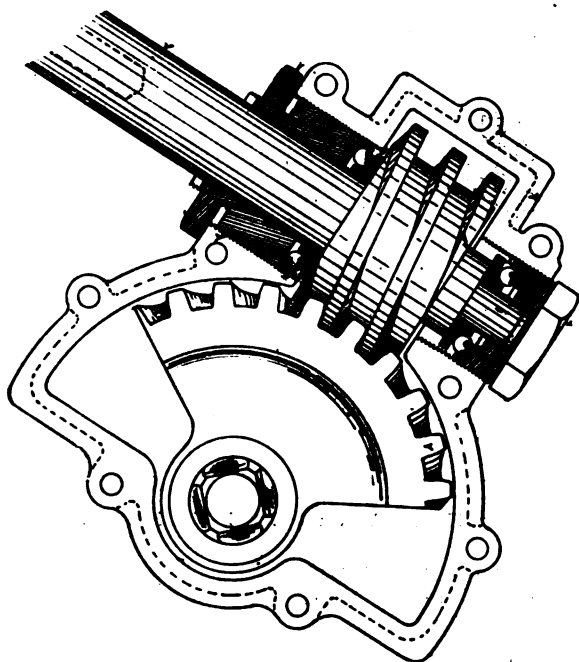


Fig. 83.—Sectional View of Weigel Steering Gear.

stroke. In this case low-tension magneto ignition is employed, the make-and-break mechanism being readily dismountable. To facilitate starting, a special half-compression device is provided in connection with the exhaust valve cam shaft. The transmission gear is substantially designed, and we may add that ball bearings are used to all parts, except the engine.

The Reno Cars.

The REX MOTOR MANUFACTURING COMPANY, LTD., Coventry, have a very commodious and well-designed stand, upon which they display two examples of their new 13-16-h.p. "Reno" car (Fig. 84), one as a chassis and the other as a complete car, with standard side-entry body. The motor is of the four-cylinder type, with each member cast separately, the bore being 86 mm. with a stroke of 110 mm., and the valves disposed on opposite sides. The distribution gear is entirely enclosed, and the shafts driving the high-tension magneto and pump are provided with cardan joints to ensure perfect alignment. The pistons are an extremely light casting, a series of countersinkings in the interior being formed in the spaces between the piston rings. The valve tappets are of ingenious design, being kept up to their work by springs, fibre under-buffers being provided to prevent noise. The Trier and Martin triple-jet carburettor is fitted. The crank case is divided horizontally, the main bearings being attached to the top half, so that they are not disturbed when the bottom half is removed, enabling the big ends of the connecting rods to be adjusted with ease. The engine is lubricated by pressure feed from the dashboard. The crank case is partitioned off for each respective cylinder to ensure the

proper distribution of the lubricating oil in each piston. Three forward speeds are provided, the top, of course being direct, whilst ball bearings are fitted throughout. The back axle is especially interesting. The brake and spring brackets are attached to the bevel gear-box by means of substantial steel sleeve tubes screwed into the latter. The balance gears are contained in a cage bolted to the bevel wheel, which forms part of the cage, the whole revolving in large ball bearings having $\frac{3}{4}$ in.

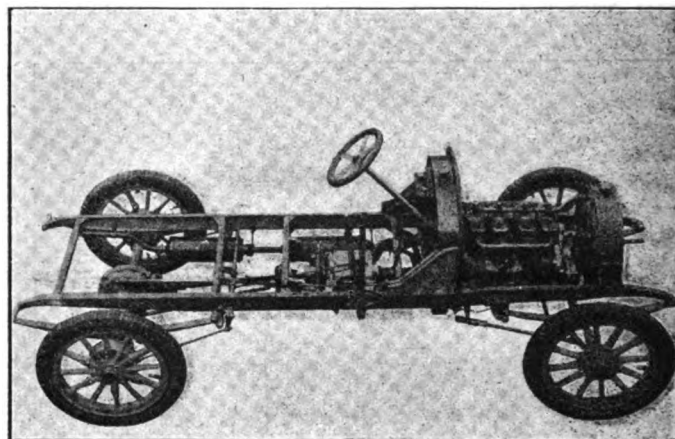


Fig. 83.—Chassis of Reno 13-16-h.p. Car.

diameter balls; these bearings are adjustable from the outside by means of lock rings which work on plungers behind the ball races. The lock rings are held in position by set pins placed conveniently for adjustment. The bevel pinion is supported by ball bearings at both back and front, in addition to the ordinary ball thrust bearing. Thus, by means of the double set of bearings above and below the teeth of the pinion, the driving pressure is resisted in a way that is impossible with a single bearing, and the cardan joint is also relieved of strain. The lock rings to both bearings permit of the most intimate adjustment, and are readily accessible. Another interesting point is the provision of a double torque rod working in a universal joint; a tension rod is also fitted. In all other details the best accepted practice has been followed, and, as a whole, the new vehicle is a noteworthy production, especially in view of its relatively low price.

The Austin Cars.

The AUSTIN MOTOR COMPANY, LTD., are showing 18-24-h.p., 40-h.p., and 60-h.p. models, the latter having a six-cylinder engine. The cylinders are separately cast, and the valves are on opposite sides. A feature is the employment of two high-tension magnetos, one being utilised for firing the engine at normal speeds, while for high speeds the smaller machine is employed. The transmission is by a cardan shaft to a live axle of substantial character.

The "Times" System Automobile Company, Ltd.

This company make an attractive display, the well-known Darracq racing car, which earned its laurels in winning the Vanderbilt cup, being

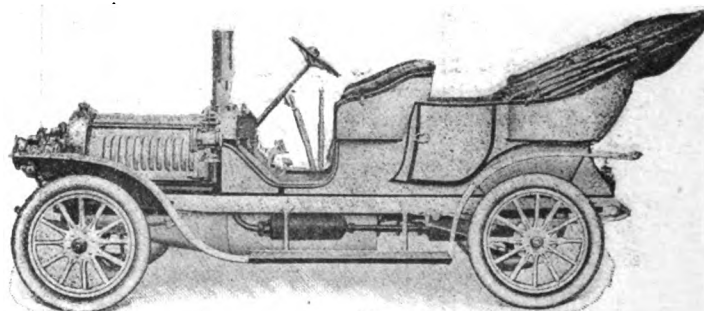
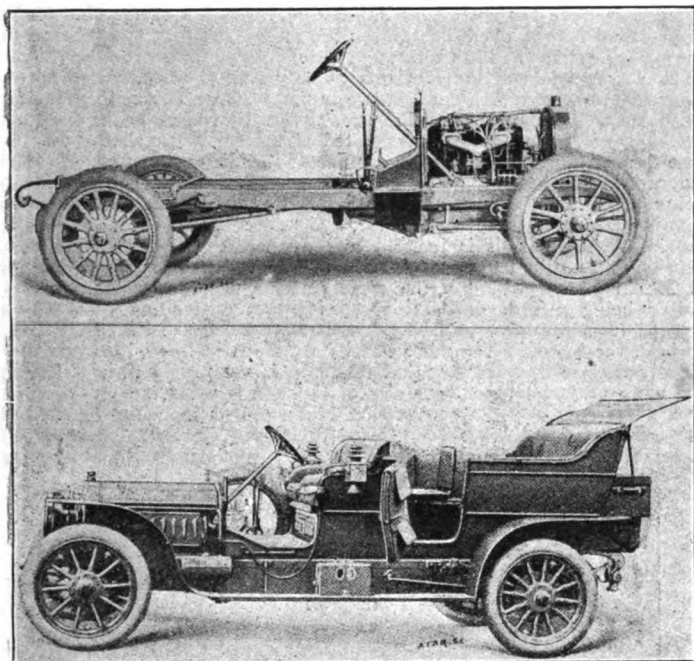


Fig. 84.—The Rex Company's 13-16-h.p. "Reno" Touring Car.

placed in a prominent position. A 50-h.p. six-cylinder Darracq with a most luxurious "Grand" limousine body is shown, as is also an example of that make of 8-10-h.p. car with a two-seated body. The remaining vehicle exhibited is one of the new type of 14-16-h.p. Darracq cars with the gear-case combined with the live axle and fitted with a four-seated side-entry body of standard design by Vedrine, of Paris. This is the only example of the new Darracq of this horse-power displayed in the Exhibition. The company by their system of trading have secured a vast *clientèle*, and at the time of our inspection we noticed that the Right Hon. John Burns was an interested visitor on the stand.

The Piccard-Pictet and Rochet-Schneider Cars.

The novelty at the stand of Messrs. **DONNE AND WILLANS, LTD.**, is the chassis of a new Swiss-built car, made by Messrs. Piccard, Pictet and Co., of Geneva, for which they have secured the British agency. The range of models includes 12-16-h.p., 18-24-h.p., and 28-40-h.p. four-cylinder, and 28-40-h.p. six-cylinder, the one on view being a polished chassis of the 18-24-h.p. type. A feature of the design is that the engine



Figs. 85 and 86.—The Piccard-Pictet 18-24-h.p. Car. The upper illustration shows the chassis, while the lower one gives a view of the vehicle fitted with a side-entrance touring body.

clutch and gear-box are built up in the form of a block, supported directly on the side members of the pressed steel frame. The engine has its cylinders—100 mm. bore by 120 mm. stroke—cast in pairs, with the valves arranged on opposite sides. The ignition is by the new Bosch low-tension make-and-break plugs, illustrated in the last issue of the *M.C.J.*, although a high-tension magneto can be fitted instead if desired.

springs are fitted at the rear of the chassis. Altogether the new chassis makes a good impression. The display of the well-known Rochet-Schneider cars comprises a 16-20-h.p. five-axle chassis, a 16-20-h.p. limousine landaulet, with body by Messrs. Million, Guet and Co., and a 16-20-h.p. single landaulet by the Automobile Carriage Builders, Ltd., both being luxuriously finished. So far as the chassis is concerned, the

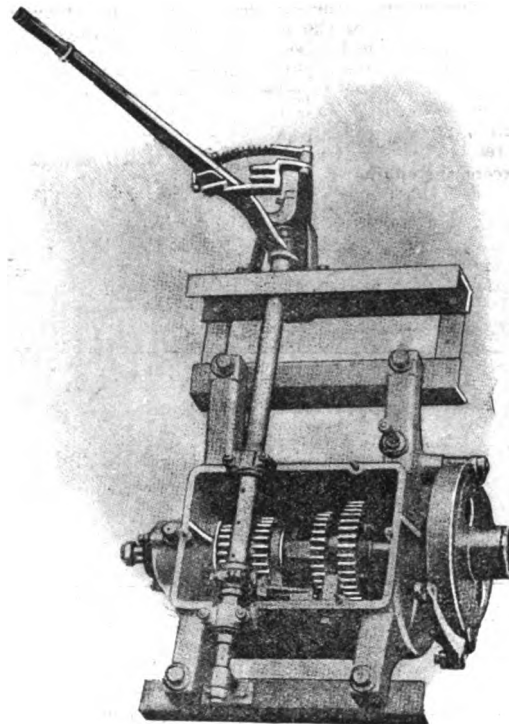


Fig. 87.—The Unic Four-Speed Gear-Box.

design has undergone but little change. The motor is provided with high-tension magneto, and a new carburettor known as the Zenith, which is of novel design. The petrol supply is now pressure fed, while the gear-box has been changed to give four speeds forward in place of the three previously fitted.

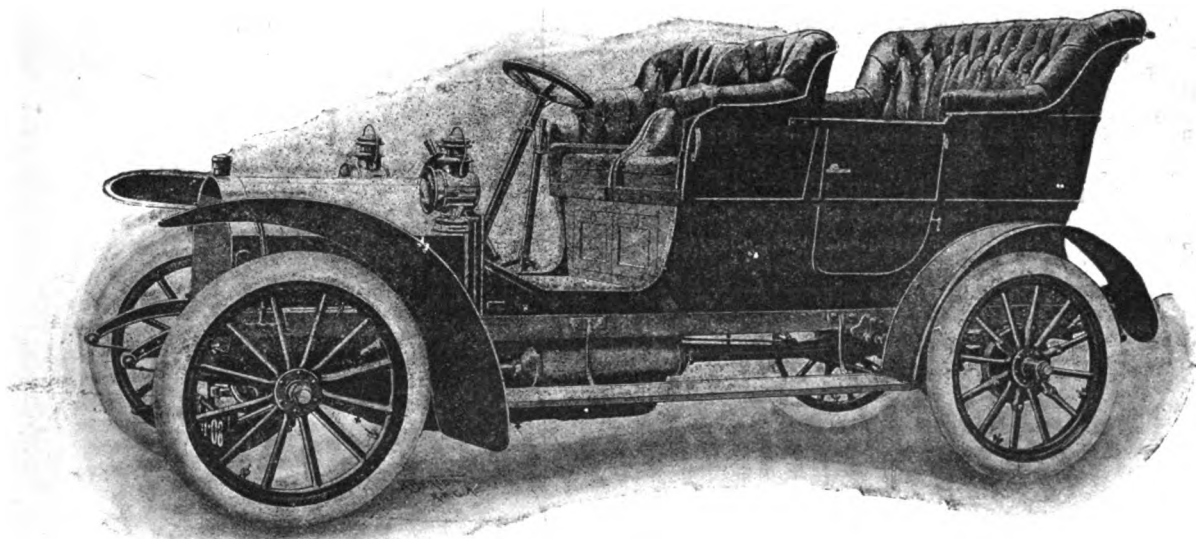


Fig. 88.—The Unic 16-20-h.p. Touring Car.

The carburettor is of special design, and is claimed to furnish a perfect mixture between a wide range of engine speeds. The clutch is of the metal-disc type, and the "gate"-controlled change-speed gear gives four speeds with direct drive on top, through the cardan shaft and bevel gear to the live axle. The latter is of an excellent design, and is provided with pressed steel torque bar, extending from the differential case to a cross member in line with the forward universal joint; it is hinged to provide for lateral as well as vertical motion. Three-quarter elliptic

The Unic Cars.

Messrs. **MANN AND OVERTONS**, at their stand in the Annex, are drawing the attention of the motoring public to the new 16-20-h.p. Unic, Fig. 88, which has many points of interest, the chassis not only being on sound lines, but offered at a very moderate price. The four cylinders of the motor are cast in pairs, with the valves on opposite sides; the bore is 87 mm. and the stroke 110 mm. Several alterations have been made in the new model; for example, the low-tension magneto system

has been superseded by a high-tension magneto. The carburettor is of a simple automatic type, which has proved very economical as regards fuel consumption. The auxiliary air supply is regulated by the action of the suction of the engine on a mushroom valve, and in order to avoid an irregular movement of the valve, the end of the valve stem is fitted with a piston, which works in a cylinder filled with glycerine. The throttle is of the sliding piston type, and is fitted over the carburettor.

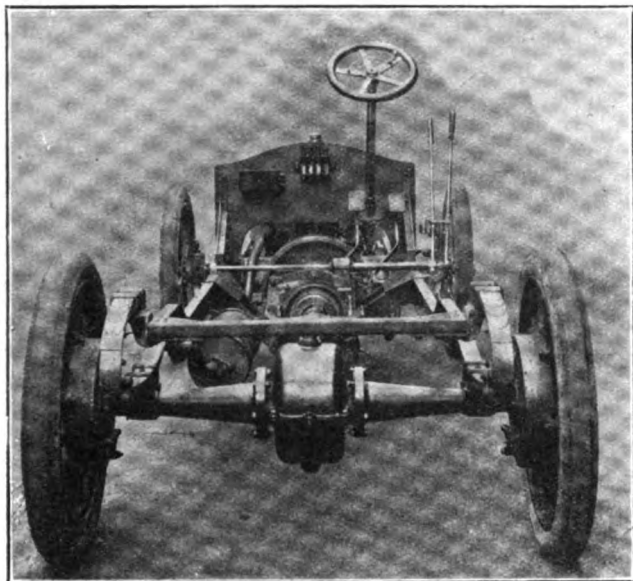


Fig. 89.—Rear View of Chassis of the 14-20-h.p. Badminton Car.

The clutch is of the leather-faced-cone type, and a joint is introduced in the shaft connecting it with the gear-box. The gears (Fig. 87) give four speeds and reverse, instead of three, and the control is by a "gate" lever. The transmission is by a cardan shaft to the back axle, which is of solid construction, and fitted with ball-bearings, besides being protected from road shocks by two stout tension rods. We note that a special form of shock absorber is fitted in conjunction with the springs. The exhibit also comprises a 10-12-h.p. doctor's car. This vehicle has already been described in the *M.C.J.*, so it will suffice to mention that the engine comprises two cylinders 102 mm. bore by 110 mm. stroke; and that the transmission is through a leather clutch, a ball-bearing gear-box giving three speeds and a reverse, and a direct drive on the top through a cardan shaft and bevel gear to the rear live axle. The chassis is of the same type as that employed in the large number of Unic cabs now running in London. We understand that a six-cylinder Unic is also being introduced.

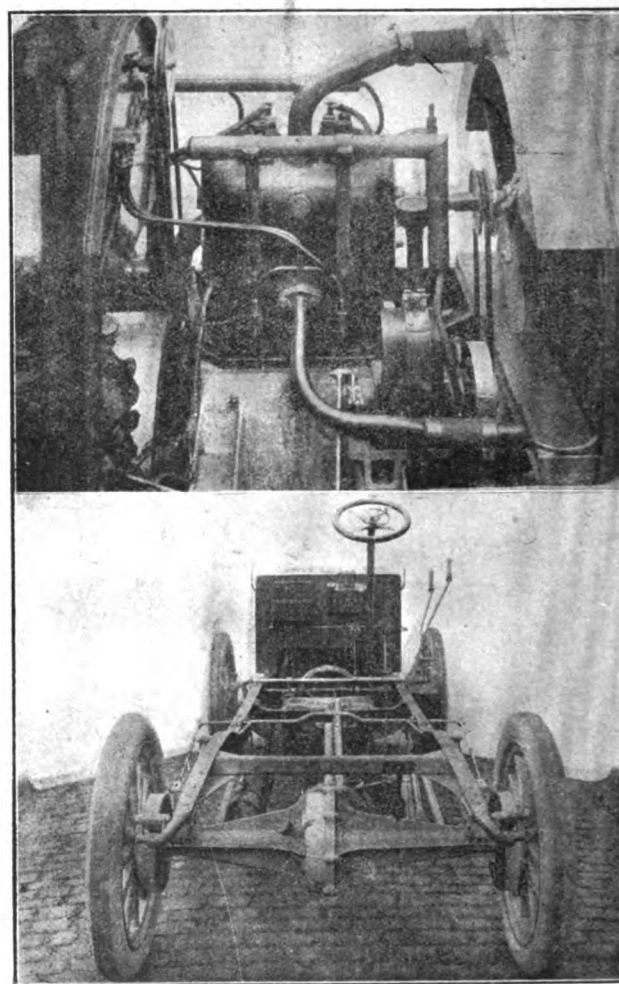
The Badminton Car.

The new car (Fig. 89) of BADMINTON MOTORS, LTD., in which Messrs. Teste and Lassen are interested, makes its debut at the show. The vehicle is of 14-20-h.p., and while following the general lines of live-axle vehicles, comprises several interesting details, notably as regards the clutch and cardan shaft. The four-cylinder engine, which is 90 mm. bore by 110 mm. stroke, is provided with an automatic carburettor and high-tension magneto ignition. Lubrication is by exhaust pressure, with sight feeds on the dash. The petrol is gravity-fed from a tank under the front seat. Control is by ignition and throttle levers on the steering wheel and foot accelerator. The clutch is of the disc pattern, alternate bronze and steel plates of rather greater thickness than usual being employed. The gear-box, which is "gate" controlled, gives four speeds forward and a reverse. The cardan shaft is entirely enclosed in a casing, which acts as the torque rod; it extends from the differential case to a crescent-shaped piece pivoted to one of the cross members of the frame. The cardan shaft and casing are thus free to adjust themselves to the inequalities of the road. The differential case is so made that the top half can be readily removed to give access to the bevel gear. The weight of the car is carried by the axle sleeves, the axle itself driving the road wheels through their square ends, which fit in corresponding recesses in the hubs. Ball bearings are used throughout the transmission. An interesting feature in connection with the brakes is that they are readily adjustable by wing nuts. The vehicles are of French design, but of British construction, the combination resulting in a car which is likely to become a popular type in the near future.

The Metallurgique Cars.

The METALLURGIQUE CARS AGENCY expose examples of their various models—12-14-h.p., 24-28-h.p., 26-h.p., 32-h.p., and 40-45-h.p.—the whole being shown in show-finished chassis form. The 12-14-h.p. car (Fig. 91) has two cylinders 100 by 110 mm., the valves being placed on one side of the engine, and all vertically operated off the same cam shaft. In the standard models ignition by accumulators is adopted, but in the example shown provision for a high-tension magneto is made as an extra.

The firm's standard metal-to-metal clutch and spring drive to road wheels through a cardan shaft is fitted, and ball bearings throughout the vehicle with the sole exception of the motor. The gear-box, of the makers' customary neat design, provides three forward speeds and reverse, with direct drive on top. The chassis is inswept at the front, and is cambered at the rear. The change-speed lever works in the usual type of sector. The radiator in this model is of the gilled-tube type, with fan, and the circulation is on the thermo-siphon system. The rear road wheels are fitted with two internal-expanding brakes, the action being synchronised by the customary linked lever, whilst a contracting brake is provided on the drum containing the spring drive at the tail end of the propeller shaft. Both a torque rod and radius rods are fitted. The 24-28-h.p. is a four-cylinder chassis on very similar lines, varied where necessary in accord with the increase in power, &c. The motor has four cylinders of 102 mm. bore by 125 mm. stroke, the valves being arranged on the one side, and vertically operated off the same cam shaft. In this case duplex high-tension ignition is fitted, the distribution gear for the magneto in this instance being entirely enclosed, and a gear-driven pump being fitted for the water circulation. Control is effected from the steering wheel, with foot accelerator, and "gate" change-speed control is provided. The chassis is inswept and cambered, whilst the rear suspension is from semi-elliptic spring hangers. The two remaining models of 26-32-h.p. and 40-45-h.p. have motors of a different type, the inlet valves being placed on the top, the tappets controlling them being worked from the same cam shaft as that operating the exhaust valves. In both these models the other details are much in line with those previously described, excepting that four speeds are provided, and that in the more powerful type three sets of brakes are fitted, an independent foot pedal controlling a contracting brake placed immediately behind the gear-box. In the 26-32-h.p. model displayed, the radiator is placed angularly from the centre point of the front, whilst in the heavier type the flat radiator is retained.



Figs. 90 and 91—The Metallurgique Two-Cylinder Car. The illustrations show respectively the engine and the rear view of the chassis.

The Germain Cars.

Captain THEO MASUI has, as usual, an interesting display of the well-known Germain cars, comprising 14-h.p., 18-h.p., and 28-h.p. four-cylinder and 50-60-h.p. six-cylinder. The feature of the Germain motors is the employment of steel cylinders with brass water-jackets. The

14-h.p. and 18-h.p. models remain unchanged, except for improvements in detail. The six-cylinder car (Fig. 93) has separate cylinders. The valves, which are all mechanically operated, are located on opposite sides. The crank shaft is of a special design, the usual wide bearing between each of the crank throws being replaced by discs formed solid with the shaft; the periphery of the discs is grooved out to form cups or valves for ball bearings, the corresponding outer cups being made in large diameter rings carried in the lower half of the crank case. The ignition is by Eisemann high-tension magneto, a novel feature being the coupling up of the governor to it, so that the sparking is automatically advanced and retarded. An auxiliary ignition by accumulators, in which the magneto distributor is employed together with its coil, can

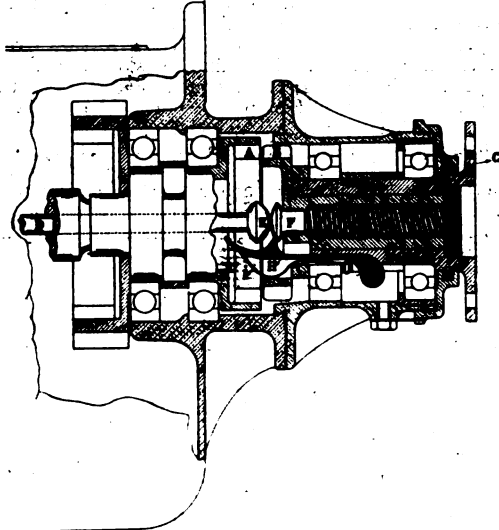


Fig. 92.—Sectional View of Additional Clutch at Rear of Gear Box on Germain Cars.

be fitted if required. The speed of the engine is regulated by means of a lever on the steering-wheel acting on a variable lift to the inlet valves. A pedal also operates a throttle on the induction pipe. The clutch is of the multiple disc type, the spring being external and located above the main shaft, so that it is readily accessible. The change-speed gear gives three speeds forward and reverse, and is controlled by a lever, which works in a straight-through quadrant constructed so as to do away with the necessity for a trigger on the lever itself. The quadrant is mounted on small springs so that it is forced bodily outward when changing gear, and flies back into position directly the lever comes opposite to a notch. On the top speed the drive is direct, this being obtained by sliding one of the pinions within an internally-toothed wheel. A new departure in this car, as also in the 28-h.p., is seen in an addition to the rear of the gear-box, in which is a clutch consisting of a spur wheel B meshing with an internally-toothed ring. The wheel

readily drawn out. The sleeve is made in four parts, the two tubular portions being secured to the differential casing, which is itself divided horizontally. The differential gear is of the spur pinion type. A substantial torque rod extends from the axle casing to one of the cross members of the frame, on which it is supported in a spring bracket. One of the complete cars on view is fitted with a Pullman limousine body, making it easy for ladies to step into the car. The door is also very wide, and this is attained without taking any room from the front seats. The interior is very roomy, having four comfortable seats facing forward, folding tables, and other conveniences. The other car is fitted with what is termed a "Prince Albert" body, which is exceedingly roomy and comfortable, the back cushions being higher than usual. A victoria leather hood is fitted in order to protect the front seats in wet weather; a leather extension is fixed to the uprights of the front glass screen. The latter is of a new and ingeniously-arranged design known as the "Hanover." It is composed of two hollow uprights, which are held in special fittings on the dashboard. On the uprights is a slotted bronze sleeve with two projecting arms which support the screen and free to slide up and down. The sleeves are held to the uprights by simple pressure manipulated by a small worm lever, which holds it in any position required. The glass screen is suspended from the projecting arms by hinges. At the bottom of the frame is a roller blind of waterproof material, and at the low end of the blind a small hollow tube, which attaches to the dashboard by two little knobs and the pressure of two springs, and so enables the blind to be rolled up and down to any length required. The glass screen can be placed in any desired position without the need of spanner, bolts, or screws, or any complicated fittings.

The De Dion Cars.

The chief exhibit of interest at the stand of DE DION BOUTON, LTD., is the new 12-14-h.p. four-cylinder model. The engine has its cylinders cast in pairs, the specification including mechanically-operated valves, forced feed lubrication, high-tension magneto ignition, automatic carburettor, vertical gate change-speed gear, gear drive through De Dion Bouton cardan back axle. The 8-h.p. single-cylinder car with expanding clutch gear is practically the same as last year. A 30-h.p. limousine with four-cylinder engine is shown, as also one of the cars which successfully made the journey from Pekin to Paris.

The Britannia Cars.

Three four-cylinder—12-16-h.p., 20-h.p. and 24-h.p.—and two six-cylinder models—30-h.p. and 40-h.p.—will form the 1908 series of cars turned out by the BRITANNIA ENGINEERING COMPANY, LTD., of Colchester. From an inspection of the new 24-h.p. chassis on view we note that several improvements have been effected. The four cylinders are cast in pairs, and the bore and stroke is respectively 110 mm. by 134 mm. The valves are actuated by two cam shafts, the inlets being arranged on the opposite side to the exhausts. The carburettor is of a special automatic air-regulating variety, so arranged that when the engine is running at a slow speed, as, for example, when the car is standing, the extra air inlets are closed, and the petrol jet reduced by a needle valve. At the same time the area of the passage-way for the mixture into the inlet pipe is reduced. Two systems of high ignition are provided—magneto and synchronised coil and accumulator—one lever controlling both. Lubrication is effected by means of a tank fixed to the side of the chassis, kept under pressure by means of the exhaust, and

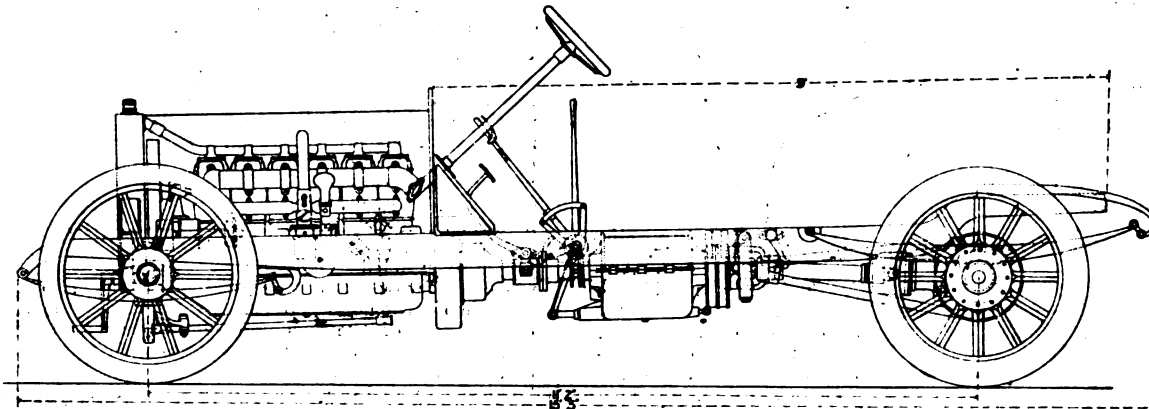


Fig. 93.—Chassis of Germain Six-Cylinder Car.

(Fig. 92) is mounted on the forward end of the universal joint shaft, which makes connection with the cardan shaft. The auxiliary shaft is actuated simultaneously with the main clutch, and by the same pedal, so that when changing gear the gear-box is instantaneously disconnected from the transmission both fore and aft and the operation of changing gear considerably facilitated, enabling it to be effected without noise and without any danger of damaging the gears. The final drive is by a cardan shaft to a live axle. The road wheels are carried on the sleeve or casing surrounding the axle, the outer ends of which are extended and turned over to form, as it were, the hub caps, which are bolted to the wheels. By removing these bolts the cap and the half axle can be

a sight feed rack on the dash conveys the oil to each pair of cylinders, the crank case, and the bearings in the gear-box. The ignition and throttle levers work on a sector above the steering wheel, which does not rotate with the latter. A universal joint is provided between the clutch and the gear-box. The latter is provided with ball bearings. Three speeds and a reverse are controlled by a single lever, working in a "gate" quadrant, provided with a lock on each speed. The transmission from the gear-box is by a cardan shaft and bevel gear to a well-supported live axle, and designed to receive any one of eight different sizes of bevel pinions. The frame is supported on five long springs, the shackles of which are fitted with lubricators.

F. and S. Ball Bearings.

On the stand of the TORMO MANUFACTURING COMPANY (Messrs. H. and D. FRIEDENHAIN), 67 and 68, Bunhill Row, E.C., will be found the F. and S. ball bearings which have been fitted on the cars that have been most prominent in the racing season of 1907, notably in the Kaiser prize, the Herkomer Trophy, the Grand Prix, the Targa Florio and the Graphic Trophy—the latter following the Tourist Trophy competition in the Isle of Man. These bearings are claimed to have exceptional wearing qualities as well as to give ease of running—points which have received ample demonstration both on racing and touring automobiles. The cages for the larger sizes consist of two perforated brass plates which are kept apart by rivets and screws, while those of the smaller type are solid. In the latter the balls are held in tapered holes.

Smith's Speedometers.

Many exhibits that add to the convenience as well as the luxury of the car will be found on the stand occupied by Messrs. S. SMITH AND SON, of 9, Strand, London, W.C. Motor watches and clocks, communicators, lamps, horns, voltmeter and electric fittings generally, will be found here, including the Alpha lamps for which the firm are special agents. A new registered design of hand mirror is also on view, as well as the latest designs in rubber goggles. But the main interest in the exhibition of Messrs. Smith and Son naturally centres in speed indicators and other instruments entailing accuracy in their most minute adjustment. These have frequently demonstrated their value and have saved purchasers many pounds when used as evidence in police court cases. Among the innovations likely to interest visitors to the Show is a new speed indicator (Fig. 94) suitable for use on small cars

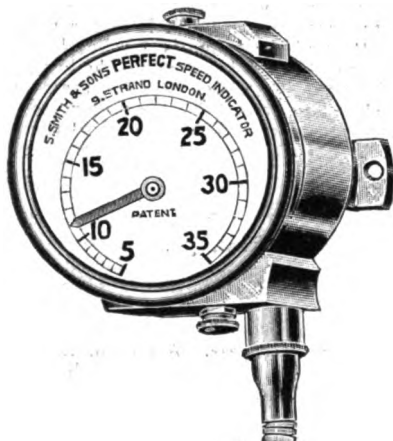


Fig. 94.—Smith's New Indicator.

and made at an extremely moderate price. A speed up to thirty-five miles per hour is registered with the unflinching accuracy that character-

ises the larger instruments. The "Popular" is another indicator for cars of ordinary power. It registers up to fifty miles per hour and is fitted with the total mileage recorder. Messrs. Smith and Son do not intend to fit these instruments with the maximum speed hand or trip recorder, this adjunct being reserved exclusively for the "Perfect" speed indicators of the firm. Another new type is a speed indicator with a more than usually plain mileage recorder. In this instrument the trip recorder is shown round the dial up to 100 miles, which can be set back to zero by pressing a knob at the top of case. The total mileage recorder is shown in the centre of the dial. This is a *modèle de luxe*, and likely to be popular on the big cars. Milometers, motor watches, and general motor accessories, are also shown on this stand. A new speed indicator has been produced in response to the demand for an instrument that will record up to 10,000 in clear and plain figures, while the trip recorder is arranged round the dial, the hand pointing to the number of miles traversed. By pressing the knob at the top of the dial the hand is returned to zero ready to start another journey, a convenience to motorists wishing to take accurate records of given distances.

Aster Specialities.

At the stand of the ASTER ENGINEERING COMPANY, LTD., is a full range of the 1908 Aster engines as well as a selection of gears, pumps, radiators and other motor-car components. The 14-16-h.p. Aster engine is shown with the four cylinders all cast in one piece. The bore and stroke is 84 mm. and 110 mm. respectively. Those interested in engines for commercial vehicles where vibration and possible hard usage have to be considered will notice the two-cylinder 20-h.p. Aster engine with bore and stroke of 130 and 140 mm. respectively. The new Aster carburettor is attracting much notice at the stand. By means of a patent air



Fig. 95.—The "Popular" Indicator.

inlet valve a predetermined mixture is obtained from the carburettor for any position of throttle or any speed of the engine. This feature is a device by which the suction at the petrol jet or depression in the mixing chamber is varied in such a way that the spray of fuel induced is always of a quantity that when mixed with the air entering the cylinder it gives a mixture of such proportions that a great combination of power and economy is obtained. It is mechanically operated, and contains no elements liable to get out of order. This air inlet valve and mixing chamber is comprised of two members having coincident ports, the ports in one member being arranged to cut off on the ports in the other member. The ports are of special rectangular formation, and the movements of cut-off of the two members are arranged to be parallel to adjacent sides of the rectangular ports. One of the members is directly connected with and moved in proportion to the movement of the throttle valve of the carburettor. The other member is either fixed or moved in direct accordance with the speed of the engine; the members constituting the inlet valve cut off one or the other in direct proportion to the displacement of the moved member. The working in association of the two members of the valve enables a predetermined depression in the mixing chamber to be obtained for any combination of positions of the two members in their respective travels. The new carburettor is made under Hamilton's patent, and is being made in two sizes to suit engines of powers varying from 12 to 40-h.p. Economy of petrol as well as efficiency and simplicity are well combined.

Bowden Devices and Miraculum.

A quintette of novelties give new interest to the exhibits of the E. M. BOWDEN'S PATENTS SYNDICATE, LTD., viz., the Bowden automatic hand regulated auxiliary air inlet, the firm's improved exhaust cut out, the Bowden new carburettor agitator, the new petrol strainer, and the Bowdenloc levers, these being special self-locking devices for use with the Bowden wire mechanism. In addition to a full range of the Bowden specialities special interest is being taken in the "Miraculum" staged on the stand. The syndicate is the selling agent for this preparation, they having the necessary charging depot at 29, Baldwin's Gardens, Holborn, London, E.C. Miraculum is an automatic puncture sealing compound the ingredients of which are akin to the constituents of rubber in its native state. Air tubes charged with the preparation are immune from ordinary puncture troubles. It is claimed that Miraculum acts as a preservative of the rubber, and from the testimony of actual users it is evident that it will be much to the front in the coming season.

The Hutchinson Tyre.

A selection of motor tyres and the accessories associated therewith makes up an effective display by ETABLISSEMENT HUTCHINSON, of 13, Maddox Street, W. The specialities of the concern are tyres moulded and built up, being specially reinforced at the head, and a steel-studded non-skid pattern with specially hardened rubber head. Sections of all sizes of tyres are shown in various processes of manufacture. The Hutchinson tyre is a beaded edge type, the tread being of rubber of a high quality. In fact, the rubber tread is of such a kind that in a Continental tour of 2,000 miles a well-known motorist had no single puncture with the Hutchinson tyre, and beyond a few surface cuts his tyres were as good at the finish as at the beginning. The Hutchinson wood-fibre steel-studded non-skid also deserves mention. The steel studs of this non-skid are held by specially hardened compressed wood-fibre plaques which protect the running surface and obviate all wear of the rubber tread.

Salsbury Lamps.

The motorist searching an Exhibition for the latest designs in lamps naturally hies himself to the stand of Messrs. SALSURY AND SON, LTD., whose showrooms at 124, Long Acre, W.C., have become familiar to our readers. Their British goods are also shown in the Gallery, where the new patterns for 1908 are attracting much notice. These include the "Anti-Dazlo" lens, a new self-contained head light, the unit system of generator, a new "Volute" and a new "Solophone" horn. The first-named speciality is a new lens, in which, by providing suitable surfaces within the lens of the lamp, the rays of light which would otherwise be projected upwards and produce an unpleasant "glaring" effect are reflected downwards, the beam being restricted to a level below that of the line of vision of the observer. This result being obtained from the construction of the lens itself does away with the possibility of the rattling of fittings introduced to secure a similar result. The lens is of the convex form in horizontal sections put together with fluorine acid. The firm's unit system of generator is a capital introduction. The horizontal generator has a lever-lock door and is of extremely simple construction. It can be screwed to a platform or carried on a tray. These unit generators can also be used in series. Attention may also be drawn to the "Solophone" cut-out, which is operated by a pedal and emits a melodious sound for clearing the way.

Motor Parts and Tyre Patches.

In the gallery Mr. W. H. M. BURGESS, of 40, Glasshouse Street, Piccadilly, W., will be found advising those interested in the merits of the White and Poppe engines and carburettors and urging the undoubted merits of the "Anti-Panne" blow out patches. The latter are designed to assist motorists on the occasion of tyre troubles. They are made in various forms to meet different contingencies, the latest introduction being a patch without the familiar foot and suitable for bursts on the tread as distinct from head bursts. These are made

for 65, 90, and 120 mm. tyres, with intermediate sizes, and are one of the handiest forms of patches to be seen in the Show. Other "Anti-Panne" specialities include an aluminium solder and repairers' tools. Mr. Burgess is also showing the A.P.B. motor components, including back axle, gear boxes, steering columns and front axles, all of which are guaranteed for an adequate period. The back axles are of the 15-h.p. and 24-30-h.p. type, and are complete with hubs, brakes, and torque rod. The large size of gear-box has four speeds and reverse, the other three speeds and reverse, both patterns having ball-bearings throughout. These are characterised by good finish, and will be appreciated by those desirous of promoting the prosperity of British manufacturers.

Jones' Speed Indicators, &c.

While not stocking every accessory required, or likely to be required, by the motorist, Messrs. MARKT AND CO. have specialised on several necessary adjuncts for the car, and in these lines handle some of the best known goods. They have been responsible for the placing upon the market of the Jones' speed indicators, speedometers, and other similar instruments of precision which have become so well known as to be used in evidence in police-courts for the purpose of rebutting prosecution and avoiding persecution. In addition, they have placed on the market the "Little Wonder" vulcaniser, the "Eureka" triplex pump, the Marion "Baby" auto-torch, and other specialities, several of which have been illustrated and described in our pages from time to time. Foot bells and a full range of French horns of a high grade also find a place on this stand. Some of these articles have been illustrated in our columns of late. The merits of the Jones' speedometer, however, deserve more than passing mention, and we would direct special attention to the Jones' Combination speedometer-odometer. These are designed for fixing to the dashboard and are actuated by means of a flexible shaft and gear attachment on the wheel of the car. The driving gear consists of a large gear attached to the hub of the wheel and a small gear carried by a ball-bearing shaft at the end of the flexible cable, and supported on the steering knuckle by means of an attaching bracket. The speedometer-odometers shown on the stand indicate variable and maximum speed and register the distance travelled. The season mileage to 9999 and the day or "trip" mileage to 99 is cumulatively recorded, whether the car goes forward or backward; the trip register can also be instantly reset to zero by pushing the button. A copper maximum speed hand contrasts with a black variable hand. It is carried forward by the latter, but stops automatically at the highest speed attained, showing that speed as a permanent record until released by a push of the resetting stem at the bottom of the cup. When released, the maximum hand instantly returns to the speed at which the car is at that moment travelling, and there again remains, even after the car is subsequently stopped; thus giving absolutely indisputable evidence of the speed of the car at the moment of resetting. By pushing and giving the resetting stem a half turn, the two hands are made to work as one, indicating variable speed only. Permanent accuracy of operation is one of the claims rightly put forward on behalf of these instruments.

Moseley's Tyres.

The literature issued by Messrs. DAVID MOSELEY AND SONS, LTD., is of distinct value to motorists, and the pamphlet in answer to the question "What size of tyre should I use?" should be studied by all owners of cars as well as by those responsible for their good running order, in which the tyre plays an important part. For the 1908 season the firm's "Detachable" tyres are being made a special feature. This can be removed and a new tube fitted in the minimum of time. The rim consists of a hollow metal hoop concaved at each side for the rings of the flanges. The latter have been rendered removable by a turn-buckle screw worked by a Tommy bar, which is now superseded, in the new pattern, by the ratchet with the necessary operating tool, which enables the bead to be extended for removal in the shortest possible time. In order to give a better chance for the life of the tyre a new canvas is inserted in the rubber, and when the tread wears down to this the user is warned as to the desirability of repair, on the principle of "a stitch in time saving nine"—or more. Messrs. Moseley and Sons, Ltd., have been able to fit beaded covers to the rims, and the idea has found much favour since its introduction. The firm's detachable metal studded non-skids are also on exhibition as well as a good style of automatic tyre gauge, gaiters, &c. Reference to this stand would not be complete without mention of their tyre cases with satchel fastened within the circle. This economises space, and we like the improved form of clip for the case, which does away with the lacing and unlacing so irritating when on tour. Altogether Messrs. Moseley and Son are to be congratulated on the excellence of the display. They also draw the attention of visitors to the Show to the retreading and repairing departments of their extensive motor tyre works.

The Denton Carburettor.

A conspicuous novelty on the stand of Messrs. G. DAVENPORT AND CO. is the Denton carburettor of Messrs. Tanner and Deane. Dispensing altogether with a float chamber, the device claims notice on that account, while its efficient working with petrol or paraffin gives it another point of interest. The Denton carburettor has a central cylinder ending in a domed top and containing a coil into which the paraffin or petrol enters. Hot water or the warm exhaust passing through the cylinder heats the fuel, which is fed from the coil into an annular space between the cylinder already mentioned and

another. The latter is made of a porous earthenware, through which the fuel naturally percolates in a divided state to be drawn by the air into the inlet pipe of the motor, and so thoroughly carburetted. Having thus described the primary features of the device, it remains to be explained that a mercury barometer is connected with the bottom of the space between the two cylinders. The top of this is connected with the induction pipe by means of a vacuum tube just below the throttle. Then when the engine commences to work a partial vacuum is created which causes the mercury to fall and uncover some of the porous cylinder, according to the speed of the motor. In this way correct mixture at any speed is obtained automatically, while the simplicity of the parts and the economy of operation are merits that should appeal to those on the look-out for new inventions calculated to suggest advances on old methods.

Lubricants.

Messrs. PRICE'S PATENT CANDLE COMPANY LTD. have their stand in the same position as last year. The past season has been very successful, their oil having been used on all the winning cars in the Isle of Man Trials, and on the majority of the most notable cars in the Scottish Reliability Trials. As a fitting conclusion, one of their oils has been selected as particularly suitable for the Arrol-Johnston cars, which, under Lieut. Shackleton's command, will be driven, if possible, to the South Pole. At Olympia are exhibited their standard lubricants, a specimen of the famous non-congealing oil prepared for the South Pole expedition, and samples of several new oils of particular interest to motorists in general.

E.I.C. Specialities.

The ELECTRIC IGNITION COMPANY, LTD., have issued a capital wiring map, which they will be pleased to send to those applying to their works at Sampson Road North, Birmingham. These are also being mounted on rollers similar to ordinary maps at a small charge. Their exhibits include their well-known E.I.C. specialities, including the high-tension magneto, high-tension distributor, Simplex coils, accumulators, switches, charging sets, &c., and the E.I.C. generative sets. The latter enable generators to be charged while the car is running on the road and provide sufficient electric current for the complete lighting of the car as well as ignition, accessories, &c. It is deserving



Fig. 96.—E.I.C. Plug. Fig. 97.—E.I.C. Switch. Fig. 98.—Contact Breaker.

of note that all these specialities are guaranteed for two years. In Fig. 96 we illustrate the company's midget plug on the Gordon Bennett model and specially designed for motor-cycles. It has the same good features as those for cars, there being no lock nuts, packing, or leakage. Neat in appearance, that for cycles is rather shorter than the larger car size plugs outside the cylinder, merely as a matter of convenience. The E.I.C. "Simplex" coils for 1908 have all the terminals at the bottom of the coil. The connections are made when the coil is first put on the car and properly soldered and taped up, thus making thorough electrical connections. Consideration of space prevents consideration of all the specialities shown on the present occasion, but the illustrations, Fig. 97 and Fig. 98, serve to draw attention to the E.I.C. contact breaker and the E.I.C. switch respectively. In the case of the former all the parts exposed to wear are of hardened steel. The platinum points rub slightly together as they make contact, and a big, quicker and consistent spark occurs at the correct time. The switch is made in three types, being an ordinary single way for one battery or magneto only, ordinary two way for two batteries, and a double ignition switch for changing over from any type of magneto to high-tension coil and accumulator ignition.

The Orme-Whitlock Radiator.

A variety of metal work is to be seen on the stand of Messrs. ORME, EVANS AND CO., LTD., of the Phoenix Works, Wolverhampton. Bonnets, petrol tanks, mudguards, metal seats, and dashboards make up a well-arranged stand, on which the firm's radiators also have a place. These include both the ordinary gilled tubular type and the Orme-Whitlock radiator, which has made a distinct place for itself in the motor industry. The sizes shown are for cars ranging from 16-h.p. to 40-h.p., the method of construction securing high efficiency as well as a good appearance—two features which, well combined, are essential with such a part of the car. Briefly described, the Orme-Whitlock radiator consists of a series of transversely corrugated tubes extending between an upper and lower water tank. The corrugations of each tube are reversed with relation to the two tubes adjacent on either side

thus forming air cells running from front to back. In the size for a 20-h.p. car there are about 60,000 minute radiating points. The cellular portion is in copper, and the water tanks and case are of polished brass. No additional water tank is necessary where the Orme-Whitlock radiator is used, the two or three gallons held by the radiator and jackets being sufficient to ensure adequate cooling. With regard to weight, we may mention that this radiator has two square feet of water space per pound of gross weight. A good line of footwarmers is also on this stand.

Varnishes.

Messrs. A. F. HARDING AND CO., LTD., have come to the front among motorists with their morocco leather revivers. These are shown at the present Exhibition in all colours, and visitors will be able to see for themselves how efficacious these have proved in restoring the appearance of the inside linings of automobiles. A varnish reviver for renovating the bodies of vehicles and a preparation for removing dirt and grease are also shown. Other exhibits include the firm's "Blackall" for touching up the black iron and woodwork of cars and the "Osoey" metal polish. This latter is a liquid preparation for brightening the nickel and silver plated parts of motor-cars of all degrees.

New Specialities for 1908.

One of the most interesting displays in the gallery is that of Mr. E. J. HARDY, of Bishop Street, Coventry, whose agencies for the best known accessories give value to his stand. Here will be seen the "Godiva" plug, of which no fewer than thirty-six were used in the Tourist Trophy race of the present year. The construction is remarkably simple. The centre pin, to which is screwed a nickel point, is wrapped with mica and then inserted in a porcelain tube. This is then protected by a second and outside covering of mica. The value of this plan is that the porcelain is doubly protected by mica—inside from the internal heat and outside from any rough usage. Hence the Godiva plug presents a device in which the porcelain is not likely to be cracked. Mr. Hardy is also representing the "Warrior" plug. This has done good service for the Daimler Company. It is 3½ in. in length, the length of base from the engine thread to the sparking points being 1 in.—a length recommended by the makers as securing a deep projection

into the cylinder, although it can be shortened if greatly desired. Other specialities on this stand include the J G² trembler, introduced by M. Guenet for the 1908 season as one that cannot readily be mis-regulated. For six-cylinder ignition a Guenet coil consisting of three units with

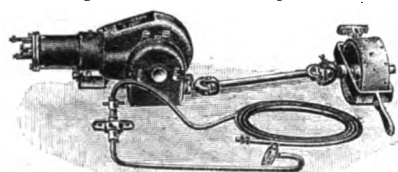


Fig. 99.—The Heron Pump.

two high tension terminals on each unit has been introduced. With this system two cylinders spark at once, but an advantage is obtained in the coil being reduced to half the size which would be necessary if six units were employed. New models of the Longuemare carburettor are on view, the improvement in which will be referred to in an early issue of the *M.C.J.* The Alpha headlights, the Frankonia lamps, and the Dependence electric headlamps are also exhibited on this stand. Another exhibit is the Heron motor pump for automatically inflating tyres by the power of the engine. This is illustrated in Fig. 99, which shows the general arrangement of the device. The pump is bolted to the frame of the vehicle and is worked by a cardan propeller shaft connected with a friction wheel held in contact with the engine fly-wheel. A worm driven wheel mounted in the pump casing, with ball thrust bearings, reduces the speed, and the cardan shaft can be made in any length according to the make of the car. The installation is completed with a Southall tyre tester. The Heron pump works up to 160 lbs. pressure, and oil is prevented from passing into the tyres by a very ingenious packing.

"Sternoline."

The range of automobile specialities introduced by the STERN SONNEFORN OIL CO., LTD., is growing in extent and utility, and now embraces oils and lubricants for practically every requirement of the motorist. The intention of those responsible for these preparations has been to specialise in connection with each particular service required and thus secure the best results. Thus, for the lubrication of chains the Sternoline chain sticks are required; for axles, gear cases, &c., Fram lubricant is recommended; for use on metal or leather clutches Clutcholine is suggested as a pure non-corrosive lubricant specially made for this service. Coolorid is a new preparation for cooling the hottest bearings, brakes and clutches of cars, while the Elastic Sternoline chain paste has a hard yet elastic surface, and acts as a lubricant while reducing noise. Other specialities of the STERN SONNEFORN OIL CO. include those for air and water-cooled cylinders and for superheated steam cylinders.

Fire Extinguisher.

On the stand of the VALOR COMPANY, LTD., of Rocky Lane, Aston Cross, Birmingham, is the "New Era" petrol fire extinguisher, that is becoming familiar on the motor-buses and cabs now in public service. On several occasions we have referred to the good points of this device, which minimises the risk of fire, and provides a reliable means of extinguishing the same should an outbreak occur. It may really be looked upon as a sure way of reducing insurance premiums, the leading com-

panies having agreed to rebates where the "New Era" appliances are adopted. The cylinder, which contains chemical ingredients that will not deteriorate, owing to the system of hermetically sealing, is of prepared sheet steel and tested to a cold-water pressure of 350 lb. to the square inch. It will throw a stream of fire-extinguishing chemicals from forty to fifty feet, doing its work instantaneously upon petrol, alcohol and other inflammable liquids and materials that are not acted upon by water. For the use of private motorists the extinguisher is now made in a case fastened by a spring bolt operated by a button. When the lid is raised the front falls downward so that the handle can be taken and the appliance easily pulled out for service. The case can be fitted anywhere on the car, a good position being on the step, where it adds, rather than anything else, to the appearance of the vehicle, while increasing the confidence of the passengers in the event of trouble arising.

The "Thomas" Tyre.

On the stand of the Avon India Rubber Company, Ltd., the THOMAS RESILIENT TYRE, LTD., of Bute Chambers, Cardiff, have brought their speciality before the public. More than that, they have been able to give practical evidence of the merits of their invention by means of a car running in the vicinity of Olympia, and proving that while they have combated the tyre evil they have not sacrificed the resiliency of the tyre. The "Thomas" resilient tyre is a solid rubber tyre, provided with a series of grooves crossing each other in such a manner that the base is divided into a series of isolated projections. These act as "buffers," and the grooves afford space for the displacement of the rubber when under pressure. A good degree of resiliency is thus attainable, and the action of the tyre is comfortable to the rider in the car. The tyre is extremely resilient, and its durability is assured. The transverse grooves absorb elongation, and the buffers, acting freely under pressure, do not wear to any material extent. The "Thomas" tyres can be easily and quickly fixed or removed, and it is unnecessary to send the wheels to a tyre-fitter for renewals. Another point is the working face, or tread, of the tyre has wide transverse grooves of greater depth than is usual in pneumatic tyres, thus providing increased protection against skidding.

The "Millaro" Wind Screen.

On the stand of Mr. A. C. PENMAN, the well-known motor-carriage builder, of Dumfries, will be found the "Millaro" rain and wind screen which he is placing on the market in conjunction with the Glasgow Motor Tyre Company, of 71, Waterloo Street, Glasgow. In this device there are two projecting sheets of glass, the top one of which sends the wind up, the lower one projecting it down, so that there is a calm centre of 4 inches from which the driver can look out without the vision being interfered with by misty glass—one of the great objections urged against some other makes of screens. The great point which the purchaser has to consider is to give the correct level of the driver's eye from the top or bottom of the screen frame, so that the parts may be adjusted to secure the desirable object aimed at.

"Rich and George" Detachable Flange.

Among the detachable flanges exhibited for the first time attention may usefully be drawn to the device invented by Messrs. H. C. Rich and George and introduced to visitors by Messrs. LEWIS, BEVAN, AND CO. The fact that by the adoption of this speciality new tubes can be replaced in two minutes, and a tyre changed in less than six minutes, commends the flange to those who have had experience of dreary roadside halts. In order to operate in the event of tyre trouble the car is jacked up—the "Early Riser" jack, brought out by the same inventors, providing a good means of performing that operation—and the flange removed. The new tyre having been fitted, the flange is again placed in position, being secured by a series of catches worked by springs which cannot possibly work off. Thus security is assured. Existing rims can be adapted to this innovation, which should rapidly become popular.

The "Grose" Band.

The "Grose" was one of the earliest types of non-skid bands placed before motorists, and, despite the advent of many rivals, maintains a good position. The inventor has been quick to perceive where improvements could be effected, with the result that the "Grose" band, made by Messrs. GROSE, LTD., of Northampton, has kept pace with the advance of the car itself. The tread is made of chrome leather fitted with a steel-studded strip, effectually preventing the sliding action that takes place on greasy roads. A special process of preparation secures the leather being formed into the exact curve of the tyre for which it is intended, thus giving a very neat appearance when fitted. To meet the wishes of those motorists who prefer a detachable band, one of that type has been introduced. This is an admirable substitute for rubber re-treading, and should be economical in service, as the studded leather portion can be renewed when worn. As an instance of the care bestowed in the manufacture of this band, we notice that the clips are nickelled to prevent the rust that proves so destructive to such devices. Messrs. Grose, Ltd., have lately introduced Rubberised Leather into their bands, this being specially prepared to secure the toughness and durability of the leather combined with the flexibility of the rubber. This non-skid is affixed in the ordinary way, and should prove as popular as the others with which the name of Grose is associated.

Accessories and Clothing.

Messrs. ALFRED DUNHILL, LTD., have a comprehensive show of accessories and clothing for the 1908 season. In the former section of their display is included the "Auto Friend" device for locking the

change-speed lever in the neutral position. This was described and illustrated in a recent issue. Among the novelties of minor degree is a petrol filler which is in the form of a funnel fitted with a length of flexible tubing for insertion in the petrol tank. Inside the funnel is a gauze screen, while it is fitted with two brass collars of different sizes so that it will fit any make of can. Horns and sirens constitute a growing department more varied than ever and with such a range of novelties that the task of selection is becoming increasingly perplexing. Recognising this, Messrs. Dunhill are rightly giving preference only to those articles of high grade efficiency. The "Powerful" combined buzzer and bulb horn gives a note of a particularly penetrating character, and the "Python" has also distinctive merits. Fire preventives, shock absorbers, road maps, the "Anti-metallic silk" goggle, and fibre luggage-boxes to fit odd corners of the car and covered with waterproof cloth to match the colour of the vehicle, are also included in the exhibits. Recently we draw attention to the stylish character of the clothing designed by the firm, and illustrated some typical examples of their gentlemen's raiment. These are all shown at Olympia, several smart patterns of Irish frieze being very prominent on the stand. The semi-motoring attire combines some good features in clothing for those whose motor travel is mainly in town. At this stand, too, will be found a selection of clothing for fair motorists, in which the protection from the weather given by leather is combined with cloth or fur of fashionable appearance. Motor millinery is another important department of Messrs. Dunhill's exhibit.

Exonite Specialities.

At several previous motor exhibitions Messrs. DOVER, LTD., have drawn attention to their steering wheel fitted with their patent "Exonite" covering. This is now being produced with a remarkably smart appearance that has the advantage of permanence. It is impervious to oil or water and with the under part ribbed constitutes one of the best steering wheels now before motorists. Specimens of motor castings in aluminium, and motor levers, lever knobs, handles, &c., in exonite are also on view, as well as transparent sheets for the windows and hoods of motor-cars. These sheets have become increasingly popular with the advance of the wind shield, and entirely obviate the risks that are run where glass only is employed in the construction of such necessary adjuncts to the comfort of cars.

Motor Elevators.

Messrs. H. ADAMS AND COMPANY are again present in the gallery with their specialities in motor jacks and motor elevators. The former have become almost indispensable for the purpose of easily lifting and moving automobiles in confined places such as are often met with where motor-cars are stored. The elevator, which, since its introduction at Cordingley's Motor Show at the Agricultural Hall, has come largely to the front, entirely dispenses with the motor pit and facilitates the adjustment, cleaning and painting of cars as well as the work of repairing the same.

Electrical Accessories.

The various electrical accessories for the automobile introduced by Messrs. C. A. VANDERVELL AND COMPANY are well known, but the many new devices shown on the firm's stand at Olympia will lend special interest to their display. Several types of the new pattern C.A.V. magneto are on view. In accumulators about 150 models are shown, and in this connection we may mention that an entirely new form of terminal is being introduced by the firm, the main feature of which is to do away with the possibility of the terminals corroding or getting absolutely fixed by means of the action of the acid, should any escape from the accumulator. This is achieved by simply drilling the lug down a distance of about $\frac{1}{4}$ in., and forming a thread in the same. Into this is screwed an ebonite plug with a milled cap. Through this plug a small hole is drilled and the wire strands of the cable passed down. The latter are then spread out so that when the plug is screwed down into the lug it forms a perfect connection, but one that at all times allows of an easy and instantaneous release. A neat and easily detachable wiring terminal is also shown. In this no solder is used. The wire is fixed by a set screw into the tubular terminal, which has a loop with a spring centre-piece to grip the thread of the plug. Other accessories include the C.A.V. electric light adapter, a new pattern of induction coil for next season's Daimler cars, a two-way switch, electric lamps, and a new roof lamp for Cape car hoods. Messrs. Vandervell and Company also exhibit the electric vulcaniser, recently described in these columns, and the dashboard fitting illustrated in our issue of the 19th ult.

The "Beresford" Rim.

At a recent Stanley Show there was exhibited for the first time the Beresford patent motor rim, which had points of considerable merit. Since then improvements have been effected, and these are now being exhibited at Olympia by the BERESFORD RIM COMPANY, LTD., of Newcastle, Staffs. The construction is somewhat similar to that of the ordinary rim, with the exception that while one side is riveted to the base, the other is detachable. The latter flange is cut across diagonally. It has also a foot or anchor piece threading into the turned over edge on the base of the rim. When the detachable flange is removed, the circumference of the base of the rim is almost the same as that of the tyre, allowing a very easy removal. The locking principle of the rim is automatic, the inflation stress being equally distributed throughout the circumference of the rim. There are no bolts, nuts or clamps

to worry about, and in the form in which it is now being placed before motorists no injury can occur to any part of the tyre. It is adaptable with any make of tyre, and the Beresford rim can be fitted to existing wheels without much trouble. It is shrunk on the fellos in the same way as any ordinary rim would be, and the only alteration necessary to fit it to existing wheels is the reduction of the fellos slightly more than one-eighth inch.

Accessories and Pumps.

The exhibit of Messrs. ROSS, COURTNEY AND COMPANY, LTD., is of extremely varied interest, their display including hand and foot pumps of various patterns, petrol taps, valves, levers and other component parts. The Ross Courtney patent terminal, which obviates the use of pliers or tools, is a simple and effective device making a certain contact without losing the flexibility of the cable. A large number of screws, terminals, nuts, &c., are shown, and special attention is drawn to the firm's new pump for use in the garage or workshop, or, in fact, anywhere where a high pressure of air is required. This can either be fixed in one place and attached to the tyre valve by means of a long length of rubber, or it can be fixed on a moveable trolley for shifting about in the garage. It can also be used to keep the reservoir filled with air under pressure from which the tyre can be inflated. The base plate of the pump is 14 in. by 19 in., the extreme height being 2 ft. and the diameter of the wheels being 16 in. Various other accessories are shown by Messrs. Ross, Courtney and Company, among which may be mentioned their patent petrol pourer, by means of which the free and rapid filling of a tank can be secured without the petrol bubbling around the tank pourer or the funnel. The pourer has also a filter and will assist garage owners in keeping their establishments clean and in order.

The "Ross" Head Lamp.

Many have been the attempts made to meet the objections of the public to the glare associated with the ordinary form of motor headlights that constitute a nuisance when passing through towns where traffic is congested. A complication of working parts and an

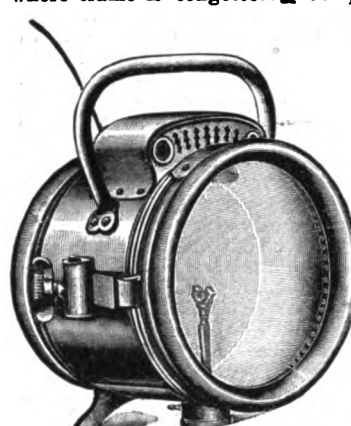


Fig. 100.—The Ross Lamp.

absence of the exact control that alone makes for perfection in such devices has led to many types falling into obscurity. Now, however, there are to be seen at the Show some good designs which will be of interest. Among these we have been struck with the simple construction and efficient points of the "Ross" head lamp which Messrs. J. T. WILLIAMS AND CO., of Birmingham, have placed upon the market, and the merits of which are being demonstrated on the stand of the U.M.I.—a stand which constitutes an exhibition of accessories in itself. The intention of the inventor has been to throw a powerful beam of light well ahead of the car for country driving, while the requirements of urban authorities are also recognised and secured. The reflector in the "Ross" lamp is hinged at the top and operated by a handle which is fixed on the dashboard. The handle is connected to the lamp by means of a Bowden wire (see Fig. 100), and, pulled from the seat, ensures that the beam of light is either thrown well ahead of the car or shut off close round it as desired. There are no complications in the mechanism and the device is thoroughly under the control of the driver. The lamp is supplied with gas from the "Ross" patent acetylene gas generator, which gives an absolutely uniform volume of gas per hour to the burners without attention, and, further, is unaffected by the vibration of the car.

Wheels, &c.

The "Rapeasy" tyre lever, which was introduced to motorists at Cordingley's Show in the spring of the present year, will be found on the stand of Messrs. SMITH, PARFREY AND COMPANY, LTD., who also have a large collection of artillery wheels for cars, axles, steering wheels, forgings, gears, &c. Prominent in the exhibit are the firm's bent timber specialities, including Cape cart hood, sticks and other accessories for that important branch of the automobile industry.

Aluminium Solder.

Messrs. J. E. HUTTON, LTD., in addition to showing cars on the main floor have a stand in the Gallery, whereon is the reliable O.S. speedometer and some miscellaneous exhibits. These include an aluminium solder and flux which can be used with equal success on pure sheet aluminium or on the alloys used in making castings. It has advantage in the fact that it will not oxidise. Hutton's Mercedes oil for the engine lubrication of Mercedes cars has been specially prepared for the purpose and is here shown. The exhibits also include a large collection of spare parts for these and the Berlet cars. Repairs are undertaken by Messrs. J. E. Hutton.

The Dunlop Rim.

So recently was the Dunlop detachable rim illustrated and described in the M.C.J. that our readers are familiar with the main features of this ingenious device for easing the labour of removing or fixing tyres. A solution of the skidding problem is suggested in the use of the Dunlop

steel studded tyres fixed upon the company's detachable rims. The tyre is mounted on a steel rim, fully inflated, slipped laterally on to the motor-car wheel. Then by a single movement of the locking lever the steel flanges mounted on the wooden felloe of the wheel expand and hold the rim and tyre securely in position. So simple is the arrangement that a rim and tyre has been taken off and put on seven times in sixty seconds. The fact that this is all done without the use of screws, nuts or bolts, is, of course, the secret of success. Other accessories on the stand of the Dunlop Pneumatic Tyre Co., Ltd., include a patent tyre manipulator for the easy removal and insertion of valves and security bolts, the steel-studded tyres, the grooved non-slipping tyres and the well-known Dunlop tyres.

Coils and Accumulators.

Those in doubt as to the electrical problems associated with the motor-car will do well to examine the exhibits at the stand of the HIGH TENSION MOTOR COMPANY, of Addington Square, Camberwell, S.E. These include both high and low magnetos, the former with separate transformers; coils, switches, accumulators, &c., as well as the repair parts of coils and magnetos. The H.T. coils are very economical in current consumption. Owing to the unusually slight wear at the platinum and the springiness of the blade, which follows up all wear, the platinum hardly ever requires adjusting. Great speed is achieved by doing away with the heavy secondary trembler often found on coils, and substituting at the end of the single blade a small loose rivet which follows every vibration of the trembler instantaneously. An intensely rapid hot flame spark is given which will ignite the weakest mixture.

Rotax Specialities.

In the Gallery, the ROTAX MOTOR AND CYCLE COMPANY, of 43 and 45, Great Eastern Street, London, E.C., are attracting many exhibitors to their interesting display of specialities in horns, lamps, coils, jacks, car lighting sets, ladies' and gentlemen's companions for car service and the like. A special feature is made of "indicators" for the driver, in ivory, while the presence of Larrad's timing device on this stand is of interest. In Fig. 101 we illustrate the Rotax sparking plug, which has merits of reliability beyond the ordinary. The centre rod is very large and is composed entirely of pure nickel. The spark passing from nickel to nickel can neither carbonise nor fuse the points. The shape of the cap and its exposure to a current of air insures a constant automatic cleaning action at the point where the spark takes place. The central rod being in one piece allows of a ready and exact adjustment by means of the flattened end of the terminal. The large volume of space enclosed by the lower part of the plug and insulating screen makes it impossible for this plug to be fouled by grease or soot. A large display of acetylene head lamps of sound construction is also made by the company, while their range of electric lamps is also notable. Several good types of horns are also on view, including the loud and deep toned "Scarem." Among the miscellaneous exhibits on the stand are canteens and companions for tourists in great variety and the Rotax square mirror.



Fig. 101.—The Rotax Plug.

Messrs. W. F. FLATHER, LTD., exhibit specimens of their "Ubas" case-hardened steel for gears and other parts of motor-cars. They also show nickel steel of all tempers, chrome steel, Vanadium chrome steel and other steels which have gone largely into use by the automobile industry during recent years. The firm's standard high speed steel and files are also on view.

In addition to having a splendid example of their work on the Hotchkiss car, to be seen on the stand of the London and Parisian Company in the main hall, the EXORS. OF F. A. HAMSHAW, 37, Humberstone Gate, Leicester, make a good display in the Annexe, where their exhibit consists of a limousine on a 30-h.p. Siddeley chassis, a single landaulet on a 20-30-h.p. Hotchkiss, and 15-h.p. Mors with limousine body, the latter being specially designed for town use.

Messrs. BENTON AND STONE, of Bracebridge Street, Birmingham, show the "Enots" specialities, which include a patent dashboard lubricator, applied to either exhaust or forced-feed mechanical lubrication. This is adapted for any number of drips, and, in addition, an electric glow lamp is provided to illuminate the drips at the will of the driver. The glasses are removable for cleaning. Sparking plugs, petrol filters, pressure pumps, tyre testers also find a place in this exhibit.

Several useful novelties are found on the stand of the GRATZ PATENTS AND ENGINEERING SYNDICATE, LTD. The many instruments which have gained the company a good place among makers of accessories, &c., are also on view, these including the Gratz speed indicator, the firm's improved Plante accumulator and electric lighting sets, with many varieties of electric lamps for interior and exterior motor-car lighting.

Messrs. PEARSON, who make accumulators, &c., for the trade, show several types of their speciality for cars of various sizes such as they have supplied to many of the leading makers. These are characterised by sound construction and workmanship.

Shrewsbury and Challiner Rims.

As usual, a good exhibition of tyres is being made by the Shrewsbury and Challiner Tyre Co., Ltd., of Kay Street, Ardwick Green, Manchester, who make a special point of their patent detachable rim in which efficiency is secured without any complications whatsoever. This rim makes provision for, and accommodates all the ordinary standard type portions, and yet there is only one member to detach to leave the tyre free. This is removable at any moment when desired. The construction will be better understood when we say that upon the periphery eight segmental blocks are mounted which carry the studs. Shrewsbury and Challiner tyres have long been known as of excellent material and well suited for the purpose of motor-cars of various degrees.

Tools, &c.

Messrs. E. M. RUSSELL AND CO., of the Junction Works Willesden, N.W., have a variety of tools for motorists on their stands, a specially useful device being the "Hydra" spanner. This is intended for use in positions where the ordinary form of tool would probably find inaccessible. It will work in the most confined space—anywhere, in fact, where the handle can be oscillated to the extent of an eighth of an inch. The "Gryp" and the "Newleva" spanners are also included in the display on this stand. The former is a practical form of ratchet spanner for nuts awkward of access, and can be worked at any angle. In addition to these tools Messrs. Russell and Co. also show the Kosmoid time recorders, which are becoming familiar to those who have occasion to visit the leading motor works, garages, and similar establishments.

Marston's Radiators.

The good work that has long characterised the productions of Messrs. JOHN MARSTON, LTD., finds illustration on the stand in the Gallery occupied by this firm. They are showing steel bonnet brass mounts and fittings, tinned steel pressure feed petrol tanks, and the Marston-Magevet honeycomb radiators, the latter of which constitute an important section of their display. There is no doubt as to the good impression left on the mind of the visitor by the various types of radiators shown, all of which have been made for leading makers. But, excellent as is the workmanship, the principle of construction is also commendatory, securing efficiency. The solder is run into all the joints of the tube by the gas blast process, which secures absolute strength and durability.

The Waterloo Garage Exhibits.

Apart from the Mors chassis attracting visitors to the stand of the WATERLOO AUTOMOBILE AND CARRIAGE WORKS, several notable examples of coachwork are deserving of special notice. This concern, which is owned by the Hon. Lyndhurst Bruce, has its establishment in Chicheley Street, York Road, S.E., near Waterloo Station, and include a large repair department, so that those who send cars thereto may rely on the character of the work likely to be done. In addition to garaging and repairing automobiles, motor-cars are also let on hire, the Waterloo Works thus being comprehensive in all departments. The coachbuilding branch is an extensive one, and additional interest is given thereto by the numerous specialities in Cape hoods, wind screens, &c., produced therein. Some of these will be found on the stand in the Annexe. In the Waterloo wind screen a serious and successful attempt has been made to reduce wind resistance to a minimum. In place of the usual flat screen parallel with the dashboard is a combined V shaped and sloping device. The two upper quarters can be raised or lowered independently of each other, so that the passenger by the side of the driver is protected, although the rain may necessitate the driver lowering the portion immediately before him. The same consideration of the owner or passenger is shown in the 20-h.p. De Dietrich exhibited with the steering wheel enclosed within the vehicle—a type of body to which the Waterloo Motor Garage have devoted much attention.

A good selection of clothing of seasonable design and in materials suitable for the present weather, is shown by Messrs. LOVEGROVE AND COMPANY, whose removal from one address in Piccadilly to another in the same thoroughfare we recently noted. Accessories of various kinds are also shown, including horns, lamps, goggles, &c., illustrating the ability of the firm to cater for all the requirements of motorists generally.

A new comer to the show is Mr. W. H. TYE, of 52, Great Queen Street, Long Acre, W.C., who makes a special feature of the "Whitely" patent landaulet head fittings. Here, too, will be found a good range of wind shields and other accessories to the luxurious car of to-day.

One of the most comprehensive displays of motor accessories is that of Messrs. BRANSOM, KENT AND COMPANY, LTD., which is inclusive of everything required by the modern motorist. Full reference to the special features of the exhibit will be made in our next issue.

Visitors to the Show will be interested in the combination Stepney spare wheels for heavy cars fitted with tyres of different sizes on the front and back wheels—an important development, a detailed description of which is reserved for a later issue.

Since the firm of Sayers and Co. entered the automobile industry at the Cordingley Motor Show of 1906 they have come well to the front as makers of high-class motor bodies. Now that the concern is known as the AUTOMOBILE CARRIAGE BUILDERS, LTD., its reputation should continue, judging from the appearance of the three-quarter landaulet body which forms the exhibit in the Annexe, and which is mounted on a 35-40-h.p. Fiat chassis. The folding pillars are the special feature of the vehicle.

(To be continued.)

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-28, Charing Cross Road, London, W.C.]

THE WORLD'S RECORD FOR RELIABILITY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In an official letter which I have received from the Royal Automobile Club, dated November 15th, it states that "the Committee cannot sanction the use of the word 'record' or the words 'world's record' by either your firm or the Rolls Royce firm in relation to the certificate of performance of the above-mentioned trials," hence Mr. Claude Johnson can lay no claim to a record for reliability.

Before claiming the world's record for reliability, I wrote to the Royal Automobile Club and asked them to give me their definition of the word "reliability." The definition they gave was: "The car which took the least amount of time and money in adjustments and repairs to keep running on the road," therefore seeing that the time and cost of repairs to the six-cylinder Hotchkiss during the 15,000 miles trial, and including labour (worked out on the same basis as done in the case of the Rolls Royce) was less than that of the Rolls Royce, I consider I had every right to claim the world's record for reliability. Mr. Johnson's contention that the world's record for reliability should go to the car that makes the longest non-stop run is, of course, childish, and nobody knows that better than Mr. Johnson himself, for in Rule 15 of Long Distance Trials it states: "The time occupied in adjustments or repairs, either before or after a run, or during a voluntary stop, together with the nature of such adjustments or repairs, shall be noted and stated on the certificate," hence it is very clear that, providing a car was able to complete its daily run without an involuntary stop, it could have its gears, engines, or, in fact, practically any part of it replaced in the motor house, without in any way spoiling its non-stop record. From this it is very evident that "non-stop" and "reliability" are two very different things.

The time spent on repairs and adjustments during the 15,000 miles trial of the six-cylinder Hotchkiss was 9 h. 44 min. 21 sec. as against 40 h. 13 min. in the case of the Rolls Royce, or a matter of 30 h. 28 min. 39 sec. in favour of the Hotchkiss. Mr. Johnston further states that the condition of the Hotchkiss at the termination of the trial was far inferior to the Rolls Royce, and that this inferiority must be due to lack of attention during the run or to inferiority of design, material or lubrication. Surely the boot is on the other leg; the natural deduction from the fact that it was necessary to spend thirty odd hours more on the Rolls Royce than on the Hotchkiss is that owing to its design, material, &c., it was necessary to work on the car all these hours in order to bring it through the trial in such a condition as to be able to obtain a satisfactory report from the R.A.C.

The parts taken from the Hotchkiss car and sealed by the R.A.C. are now being exhibited at Olympia and at the Paris Salon, so that anyone can see for themselves the perfect state that they are in and the almost inappreciable amount of wear. Certain parts are also exhibited on the Rolls Royce stand, but only one or two bear the seal of the Royal Automobile Club.

The Royal Automobile Club writes me further that my "firm, in respect of the performance of the Hotchkiss car, is entitled to claim that this car in its recent 15,000 miles trial accomplished the distance with an expenditure of less time for repairs and adjustments, on the road and in the motor houses, than that taken by any other car in any trial of similar distance officially observed by the Club up to that time."—Yours truly,

B. D. CORBET.

A WARNING FROM GRANTHAM.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of the 16th inst., under a paragraph "Heavy Hauls," you mention that the borough of Grantham has gained £100 for its funds through fines on motorists.

The Grantham police had nothing to do with these cases, nor do the fines go the borough fund. They were all county cases tried at Spittlegate Police Station, which building is in our Borough, Grantham being the head-quarters of the Spittlegate petty-sessional division.

Fines to the amount of £55 aggregate were inflicted on motorists again last Saturday at the same place, and I would particularly advise all motorists to drive cautiously for twelve miles south to ten miles north of Grantham, as the police are very active along the twenty-two miles.—Yours truly,

T. A. PALMER.

A SIGNALLING CODE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I think it would be greatly to the advantage of motorists if the horn were used for signalling purposes, somewhat after the style of the locomotive and steamboat whistle. At present it does not matter how many blasts are given. They simply mean the same thing.

A case in point. Two cars pass each other going in opposite directions after lighting up time, and one driver notices the other's tail lamp

is out. If it was possible for him to do so, he would inform the other driver, and thereby save him a heavy fine. In the case of a stranded car, it would be quite an easy matter for the driver of an approaching car to inquire if any help was required and receive his answer without stopping; and again, two cars approaching cross-roads at right angles to each other, it would simplify matters greatly if each driver knew what direction the other intended to take.

This could all be done quite simply by using the horn to an arranged code of signals, say,

One blast, I am going straight ahead.

Two blasts, I am turning to the right.

Three blasts, I am turning to the left.

Four blasts to mean "Your lamp is out."

Five blasts to mean "Do you require help?"

Two and one to mean "Yes."

Two and two to mean "No." &c.

I would like to see this idea taken up by other pens.—Yours truly,

WM. KENNEDY.

THE ATTITUDE OF THE DAILIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Nothing could have been more pronounced than the conversion of the general Press to the charms of motoring as a pastime and the resources of the industry from an advertising point of view. There seems



Overheard in Paris.

Ah! Monsieur, I thought you were at Olympia.
Non, Madame, this is the Show.

to have been a sudden cessation of motor accidents—unless a duke is involved, and no nasty reflections on the humanity of the motorist appear in the great dailies.

On the other hand, editorial references and advertising matter relating to particular cars now appear on the same pages in many of the papers, and all associated with journalism seem inspired with the one desire to secure the favour of the motoring industry.

Apparently many leading firms have snapped up the bait that has been offered them, and, for a time, are spending huge sums to reach a few of the many readers of the general Press. Only 4 or 5, if that, per cent. of those who take a daily paper are prospective motorists, and it apparently has not occurred to the trade that they have to pay as much to reach that small proportion as the advertiser who has something to interest 90 per cent. of the newspaper readers.—Yours truly,

A. WALKER.

THE ACTION OF CARBURETTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to your description of the "Perfecta" carburettor, I should be obliged if you or any reader of the *M.C.J.* could give me an explanation of a statement contained therein. In the description it is stated "The new apparatus has been designed with a view of obtaining an unvarying proportion of petrol and air, irrespective of the speed of the motor or the demands of the latter." I understood that the practice of using a constant mixture for all speeds had been tried and found wanting. Is not the extra air admitted to the carburettor, at high speed, in order to decrease the quantity of petrol per stroke? When running at

high speeds less air is taken into the cylinder owing to the inertia of the air and the short time of the suction stroke. When running as slow as possible, is it not necessary to increase the quantity of petrol per stroke? Is it not correct that a weaker mixture is desirable, owing to the increased compression at high speeds, there being danger of pre-ignition?

In the sentence I have quoted from your description appear the words "irrespective of the speed of the motor or the demands of the latter." This would point to the fact that the engine demands a varying mixture. —Yours truly,

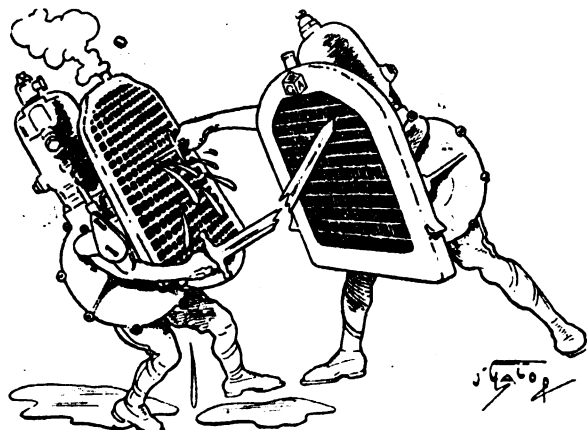
SYDNEY WRIGHT.

INCONSIDERATE DRIVING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Some of your readers wonder, no doubt, why the general public dislike motor-cars. It is not the machines themselves to blame, for they are excellent inventions, but the people who use them, a great number of whom seem to think that all roads are maintained especially for their use, and it is of no concern to them who or what may be damaged by their car. To justify these statements allow me to recount an incident that happened on the 5th inst., near Towcester, Northamptonshire, on the main road between London and Coventry. A shepherd was driving a flock of sheep along a straight, broad piece of road with a slight slope to the town of Towcester, when a car dashed down into the sheep, killed one and damaged many more (two have died since). The shepherd helped to extricate one sheep from under the car, and the person driving, who appeared to be the owner, promised faithfully to call at the police station in Towcester and report the occurrence, but failed to do so. The shepherd unfortunately, relying on this promise, did not take the number of the car, but noticed the registration was D.U. (Coventry). The car owner cannot be found, so the farmer has to lose £9 or £10, besides the damage to the other sheep.

It may be added that the farmer in question is a large ratepayer in the district, and that the Local District Council and County Council expend a considerable sum annually in tarring roads and extra expense found absolutely necessary to life in Towcester, besides which



The Battle of the Radiators.—From a sketch issued, needless to say, by a maker of the ribbed-tube type.

the cost of road maintenance in the district is considerably increased by the wear and tear caused by the studded wheels of the large number of heavy cars which make use of the roads in the district. If such accidents as these are common, how can motorists expect the slightest consideration from anybody?—Yours truly,

H. JACKSON STOPS.

BALL v. PLAIN BEARINGS FOR CRANK SHAFTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I learn with considerable surprise that the Hotchkiss Company have decided to cease fitting ball bearings to the crank shafts of their motors, and to revert to the use of long plain bearings. In view of the fact that the show reveals several new additions to the list of firms using ball bearing crank shafts, it would be interesting to know what has led the makers of the Hotchkiss cars to this decision. —Yours truly,

BRIGHTONIAN,

MR. EDGE'S CHALLENGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read a letter from Mr. Huntley Walker in your last issue referring to myself. I am sorry that, in view of Mr. Walker's previous change of ideas in regard to making a challenge and then withdrawing from the conditions in his original letter, although I accepted them, I can only consider a challenge of his serious if made through the Brooklands Automobile Club or some official body, and the conditions of the challenge bound by a substantial monetary deposit. I would also

like to make it quite clear that if Mr. Walker wishes to race me, when we race his and my cars shall be the only ones on the track or road at the time.—Yours truly,

S. F. EDGE.

WHY SOME PEOPLE FIND THEIR CARS EXPENSIVE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is really surprising to notice the difference in the running costs of two cars of the same manufacture and the same power, with two different owners. Where does it come in? Well, I will suppose that all things are pretty well equal as regards the roads, load carried, &c. Tyres are the first and most important matter. The economical owner will probably specify larger tyres—at any rate, on the back wheels—when he buys the vehicle. Cars nowadays, in particular the smaller four-cylinder type, are dreadfully under-tyred, and, curiously enough, their owners never seem to think that the manufacturers could possibly fit too small a section of tyre on their cars! There is a very well known fairly small four-cylinder car, which has earned itself a splendid reputation for reliability and hill-climbing, particularly the latter. This particular car has 90 mm. section tyres, and its weight is well over 18 cwt. But its owner does not think so. Ask him the weight and he will approximately put it at 14 or 15 cwt., and naturally never dreams that the tyres are ridiculously light for their work. Motorists should always look to the tyres when ordering, and if there is any doubt, pay a little more in the first instance and have a larger tyre, and it will fully pay them in the long run.

There now comes the question of the care of tyres. The careless owner will blow his up now and again when he thinks of it, but the economical owner will make a point of testing his tyres systematically, and inflating them according to the maker's instructions. The careless man will think nothing of the oil and grease which gets bespattered on his tyres, and yet he will one day be surprised to find them burst. The economical man will stop the oil and grease from getting on the tyres, and so will save both the oil and the tyres.

There are other details about tyres, e.g., filling up cuts by vulcanising, &c., which greatly increase the value of a cover, but how often is this done? Passing on to other parts of the car, there is the lubrication. Here is a matter which is quickly settled by the careless owner; he will have his new car, and will doubtless be told by someone or other that so long as he keeps a bit of a smoke on he will be all right; consequently his car will always be over-lubricated, and whenever he stops there will be a pool of good lubricating oil left on the road! The economical man will take some time and trouble to study his engine and gear, &c., and, assisted by the manufacturer's book, will find how to set his lubricators to the best advantage.

Now petrol is not in itself a very costly item, but it mounts up in the course of the year, so it is worth mentioning. The careless man usually spills a pint or two putting it in, and he never thinks of questioning the mileage per gallon of his car, whereas the economical owner sets to work to get the very best possible results from his carburettor. The writer has not said anything about actual usage. Of course we all know that a good car can be ruined in no time by indifferent driving, but for the purpose of this letter, which is to point out the little things which are so frequently overlooked until they become big things, the two owners are presumed to drive equally well.—Yours truly,

AN OLD HAND.

AN ENGINE STARTING DIFFICULTY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I will take it as a favour if you can help me in the following difficulty. I have an M.M.C. 8-h.p. single-cylinder car. When I got the vehicle the engine would start with the ignition lever a very little advanced, now I cannot get it to start at all unless I advance ignition as far as I can get it, with the result that every time it starts it flies back a dozen times, and nearly knocks my head off. I have had a new plug put in and the accumulator is newly charged; it is high tension ignition.—Yours truly,

AN AMATEUR MECHANIC.

[We think it possible that there is something wrong with the contact on the engine commutator. The M.M.C. car is probably fitted with a "wipe" contact, and if the first portion of it be worn or burnt away, i.e., that portion on which the wipe blade first rubs, it will of course be difficult to start in the retarded position, as it may fail to make contact. But when "Amateur Mechanic" advances the ignition lever, it will then be on a good portion of the wipe metal inset, and so fire, with the unpleasant consequences he records. If our supposition is correct, the remedy will be to have the commutator trimmed up in a lathe, and the wipe blade set to bear firmly all round the periphery of the commutator disc.]

WE have an inquiry for the address of the maker of the Caesar non-skid band.

"S. H. B." who asks where he can dispose of some worn-out motor tyre covers, is referred to our small advertisements under Trade Announcements.

DETACHABLE RIMS.—"R. F." writes asking readers of the *M.C.J.* to give their experiences of detachable rims, as he is anxious to find the most practicable design.

CLUBS AND ASSOCIATIONS.

THE MOTOR UNION.

THE annual dinner of members of the Motor Union of Great Britain and Ireland was held at the Hotel Great Central last week. Mr. C. D. Rose, M.P., the chairman of the union, presided, and after the loyal toasts the chairman proposed that of "Motoring." He said it was realised in the present day that even an inexperienced motorist could control his car better than an experienced driver could control his horse, and it was not impossible to imagine that in the near future it would be considered a case of cruelty to animals to put horses to draw heavy burdens.

Sir John French, in responding, spoke of the influence of the automobile upon the science and practice of war. Owing to the development of modern firearms and the enormous hosts which were maintained by every great Power in the world, the extent of ground over which military operations were conducted—the size of a modern battle-field—had become infinitely greater than in former days. In consequence of the change, commanders of armies in the field had lost a power which the commanders of old exercised—that of exercising their personal influence and control over the fight. But from experiments which had been made lately, and also from experiments which had been tried in foreign countries, they had come to the conclusion that in the next great war it would be found that the automobile would in a great measure restore this lost power to the hands of the Commander-in-Chief, and that he would possibly be able to exercise nearly as great an influence over the course of a fight as was exercised in the days of Wellington and Napoleon. This was one very important development that had been effected by the automobile. But it in the actual field of battle the automobile had conferred such a tremendous advantage, they had entirely proved its value in the training and instruction of the troops for war. It had been the custom to give officers instruction over very large tracts of country, and in the difficulty experienced in getting over these large tracts of country the automobile had been of immense value. A motor corps had for some time past formed part of his Majesty's Forces. It gave him the greatest possible pleasure to testify to the patriotism, self-sacrifice, and devotion which had been shown by the members of that corps in the assistance which they had rendered to the Army. If the men of England required an example of how to do their duty in the way that Mr. Haldane asked them to, they would find a good example in the work which had been done by—first, the Army Motor Volunteer Corps, and, secondly, by the Army Motor Reserve.

Sir Alfred Fripp, who next responded, spoke of the advantages to be derived from the use of the automobile by medical men. The doctor benefited in a saving of time and an increase of leisure; and a doctor with some leisure was a safer man than one who was always "on the rush" and who looked at his watch behind the door, just before he went into the sick room, to see how many minutes he could give to his patient.

The Chairman, replying to the toast of "The Motor Union of Great Britain and Ireland," proposed by Mr. Roger Wallace, K.C., said that motorists would be well advised not to hurry forward legislation in any way, although they were not satisfied with the conditions as they stood at present. At a country gathering of the Motor Union recently, he had stated that there was then a small cloud on the horizon, but that he firmly believed that they would be able to dissipate it. He was glad now to be able to say that the cloud had disappeared entirely, and that the relations between the Automobile Association and the Motor Union were absolutely sound and solid. They were all aware of the close relations which had existed between the Royal Automobile Club and the Motor Union. They had been working together under a common agreement for the past eighteen or twenty months. It was not necessary for him to go into any questions of detail with regard to the working of that agreement. But it had come under very careful consideration, and at their meeting that afternoon the committee had resolved to give notice to terminate the agreement. They thought that that course was in the best interests not only of the club, but of the Motor Union, and of the general motor industry.

THE SOCIETY OF MOTOR MANUFACTURERS AND TRADERS.

A MEETING of motor agents was held on Friday of last week at Olympia. This meeting had been specially called to consider the steps to be taken to give effect to the recent decision of the Society of Motor Manufacturers and Traders, empowering the council of the society to form local centres. The chair was taken by Mr. W. M. Letts, who is the chairman of the committee of the agents' section of the society, and he was supported by the majority of the members of that committee. Over a hundred agents were present, representative of all parts of the country; amongst them Mr. Taylor, secretary of the Manchester section, and Mr. Barton, secretary of the Nottingham centre. The chairman and other members of the committee addressed the meeting, stating fully the reasons for the formation of the proposed centres, and the views of the society in connection therewith. This was followed by a discussion, after which it was unanimously resolved that such action was desirable, and several of those present undertook to proceed at once with the formation of centres in their respective districts.

BROOKLANDS.

THE Brooklands A.R.C. has received four challenges from Mr. S. F. Edge in connection with races to be run prior to July 1st, 1908, and after May 14th next, on the Brooklands track. The challenges are as follows, and are open till the 14th prox., being for £250 or more.

Four or six-cylinder Napier car against any one car of a B.A.R.C. cylinder dimension (D2N) 64 or under. Weight: 2,000 lb. (B.A.R.C. definition). Distance: Five laps, standing start.

Six-cylinder Napier car against any one car of a B.A.R.C. cylinder dimension (D2N) 100 or under. Weight, 2,500 lb. (B.A.R.C. definition). Distance, six laps, standing start.

His six-cylinder Napier car against any one car of a B.A.R.C. cylinder dimension (D2N) 150.1 or under. Weight, 2,700 lb. (B.A.R.C. definition). Distance, eight laps, starting point.

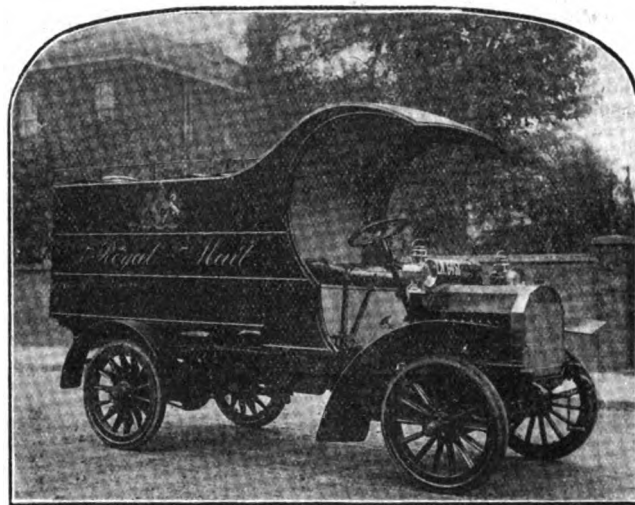
Six-cylinder Napier car against any one car of a B.A.R.C. dimension (D2N) 225.1 or under, for £250 or over. Weight, 3,000 lb. (B.A.R.C. definition). Distance, ten laps, standing start. Challenge open until December 14th.

The Brooklands Club hold the stakes of £250 each for the above challenges, and any acceptance should be addressed to the secretary, accompanied by the necessary stakes.

SCOTTISH.

MEMBERS are now being admitted on payment of subscription for the year ending January 31st, 1909.

The annual dinner will take place in Edinburgh on Tuesday, January 28th, next. Lengthy consideration has been given by the executive of the club to the action necessary to put down reckless driving and particularly fast driving in populous places, and a number



One of the Fleet of Six 12-h.p. Two-Cylinder Mail Vans recently built by Messrs. Dennis Bros. for Messrs. McNamara and Co., Mail Contractors.

of cases have been before the committee dealing with the subject and various others are receiving their consideration.

THE Lord Lieutenant of Ireland has consented to open the motor show of the Irish Automobile Club at Dublin on January 4th, 1908.

THE committee of the Ladies' Automobile Club have decided to limit the membership to 450. It now stands at 400, so that there are but fifty vacancies.

MR. F. PARTINGTON, the president of the Blackpool and District Motor Club, has issued invitations to a dinner at the Hotel Metropole, Blackpool, on Friday, the 29th inst.

THE medals won by members at the recent competitions of the Leicestershire Motor Cycling Club were presented at a concert on Friday, the 15th, when Mr. R. Sutton Clifford, jun., presided.

WE understand that Mr. F. F. Wellington, who left England some time ago to take up his appointment as manager of the Spyker Company in Amsterdam, has not up to the present been given that position because of the differences existing between the bankers and Mr. Spyker. The business has been placed in the hands of the Dutch courts, and the matter in dispute will not be settled until after Christmas.

IN the advertisement of S. F. Edge, Ltd., which appeared in our issue of the 26th ult., referring to the list of six-cylinder Napier hill-climbing successes, there was one line which read "May 3rd, Frome's Hill Climb, six-cylinder Napier first." This should read "first in big class," as there were a number of different classes, and also a general classification class which was won by the little British Talbot on efficiency.

EXAMINATION QUESTIONS IN MOTOR-CAR ENGINEERING.

BELOW we give some specimen questions set in the last examination of the City and Guilds of London Institute, reference to which is made in the Comments in another part of the present issue.

ORDINARY GRADE.

Sketch two kinds of float feed-chambers, showing constant level regulating arrangements but not the rest of the carburettor. One should be of the ordinary cone-pointed needle type and the other the ball-valve type. State briefly which is the better for pressure-fed petrol, and why, and which is less likely to allow the petrol to leak past the valve when the engine is not running.

If the steering wheel of a car be turned right round to the left and fixed there, the car will move in a complete circle; sketch, in plan, the frame of the car in four lines, and show the four wheels, the four circular tracks they will describe, and the Ackermann arms and coupling rod connecting the front wheels. The circular tracks should be drawn with compasses.

Of what material should the sparking points of a commercial sparking plug be constructed? If the porcelain be cracked, why does the engine sometimes misfire, although the distance between the points is only $\frac{1}{8}$ in. and the distance across the crack is $\frac{1}{16}$ in.?

A four-cylinder engine is misfiring on one cylinder, and it is known that it is due to faulty ignition. How would you systematically set about to locate the fault?

Give briefly all the reasons you know for using double or triple expansion in steam engines. How do your statements apply to the engines used on steam cars?

About how many ampere hours would you expect to be obtainable from every pound weight of a two-volt cell in an electric car battery?

HONOURS GRADE.

(Candidates for Honours must have previously passed in the Ordinary Grade.)

State precisely what materials you would use for constructing the following car parts:—Piston rings. Conduit for the insulated high-tension leads. Front axle. The magnets of the magneto. Gear wheels in gear-box. The "small end" bearing of the connecting rod. Propeller-shaft brake drum and brake lining.

Give a diagram showing how you would charge two 30-ampere hour 4-volt accumulators from a 100-volt town lighting circuit. State (a) how you would find the direction of the current; (b) what current they would be taking under the conditions which you indicate, and give the time necessary to fully charge the batteries.

The flame of a paraffin burner occasionally "surges," i.e., it swells up and dies down at regular intervals. Explain the cause of this.

Sketch, and name one type of flash or semi-flash steam generator. Explain how the temperature and pressure of the steam are controlled without much attention from the driver.

About how many ampere hours would you expect to be obtainable from every pound weight of a 2-volt cell in an electric car battery? Supposing a car weighs 25 cwt. in all, of which 10 cwt. is battery, how far would you expect that car to travel on one charge over ordinary roads? Show how you have calculated your result.

HONOURS GRADE.

(DRAWING EXAMINATION.)

Sketch a good arrangement for an automatic air inlet valve for a single-cylinder water cooled engine, such that the valve and valve seat can be removed and replaced quickly, and the seat will be pressed uniformly on its joint.

The bore and stroke of a water-cooled engine are 3 in. and 4 in. Sketch, half full size, a section of the cylinder and piston, showing crank shaft connecting rod and one valve. The dimensions should be judged by eye and should not be inserted. Marks will be awarded for correct proportion.

DEATH WHILE DRIVING A CAR.

THE inquest on Herbert Winfield, coachman and chauffeur to the Hon. W. F. D. Smith, M.P., who died suddenly while driving Mr. Smith's car, was held on Friday of last week, at Greenlands, near Marlow. Miss Caroline Wray said she was returning from Marlow in a car with the Hon. Mrs. Brookes when a tyre was punctured and Winfield put on a spare tyre. Just before reaching Greenlands the car went across the road, over a small ditch, and ran into a fence. Witness had some difficulty in getting out of the car, and she then found the deceased was leaning forward over the steering wheel. His foot was on the brake, and he had attempted to put on the hand brake. Mrs. Brookes went for help, but deceased expired almost immediately. Dr. Egerton Baines said death was due to the rupture of a blood-vessel of the brain. A verdict was returned in accordance with the medical evidence.

MESSRS. CLEMENT-TALBOT have photographed the fine array of trophies, medals, &c., won by Talbot cars during the season 1906-07, mostly by private owners, shown at their stand at Olympia. The total value of the awards on view amounts to £1,000, two police officers being in attendance day and night to guard the valuable trophies.

A COLLISION IN THE FOG.

MR. R. KEMPE, deputy coroner for Chiswick, has held an inquest respecting the death of John Ellis Dear, a lamplighter, who was killed in a motor-car collision during the fog of last week.

Joseph Ward said that about 11.30 p.m. on Monday, during the fog, he was standing on the back platform of a tram going towards London, and when near Gunnersbury Hill he noticed another tram about twenty yards in front. Looking towards Kew he saw a motor-car coming up on the near side of the road, and it whizzed past the tram at seventeen or eighteen miles an hour, as though the driver had not got proper control of it. The witness thought it was going to run into his tram, but it passed it and just afterwards there was a crash, and the witness found that it had run into a market van which was travelling on the near side of the road. No horn was sounded, and the road was greasy. He saw the deceased, who was injured. Death took place almost immediately afterwards. George Carpenter, the driver of the car, and a caretaker at the works of the New Speedwell Motor Company, said that he was quite sober. He said that he was only going at seven to eight miles an hour. He sounded his horn, but did not hear any warning from a tram driver. The tram's light was dazzling, and he did not see the van in front till it was too late, but he applied the brake.

The jury returned a verdict declaring that Carpenter was not exercising the judgment he should have done, particularly in the fog, but did not find him culpably negligent.

The Coroner.—In this case the jury have taken a merciful view. (To Carpenter): They find that you have been careless, but not to the extent of manslaughter. I hope it will be a warning to you.

MOTOR TYRE ACTION.

A RECENTLY patented motor-car tyre not yet placed on the market has just been the subject of an action in the Manchester County Court. The plaintiff, Mr. Richard Wood, of Denton Street, Hulme, is the patentee of the tyre, and sued Messrs. Thomas Dowler and Son, of Sugar Lane, Manchester, for £16 9s. 2d., of which £6 9s. 2d. was money paid by him to the defendants, the remainder being described as a merely nominal sum in respect of loss sustained by three months' delay in the carrying out of an order. Producing a sample of the tubes, he explained his invention to Judge Parry, and pointed out that one of the most important particulars was that the hole by which the sections were connected should be exactly three-eighths of an inch in diameter. The holes in the goods supplied, however, were either five-sixteenths or four-sixteenths of an inch in diameter, and were therefore absolutely useless for his purpose. After hearing the case, His Honour remarked that the defendants had evidently made a bad bargain, but that did not excuse them from not fulfilling the contract according to specifications. The plaintiff's invention was an ingenious one, and in order to make any use of them the tubes should have been of a uniform diameter. As they were not uniform the plaintiff was entitled to go elsewhere and to recover what he had paid. He could not allow anything for special damages, but the plaintiff must have judgment for the £6 9s. 2d., with costs on the scale of that amount.

CLAIM AGAINST MOTORIST.

AT the Grays County Court, before Judge Tindal Atkinson and a jury, the action brought by John Sparks to recover damages amounting to £20, from William Frost, landlord of the White Hart Hotel, High Street, Grays, for personal injuries sustained through the alleged negligence or carelessness of the defendant in driving a motor tri-car, has been heard.

After hearing the evidence, His Honour summed up. He said that motor-car cases were becoming very frequent in Courts of Justice, and one had to regard the fact that these vehicles, whether they were an element of danger to the traffic on the highway or not, had a right on the roads, and, further, to use them as much as any other vehicle. Foot-passengers and persons riding other kinds of vehicles had to recognise the fact that the motor-cars were on the road, and that they had come to stay. With that element of danger in the highway, it was necessary, of course, for passengers to exercise much more care in the way in which they used the highway than they would have done before motors came into existence. The jury returned a verdict for the defendant with costs, and were of opinion that Mr. Frost had promised the plaintiff that he would pay his out-of-pocket expenses. They hoped he would carry out that promise.

FROM Messrs. G. H. Wait and Co., Leicester, comes a copy of the new catalogue of the Clyde cars. This gives full particulars of the various models, 8-10-h.p., 12-14-h.p. and 16-20-h.p., as also of the Clyde motor-bicycles.

FIAT MOTORS, LTD., inform us that six Fiat cars have recently been shipped to their Victorian agents—Messrs. the Tarrant Motor Co., Melbourne—and five exceptionally handsome cars are now being despatched to their Egyptian agents—the Cairo Motor Agency. The latter cars—three of which are of 30-40-h.p.—are fitted with specially-built bodies by Messrs. Rothschild et Fils, of Horseferry Road, S.W.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING LEGAL LIMIT.

At Greenwich, Charles Woodward, of Maida Vale, has been summoned for driving a motor-car at a speed exceeding twenty miles an hour in Lewisham High Road. Mr. Stubbs, who defended, admitted that his client was fined at Woolwich the previous week for exceeding the speed limit. Defendant was then fined £20 and 2s. costs.

A TRIPLE CHARGE.

At Brentford on Saturday a story of a chauffeur's experience, after driving his master to Oxford in a 60-h.p. car, was told when Alphonse Berudelort, 30, a Frenchman unable to speak English, was charged with reckless driving, with failing to produce his licence when requested, and with not stopping after colliding with a horse and van. George Laws said that just before midnight on Friday he was driving his van in Ealing, when the prisoner, driving his motor-car on the wrong side of the road, dashed up. The car struck the horse and spun it round, breaking the shaft of the van. As the prisoner would not stop, the witness ran into Ealing police-station, and they telephoned to the police at Acton, two miles away. In less than five minutes the prisoner was stopped.

The prisoner admitted driving on the wrong side of the road, but denied going fast, and said that he did not hear the police at Ealing call upon him to stop. He was fined £10 on each of the first two offences, and £2 on the third—£22 in all.

ROAD REPORTS.

TEDDINGTON.—The Teddington District Council have passed a resolution, to be forwarded to the Middlesex County Council, requesting that body to consider the advisability of erecting a new bridge for vehicular traffic over the Thames at Teddington.

STAMFORD.—During the next few weeks Mr. F. R. Ryman, the borough surveyor of Stamford, will be repairing a short length of the Great North Road near the Stamford and Rutland boundary. Another thoroughfare under repair in this district will be a length of about a quarter of a mile of the Deeping road.

DUNSTABLE.—All the main roads in this district have been repaired, and no further work of this kind will be undertaken until next spring, so that motorists travelling that way will have a clear road.

MID-SUSSEX.—The road-repairing season in Mid-Sussex began about two months ago, but, thanks to the system adopted, rough edges on the new road patches are quickly taken off and little inconvenience caused to motorists. We understand that the repair work in the locality is likely to be continued throughout the winter.

RENFREWSHIRE.—Mr. James Gibson, the road surveyor for the Gorbals Division of Upper Renfrewshire, has prepared for the use of his District Committee a report on the experiment which has been made on the Kilmarnock road at Whitecraigs with tar macadam as a means of laying dust. He says that owing to the heavy motor traffic which passes along this road the surface of the tar macadam patch has got knocked out of shape, and will require to be patched with ordinary fine metal. The macadam has been a success as a dust layer where traffic is light, but it will not do on a highway such as Kilmarnock road.

COMPANY NEWS.

U. M. I.—The annual general meeting of the United Motor Industries, Ltd., was held on the 15th inst. The year closing has been one of great prosperity to the company. Their method of trading chiefly for cash has enabled them to materially reduce prices. The result of this cash policy has been that the directors are enabled to declare a dividend of 20 per cent., to carry forward a considerable sum to reserve, and at the same time state that further important agencies have been obtained for very valuable motor accessories, that the business as a whole shows every sign of advancement and expansion, and that the system of low prices in return for cash payments will be adhered to for the coming 1908 season, which is certainly opening with even brighter prospects for the future than in the past. The Eagle Works for the manufacture of "Castle" coils and "Castle" accumulators has now been fully established.

WHITFIELD AUTOMATIC TYRE INFLATOR COMPANY.—£5,000. To acquire all the rights for the United Kingdom and elsewhere in an invention known as the Whitfield Automatic Tyre Inflator, granted to Messrs. C. R. Whitfield and W. R. Harrison, with the sole right of manufacturing the same in the United Kingdom and elsewhere. 28, Albert Road, Middlesbrough.

INTERNATIONAL AUTO SCHOOL.—Registered in Guernsey with a capital at £10,000 (2,500 £4 shares, of which 1,250 are working capital, and 1,250 may be issued in payment of the consideration of the contract entered into with Mme. Randinneau, of Paris). To carry on, in France and elsewhere, the business of teaching the art of driving motor-cars, and to establish, in Paris or elsewhere, colleges or schools for that purpose. First directors: E. Parent, 14, Rue Taitbout, Paris, and A. Alabarbe, 11, Rue Guersant, Paris.

SCOTT NON-SKID AND TYRE COMPANY.—£4,000. Manufacturers of and dealers in all kinds of non-skid appliances for the wheels of motor or other vehicles, motor and other tyres, &c., and to adopt an agree-

ment with Mr. H. J. Scott. No initial public issue. First directors: Major C. B. FitzHenry, Messrs. W. A. Turquand, and E. A. Gedge, Norfolk House, Laurence Pountney Hill, E.C.

HYDE PARK MOTOR STORES.—£5,000. As title. No initial public issue. 12, Park Mansions Arcade, Knightsbridge, S.W.

STROM.—£30,000. To arrange for the acquisition of the business of ladies and gents' outfitters and costumiers (particularly in relation to motoring and sports) carried on at Paris and Nice by Strom. No initial public issue. 1, Broad Street Place, E.C.

CARDIFF AND COUNTY MOTOR COMPANY.—£2,000. As title. No initial public issue. Twenty-five shares.

AUTOMOBILE INVESTMENT CORPORATION.—£1,000. No initial public issue.

A. DARRACQ AND CO., 1906, LTD.—The report of this company for the year ended September 30th, 1907, shows that, after payment of £15,000 to the debenture service fund, the dividend on the preferred ordinary shares distributed on April 2nd, 1907, and the interim dividend on the ordinary shares at the rate of 2s. per share paid on June 20th, 1907, there remains a balance to the credit of profit and loss account of £179,507. The directors have placed £100,000 to reserve, and after providing for the dividend on the preferred ordinary shares, paid October 1st, 1907, a further dividend is now recommended on the ordinary shares at the rate of 2s. per share free of income tax (making 20 per cent. for the year), leaving £27,632 to carry forward to next year's account.

AUTOMOBILE ACCIDENTS.

LATE on Saturday night the Duke and Duchess of Portland had an unpleasant experience while motoring from Hucknall Torkard to



One of the Mors Lorries which did excellent service in the recent French Military Manœuvres.

Welbeck Abbey. They were being driven by their chauffeur, Andrew Hunter, and when near Mansfield they met at four cross roads a horse and dray. The driver of the latter apparently did not hear the hooter, and the car came into collision with the vehicle. The chauffeur was thrown through the glass screen, and was badly cut about the head. The duke and duchess were shaken, but escaped without injury. Hunter's injuries proved to be serious, and it is feared that he may lose the sight of one eye. The car was travelling at a very moderate rate of speed and the weather was slightly foggy.

At an inquest held on Monday by the City of London coroner on a gentleman who was fatally injured last week by a motor-bus, Superintendent Basson, of the Public Carriage Department, New Scotland Yard, said they licensed all the 'buses. In 1904, with thirty-one licensed motor-buses, two deaths occurred; in 1905, with 241 licensed, three deaths; whilst in 1906, with a little over three times as many 'buses, 783—the number had increased by more than eight times, totalling twenty-five. The jury returned a verdict of accidental death, and added as a rider that owing to the alarming increase in the number of accidents and deaths the coroner should call the attention of the proper authority to the matter, with the view to the restricting of the speed of motor-omnibuses in the City area.

FORTHCOMING EVENTS.

NOVEMBER.

The November number of the *Industrial Motor Review* is published.
 22nd (F.).—Stanley Show opens.
 23rd.—Last day of the Olympia Show.
 26th (Tu.).—Annual Dinner of the Aero Club at the Savoy Hotel.
 30th (S.).—Annual Dinner of the North London A.C. at the Midland Grand Hotel, London.
 Stanley Show closes.

DECEMBER.

1st (S.).—Last day of the Paris Motor Show.
 2nd (M.).—Cheshire A.C. annual dinner.
 5th (Th.).—Exhibition at Berlin.
 7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
 Annual dinner of the Hertfordshire C.A.C.
 11th (W.).—Southend and District M.C. annual dinner.
 Incorporated Institute of Auto. Engineers.—Mr. Dugald Clerk on the "Principles of Carburettors."
 12th (Th.).—Annual Dinner of the Sheffield A.C.
 18th (M.).—General Committee of the Motor Union.
 21st (S.).—Opening of the Brussels Exhibition.
 26th (Th.).—Annual Reliability Trial of the Motor Union of Western India.

JANUARY, 1908.

4th–11th.—Dublin Motor Show.
 9th (Th.).—Dinner of the West Essex A.C. at Seven Kings.

FEBRUARY.

7th–15th.—Manchester Motor Show at Belle Vue.
 12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 15th (Sat.).—Auto-Cycle Club Annual Dinner.

MARCH.

21st–29th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Nov. 24th—5.0	...	26th—4.58	...	28th—4.56	...	30th—4.54
" 25th—4.59	...	27th—4.57	...	29th—4.55	Dec. 1st—4.53	

INLAND REVENUE.

EARL DE LA WARR was summoned at Westminster by the Inland Revenue authorities for keeping a motor-car without the carriage licence. Mr. Shaw said Earl de la Warr formerly had a car under a ton in weight, which required a two-guinea licence. This was taken out late in the year. Very soon after the Earl bought or exchanged it for a heavier car, for which a four-guinea licence was required. Counsel for defendant said he was sorry there had been a mistake. Mr. Curtis Bennett imposed a fine of four guineas and 23s. costs, to include the licence, remarking that it was optional with the Revenue Commissioners whether they made allowance for the two-guinea licence which defendant held.

POLICE TRAPS.

THE well-known traps on the main road from Glasgow to Carlisle have been in almost daily operation of late.

WITH reference to the police traps that we recently intimated would be established in Beckenham, we learn that these are now working in the High Street, and also in the Croydon, Rectory, and main Beckenham roads which lead into it.

PUBLIC MOTOR SERVICES.

THE Chief Constable of Brighton (Mr. W. B. Gentle) has prepared a report on the motor-buses of the town, in which he recommends that a few more licences for spare motor-buses should be granted, so that a bus may receive attention when any part of the machinery goes wrong.
 A MOTOR-BUS has commenced to run between Helmsore and the entre of the town of Haslingden.

FROM Messrs. Panhard and Levassor, of Acton Vale, W., comes a copy of their latest accessory catalogue, which gives particulars of a wide range of useful fittings, including lamps, accumulators, screens, hoods, speedometers, magnetos, carburettors, lubricators, &c. Reference is also drawn to the firm's coach-building department, and their facilities for executing repairs of all kinds.

BUSINESS NEWS.

THE showrooms of Messrs. Charles Baker and Company at 137-140 Tottenham Court Road, W., contain a varied display of motorists' clothing for the season.

ABOUT fifty lots were included in the November auction sale of automobiles conducted by Messrs. McDonald and Son at the Great Eastern Motor Mart, Annandale Street, Edinburgh.

THE CENTURY MOTOR COMPANY, of Holland Gate, High Street, Kensington, W., are introducing a new French-built 20-30-h.p. four-cylinder car known as the Weyher-Richmond. Sound workmanship, simplicity of design and easy control are some of the principal features claimed for the new vehicle.

THE MOTOR IMPORT COMPANY have lately opened commodious premises in Hereford Street, Christchurch, New Zealand. In addition to importing cars, the company will carry a large and varied stock of accessories and spare parts for different vehicles.

THE address of the Northern Automobile Company is Oak Lane Garage, Manningham, Bradford, and not Birmingham, as stated in the last issue of the *M.C.J.*

THE Dietz motor lamps are the subject of a neat list issued by Messrs. Monnet, Plasse and Co., 20, Store Street, W.C., the wholesale factors in this country.

MESSRS. GAMAGE, of Holborn, made the liveries for the drivers of the King of Spain's Daimler cars.

MESSRS. ALFRED DUNHILL, LTD., have a magnificent sable fur lined coat at their stand at Olympia, the value of which runs into four figures.

MR. W. G. WESTON is now with the Avon India Rubber Company, Ltd., Melkham, Wilts., who will also conduct business temporarily at 31, Brooke Street, E.C., under their name and will continue to supply Avon Tyres, &c., from stock.

THE ATLAS ENGINEERING COMPANY, Levenshulme, Manchester, manufacturers of composite road wheels for all kinds of vehicles, detachable rims, flanges, &c., have taken offices at 111, Piccadilly, London, W., where they will have on view all classes of wheels and detachable rims for inspection by prospective customers.

MESSRS. J. KEELE AND CO., of 23, Brook Street, W., have again been appointed wholesale and retail agents for London and district for the Darraq Company. Having placed a large contract with the Darraq Company for their new 1908 models, they will now be in a position to give immediate delivery of these cars.

THE Eastbourne excursion for their agents organised by Mr. T. C. Pullinger, the Beeston manager of Messrs. Humber, Ltd., has become quite a regular feature of show week. At nine o'clock on Sunday morning a long string of Beeston-Humber cars assembled outside the Humber depot at Holborn Circus, E.C., and thence a delightful non-stop run was made down to Eastbourne, where lunch was partaken of at the Cavendish Hotel. After an hour or two by the silvery waves the six cars swung smoothly and steadily back to London in time for dinner after a most delightful day. The following Humber agents took part in the outing:—Mr. Geo. Ace, Tenby; Mr. J. V. Madgwick, Bolton; Mr. J. S. Cordingley, Haslingden; Mr. H. J. Croft, Kendal; Mr. T. Dyson, Bradford; Mr. W. B. Kinsop, Newcastle-on-Tyne; Mr. G. Webb, Monmouth; Mr. A. E. Merigold, Preston; Mr. W. L. Sleigh, Edinburgh; Mr. R. M. Wright, Lincoln; Mr. T. Garner, Manchester; Mr. R. B. Delafield, Plymouth; Mr. J. Chilton, and Mr. W. H. Smith, Huddersfield.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-28, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, NOVEMBER 30, 1907.

[No. 456.]

Published Weekly by CORDINGLEY & CO., 27-33, Charing Cross Road, London, W.C.

"THE INDUSTRIAL MOTOR REVIEW."

"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8½d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



ON Tuesday the Manx Tynwald Court resolved to continue in force for another year the Act which enables the Highway Board of the Isle of Man to give facilities to the Royal A.C. for motor races on the roads in that island. Although permission has been officially asked for, there is reasonable doubt as to whether it will be really required, the Society of Motor Manufacturers and Traders having just informed the Club that it will be better to concentrate the efforts of the motor trade on one great event for 1908. Should this view prevail—and it will certainly have due con-

sideration—the chosen trial will be the International Motor Contest, particulars of which have already appeared in our columns. The joint committee has been formed and preparations are now going well ahead in connection with that event.

Farmers and Motors.

At the various meetings of the Farmers' Union in Lincoln this week many references have been made by agriculturists to the presence of motorists on the roads where grazing by cattle is still indulged in. At Lincoln the recent speech of Mr. Embleton Fox, the chairman of the Lindsey County Council, was taken as the text, and it was said that but for road grazing many of the farmers in the district would scarcely be able to keep any cattle at all. At the same time it was agreed that the complaint of Mr. Fox as to the tenters being away some time from the stock was a reasonable complaint. Ultimately it was resolved that when considering the question of motor traffic attention should be paid to the safeguarding of the interests of farmers in grazing cattle on the road. At other branches of the Lincolnshire Farmers' Union where the matter has been discussed general agreement has been found with the suggestion that an effort should be made to create a national charge for the maintenance of main roads.

Kent's Effort.

EVERYTHING points to almost complete unanimity on this point, and not only are motorists agreeing with farmers as to the equity of such a proposition, but county councils are recognising the unfair way in which the present system works. Now the Kent Council is taking the initiative in securing a deputation of the county councils in the south to the Local Government Board, to urge the matter upon the notice of the central authorities. If some of the motoring organisations

would also associate themselves with this movement, it might hurry Public Opinion a little faster in our direction.

Damage of Holborn.

MR. A. W. GAMAGE, whose portrait we give on page 887 on his 40-h.p. six-cylinder Napier car, will have the sympathy of many motoring friends in the fire of Tuesday, which would have seriously perturbed many men. The great business in Holborn is a tribute to his commercial acumen, while the establishment is one of those places to which motorists from the country, as well as residents in London, freely resort. Mr. Gamage has long encouraged the sporting and social side of automobilism, and his associations with both the North London and the Southern Motor Clubs have ever been of the pleasantest and closest. The Gamage cup annually competed for by representatives of these organisations proves his interest in motoring as a pastime.

The Motor Cycle.

ALL will regret to hear of the lamented death of Sir Henry Colville, who was one of the keenest motor-cyclists in the country. He was infatuated with the machine, and had even persuaded Lady Colville to ride one. Indeed, we believe that one of the very first motor-bicycles ever turned out from Coventry for a woman was built for her. It was a common thing for General Colville to hold motor-cycle races and competitions at his Bagshot house. He had a track of winding and difficult paths serpentine through some twenty acres, and it was his delight to have competitions rather than races over this course. Several well-known men have shared the late General Colville's enthusiasm for the motor-cycle, notably Sir Martin Conway and Sir Conan Doyle; but probably he was *facile princeps* of the trio.

The Removal of High Hedges.

WE regret to have to record such a painful illustration of the disadvantages of high hedges as is suggested in the fatal accident to Sir Henry Colville. It was a pure mishap, one that could not have been prevented, and in which no blame could be attached to any person, but the recommendation of the jury as to the cutting down of the hedge, and the evidence of Sir Henry Rawlinson with regard to the turn in the road being invisible owing to a high hedge at Heatherside Corner, suggests that the county authorities might well survey the roads in their area with a view to clearing other corners similarly hidden from the sight of travellers. Owners of property would be readily

willing to thus increase the public safety, and a systematic inspection of the county roads should be made. In fact, the idea might be extended, and the scouts of the Automobile Association might, in their moments of leisure, report to headquarters all the hedges they find obstructing the view. And then a little consultation between the organisation and the local authorities should be the preliminary to the removal of high hedges at corners by their owners.

Organisation Troubles.

WHILE settlements and decisions seem to have been arrived at in connection with motor-car organisations, the organisation of motor-cyclists is in a parlous state, and few of those concerned are quite sure as to what will happen next. The excellent conclusion of the M.U. and A.A. controversy suggested by the two chairmen has now been endorsed by their respective bodies, and the R.A.C. and the M.U. have wisely agreed to let "the dead past bury its dead" and not indulge in the pastime of "mutual recriminations." Both organisations have previously been partners in good causes, and the dissolution will be made



The photograph reproduced above shows the fifty cars which were sent to Wood Norton for the marriage of Princess Louise of France and Prince Charles of Bourbon-Sicily. They were furnished by the Motor Supply Company, Ltd., of Piccadilly, London, and Messrs. McNaught and Co., of Worcester.

Photo by)

(C. Vandyk.

"decently and in order." The Motor Union has decided not to let the grass grow on its doorstep, and already an Emergency Committee is at work planning the policy to be recommended in the future. In order to lessen the period of uncertainty, it is probable that some arrangement will be made to terminate the agreement before December 31st, 1908—the date on which it would expire in accordance with the terms of notice.

End of the A.A. and M.U. Controversy.

MEANWHILE the General Committee of the Motor Union, at a meeting at which thirty-five of the affiliated clubs were represented, have decided to ratify the "give and take" agreement with the Automobile Association, which, by the way, has now got beyond a membership of five thousand individual members. The patrolling of roads, by this arrangement, is now left entirely in the hands of the A.A., who have generously undertaken to place the road information they have collected, and will daily collect, at the disposal of the M.U. They will also obtain any special information which the Union may desire, and which can only be collected by agents on the

road. On the other hand, the A.A. recognise that parliamentary work, general legal work, insurance, road-warning and direction posts, are within the province of the M.U. In view of this full and free recognition, the Union will in future consult with this body with regard to any new departure it may propose to make in these departments of activity, and thus the avoidance of friction may be guaranteed.

Earl Russell and the Club.

At the moment of going to press we have received copies of correspondence that has passed between Earl Russell and Mr. J. W. Orde, secretary of the Royal A.C., relative to the announcement that it is intended to formulate a scheme to secure to provincial clubs the advantages extended to them by the Royal A.C. Earl Russell pointed out to the secretary that no such decision was arrived at, and asked that the statement should be officially repudiated. In reply he was informed that "no resolution was proposed, but the committee was undoubtedly agreed upon the subject." Earl Russell's next communication intimated that "the temper of the committee was very strongly in favour of terminating the agreement, but very doubtful as to the wisdom of attempting to smash the Motor Union," a reply which brought a note saying that the letter would be laid before the committee at their meeting on Wednesday next. At that meeting Earl Russell will move a resolution of regret that the announcement should have been made.

An M.P. on Motor Buyers.

IN our issue of the 2nd inst. we gave interesting statistics with regard to the possible number of prospective owners of motor-cars in this country, and some conclusions based thereon indicating the extent of the market that is likely to develop for the next season or two. In connection with these a correspondent in a later issue drew attention to the need of remembering that a good many possible motorists dwell in flats as distinguished from ordinary domestic houses. Mr. L. C. Chiozza Money, M.P., referring to this correspondence in his weekly article for the "Morning Leader" on the Work of the World, confirms the figures we gave at the beginning of the month, and assures us that this aspect of the motor was not overlooked in the first instance.

The Dust Trials.

ALTHOUGH the Dust Committee of the Royal Automobile Club has not yet completed its report on the experimental cars and devices entered in Class III., it is in a position to state that two of the entrants showed considerable merit for their devices. The committee recommend that an award be made to Messrs. Dennis Brothers, Guildford, Surrey, for car No. 42 entered by them, which showed considerable reduction in the dust cloud raised by the wheels, and to Messrs. Wayman and Matthews for the device attached to the Vivinus car entered by them, No. 46, which device consists of a complete under-shield, made and arranged to create a draught of air to neutralise the ascending air currents at the back of the car, and thereby reduce the height and volume of the dust raised by the wheels.

Col. Crompton on Roads.

IN his presidential address to the Incorporated Institution of Automobile Engineers, Colonel R. E. Crompton devoted attention to the future of automobilism, especially as regards its development in new countries where the making of roads has received less attention than in the older lands. Recognising that the main arteries of transport in both cases will be either the waterways or the railways, he emphasised the fact that the network of distribution will probably be the roadways branching from or feeding these main arteries. Hence the importance which attached to the formation of roads in new

countries and colonies, and also the necessity he spoke of as to the automobile designers producing vehicles capable of traversing lightly constructed roads. In this connection he naturally referred to the achievements of Col. Renard, the inventor of the road train, and he also gave it as his opinion that the electrical driving of trailers offers a very promising field for mechanical workers in the future.

Main Roads for Motorists.

the main western roads without traversing the tortuous and narrow streets outside the metropolis. The proposed road will lead from Latimer Road, Shepherd's Bush, to a point about two miles east of Datchet. It will run due west to East Acton, over the Great Western Railway and alongside the line to Perivale, and then *via* Greenford, Hayes Bridge, and Dawley to the Bath road, close to Ditton Park. The proposed thoroughfare will be from sixty to eighty feet in width, with a dustless surface, and no speed limit will be enforced. Trees will be planted at each

APPLICATION will be made to Parliament next session for powers to construct a great trunk road from London westwards, for the exclusive use of mechanically propelled vehicles. The object is to provide a means of reaching

and have done much to consolidate opinion and make progress as conspicuous as it is. The Welsh A.C. is "going strong," and out of the sixty-three affiliated clubs now in association with the central body occupies the eleventh place, so far as the number of members is concerned. It is well presided over by Mr. Basil Valentin, of Llanelly, Mr. J. Shimell Andrew being the hon. secretary, with Mr. Glen Taylor, of Briton Ferry, and Mr. H. S. Thomas, of Llanelly, acting in a similar capacity for the eastern and western divisions respectively.

An Inquiring President.

As we were able to announce in our report of the Show last week, one of the most interested, and, to motorists, one of the most interesting visitors was Mr. John Burns, M.P., the President of the Local Government Board, upon whom will fall the introduction of the next Motor Car Bill—unless, of course, it is annually delayed beyond the life of the present Parliament. Mr. Burns not only inspected the cars on the main floor but, like the King of Spain, ascended to the Gallery and showed his desire to gain knowledge wherever such was available. He made an investigation of the tyre displays, and was most critical with regard to the metal-studded bands and other devices



The above illustration is reproduced from a photograph taken in the Court-yard of the Stables at Ingestre, the Earl of Shrewsbury's Staffordshire seat, and shows a fleet of eight Talbots. The first limousine on the right is the one which the Earl placed at His Majesty King Edward's disposal during his visit to Ingestre during the past week. The car on the extreme left is a 15-h.p. Talbot which was at the disposal of the King's messenger.

side. Care has been taken that in planning the road as little house property as possible shall be affected. In addition to the Bath road, the scheme would give motorists easy access to the main Oxford and Salisbury roads, as well as to Staines, Guildford, Walton, and Weybridge. Another similar proposal is also to be submitted to Parliament next year. By this scheme two roads, one commencing at Beadon Road, Hammersmith, the other at Glenthorne Road, Hammersmith, would join at Burfield Street. From that point the road would run close to the Chiswick Park Station, Metropolitan Railway, and through Turnham Green to the popular Bath road, which it would join near Datchet.

The Welsh Club.

CONGRATULATIONS may be accorded the Welsh A.C. on the successful season they have had, and also on the pleasant reunion reported on another page. At this dinner honour was shown Captain D. Hughes-Morgan, J.P., Mr. F. Cory Yeo, J.P., Mr. H. Morton Evans, and Mr. S. L. Gregor, who have rendered good service to the Club from the beginning. Such evidences of appreciation are frequent in the motor movement,

about which the Local Government Board has received many complaints from the authorities in rural districts.

Courtesy on the Road.

THE Midland A.C. has just issued a neat card for exhibition in the motor houses of its members, giving some rules of courtesy and consideration which chauffeurs and others are urged to adopt when on the road. This is arranged in acrostic fashion, bringing the Midland Automobile Club prominently to the front. One useful point of advice is that on no consideration should the motorist drive away in case of accident without first ascertaining the extent of damage done or received. Witnesses should also be obtained to note the track of the wheels of any cars or vehicles concerned, and "a tape measure on your car may often strengthen your case."

FROM the Darracq Company comes an interesting booklet descriptive of a trip across Europe in a Darracq voiturette. The little work is fully illustrated, and describes the extremely arduous journey made by an 8-h.p. two-seated car.

FROM GLASGOW TO LONDON BY DAYLIGHT.

IT can be done comfortably and conveniently by motor-car. There is no need to worry about police guidance or obstruction provided the high road be taken, and, what is even more important, an early start be made. The story I am about to tell has been delayed by the modesty of the narrator, who has been grieved to learn of the disappointment of the police at being passed napping or otherwise robbed of their prey. For we journeyed through danger zones in the district around Carlisle, again at Bawtry, seven miles from Doncaster, and at Buckden, where yellow plaques denoted the vigilance of the Automobile Association.

It was a glorious morning—4 a.m.—when Mr. A. Clifford Earp and the penman set forth on a 35-h.p. Iris from Glasgow. The car was famous, had won a gold medal in the Scottish Trials, and had generally distinguished itself by its silent and consistent running. There was no traffic met all the way to Hamilton, where a few colliers seemed surprised at other people being up so early. Then we encountered a circus removing—weary horses, weary women leading the same, and weary men sitting in the doorway of the caravan, presenting quite an unique spectacle. Kingsley told how “men must work and women must weep.” We saw women nearly doing both.

And then it was a long strong drive over the Ayrshire hills to the Annandale country. There was a slanting sleet that



The Scottish A.C.'s New Road Sign.

shot into our faces as though we were invading a hostile country. Unfamiliar telegraph poles indicated that snowstorms were troublesome at times, while the keenness of the morning air satisfied us as to the bleakness that was possible on those hill tops. The mountain sheep looked askance as the Iris sped forward to Ecclefechan, the birthplace of Thomas Carlyle, and full of associations with the philosopher and his family. The village has cross roads, and, as is frequently the case in Scotland, the police are generally watchful of motorists at that point. The Scottish Automobile Club looks after its members, and is erecting warning signs at many points.

A broad and fertile plain stretches along to the Solway that silvers the landscape with a streak quickly widening as the Cumberland range of hills become more marked in the distance. We saw the “braes of Kirtle,” of which Wordsworth wrote, and then through the Vale of Logan to Gretna Green. Ours was no runaway match—so there was no need to call the blacksmith, who probably finds the supply of spirit to thiraty motors less profitable than the marriage fees that came his way prior to 1856. The next few miles were through the once debateable ground claimed by both England and Scotland, but now acclaimed by both parties as Britain. We crossed Solway Bridge, where photographs had, of course, to be taken, and made speedy travel to Carlisle—interesting historically and important locomotively.

From Carlisle to Penrith was the next stage, tantalising enough to know that a few miles to the right we might have been in the centre of the Lake District; but the air was chill, and breakfast awaited us at the George Hotel, Penrith, a com-

fortable hostelry that has seen many changes in the way of travel. And having thus replenished our own supplies, Mr. Earp got to the wheel again, and we prepared to go over Shap—once a terrible experience for a motor-car but quite a commonplace matter for such a car as the modern Iris. From Penrith to Shap the distance is about eighteen miles—and cold ones, too. Fortunately the surface was fairly good as we wound about the hill and strode through the neat town of Kendal. Towards the river Lune the way was then made, and in Kirkby Lonsdale, one of the trimmest of all Westmorland villages, the old market cross reminded us of a similar scene at Cheddar. To avoid the cobble stones of Lancashire we struck through some of the smoky towns of Yorkshire. Beyond Settle was Skipton, the great wide street of which was full of farming men and farming implements, while the ancient castle nestled away behind the houses out of sight. What charming scenes we narrowly missed, and, but for the invincible determination to land in town that night, might have seen. Wharfedale seemed to call us to Ilkley and Rumbles Moor, (while we could fancy we heard the splashing of the stream at the Strid, near Bolton Abbey. But our way was Keighley, Bingley, Shipley, Bradford's tram-lines, Wakefield's cathedral—not like the traditional cathedral cities such as Hereford, Salisbury, or even Rochester—and on to Doncaster. At the racing town we were called to attention by the railway level crossing; and then we remembered that Penrith had been our last stop, and that was some hours behind. So we lunched.

Beyond Doncaster, and after passing the famous race-course, a narrow streak slanted in the distance. It widened as we drew nearer, and suddenly we were upon the Great North Road. Seven miles ahead was Bawtry, from whence police traps are operated; our pace was needlessly slow. But, although we were in a bit of a hurry—for luncheon and the level crossing into Doncaster had delayed us beyond the schedule—there was no need for undue expense, in which category police fines may be included. Then across Barnby Moor, where Ye Olde Belle welcomes motorists, and seems to have enjoyed a recrudescence of prosperity and popularity—almost synonymous terms where the motor-car is concerned. Newark was the next place of note, and the Iris silently swung across the town on to the pleasant country beyond. What a contrast between the bleak matutinal outlook of the Ayrshire mountains and the rich cultivated area through which the North Road runs to Grantham and beyond. Grantham is an enjoyable-looking place, with a fine row of trees on the main road, and a statue to Newton that would do credit to a busier town. Then we journeyed through Colsterworth, ancient Stamford town and by the dangerous zone of Norman Cross. Alconbury looked like an outpost of the Automobile Association with its badges and signs all bright in the sunlight, revealing a solicitude for the motorist likely to fall among—no, I mean the police. This continued all the way from Alconbury onward to Hatfield. On one of the straight stretches (and how the car bounded along those speed-inducing tracks) we descried a dark figure idling on the side walk; he seemed to be practising the movements of a windmill, and must have been travelling at a very fair pace, for when we drew up to talk with him he was out of sight. Whichever of the parties was moving the faster is still uncertain, as that oft-repeated effect of moving trains passing each other was produced. It was a pity, for he might have been a policeman anxious to direct us to a shorter path than the one we were pursuing.

Then through Eaton Socon and Biggleswade, where an agricultural motor reminded us of Dan Albone, we reached Baldock.

The rest of the journey—38 miles to London—is familiar to all who have motored near the Capital. The road is by the ancestral gates of the Salisburys and into Barnet, Finchley, and the northern suburbs of the Metropolis. Into these the Iris glided gracefully, nothing loth—nor were the riders—to reach home after a run of more than 400 miles between the break o' day and the twilight. Mr. Earp had driven right through, and but for the two halts mentioned there was ne'er a stop—a tribute to car and driver alike. The Iris certainly is a vehicle for touring in comfort, as the long day's journey amply demonstrated.

W. H. B.

The Paris Motor Car Show.

(Concluded from page 828.)

AN enquiry among the makers who are exhibiting six-cylinder cars at the Paris Show does not tend to prove that the French purchaser is "gone" on the six-cylinder motor for ordinary touring work. There are about forty makers exhibiting some fifty "six" models in the *Salon*, and it is a rather curious fact that only about a third of the vehicles on

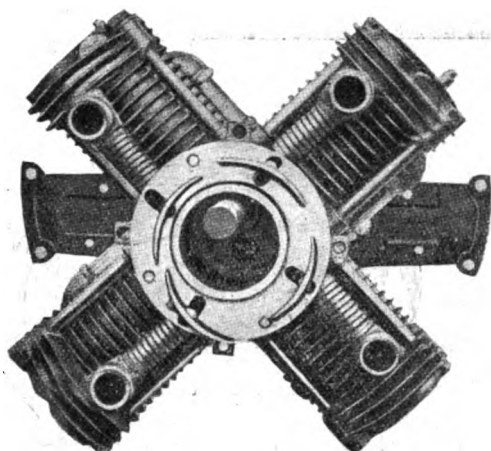


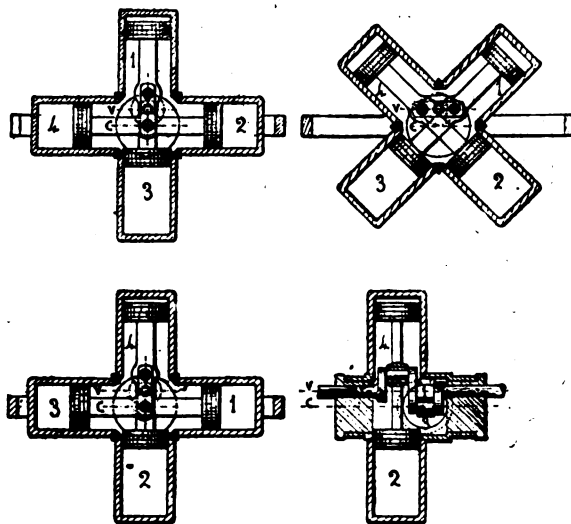
Fig. 10.—Front View of Burlat Engine.

view are over 40-h.p. Possibly the fashion for moderate sized cars, with, of course, a correspondingly reduced fuel bill, has something to do with the modest pretensions of the "sixes" at the Paris show. The six-cylinder car will certainly find a place in the output of French works next year, and an important one at that, but its usefulness is not so clearly defined as is that of the two and four cylinder machines. Nevertheless there are one or two firms doing a deal of work to popularise the six-cylinder, as, for example, the Delaunay-Belleville, whose 15-h.p. machine is an interesting production. The Lorraine-Dietrich six, with cylinders of 80 by 120 and rated at 15-20-h.p., is, perhaps, one of the smallest of the better-known cars in the show. The Mors six, with the cylinders all cast separately, anticipates another objection, since it hides nearly two of its cylinders beneath an overhanging dashboard. Several of the six-cylinder engines have a double exhaust pipe, one for each three cylinders, and in some cases one can be used alternatively, to permit the other to cool. It may be allowed that the six-cylinder models are of merit, and are excellently designed in the great majority of cases, but they appear to run very much on the same lines as their four-cylinder brothers, each following the practice of its maker. The six-cylinder Berliet is somewhat of a relief to the majority of makes, since it presents the powerful air-compressor used as an aid to the cylinder pressure in times of need. It is somewhat difficult to account for the fact that most of the six-cylinder exhibits consist of engines not fitted into chassis, unless it is that the makers are not pushing the "sixes" next year any more than they did last season. High tension ignition predominates with these machines, and there are, perhaps, only half-a-dozen "sixes" with low tension ignition, following in most cases the standard practice of the makers. Finally, the matter of casting the cylinders in one, two, three, or separately, is not yet resolved, for there are numbers of all kinds to be found, although, perhaps, the casting in pairs is the most predominant. The Beatrix is about the only "mono-block" six-cylinder to be seen, while the 120-h.p. of the Itala make, with cylinders 140 by 140 mm., is one of the most powerful models.

The appended table, compiled by "L'Auto," shows the details of some of the six-cylinder motors at the Salon:—

Names.	Bore and stroke mm.	Ca'a-logue h.p.	Names.	Bore and stroke mm.	Cata-logue h.p.
Berliet	100 x 140	40	San Giorgio	—	40
Berliet	120 x 140	60	San Giorgio	—	60
Delaunay-Belle-ville	85 x 120	15	San Giorgio	—	80
Delaunay-Belle-ville	115 x 130	40	La Buire	92 x 120	24-30
Hotchkiss	114 x 140	35-55	La Buire	102 x 130	30-40
Renault	120 x 140	50	La Buire	120 x 140	40-60
Panhard-Levassor	135 x 140	65	Darracq	—	40
Lorraine-Dietrich	80 x 120	15-20	Milde-Gaillardet	120 x 130	40
Lorraine-Dietrich	130 x 150	75-80	Georges Roy	110 x 150	50-60
Brasier	112 x 130	50	Porthos	—	25-36
Mercedes	120 x 140	65	Porthos	—	50-60
Mercedes	120 x 150	75	Rossel	110 x 110	30-40
Fiat	110 x 130	35-45	Rossel	120 x 110	40-50
Fiat	125 x 150	60-70	Rossel	135 x 140	60-80
Gobron-Brillie	112 x 200	70	Rochet-Schneider	104 x 140	30-45
Breguet	100 x 130	30	Rochet-Schneider	120 x 160	45-65
Breguet	120 x 130	50	Peugeot	130 x 140	60
Minerva	105 x 120	40-55	Hispano-Suiza	100 x 120	30-43
S. C. A. R.	100 x 130	35	Hispano-Suiza	130 x 140	60-75
Gladiator	95 x 130	30	Bussan-Bazelaire	80 x 110	15-20
Gladiator	115 x 130	50	Vinot-Deguingand	—	40
Itala	130 x 140	60	Beatrix	100 x 110	15-20
Itala	140 x 140	75	Beatrix	105 x 130	30-40
S. P. A.	139 x 145	60	Belgica	125 x 140	60
Pickard, Pictet	100 x 120	28-40	Germain	120 x 130	70
Bollee	106 x 130	30-45	Mors	114 x 850	50
Bollee	125 x 150	60	Unic	85 x 120	—
Bollee	130 x 150	75	Weyher & Richmond	—	25-30

The only two British firms exhibiting cars are the Wolseley Tool and Motor Car Company and the Rover Company; the former is represented by a 14-h.p. Siddeley car, with side



Figs. 11 to 14.—Diagrams illustrating the Action of the Burlat Motor.

The first view shows the initial position, cylinder No. 1 commencing the explosion stroke. The second illustration shows the position when the cylinders have made one-eighth of a revolution and the crankshaft a quarter of a revolution. In the third drawing the first cylinder has travelled half its course, while the complete engine has made one-fourth of a revolution. The fourth sketch shows a sectional view of the engine through the crankshaft.

entrance body, an 18-h.p. chassis, a 40-h.p. chassis, and a 45-h.p. six-cylinder vehicle with limousine body. The Rover Company's exhibit consists of one of their 8-h.p. and two 6-h.p. single-cylinder vehicles, the details of which have been dealt with in the Olympia Show reports in these columns.

Besides the eight-cylinder car of Burlat (Fig. 10), whose rotating motor is attracting so much attention at this Show, and which was described last week, there is another eight-cylinder motor at the Show, made in Austria by Messrs. Laurin and Klement. Its cylinders, Fig. 15, 88 by 110 mm., in two blocks, make a light group weighing about 600 lbs. complete. The ignition is obtained by means of two high tension magnetos, although, owing to the impossibility of finding a magneto suitable for an eight-cylinder motor, two high-tension machines are used; this deficiency is, however, being remedied by the Simms-Bosch firm. There is also accumulator ignition, this being connected to the same sparking plugs as the magnetos. The motor does not present other interesting features, although its length is no more than that of a good many "sixes." Whether this is the doyen of the eight-cylinder motors for touring cars remains to be seen.

The Stabilia car frame is hung below the wheels of the chassis, and is simply the reverse of the usual frame, which is suspended above the axles of the wheels. It is claimed that the car cannot possibly overturn when hung in this manner. This is about the only exponent of the extra low chassis which is to be found in the Show.

"See the cars first, and then, if we are not tired, we will go round the accessories," is a remark often made by visitors to Paris. They would, however, do better to devote a day to see the accessories only, which are in the first floor rooms of the Grand Palais, where the artists are wont to exhibit their canvas. The whole of the space occupied by the world-famous Salon des Artistes Francais is now occupied by tyres and accessories for cars and bicycles. And the accessories overflow into the galleries on the ground floor, and even there are not exhausted, for the Annexe to the Show, on the Esplanade des Invalides, has a liberal sprinkling. All this tends to prove that the accessory is not a neglected article to be chosen at hazard after the car has been purchased. The choice of accessories is almost as important as the choice of the car, for almost any vehicle on the market nowadays will run, but lack of or poor choice of accessories means the difference between comfortable riding and discontent by the chauffeur, owner and even the ladies of the party. And this is easily proved by reference to the splendid exhibits which are displayed before eager crowds in the Paris Show.

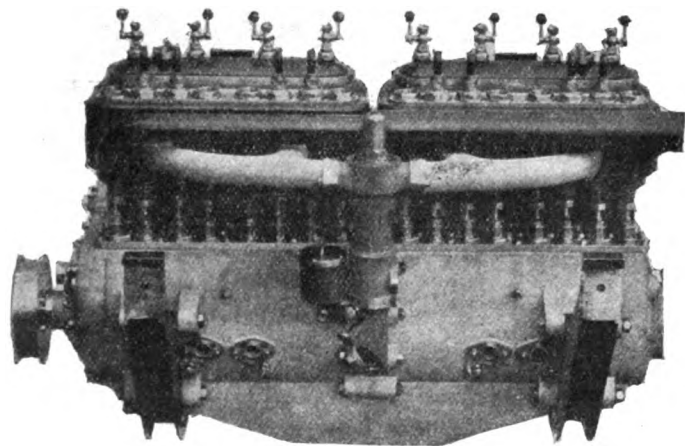


Fig. 15.—The Laurin-Klement Eight-Cylinder Engine.

In the galleries divided from the main nave by soft hangings (and yet not hung in such a way as to encourage fire, as was the drapery in front of the lights in the dome of the grand nave, and which consequently gave an unwonted attraction last Saturday to the spectators by taking fire, following upon a short circuit) are heard shrill tootings, piercing sirens, gruff horns of the basest tone, and the crackling of magnetos. The military music in the main hall is unheard, and accessories have a clear run without a thought being bestowed upon the most troublesome of questions—the choice of a car. Here are just a few of the novelties in the way of accessories. A silencer, which is

claimed to be more efficient than even a free exhaust is the Silencer a vide (Fig. 16). It consists of a hollow cylinder into which the exhaust pipe discharges its gases. In two different places these escape around the orifice of a funnel so as to induce a free current of air down the funnel, the larger end of which is open to the atmosphere. The air passing down the funnel increases in pressure as the latter decreases in size and mixes with the exhaust gas escaping round its orifice and exhausting the gas in the same direction as the induced air, and at the same pressure,

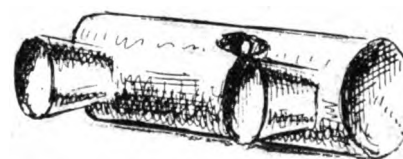
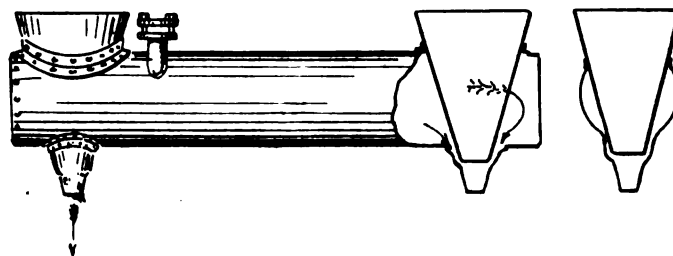


Fig. 16.—The Vacuum Silencer.

thus really theoretically abolishing the back pressure and increasing the motor efficiency as well as giving an efficient silencer.

A feature of the accessory department is the large number of shock absorbers on view. Pneumatic, liquid, spring, worm gear, in fact, all manner of applied mechanics is pressed into the service. One of the simplest, at least, is the Sans. In this, at the articulated joint of two levers meeting in the enclosed part of an elliptic spring, is a rounded extension of each lever. Around this is a friction band, which can be regulated at will according to the tension required, and which acts as a brake on the spring action. Shock absorbers are closely identified with systems of suspension, so that it is not surprising that there are also several of the latter on the market to compete. Generally these consist of blocks of rubber placed around the extremities of the car springs, and with or without pneumatic cushions. In one or two cases these soft rubber cones are quite of large dimensions.

Miniature mirrors to observe the traffic at the rear are well known, as are also the electric indicators to give instructions to drivers. Several excellent specimens of the latter are on show. It is a remarkable fact that as soon as a new accessory appears there is a market for it, and it would be hard to point out a single article which has lost favour, except through changing conditions of the trade. Certainly the public welcome all these little aids to comfort, even though the total cost adds considerably to the prime outlay for the car.

The Archimede is a rotary appliance which, with one end inserted under one point of the tyre, whips the cover from the rim in less than a minute, and with only the trouble of turning a handle. It preserves the tyre from injury and considerably eases the operation of tyre removal. The Consometre is an apparatus which indicates the consumption of fuel of the car at any given moment; it also registers the total consumption on the run and the quantity remaining in the reservoir. In order to decrease the work and trouble required to sound the horn there are several appliances on view. The Electric Sonor is one of these. It consists of a bell re-sounded through a horn and operated by a 4-volt battery, with a push button on the steering wheel.

Amongst the tyre pumping machines there is the Michelin pump, weighing 8 lbs. and pumping up a large tyre to full

pressure in three minutes. The Vadam pump (Fig. 17), which is being introduced into England by the London Motor Garage Company, Ltd., does better; it inflates the tyre in a minute, and without overheating. It consists of a number of very small and quick action pumps united in one cylinder, and the whole is operated by a friction wheel making contact at will with the flywheel of the motor. The Simplex pump is of another type, chain driven, and entirely of metal. It pumps the air *en bloc* and at great speed.

Headlights are galore, electric and others. There are some which are arranged for turning at the same time as the steering wheels of the car; another inventor has hit on the idea of making directing supports to serve the same end with any lamp attached. Among the electric headlights there is one known as the Triparabolique, of which the principle, in addition to the parabolic mirror lining the casing, consists in the three lights arranged one in front of the other, and of the total illuminating power of three candles only. Thus the most possible is made out of the parabolic mirror. It is claimed that this headlight will illuminate the road 450 yards ahead, and that a newspaper can be read at a distance of 160 yards. Its weight is under 4 lbs. complete. The dynamo-phare Eyquem solves the question

several new forms are to be seen. The trouble up to now has been in the smaller bearings, to replace a broken ball without dismounting the whole of the bearing. Broken balls are the bugbears of small bearings, and not much has been done to remedy the defect. One or two appliances are shown in which the balls are mounted on a single crown and attached by headed rivets, two by two. In the larger size bearings there is more scope to make a good job, and among these the Roche and Sauton are worthy of notice. The novelty consists in the fact that the steel ball is located in a brass crown and kept in place by a pressed rim on the side where the ball is inserted.

Carburettors are also receiving a deal of attention this year, many makers of cars now fitting carburettors to their vehicles which are being made by outside specialists. This part of the automobile is one which should, and does, obtain the closest attention of inventors, and probably more patents are filed on this detail than on any other point of the car mechanism. There are so many makes and so many claims made by the constructors that to enumerate them would fill columns; and again, each type has a special point which presents interest only to a few. There are one or two carburettors on view which will work equally well with all kinds of fuel; this is a claim out of the common, and one which is bound to obtain recognition when the time comes to seriously consider the use of either alcohol or heavy oil on motor-cars.

A neat appliance is the Auto-Routier, which operates from cogs on the front wheel of the car. It presents to the chauffeur the route he is taking in plan view inside a glass case and a needle points to the exact spot where he is at any moment whilst the chart gradually rolls up out of sight. On the plan is an indication of all the towns, hills, turnings, dangerous spots, &c., and as the rolls of plans can be replaced in the apparatus very easily, the accessory may be of great service to those not knowing the roads over which they are travelling.

Should the non-skidding tyre be termed an essential or an accessory? Even the tyre makers are not sure of the point, otherwise the non-skids would rarely take the form of a band to put on over the cover. However, the question of lost rivets appears to be settled in the minds of the makers, as a glance at the very much used non-skidding tyres will show. Steel studs are increasing in formidable proportions, which may be rather exaggerated when one considers the decreasing favour in which heavy cars are regarded. Some of these rivets protrude nearly half an inch from the tyre; the rivets may be round, or square arranged right across the tyre thread, or simply on the sides; and they nearly all have washers

beneath to prevent the rivet from cutting the fabric. The use of leather covers is much on the increase, some very neat tyre covers being made with chrome leather. One non-skid on view consists of rivets driven through fibre pieces laid crossways over the tread, three rivets per fibre. The latter is, of course, impervious to moisture, and is very hard indeed to break or wear. In another the steel studs are surrounded, every other one, by leather. This section cannot be left without a reference to the Norat pneumatic tyre protector. The sides of the tyre are entirely encased in a plate of steel, and in this, at the top, and, of course, around the track fits a leather-steel band, which bears on the exterior casing of an ordinary pneumatic tyre. Thus resiliency is retained and damage to tyres is obviated. The band around the tread fits into the space left by the two steel plates on the sides of the pneumatic, and these also have studs to prevent creeping of this band. The contrivance is certainly neat but somewhat heavy.

At the recent motor show at Madison Square Garden, New York, 63 per cent. of the cars on view had cardan shaft transmission, 31 per cent. side chains, and in 6 per cent. the final drive was by a single chain.

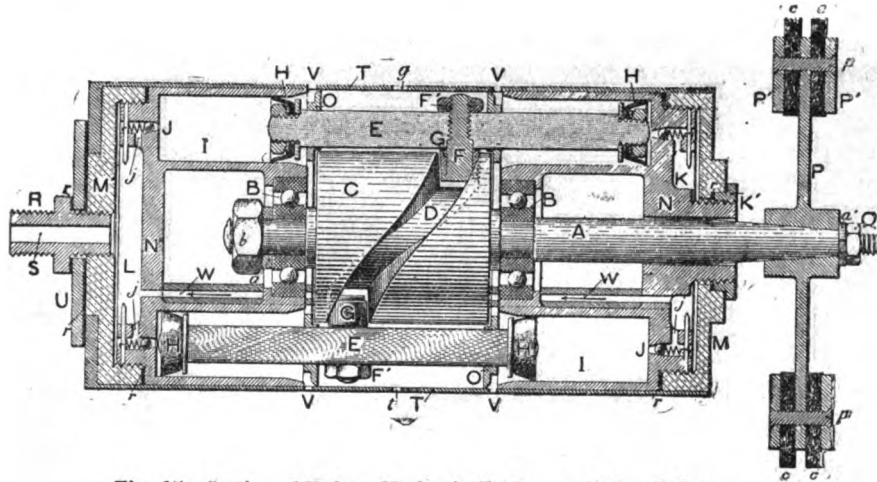


Fig. 17.—Section of Vadam Mechanically-Operated Tyre Inflator.

- | | | |
|-----------------------------------|----------------------------------|-------------------------------------|
| A. Driving spindle. | J. Check valves. | T. Outer casing. |
| B. Ball races. | K. Return chamber. | U. End flange. |
| b. Nut on end of driving spindle. | K'. Locking nut. | V. Air inlets. |
| C. Grooved block. | L. High pressure chamber. | W. Return to high pressure chamber. |
| D. Spiral groove. | M. End plate. | a. Washers. |
| E. Sliding bars (pistons). | N. Spindle bearings. | g. Oil hole. |
| F. Sliding block-pins. | O. Slide bar guides. | i. Waste oil outlet. |
| F'. Nuts on blocks. | P. Flange of driving wheel. | j. Gaskets. |
| G. Sliding bar blocks. | Q. Nut for fixing driving wheel. | p. Screws assembling driving wheel. |
| H. Leather cupped washers. | R. Threaded connection. | c. Leathers. |
| I. Air chamber or cylinders. | S. Outlet. | |

of electric lighting of vehicles, and at the same time provides an excellent source of light for the road. It only takes a fifth of a horse-power from the motor, from which it is belt driven. It charges a small battery which is automatically switched on when the car is at rest.

The Autoloc is one of the accessories which appears to be the most useful, but seldom seen on cars. It fulfils a variety of purposes, and, as its name implies, automatically locks any and every action which is commanded by hand or otherwise. It presents no inconvenience in respect to unlocking when a modified action has to be made, and in fact the operator is quite unaware of its action. It does away with the ratchet on the brake lever, it enables a lever to be used in any position without the fear of displacement, unless by voluntary means, and for this reason is applicable to practically all the manoeuvres of the car driver. The appliance, which only weighs a few ounces, consists of a double eccentric, acting on distance balls, kept apart by a spring, so that the latter automatically holds the eccentric in place when the movement progresses, by means of its pressure on the steel balls or rollers, which can only move with the movement of the eccentric, which is hand operated, according to the movement of its corresponding lever.

Ball bearings have received renewed attention this year and

CONTINENTAL NOTES.

Motoring in Bavaria.

Bavarian manufacturers of motor-cars are complaining of the vexatious police and other regulations which are impeding the free development of the new industry. In Bavaria the average speed of motor-cars must not exceed nine miles an hour in towns or villages. Of the 27,026 motor-cars in the German Empire on January 1st only 2,356 were registered in Bavaria.

Public Motor Services in France.

The Renard Train Company are establishing a service between La Poudy and La Charité. The Orion Company are also making some experimental runs in connection with a projected service between Bourg-Argental and Annonay.

Milk Delivery by Motor-car.

A large creamery at some distance from the large industrial cities of Essen and Bochum, Germany, is arranging for the delivery of its milk to these centres by several specially-built motor vehicles. The milk is first to be brought to a low temperature by means of cooling machines, and is to be transported in large felt-insulated cans. The daily round trips of each van

system, and eventually the matter was placed in the hands of the A.C.F. technical committee for solution. The question of an international formula for use in touring car competitions was next discussed, and it was agreed that such a formula should be prepared.

Belgian Motor-car Imports and Exports.

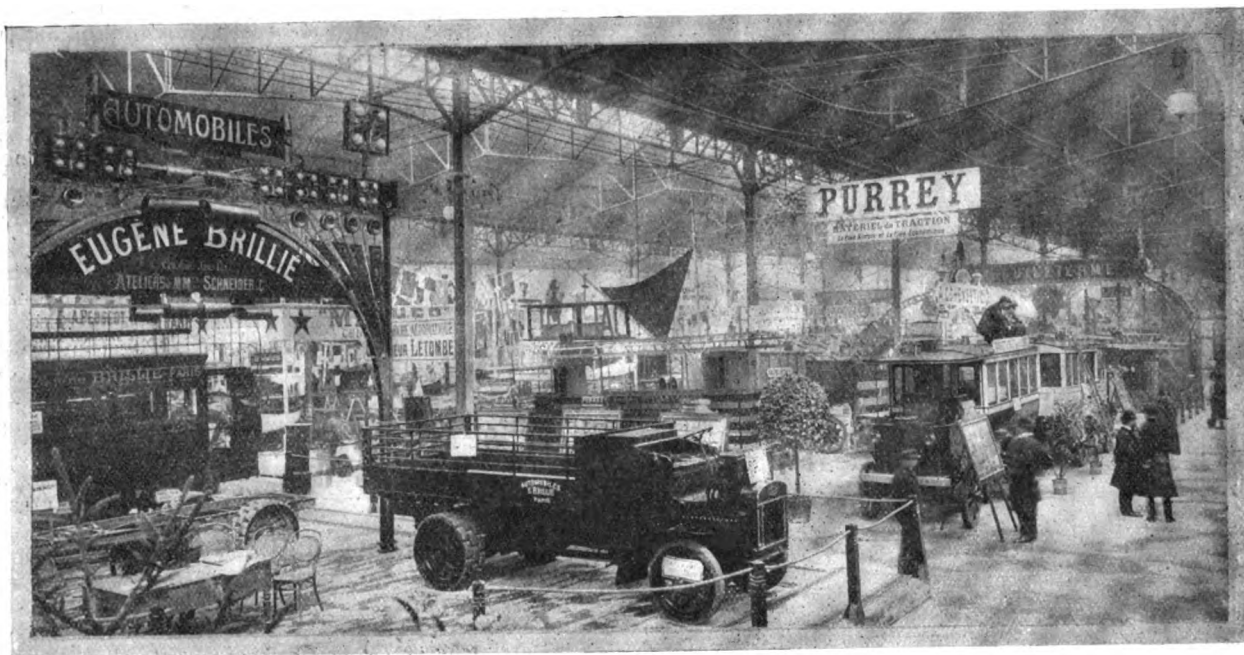
To the end of October last the imports of foreign motor-cars and parts into Belgium had this year attained a value of £142,764, as contrasted with only £135,324 in the first ten months of 1906. During the same period the exports of motor-cars and parts from Belgium increased from £317,200 to £368,856.

Public Services in Germany.

A concession has been granted for the establishment of an electric motor-omnibus service between Baden and Alland. While the vehicles will run on the ordinary road, the motive-power will be furnished to them by means of overhead trolley wires, in the same way as on electric tramways.

Stone Throwing at Motorists.

For some time past a good many complaints have been made as to the dangerous practice of schoolboys throwing stones



The Paris Salon.—A View of the Industrial Vehicle Section in the Annex.

will be completed in three to four hours, so that the milk will reach the customers quite fresh. About 2,000 gallons per day are to be transported in this manner.

Motoring Events in 1908.

The annual "Congres du Calendrier" was held in Paris last week, when the dates for the principal motoring events to be organised in 1908 by the various national Automobile clubs were provisionally agreed upon. The Nice meeting will run from March 22nd to 31st, the Targa Florio contest was fixed for May 10th, the Prince Henry of Prussia touring competition for June 9th to 17th, the A.C.F. Grand Prix for the first fortnight of July, the Ostend week for July 13th to 17th, the Ardennes Circuit and the Liedekerke Cup for July 20th to 30th, and the Coupe de la Presse for the first week in August.

An International Automobile Congress.

The congress of delegates of the recognised national automobile clubs was held in Paris last week. Although the meeting was private, it is stated that a good deal of discussion took place with regard to the classification in races of such engines as those of the Gobron-Brillie type and those working on the two-cycle

at passing motor-cars. The matter was discussed at a meeting of the Association Generale Automobile in Paris last week, when it was decided to approach the French Minister of the Interior, with a view of inducing him to issue a warning notice to be posted up in schools and outside public buildings.

Round the World by Motor-car.

The "Matin," of Paris, which suggested the Pekin-Paris motor race, now proposes to organise a motor trip from New York to Paris. The journey, with the exception of the small strip of water at Behring Strait, is to be made by land. The distance is nearly twice as great as the Pekin-Paris run.

Miscellaneous Items.

The Automobile Club of Milan is organising a competition of motor lamps, to be held early next year.—A company has been formed in Vienna to place Elastex-filled tyres on the Austrian market.—A company is reported to be in course of formation at Salonica, Turkey, to inaugurate a public motor-car service in that district.—A motor-car exhibition is to be held in Budapest from the 17th to the 31st May next.—The Dansk Motor Union—a union of all the motoring clubs in Denmark—has just been formed at Odense.]

THERE are about 400 motor-cyclists in Hull.

MR. G. BERNARD SHAW has become a life member of the Motor Union.

MR. T. FISHER UNWIN has just published the Ordnance Survey map of Huntington and also of Preston. The good features of these authoritative maps are generally known.

MR. T. C. SPONG, of Shaftesbury Avenue, W.C., is introducing a non-skid band, which has rendered good service. It consists of a fibrous band to encircle the tread of the tyre, and which picks up the grit of the road, forming a good non-skidding surface.

THE Hutchinson motor tyres are being kept well to the fore by the excellent handy map which the company is supplying to its agents from 13, Maddox Street, W. They are also issuing an admirable circular giving calculations for the proper inflating of motor tyres.

WE learn from Mr. J. B. King, 20, Lordship Terrace, Stoke Newington, London, N., that the Bombay Reliability Trials proposed to be organised by the Motor Union of Western India have been postponed to February 2nd of next year, owing to the shortage of the petrol supply in India.

WITH regard to the awards in the Commercial Vehicle Trials of the Royal A.C., confirmation comes of the report, first announced in the "Industrial Motor Review," that a silver medal has been awarded to the lorry with detachable sides entered by the Darracq-Serpollet Omnibus Company, Ltd. This was omitted from the first official list.

NAZARRO, the famous driver of Fiat racing cars, and the winner of the Targa Florio, Kaiser Prize, and A.C.F. Grand Prix events, was at the Fiat Co.'s stand at Olympia last week. On Sunday he had his first experience of motoring on English roads, while on Monday he made his acquaintance with the Brooklands track.

APPLICATION for the formation of a local centre of the Society of Motor Manufacturers and Traders, to embrace Nottinghamshire, Derbyshire, Leicestershire, Lincolnshire and Rutland, has been made. The seven necessary signatories are Messrs. Johnson and Co., King and Co., Ltd., Bennett and Co., Empire Garage Company, H. Belcher, Midland Counties Motor Garage Company, and A. R. Atkey and Co., Ltd.

IN consequence of it having been found that the bright red "Shell" motor spirit cans of the British Petroleum Co., Ltd., are being used for illicit purposes, *i.e.*, seals being removed and inferior substitutes filled into the cans, in future an adhesive label will be placed on the handles of the cans. All "Shell" motor spirit cans are sealed—the seal representing the trade mark—an escallop shell such as is well imitated in a new ash-tray sent by the company to impress the distinctive mark of the company on the editorial mind.

FROM the Mitchell Motor Works and Garage in Wardour Street, London, W., comes a new edition of their "Motor Roads to London," which was favourably reviewed on its first appearance. The book has been considerably amplified and is prepared in a handy form for the public. Metropolitan motorists will appreciate the map accompanying the volume, in which the main roads in and out of London are shown. To give them due prominence all minor details have been omitted, and this feature should be of practical value both to residents in and visitors to London.

MOTORISTS will regret to learn of the fire on the premises of Messrs. A. W. Gamage, Ltd., in Holborn, on Tuesday morning. Despite the heavy loss the head of the business with characteristic enterprise quickly got to work, so that the patrons of the Christmas bazaar should not be disappointed, and business in the motor accessory and other departments will be continued without appreciable dislocation. So great are the resources of the firm that although stocks were destroyed to the value of £20,000, replenishment is taking place as we go to press, and a thousand assistants as busily at work as though no such misfortune had occurred.

HERE AND THERE.

THE Automobile Association now has 5,000 members.

THE most comfortable-looking sandwich-men promenading the route to Olympia in the last fortnight were the Dunlop folks, clad in waterproof "plu" coats

and twill driving caps, and carrying enamelled iron discs and yellow cotton umbrellas—lettered, of course, with the name of the famous tyres.

FROM Messrs. Morgan and Co., the British agents, we have received a useful booklet giving full instructions as to the care and attention which must be given to the Adler cars.

THE "CHADDESLEY" MANUFACTURING COMPANY, of the Cookley Iron Works, near Kidderminster, showed some excellent stamped steel flanges for motor-car wheels at the Olympia Exhibition.

DESPITE the fog last week's sale by Messrs. Hampton and Sons on the Brooklands Motor Track at Weybridge was successful, a large gathering being present, and satisfactory business being done.

THE monument, which has been erected near the entrance to the Bois de Boulogne, Paris, in memory of the late Emile Levassor, one of the pioneers of the French motor industry, was unveiled on Tuesday last.



Mr. A. Clifford Earp on the 35-h.p. Iris on Solway Bridge.

[See page 860.]

PREPARATIONS for the Franco-British Exhibition at Shepherd's Bush next May are rapidly going ahead, and promises of support are being received from many of the leaders of industry both in this country and in France. The site selected at Shepherd's Bush covers 140 acres, and the various methods of transport available will be capable of conveying 75,000 persons to the spot every hour.

AN Argyll 10-12-h.p. two-cylinder car belonging to Mr. J. E. Young, a member of the Scottish Club, has recently accomplished a noteworthy fuel consumption trial under the observation of the R.A.C. The car in question is that which won a gold medal in the S.A.C. Glasgow to London event of four years ago, and has always possessed remarkable economy in petrol consumption. The trial to which we refer took place on the great North Road. A special tank was fitted to the dash, into which exactly one gallon of fuel was measured. On this the car completed 39½ miles on the outward journey, and on the return, under similar conditions, exactly 40 miles to the gallon. The carburettor was a Longuemare, having regulation of gas and air. A twelve-hole jet with two holes blocked was used with a No. 34 funnel and a Bowden auxiliary air inlet on the induction pipe. The petrol used was Borneo spirit of a density of .756. Although on some of the hills, when coasting, the engine was allowed to stop, the performance is a remarkable one, especially in view of the fact that the car in question weighed with its four passengers 2,578 lbs., and is about four years old.

THE Metropolitan Water Board are endeavouring to obtain a coin meter in connection with the supply of water to the steam vehicles in the London area.

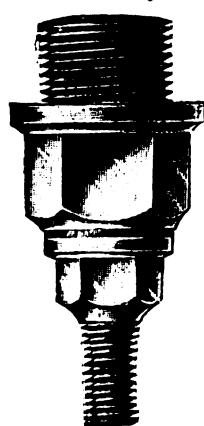
THE Derwent Engineering Company, of the Central Square, John Street, Workington, have motor-cars on hire, and also undertake motor repair work generally.

SOME of the officials of the Garden City Association visited the Show at Olympia with a view of interesting manufacturing firms in the development of Letchworth.

WE learn that the Marquis of Villalobar has acknowledged King Alfonso's acceptance of a copy of Mr. Charles Jarrott's book "Ten Years of Motors and Motor Racing."

THE R.A.C. has issued a certificate to the London and Parisian Motor Company, Ltd., in regard to a 100-mile petrol consumption test, made on a 40-50-h.p. six-cylinder Hotchkiss car, on the 8th inst. The route followed was from the seventeenth milestone from London, on the Great North road, *via* Hitchin, and the car ran to the sixty-seventh milestone from London, where it turned round and came back over the same route, the distance run being 100 miles. Shell motor spirit was used, specific gravity .715 at 60-80 deg. F. The amount of fuel consumed was 7 gallons 2 pints, equal to 13.79 miles per gallon and 26.6 ton-miles per gallon.

THE Southall Compression Register has just been placed on the market by Mr. H.W. Southall, Jr., of 7, Union Passage, Birmingham.



This is a very useful device, enabling anyone possessing a tyre tester of any make to get a reading of the compression pressure in any engine cylinder with the minimum amount of trouble. The form of the Register will be apparent from the accompanying illustration. One end is fitted into the sparking plug hole, and the tyre tester on being fitted to the other end will accurately register the compression pressure. The device is well made and should have a good sale.

A TRIAL of Palmer tyres has taken place on the Brooklands track, the car being a six-cylinder 60-h.p. Thames (by R.A.C. rating 60-h.p.), cylinders 5 in. by 5 in., entered by Messrs. W. T. Clifford-Earp, Ltd., with the object of demonstrating that Palmer cord beaded-edge tyres, ribbed tread, could run at a high speed under non-stop conditions for several hours, the length of the trial to be approximately 400 miles; no fresh tyres to be used.

DURING the exhibition at Olympia the illuminated sign of the M.C.J., at the stand wherefrom the Journal was obtainable suggested to many motor agents a splendid means of attracting attention to their garages at night-time. This is automatic in action, easily fixed in position, and is being standardised by the Chameleon Signs, Ltd., 318, Dashwood House, New Broad Street, E.C., for the motor trades.

THE Mexican Government is reported to be establishing a special military motor service, to take the field against the marauding Yaquis, who after a raid retire to their desert strongholds. A number of special cars fitted to carry a Gatling gun, two gunners, forty gallons of water and a chauffeur, have been acquired, and with these the desert of Sanora, famous for its bandits and murders of mining prospectors, is to be rendered as safe as the American Death Valley is to-day.

THE early approach of 1908 is emphasised by the arrival of the excellent self-registering pocket diaries of Messrs. T. J. and J. Smith, who have long been identified with the publication of notebooks of most convenient form. Their special feature is in automatically opening at the page last written upon—a combination which has been produced in various forms, both for the pocket and the office desk. Those for office use are characterised by the excellence of the paper used, as well as by the convenience of the various arrangements, and, altogether, Messrs. T. J. and J. Smith have demonstrated their intention of keeping to the front so far as publishers of almanacs and diaries are concerned.

MESSRS. G. H. WAIT AND CO., of the London Road, Leicester, have introduced a scheme for the benefit of owners of Clyde cars in their district which should prove attractive. They are contracting to supply petrol, oil, grease, tyres, &c., and to do all repairs caused by wear and tear, and to keep their vehicles in running order for four years from the date of purchase on terms based on an average of 7,500 miles per year.

SOME tests have recently been carried out at the Napier Works on a standard 40-h.p. six-cylinder Napier engine with a fuel consisting of 90 per cent. alcohol spirit, and the results are sufficiently instructive to show that in such countries as India, certain parts of Australia, &c., where alcohol can be produced easily and cheaply, cars can run with the bulk of the fuel pure alcohol. With alcohol only the engine was difficult to start, so benzol was added until they were about in equal proportions, when it was found the engine started up well. With two parts of alcohol and one of benzol the engine was difficult to start, although warm, but when once started up it ran quite well on these proportions; the exhaust was much purer, too, than when half benzol was used. A further experiment was made with three parts of alcohol and one of benzol. There was considerable difficulty in starting up with this combination, but, after starting, the engine ran very sweetly. The next day, with everything quite cold, a mixture of two parts of alcohol and one part of benzol was tried, but the motor would not start up; equal parts of benzol and alcohol were then used, but there was still great difficulty in starting; finally the engine was started by introducing a few drops of petrol into each of the cylinders. The car was then taken for a run with five parts of alcohol and four parts of benzol, and this appeared to be about the correct mixture when running the vehicle in traffic slowly so as not to have any risk of the engine stopping; even with these proportions, however, the motor did not "pick" up perfectly until the parts got warm. As regards power, there was no definite bench test made, but it did not appear that it was quite so high as with petrol. The specific gravity of the alcohol used was .83, at 15.6 C., that of the benzol used being .875, at 15 C.

WE gather from information received from a large number of exhibitors that the method of doing business at this year's Show differs considerably from that adopted twelve months ago, and, in consequence, considerable misapprehension has arisen as to the reported number of orders taken at the Show. As an instance of this, the Humber Company tell us that at the 1906 Show many of their agents gave them orders for cars far in excess of what could reasonably be expected would meet their requirements. The agents so ordering obtained prior right to delivery, and when the stress of business arose in the spring the company had to refuse many orders for cars in consequence of their having been allotted to agents who ordered beyond their reasonable requirements. In order to obviate the possibility of this recurring, Messrs. Humber have made arrangements with their agents for next season that the full trade discounts will not be allowed unless they take the full number of cars contracted for. The consequence has been that the agents this year have been extremely careful in giving their orders; beyond this, many private customers of the firm and of the agents last year were induced to place their orders at the Show for cars, delivery of which was not required for say three or four months afterwards. This year it is pretty well understood that less difficulty will be experienced in obtaining early delivery, in view of the enormous increase in the power of production of the firm. This again has lessened the number of orders which otherwise would have been received. It is, therefore, extremely satisfactory to know that, notwithstanding the above facts, the contracts the Humber Company have received from their agents, coupled with the direct orders from customers this year, are far in excess of what they were twelve months ago. Whilst Messrs. Humber naturally do not care to disclose the extent of their business, we have every reason to believe that the firm hold already signed contracts and orders for cars to the amount of not far short of £500,000. Whilst foreign firms and many small English makers doubtless have been disappointed with the results of the show, this experience is interesting.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE ACTION OF CARBURETTORS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR.—In reply to your correspondent, Mr. Sydney Wright, re the "Perfecta" carburettor, it has long been a questionable point as to whether a constant quantity of gas is the most desirable one. The Perfecta is adjusted to give the utmost power at all speeds, and perhaps it would have been better if this had been explained. Personally I think the mixture should be of fairly constant quality, for several motors have measuring devices, notably the Gobron-Brillié, which gives remarkably good results both as regards power, economy, slow running, &c., not to mention the fact that it will also work with petrol, benzole and alcohol. Several of the most successful heavy oil engines also have positive measurers, all showing that the mixtures are best when approximately constant in value. I know that on down grades very weak mixtures can be used, and also on other occasions when maximum powers are not required, but in these cases nothing is of any use but a hand-regulated extra air valve.—Yours truly,

FRANK SMITH.

THE WORLD'S RECORD FOR RELIABILITY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR.—Captain Corbet claims this title for the Hotchkiss car on the ground that the time and money spent on its adjustment or repairs

It appears to me that no claim for the record for "reliability" on the ground of the longest run without an involuntary stop should be allowed unless it can be shown, as in the case of the Rolls-Royce, that it was made in combination with economy in motor-house repairs and adjustments, in fuel consumption, and in making "as good as new" after the trial. In the same way, no claim should be made on the record for "reliability" on the score of economy in motor-house repairs and adjustments unless there be published therewith figures to show that the economy was effected in combination with efficient running (as proved by economy in fuel consumption) and economy in making "as good as new" after the trial.

I believe this matter is to receive further consideration from the Committee of the Royal Automobile Club, and for the present I think the superiority of the Rolls-Royce has been made so abundantly clear as to render attempts to prove otherwise ridiculous.—Yours truly,

CLAUDE JOHNSON.

WHICH IGNITION SYSTEM?

To THE EDITOR OF *The Motor-Car Journal*.

SIR.—It would be more than an easy matter to say when this interesting question of "Which ignition?" was first started in discussion, so we must let it suffice and console ourselves with the reflection that the subject was much debated some twenty years ago in connection with oil engines. Since the introduction of the petrol motor it has cropped



Some Trials of a Motor Vehicle intended for use both on land and water have lately been made near New York. The illustration reproduced above shows the machine, which has been designed by M. J. Revellier, of Paris, about to enter the River Hudson.

during its 15,000 miles trial was less than the time and money spent similarly in the case of the six-cylinder Rolls-Royce. This claim might have had justification had not the record of the Hotchkiss car shown that the economy of time and money amounted almost to neglect to so adjust or repair the car as to make it run efficiently. The best test of efficiency is fuel consumption. The record of the two cars when translated into terms of "relative cost to the owner" are:—

IN 15,000 MILES.

	Hotchkiss.			Rolls-Royce.		
	hrs.	min.	£ s. d.	hrs.	min.	£ s. d.
Time spent in adjustment and repairs during the trial (reckoned at 2s. 2d. per hour) ...	9	44	= 1 1 0	40	13	= 4 7 2
Cost of fuel at 15.7 pence per gallon ...			127 5 2			62 10 2
			128 6 2			66 17 4
Number of involuntary stops...	...	...	3	...	...	1

up periodically, and can claim the doubtful honour of having been responsible for the flow of an abundant amount of ink. The reason for these spasmodic outbursts is not far to seek, for, despite the fact that during the last five years we have made enormous strides in the evolution of a simple and reliable method of firing the explosive charge in an internal combustion engine, we are all ready to admit that we have not as yet got a perfect ignition system. Moreover, it would be quite safe to remark that at the present time no one could with anything like a feeling of assurance predict when the question will be settled. And this for a very simple reason, as, for all we know to the contrary, even if the recent controversy of magneto v. battery was definitely decided, and the manufacturers concentrated all their attention on perfecting the faults of the favoured system, which is more than likely would be magneto, it is quite possible that it would not end there, because we already have other systems, and more will undoubtedly make their appearance in time. Whether they will prove themselves potentialities to be contended with remains to be seen, and will be disclosed by the result of putting that old adage "the survival of the fittest" into force.

The various systems in use may not be perfect, but, if of sound design and construction, embodying only the finest materials and best workmanship, they can be very reliable, provided they receive the necessary care and attention. In fact, it is surprising what a lot of

neglect some systems put up with before they begin to give any trouble, and then the owner is astonished at the cost of putting matters right. The subject is too deep and involves too much to go into here, but it would be as well to mention that the professional driver is often to blame in this respect, especially the type of man hailing from the average motor school. Not knowing over much about any part of the car, he has an abject horror of touching the magneto, in case it should go wrong; and so the result is the "sparking machine" gets left to take care of itself, but as it is not self-lubricating, in the majority of cases, the inevitable happens sooner or later.

The most common system—this being a fact in itself which gives it a decided advantage over other types, as efficient chauffeurs who are well acquainted with all the working details are more competent to make the necessary adjustments with accuracy, and by their experience they are also enabled to easily locate troubles when they arise and likewise speedily effect a remedy—is that known as ordinary high-tension ignition. Among the other advantages it can lay claim to are its comparatively small initial cost, and the easy starting it provides for, which also holds another number in the shape of the possibility of starting "off the switch." The troubles of this accumulator or battery ignition, taking all things into consideration, are by no means numerous and nowhere approaching what some magneto enthusiasts would have us believe. The coil, of which there are two types, "non-trembler and trembler," the latter being by far the most common, is sometimes a source of trouble, the prospect of which, for a budding motorist, can only be lessened by seeing that the article is of the best construction and bears a name of repute.

The contact maker is also liable to remind one of its presence at times, although, if of a good make, that is not at all likely until it has



Photo by] Mrs. Charles Jarrott and her Mors Limousine. [Campbell Gray.

been in use for a considerable period. At regular intervals it should be thoroughly washed with petrol, cleaned, and re-lubricated with pure vaseline. Of course, no self-respecting motorist would go very far without a spare sparking plug in his possession. I might name the chief little worries incidental to this system as, accumulators running down, faulty platinum points, trembler adjustments occasionally necessary, and the delightfully mystifying short circuits which now happily are a rare occurrence on a well electrically fitted car. Not so many years ago, when electric ignition was not so well known as it is now, and when the tube system was sometimes fitted in case the electric should fail, and experience was much dearer than it is at present, it was not an unfrequent sight to come across a car in some outlandish place with the driver vainly in search of a "short." Again, there is the cost of keeping the accumulators charged to be added to the disadvantages of this type. But on the whole, with the excellent fitting now obtainable, there is no doubt that with a good accumulator and coil system, which is well looked after and receives all the attention it should, from the hands of a competent person in charge, an extra and fully charged accumulator and a few necessary spares being carried, one can feel almost as free from the anxiety of being stranded in some out-of-the-way place through a breakdown in the ignition system, as though provided with a duplicate, the purpose for which it so often serves.

Another type, termed synchronised ignition, calls for mention, by reason of its adoption by some makers. It can be made very efficient and reliable; but in spite of the fact that the single coil gives the same quality of spark to each plug, this being a great advantage, it is a weak

point, owing to the multiple work thrust upon the one coil. However, the risk of its failure at any time proving a serious matter can be eliminated by carrying a spare.

Now I come to magneto ignition. Here we have both the "high" and "low" tension types to take into consideration. Dealing with the system as a whole, if we have magneto ignition there is no charging to bother about, the running expenses being second only to nil, and the renewal and repair charges are few and far between, although the latter when they do occur are, as a rule, rather expensive. The fact that magneto ignition is not very well understood by the average repairman, the high initial cost of a really good system, and the remembrance that we cannot generally start with a half turn of the starting handle, must be numbered among the disadvantages. Individually, the high-tension type scores by being adaptable to any existing engine without constructional alteration, and the low-tension, principally, by proved reliability.—Yours truly,

J. MORSE SCOTT.

[We shall be glad to have the views of readers on the points raised by our correspondent.—ED. M.C.J.]

THE CAUSE OF BACK FIRING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I drive a two-cylinder car of excellent qualities, but which is guilty of one peculiar habit—that of back firing. It only does this when the accelerator is released or opened when slowing down in traffic, and also when the car overruns the engine with the clutch in downhill. The valves are good and tight; coil, contact breaker, wiring and accumulators in perfect order. The carburettor is a Longuemare, and no matter which jet or choke tube is used, or which other make of carburettor, automatic or not, it does not stop the back firing, and, curiously enough, the engine and car work perfectly in every other way. I have also tried valves timed differently, but to no use. If you or any reader of the *M.C.J.* can offer a solution I shall be obliged.—Yours truly,

R. THOMPSON.

[The immediate cause of back fires in the exhaust box is, of course, due to unexploded charges passing to it from the cylinders, which are subsequently ignited by the heat from charges that have fired in the proper place. A very common cause of this happening is traceable to sudden alteration of the speed of the engine, whereby the mixture in the carburettor is rendered temporarily imperfect. It can also be due to the timing of the spark being late in proportion to the revolutions, as may be caused by neglecting to advance the ignition after slowing down and then opening the throttle. It is also likely to happen when the car is allowed to over-run the engine with the clutch in, which, by the way, is very bad practice. It must be borne in mind that the exhaust valve is timed to open quite 1-5 before the end of the firing stroke and that, therefore, with the engine running fast and the contact maker retarded a great deal, some unignited charge can get out and be fired by the residue of the scavenging stroke.]

AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you could inform me why my 4½-h.p. Benz car does not run so well as it did a few weeks ago. Everything seems to be in the same condition except the inlet valve. Part of the explosion seems to come out of the inlet and carburettor. How long it has been like this I cannot say, but I think this is the cause of the trouble. I examined the valve and found that it would hold petrol all right, but the spindle was a bit loose in the sleeve, so I fitted a new valve and sleeve. I have tried different strengths of springs and amounts of lift to the valve; the valve face is 52 deg. and about 1 1-16 in. wide. The vapour pipe is clear and I have cleaned the gauges separately with a brush. I have tried the exhaust valve with both late and early opening; I have thoroughly scraped and cleaned the compression space end of piston and valve chamber; the water circulation is good and never boils; there is a good blow out of the air inlet and carburettor. The engine uses a lot of petrol; I have to give it about all gas. I think the blow from the explosion fills the vapour pipe and the engine gets a poor mixture.—Yours truly,

F. V. A.

[As the explosions seem to come out of the inlet and carburettor, it would appear that the new induction valve fitted by "F. V. A." does not close properly when working. To trace the exact fault would require actual examination, but perhaps the most likely thing is that the seatings are not good; either not true with one another, or else a slight ridge may be there. Also the stem of the valve may hang a little in the sleeve and so prevent it moving quickly enough. Does "F. V. A." know that these 4½-h.p. Benz engines have nearly always an extra air valve placed horizontally at the back of the cylinder? Has he one to his, and if so, has he ascertained that this is properly regulated and in good working order? A weak mixture will cause explosions (feeble ones) in the inlet pipe and carburettor; but, since our querist complains that his Benz uses a lot of petrol, it would not appear to be the cause in the present instance.]

REPLYING to the inquiry for the maker of the Caesar non-skid, the Ace Rubber Company, Ltd., 58, High Street, Bloomsbury, W.C., inform us that they have a stock of the same.

The Olympia Show.



(Continued from page 850.)

The Swift Cars.

The SWIFT MOTOR COMPANY, LTD., made a thoroughly interesting and attractive exhibit of the well-designed cars which they have produced for the coming season. Whilst these new types possess no outstanding feature in the way of novelty, they are designed on thoroughly practical and proved lines, and it is not difficult to foresee that the Swift is destined to become one of the popular cars of the coming season. This firm's popular two-cylinder 10-12-h.p. model, generally associated with a two-seated body, has this year been constructed to carry a side-entry body, of which a finished example was shown on the stand, the wheel-base being extended to 7 ft. 9 in., and the chassis strengthened throughout. The details comprised in its construction remain practically as before, but with the above-mentioned reservation as to their being strengthened. The two new chassis, of 18-24-h.p. (Fig. 102) and 25-30-h.p. respectively, perhaps rather overshadow their remodelled elder sister in point of interest, and, being altogether new models much above the horse-power previously attempted, have excited considerable attention to their sound construction and freedom from experimental fads. The bores and strokes of these two new four-cylinder models are 102 mm. by 111 mm. and 111 mm. by 130 mm. respectively, but whilst the 18-24-h.p. has its cylinders cast separately, in the 25-30-h.p. they are cast in pairs, and in other details, too, the more powerful model differs from the first mentioned. In the 18-24-h.p. the valves are carried on one side of the motor, being actuated, of course, from the one cam shaft, the whole of the distribution gear being enclosed and the valve tappets provided with fibre cushions. Standard models are furnished with accumulator and coil ignition only, but provision is made on the right side of the engine for so extending

being just above the base chamber at an angle of 45 degrees, and driven by bevel gear from the cam shaft end. A multiple-disc clutch is fitted, power being conveyed through a cardan shaft to the gear-box, which provides four forward speeds and a reverse motion, a direct drive being given on top speed. From thence the transmission is by the propeller shaft to the rear live axle, all of similar design to the model just described. Whilst the brake on the main shaft is of the contracting type, those on the road wheels are of the internal expanding variety. Ball bearings are fitted throughout the gear-box, similar bearings being employed on the front axle, of H section. The exhibit was completed by an example of the 10-12-h.p. lengthened chassis model, a 10-12-h.p. two-seated car, and a very handsome limousine, finished in dark greens, fitted to a chassis of the 25-30-h.p. type.

The Renault Cars.

The display of Messrs. RENAULT FRERES, LTD., comprised a 9-h.p. two-cylinder landaulet, the chassis of which is similar to those employed in the popular taxi-cabs in London, a 10-14-h.p., a 20-30-h.p., and a 35-45-h.p., the latter being equipped with a luxurious limousine body by Cockshoot, of Manchester. The 1908 models do not vary from those of the past season, except in small details, the familiar dashboard radiator and sloping bonnet being still retained. The engine of the 35-45-h.p. car is fitted with a self-starting device of the compressed air type, while the 10-14-h.p. vehicle has the pedal-operated engine starting device described in our report of the Paris Salon. The arrangement is one of the simplest and most practical means of starting the engine from the driver's seat that we have seen.

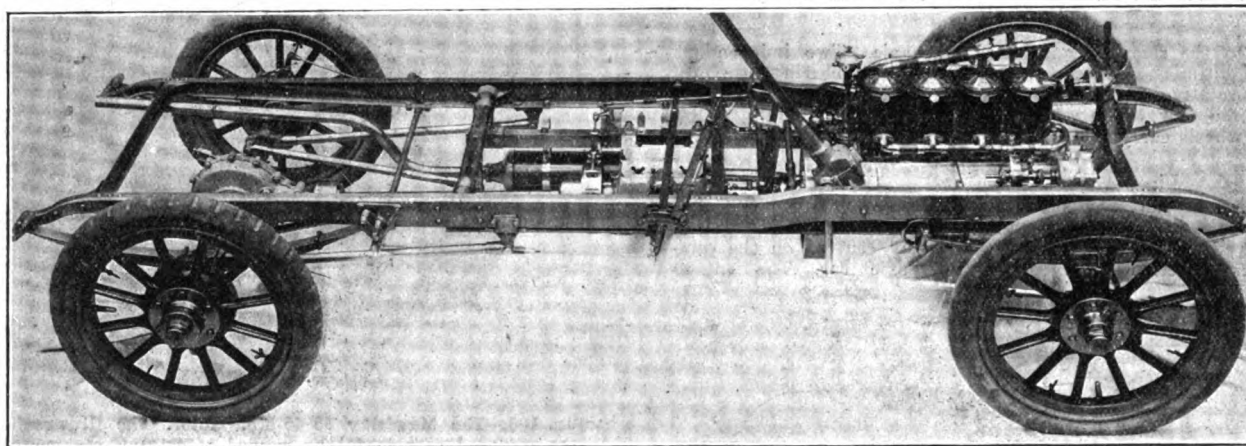


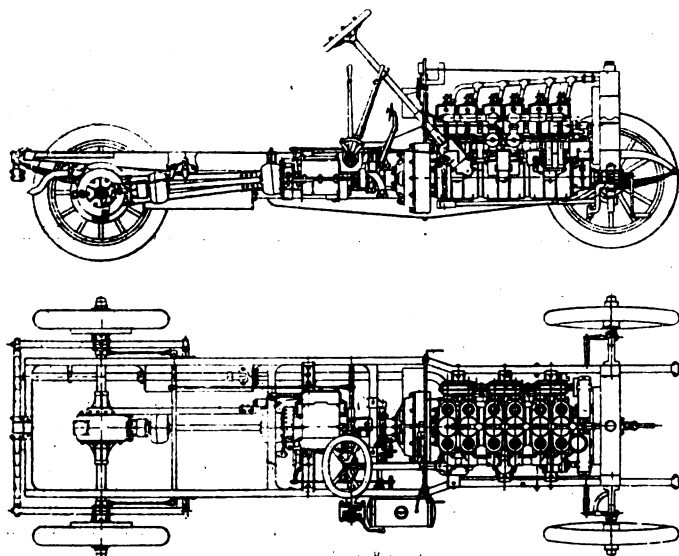
Fig. 102.—Chassis of Swift 18-24-h.p. Car.

the gear-driven water-pump spindle that the fitting of a high-tension magneto is quite a simple matter. The gear-box to this type is similar in design to that of the 10-12-h.p., but in this case "gate" control is provided. It will be remembered that the gear-box is a single casting, and therefore quite oiltight. The transmission is through a double-jointed cardan shaft to the rear axle, which has been entirely remodelled, the weight now being taken by the sleeve. A peculiar form of double-tube torque rod is fitted, it being suspended from the tubular central cross member of the chassis on a swinging link, and is supported above and below by helical springs. From this cross member is also hung the rear end of the subsidiary frame, of rectangular section, which carries the gear-box and motor. Contracting brakes are fitted both on the main shaft behind the gear-box and also to the drums carried on the rear road wheels. The cardan joints are all enclosed in dust-proof cases, and the shaft itself is carried on very long bearings. The front axle is of tubular section, the steering link being carried in front thereof. Lubrication is by pressure to dash, and thence by gravity. The clutch is of the ordinary leather-faced cone type, being provided with flat buffer springs under the leather. A novel feature, giving freedom of access to valve tappets, is that the exhaust from each cylinder is led separately below the chassis, and thence to a common dashpot, from which they pass to the exhaust-box. As previously stated, the 25-30-h.p. is fitted with a motor whose cylinders are cast in pairs, but, as in the previous case, the valves are carried on one side of the engine and worked from one cam shaft. Dual high-tension ignition is fitted, the magneto plugs being placed angularly on that side of the engine opposite to the valves; the plugs fed from the accumulator are placed over the inlet valves, the contact-breaker

The Brown Cars.

Messrs. BROWN BROS., LTD., had a comprehensive display of their various vehicles on a stand of somewhat contracted area under the gallery. The exhibits comprised an example of the firm's 25-30-h.p. fitted with a D-fronted limousine landaulet painted in dark blue, a 40-h.p. with a touring body finished in rich automobile crimson and provided with a double extension hood and windscreen, and a 20-22-h.p. with a touring body finished in French grey, upholstered in fawn leather, and fitted with double extension hood and windscreen. The 25-30-h.p. and the 40-h.p. models are identical in all main features, except that the motor of the higher-powered type has six cylinders, while its less powerful sister has only four cylinders, the bore and stroke in each instance being 100 mm. by 130 mm. The cylinders are cast separately, and are connected up to the base chamber in pairs, the valves being distributed on either side of the engine. The whole of the distribution gear is encased, the two cam shafts being carried in separate casings. An extension of the inspiration cam shaft carries the magneto-driving spindle, whilst the lubricating pump, the water-circulating pump, and the cooling fan are driven by a common spindle from the exhaust cam shaft. As in all the Brown cars, transmission is by cardan shaft to a live rear axle. In the six-cylinder model (Figs. 103 and 104) the carburettor has two jets and separate mixing chambers, whilst in the four-cylinder type only one jet, &c., is employed. Two independent high-tension ignitions are fitted, the magneto having a fixed point of firing, and the advance of the accumulator and coil ignition being attained through the intermediary of a lever and sector on the steering wheel. Four speeds, with direct drive on top, are provided, the control being through a "gate" type sector, whilst Hoffmann ball

bearings are fitted to all rotative parts except the motor. The 20-22-h.p. type differs from either of the preceding in that it has a motor of 100 mm. bore with a stroke of 100 mm., and the cylinders cast in pairs. In this case, too, the valves are all assembled on one side of the motor, a variable lift for the inlet valves being provided. The whole of the distribution gear is enclosed, as well as the pinion controlling the movement of the magneto, the water pump, and the oil pump feeding oil to the sight feeds on the dash. The gear gives three forward speeds, with direct drive on top, and the transmission is by



Figs. 103 and 104.—Elevation and Plan of the Brown 40-h.p. Six-Cylinder Car.

cardan shaft to the strongly-constructed rear axle. Two independent high-tension ignitions are fitted, and Hoffmann ball bearings are provided to all rotative parts. A contracting brake is carried on the main shaft of the gear, and a ratchet sprag is also fitted thereto, whilst the rear road wheels carry drums having internally expanding brakes.

The Maudslay Cars.

The display of the MAUDSLAY MOTOR COMPANY, LTD., was of a very high-grade order both as regards the chassis and the carriage work of the vehicles exhibited. Interest largely centred on the company's latest production—a 25-30-h.p. live axle car. The engine

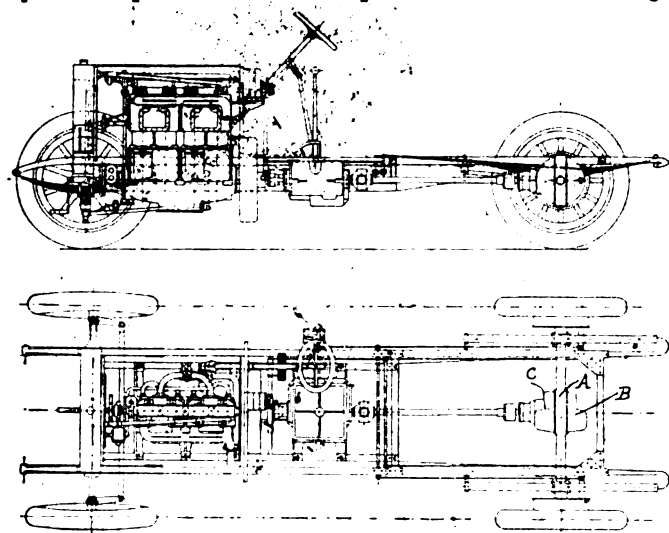


Fig. 105.—Elevation and Plan of the Maudslay 25-30-h.p. Live Axle Car. The part marked A is forged in one piece with the axle sleeves, B and C being detachable casings.

(Fig. 106), which is of the special design associated with the Maudslay Co., comprises four cylinders cast in pairs, with the valves all located directly in the cylinder heads, they being operated off an overhead cam shaft, which in its turn is actuated by a vertical spindle driven through gearing at the forward end of the crank shaft. The cam shaft is pivoted so that by loosening the retaining bolts it can be swung clear of the valves, allowing any of the latter, together with their springs and seatings, to be instantly removed. The engine dimensions are $4\frac{1}{2}$ in. bore by 5 in. stroke. The base chamber is provided with

detachable doors of such a size that not only can the crank shaft and big end bearings be readily inspected, but, if occasion arises, a complete piston and connecting rod can be withdrawn without it being necessary to dismantle the engine. Two systems of high-tension ignition are provided, the magneto being mounted on the dashboard, and driven by gearing off the end of the cam shaft. The lubrication is maintained by a gear-driven pump, which draws the oil from a sump in the base chamber. The clutch is of the leather-faced cone type, a feature being that to facilitate easy dismantling the cone portion is built up in two halves. The change-speed gear is "gate"-controlled, and gives four speeds forward, with a direct drive on the third. With a view of furnishing a long cardan shaft so that the acuteness of the angle between the rear of the gear-box and the differential casing shall be reduced to a minimum, the gear-box itself is located close up to the clutch. The cardan shaft has a ball bearing universal joint at the forward end and a combination sliding and universal joint at the rear. The rear axle construction is of an interesting new design. The axle sleeves and differential casing are all in one piece, and made from a single forging. The latter is first slit in the middle, and is then drifted out to form a loop or bridle which can accommodate the driving differential mechanism. The extremities are afterwards machined to circular form and bored through to accommodate the live shafts. The front and rear sides of the loop in which the differential is supported are closed by two light aluminium dished covers. By detaching the rear one and by removing the hub caps and slightly withdrawing the live shafts, the bevel pinions and the differential gear can be lifted out, enabling these parts to be readily inspected or the gear ratio changed without difficulty. The weight of the car is carried

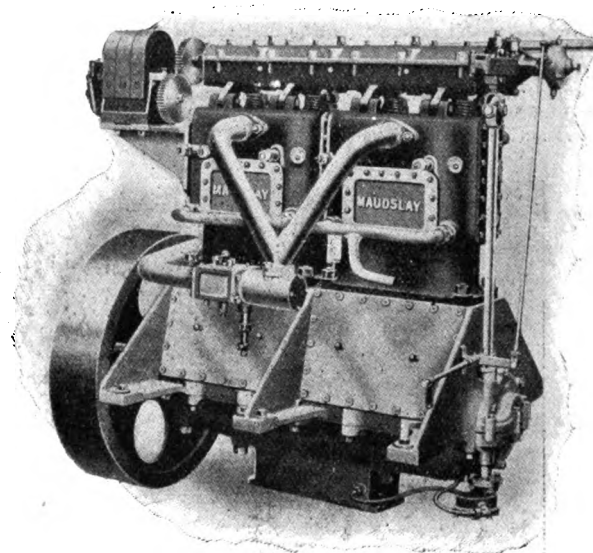


Fig. 106.—The Maudslay 35-45-h.p. Motor. The illustration shows the overhead cam shaft, the method of driving the magneto, and also the large inspection doors to the base chamber.

by the casing, the axle itself transmitting the drive to the wheels through jaw clutches in the hubs. Both the foot and hand operated brakes are all concentrated on the drums on the rear road wheels. The drums are wider than usual, and have two sets of expanding bands in each, one actuated by pedal and one by a hand lever. The frame is of drawn steel tubing of rectangular section filled with ash. The 35-45-h.p. four-cylinder chain-driven chassis is on the same lines so far as the engine is concerned, the bore and stroke being in this case 5 in. by 5 in. The model, generally speaking, shows, except in a few detail improvements, but little change from last year. The complete cars on view included a 35-45-h.p. limousine with very handsome body by Messrs. W. and F. Thorn, a 35-45-h.p. with extended landaulet by Messrs. McNaught and Co., and a 35-45-h.p. open phaeton designed for touring purposes.

The White Cars.

In important competitions in this country the White steam car has won a place among Society cars, its ease of running, absence of noise, and carriage-like appearance having given it favour in fashionable circles. As regards construction, the main principles of the White system have been familiarised to the British public by Mr. F. A. Coleman, and the changes in the 1908 vehicles do not affect the main lines of the chassis. They are points of improvement suggested by experience as tending nearer that perfection of the automobile which is, perhaps, not so far off as some would think. The essential feature of the success of the White car has been the generator constructed of helical coils of seamless tubing placed one above the other. These are surrounded by a casing of insulating material, the heat being applied

at the bottom by means of a burner. The fuel supply is governed by a simple automatic device operated by the flow of water to the generator. Owing to the peculiar connection of the tubing, the water is not regulated by gravity, but is subject to the action of the pump, and thus the White steam generator has none of the conditions of the ordinary steam boiler—an assurance that should satisfy those who have hitherto given little attention to the merits of the steam car for touring or town work. With regard to both the 20-h.p. and 30-h.p. cars for 1908, an important alteration is in connection with the thermostat, the valve stem of which in the new type is now made accessible and readily adjustable. A temperature gauge is also introduced, enabling the exact heat of the steam to be ascertained at any time. Other changes common

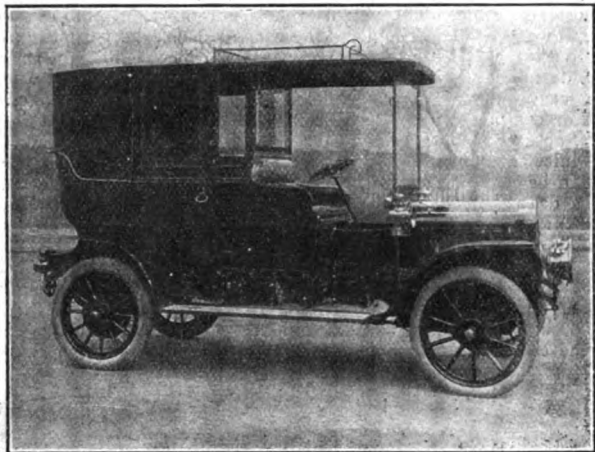


Fig. 107.—The "White" Steam Limousine.

to both chassis are in the dropping of the engine and generator lower to the ground than was formerly the case, without, however, lessening the road clearance. Thus the propeller shaft is brought more nearly horizontal, resulting in a lessened strain on the universal joints and adding to the efficiency of the drive. This innovation enables the burner, vaporiser, and pilot light to be brought below the side frame of the chassis, obviating the risk of scorching any part, and also adding to the accessibility of the burner. The piston valve in the high-pressure cylinder has been improved as the result of last year's experiments, and what is practically a new compression pump has been fitted, and two gauges on one dial are now worked by red and black hands, a simplification of parts that is indicative of the anxiety of the White

The Mors Cars.

The display of MORS (ENGLAND), LTD., comprised four models—a 50-60-h.p. six-cylinder chain-driven chassis, a 45-h.p. four-cylinder limousine, a 20-30-h.p. live axle chassis, and a 15-20-h.p. landaulet. The latter, which has already been described in the *M.C.J.*, has been especially designed as a town carriage, and has already proved a favourite type in this country. The engine has four cylinders in one casting, 90 mm. bore by 100 mm. stroke. All the valves are on one side of the engine, and operated off a single cam shaft, which is also adapted to drive the oil and water pumps, the former through worm and the latter by bevel

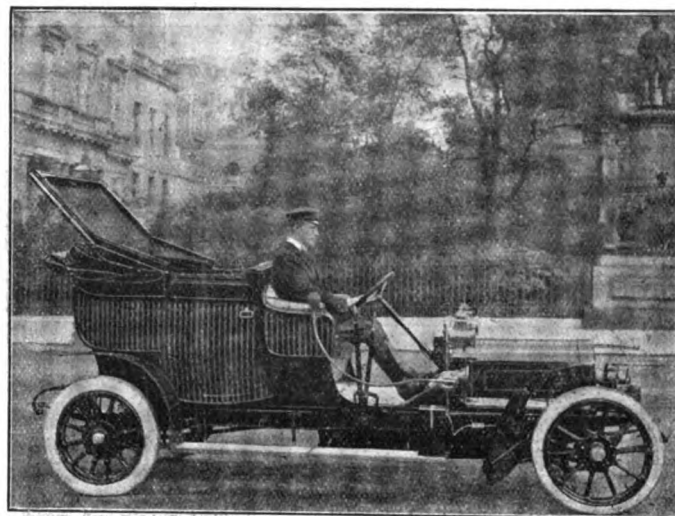


Fig. 108.—The Mors 15-h.p. Landaulet.

gearing. The new 20-30-h.p. car is made with either chain transmission or a live axle. In this vehicle the cylinders are cast in pairs, with the valves operated by separate cam shafts. The water circulation is maintained by a pump driven by bevel gear off the half-time shaft. The lubrication is effected mechanically by pump driven from an eccentric on the end of the cam shaft. A Mors high-tension magneto generates the current for the ignition, the apparatus being placed on the valve side of the engine. The carburettor is placed on the opposite side, the inlet pipe passing between the two centre cylinders. Two jets are fitted to the carburettor, one being for ordinary work under a full load and the other acting as a kind of by-pass when the engine is running light. Immediately the throttle valve is opened, either by

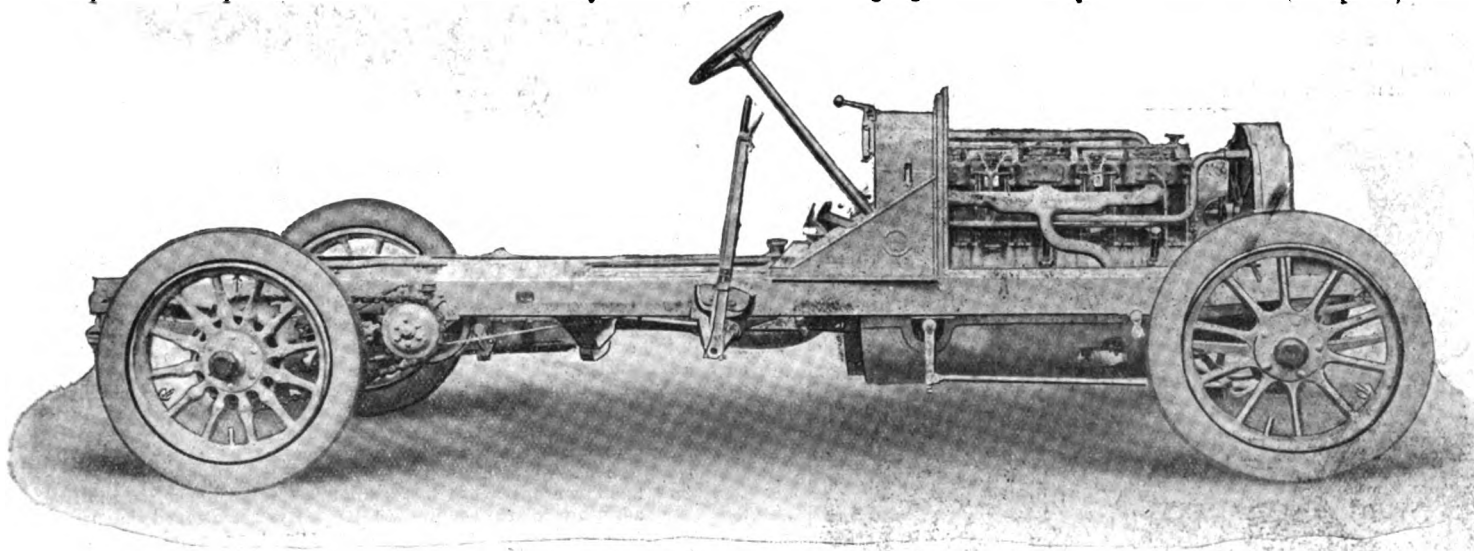


Fig. 109.—Chassis of Mors Six-Cylinder Car.

Company to secure every possible improvement. With regard to the 20-h.p. car, the size of the tubing in the generators has been increased to that of last year's 30-h.p. vehicles—viz., an inside diameter of $\frac{3}{4}$ in., so that a greater reserve of power will be obtained, although the weight of the car will not be increased. The vehicles on the stand included a luxurious 20-h.p. limousine for Miss Marie Tempest, the delicate upholstery of the interior of which is as striking as the fine finish and outline of the exterior. Models of both the standard sizes were shown fitted with limousine and double phaeton touring bodies. The carriage work is all of London origin, and affords a good comparison with the best examples from across the Channel.

means of the lever on the steering wheel or by the accelerator pedal, the large jet is brought into action. The throttle is automatically closed again by the clutch pedal when it is depressed. The clutch is of the metal-to-metal contracting type working on a drum formed in the flywheel. It works on the same principle as a metal-to-metal band brake, and is brought into operation by a steel cone being pushed forward, under the action of a spring, between two levers. As the cone moves forward it forces apart the levers, and causes the band to contract and grip the steel drum in the flywheel. A "gate"-controlled change-speed gear is used, giving four speeds forward and a reverse. Other parts of the chassis worthy of notice are the strong back axle

in the live axle model and the forked radius rods. The springs, three-quarter elliptic in rear and half elliptical in front, are of ample proportions. Fig. 109 depicts the chassis of the 50-60-h.p. six-cylinder car. As will be seen, the cylinders are cast in pairs, with the valves on opposite sides, the bore being 110 mm. and the stroke 150 mm. A feature of the design is that, to reduce the length of the bonnet, the rear pair of cylinders are placed under the duplex dashboard. Two systems of ignition are provided—low-tension magneto and high-tension by coil and accumulators. The clutch is as in the other cars, while the gear-box gives a direct drive on the top, fourth speed to the dif-

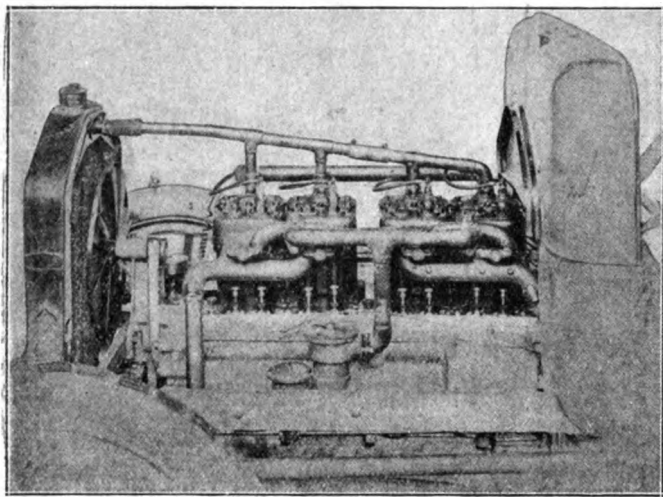


Fig. 110.—The Rover 20-h.p. Four-Cylinder Engine.

ferential shaft through its own bevel pinions, the other speeds being transmitted through a separate set of bevels. The final drive is by side chains. A substantial braking system is installed, the hand-controlled brake on the rear wheels being supplemented by double foot-actuated brakes on the countershaft. On all the cars ball bearings are fitted throughout, except to the engine. The suspension of the chassis is effected by extra long semi-elliptic springs in front and three-quarter elliptics at the rear. We may add that detachable rims are now fitted to the wheels of the Mors cars from 17-h.p. upwards, which enables a tyre to be changed in a few seconds with the greatest ease. Altogether, the Mors cars, which were amongst the first put on the market, are being kept fully abreast of the times.

The Rover Cars.

The exhibit of the ROVER COMPANY, LTD., was an interesting one from two points of view—in the first place because of the 20-h.p. cars

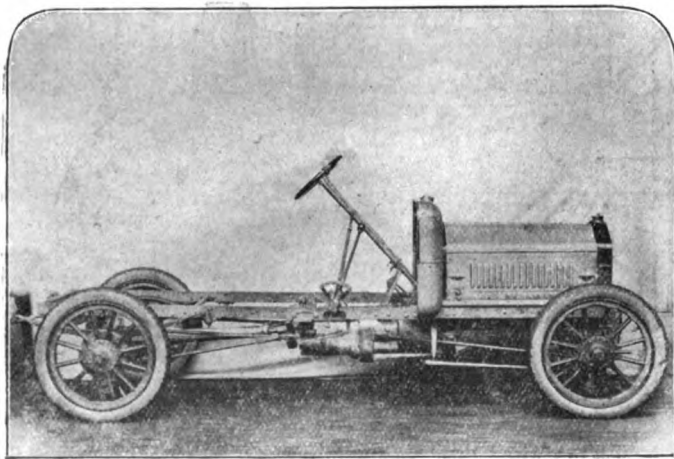


Fig. 111.—Chassis of the Rover 20-h.p. Car.

built on similar lines to the vehicle which won the 1907 Tourist Trophy race, and, secondly, on account of the attention the concern are devoting to the construction of reliable small cars at a popular price. The 20-h.p. car is an especially interesting model. The greatest departure from ordinary practice is the three-point suspension of the body and engine, secured by hanging the forward end of the engine to the centre of a single front spring lying directly over the front axle. The engine, clutch, and gear-box casings are coupled together so as to form one rigid piece, which reaches almost to the forward ends of the long semi-elliptic rear springs. By this means the necessity for the

usual heavy steel frame is obviated, a much lighter one sufficing for the work of supporting the body. The motor (Fig. 110) has four cylinders separately cast, with the valves all located on one side; the bore is 97 mm. and the stroke 110 mm. The crank shaft is supported on ball bearings, while the induction pipes are so arranged that every cylinder gets an equal charge, and both the inlet and exhaust pipes are taken clear away from the valve stems, allowing any valve to be removed without difficulty. The carburettor is of the Rover Company's special pattern; by its use the quality of the explosive mixture of gas and air is automatically regulated to suit the speed at which the engine is running. The standard ignition is by coil and accumulators, but provision is made for fitting a high-tension magneto. The contact-maker, which is of an interesting design, is now in front of the engine, and most accessible. The petrol tank is now made as part of the dashboard, instead of being under the seat, as formerly. Another feature of the design is the use of the engine as a brake. The cam shaft is of special design, and, in addition to lifting the inlet and exhaust valves in the usual way, is so constructed that it can be used to effect an engine or compression brake. Beside the ordinary cam shaft is placed a pedal-actuated control shaft, extending from which to each set of cams—inlet and exhaust—is a fork by means of which the cam shaft can be moved backwards. On depressing the pedal, the auxiliary shaft is drawn to the rear, the forks draw the cam shaft in a longitudinal direction. This sets up an entirely different operation, for the inlet cam being drawn out of position, the large ball which lies at the bottom of the tappet revolves on a circular portion of the cam stem, and the inlet valves become completely closed for the whole cycle of operations. The exhaust cam is also drawn out of its normal position, but instead of the extreme left-hand portion being circular, as in the case of the inlet cam, it possesses two projections, which lift

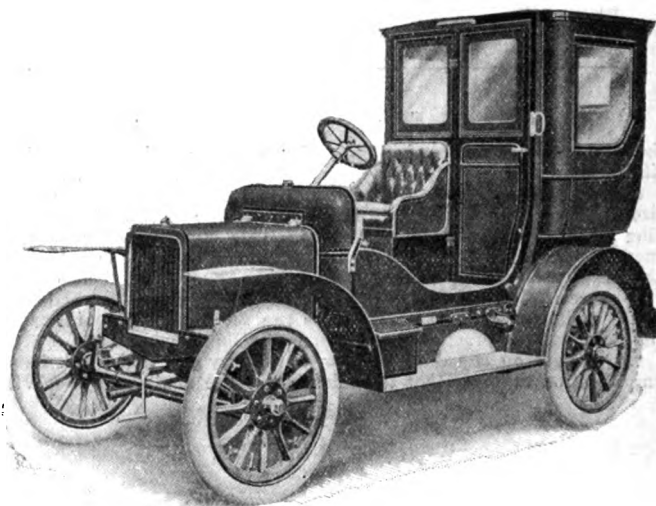


Fig. 112.—The Rover 8-h.p. Coupe.

the exhaust valve twice to every revolution of the shaft, with the result that air is taken in from the exhaust pipe on every downward movement of the piston, compressing on the upward stroke, and then exhausted. The inlet valve being permanently closed, no gas is admitted to the combustion chamber, with the result that the engine is working under compression, which effectually retards its movement, and at the same time it is being cooled. The arrangement has proved so effective in practice that it is claimed to be sufficient to hold the car when the low speed is engaged on almost any hill. The clutch is of the metal-plate type introduced by the Rover Company, and the "gate"-controlled change-speed gear can be adapted to give three or four speeds forward, as desired, in addition to the reverse. In the four-speed model the direct drive is on the third, and not on the top. The final transmission is by a cardan shaft and bevel to the live axle. In addition to the engine brake above mentioned, a pedal-operated brake is fitted to the gear shaft, while there are also the usual rear wheel emergency brakes. The sides of the car between the foot-board and the frame, as far back as the rear springs, are entirely closed in. The wheel base of the chassis is of a length to allow a roomy side-entrance body of either the closed or open type to be fitted, the cars on view including a handsomely appointed landaulet. The well-known Rover 8-h.p. cars were shown as two and four seaters, and also a doctor's coupé. This vehicle (Fig. 112) has two inside seats and an outside one for the driver, the place of the usual second front seat being taken up by a very accessible door. An innovation on all the 8-h.p. cars is a neat type of side lever for changing gear, and wheel control of the engine. A new contact maker of a most interesting design is also fitted in connection with the engine, a positive earth connection being at all times maintained. The Rover 6-h.p. single-cylinder vehicle has many improvements, the following being a few of the most noticeable:—Two millimetres have been added to the

bore of the cylinder, the 1908 model being 97 mm. by 110 mm., thus giving both greater power and greater cooling efficiency; the front and back axles have been re-designed and strengthened; the body is a neat tulip shape, upholstered in leather, and the bonnet and dash have been improved in shape and style; the bonnet fastener is a neat spring clip type, and platform steps have been added, the latter considerably improving the appearance of the vehicle.

The Berliet Cars.

Ranking high in the automobile engineering world as they do, the Berliet cars displayed by Messrs. J. E. HUTTON, LTD., naturally attracted considerable attention. Prominent on the stand was a 60-h.p. six-cylinder chassis. The cylinders are cast in pairs, with the valves on opposite sides; the bore is 120 mm. and the stroke 140 mm. The ignition is by high-tension magneto, and the carburettor of special automatic design. The clutch is of the multiple-disc type, and the four-speed gear-box is "gate"-controlled, and is arranged to give a direct drive both on the third and fourth speeds, this being obtained by means of two bevels on the end of the gear shaft meshing with two crown wheels arranged one within the other on the differential shaft. Both the bevel pinions are free to run on the propeller shaft, one or other being engaged as required by means of a dog clutch. The gear-box and differential case are one casting, but are divided internally into two compartments. The final transmission is by side chains to the rear road wheels. In addition to the usual hand-operated brakes in drums on the rear road wheels, two pedal-actuated brakes are mounted on the differential shaft. The 22-h.p. four-cylinder car is interesting as being a duplicate of the one which holds a record for petrol con-

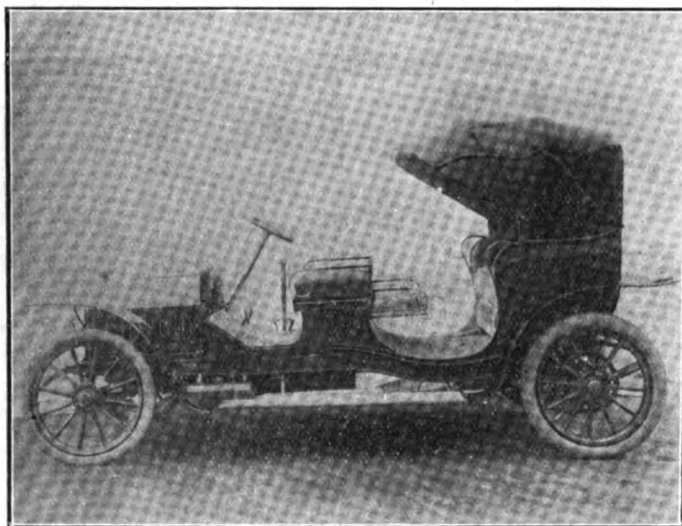


Fig. 113.—The Berliet 22-h.p. Victoria with curved frame.

sumption—viz., 62½ miles on two gallons of petrol, carrying four passengers at an average speed of forty-six miles an hour. The frame is of a specially-curved design, to allow of the fitting of low side-entrance bodies for town use to the chassis, with the attractive result depicted in Fig. 113. The cylinder dimensions are 110 mm. bore by 120 mm. stroke, and in this model the ignition is by low-tension magneto. The power transmission is either by side chains or cardan shaft to the rear live axle (see Fig. 114), the latter being of an interesting design. The casing is built up of two forged steel sleeves solidly attached to the differential case. The live shafts, which have only the driving effort to withstand, transmit the power to the wheels through the hubs by means of the coned ends and two keyways. The rear suspension is by full elliptical springs. Throughout the whole of the Berliet cars the workmanship is of the highest class, ball bearings being employed to all parts, except the motor. A 40-h.p. car equipped with a luxurious limousine-landaulet body was also displayed. The fittings of this body are unique, and include a neat folding wash-basin with supply of water, a complete canteen for tea, and another one for lunch, these being all neatly packed away in portions of the body specially designed for their reception. There is also a special fitting to take a Thermos bottle, electric communication with driver, electric light, &c. A most instructive exhibit at this stand, showing, as it does, the complete working of the motor, was a four-cylinder Berliet engine, every part of which was cut in section to enable the internal working to be seen. Unfortunately, Messrs. Hutton were not able to show what would have probably proved the *clou* of the Exhibition, a 40-h.p. six-cylinder Berliet, arranged to run on either petrol or compressed air, or both, at will. Some particulars of the new model were given in our report of the Paris *Salon* last week, and we await a drawing of the arrangement with interest.

The Spyker and Zedel Cars.

The BRITISH AUTOMOBILE COMMERCIAL SYNDICATE, LTD., had on view a range of the well-known Spyker cars, including a 15-20-h.p. chassis with an improved form of "gate" control to the change-speed gear, a 20-30-h.p. landaulet, and a 20-30-h.p. side-entrance double phaeton with Cape cart hood. The Spyker Company, of Amsterdam, has now turned its attention to the construction of motor-cabs. While the main points of the Spyker vehicle are retained, the new 10-15-h.p. model (Fig. 115), which is also intended for the use of doctors and

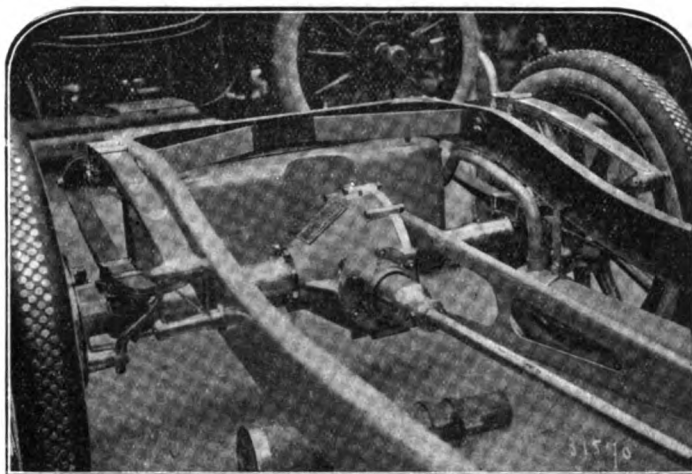


Fig. 114.—View of the Rear of Chassis of the new Berliet Live Axle Car.

other professional men, comprises several new features. The frame is made of steel, stamped cold. It is very wide and strong, and is narrowed at the front to enable the chassis to turn in the required distance of 25 ft. The motor comprises four cylinders in one casting; the bore is 80 mm. and the stroke 90 mm., and at 1,000 revolutions per minute 16-h.p. is developed. In order that overheating troubles shall be obviated a very large honeycomb radiator is employed. The ignition is by Simms-Bosch high-tension magneto, and, as the point of firing is fixed, only one lever is provided on the steering wheel. This actuates the throttle and is also connected up to a pedal so that the driver may regulate the speed of the engine either by hand or foot. The lubrication of the motor is so arranged that it is impossible for over-lubrication to take place, the emission of obnoxious smoke being consequently prevented. The "gate"-controlled change-speed gear gives three speeds forward and a reverse; the final transmission is by a cardan shaft and bevel gear to a live axle, which latter has

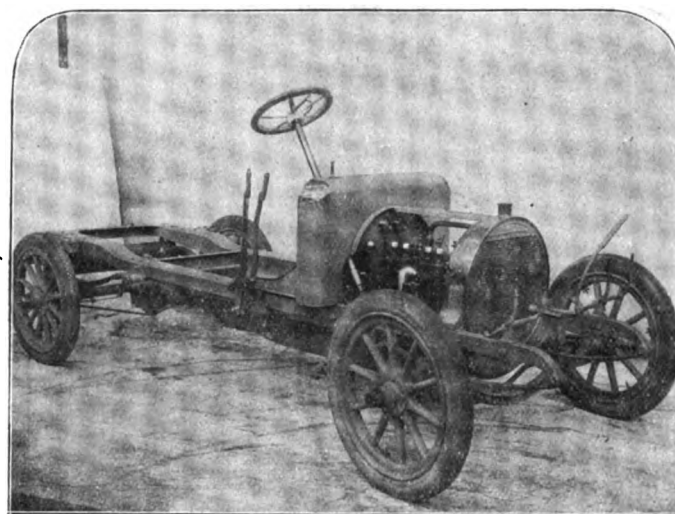


Fig. 115.—Chassis of Spyker 10-15-h.p. Landaulet Cab.

only the driving strain to withstand, the weight of the car being carried by the axle casing. Special attention has been paid to the brakes, while ball bearings are used throughout, they being even fitted to the engine crank shaft. The chassis is fitted with a comfortable body of the landaulet type, having accommodation for four persons inside. The Zedel is a French-built car, the agency for which has been taken up by the B.A.C.S.—the exhibit comprising a chassis and a coupé arranged to be driven from the inside. We gave a description of this interesting vehicle in our report of the 1906 Paris *Salon*, pointing out that it was

a reproduction in miniature of modern powerful four-cylinder cars. The engine, which is rated at 10-12-h.p., has the four cylinders all in one casting, with the valves arranged on opposite sides. The ignition is by high-tension magneto, and pump lubrication is adopted. The clutch is of the multiple-disc type, and the drive is through a "gate"-controlled three-speed gear-box and cardan shaft to a live axle.

The Miesse Cars.

The MIESSE PETROL CAR SYNDICATE, LTD., contented themselves with displaying an example of their 24-h.p. four-cylinder chassis and another

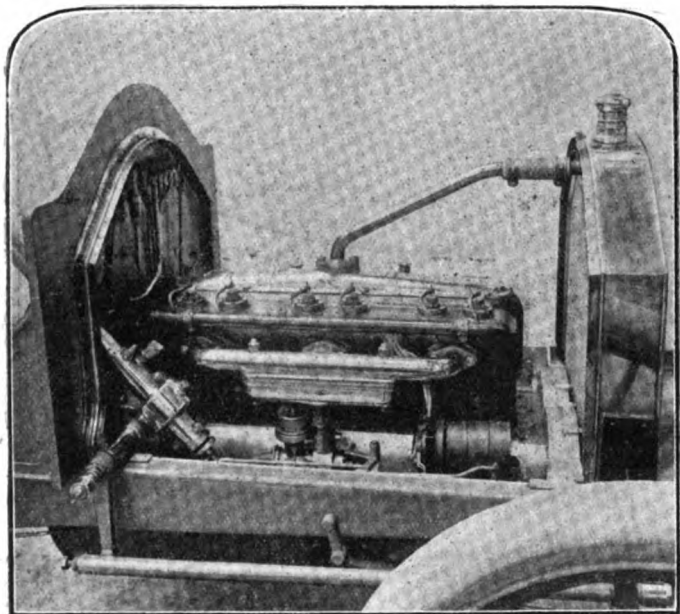


Fig. 116.—The Miesse Six-Cylinder Engine with the Cylinders all in one casting.

of their 35-h.p. six-cylinder type. The 24-h.p. remains practically the same as during the past season, excepting that some detail improvements have been effected, materially increasing efficiency and ease of adjustment, &c. Among these modifications, mention may be made of the provision of dog clutches to the shafts driving the magneto and the pump, the application of ball bearings to these shafts, and the entire enclosing of the distribution gear. Other improvements comprise the

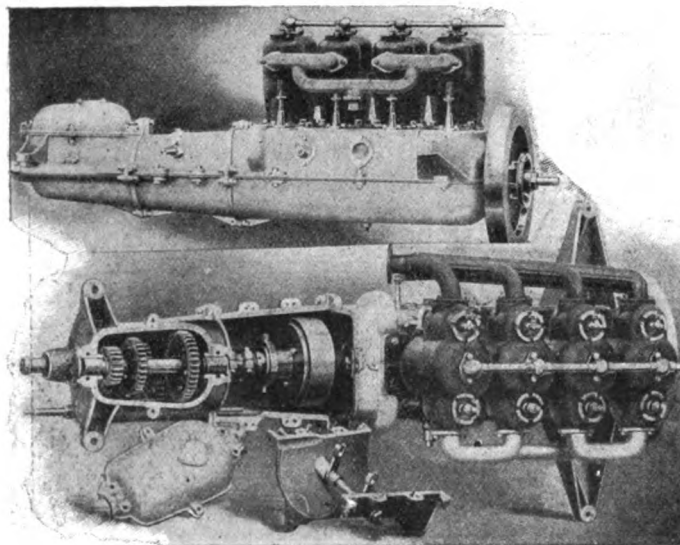


Fig. 117.—Two Views of the Combined Engine, Clutch and Gear-box on the Buick 24-h.p. Car.

main shaft brake with two segments in lieu of the previous continuous band, and the jointing of the two cardan joints longitudinally, thereby permitting of the employment of four bolts in place of eight previously necessary. In the case of the rear cardan the coupling is provided with a special web, which forms an oil retainer. In the six-cylinder model (Fig. 116) the practice pertaining to the four-cylinder type has been followed in all main features, but, unlike its earlier prototype, the cylinders are all cast in one block, and was the only example of a six-cylindered

motor so cast at the show. High-tension magneto ignition is fitted, and the valves are distributed on opposite sides of the cylinders as in the earlier model. The admission chamber is provided with a diaphragm running nearly its whole length, but with spaces at each end permitting the flow of the gases; by this means the gases flowing to the middle pair of cylinders are made to travel the same distance as those passing to the two outer pairs, thus equalising the suction to all cylinders. The carburettor previously employed has been retained, the cardan shaft is as now fitted to the 24-h.p., and in all other essential features there is a continuation of the practice which has proved so satisfactory on the smaller model.

The Buick Cars.

Messrs. STERNBERG AND EASON exhibited two models of the Buick, two examples being given of each type, the two-cylinder car of 22-h.p. shown with a landaulet body and also as an ordinary four-seated side-entry phaeton, whilst the models having four vertical cylinders of 24-h.p. were furnished with a "runabout" body and a four-seated side-entry phaeton respectively. The 22-h.p. type is provided with a horizontal motor having two double opposed cylinders with a bore of $4\frac{1}{2}$ in. and a stroke of 5 in. The valves are carried in a cage capable of being easily removed, together with the valves. The gear is of the epicyclic type, the control of the high speed being by side hand lever, whilst the reverse and low gear are manipulated through foot pedals. The gear can be easily dismantled from the frame without interfering with the motor or other mechanism. Water circulation is maintained by a direct gear-driven pump. The brakes are of the internal expanding type. In the four-cylindered car the cylinders, as previously stated, are vertical, having a bore of $4\frac{1}{2}$ in. and a stroke of 4 in., rated as 24-h.p. The valves are disposed on opposite sides of the cylinders, whilst transmission is through a multiple-disc clutch running in oil to the gear-box, giving three speeds and reverse by

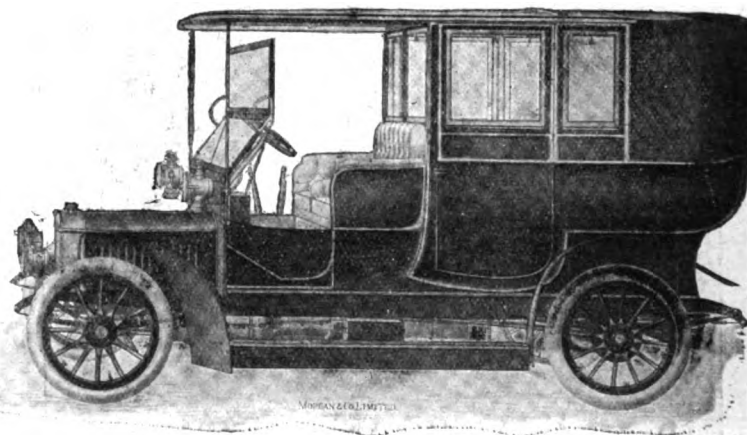


Fig. 118.—The Adler 28-h.p., with Morgan Limousine Body.

sliding pinions, and thence by cardan shaft to the live axle. The striking feature of this type is that the engine, clutch, and change-speed gear are assembled as one unit (Fig. 117). Separate chambers are provided for the crank, clutch, and gear, the main flywheel is carried in front of the engine, the whole being fixed by a five-point suspension, three points being flexible. Water circulation is maintained by a gear-driven pump, and lubrication is also effected by similar means. A contracting brake is fitted at the tail end of the gear-box, whilst the road wheels have drums fitted with internally-expanding brakes. The vehicle is a very interesting one, embodying points quite novel in British practice, and the exhibit, as a whole, was of an attractive nature.

The Adler Cars.

Messrs. MORGAN AND Co., LTD., of Long Acre, London, W.C., exhibited three sizes of the Adler vehicles, which are manufactured at Frankfort-am-Main by one of the largest motor concerns in Germany, and for whom Messrs. Morgan are the British agents. As the 18-h.p. and 28-h.p. four-cylinder cars are on practically the same lines, the following particulars may be taken as applying to both. A feature of the Adler construction is that the engine, clutch and gear-box are built up and fixed in the frame as a unit. The engine comprises four cylinders, cast in pairs. The valves are all operated off a single cam shaft, the gear wheels operating which are entirely enclosed. The cylinder dimensions are 90 mm. bore by 110 mm. stroke in the case of the 18-h.p., and 105 mm. by 120 mm. for the 28-h.p. Two systems of high-tension ignition are provided—magneto and coil—while the carburettor is of a special automatic type, the throttle being controlled both by a centrifugal governor and a lever on the steering wheel. A separate admission pipe is provided for each pair of cylinders. The lubrication of the engine is effected by pump operated off the governor spindle. The clutch is of the metal-to-metal disc type working in oil, while the gear-box is of the sliding pinion variety, adapted to give three speeds and reverse, with direct drive on top speed. The control is by single lever working in a "gate." A neat arrangement is pro-

vided, which prevents the reverse motion being engaged by mistake, a small cap to the top of the lever having to be lifted up to enable a knob within to be pressed down. The final transmission is by a cardan shaft and bevel gear to a live axle. The cardan shaft is enclosed over its full length, the sleeve acting as a torque rod. Two radius rods also extend from the forward end of the cardan sleeve to the frame. Both foot and hand brakes are provided; the former is water-cooled, a small pedal slightly in advance of the main one opening the water supply whenever the brake is applied. Ball bearings are fitted to all parts except the engine crank shaft. There are many other points of interest in the Adler cars, reference to which is prevented by the pressure on our space. It may be said, however, that throughout the details bear evidence of having been very carefully thought out, while the workmanship is of an equally high order. The 18-h.p. was shown in chassis form, while the 28-h.p. was fitted with a limousine body (Fig. 118) by Messrs. Morgan. This is constructed to carry seven passengers, and is equipped with the firm's "Cromwell" front screen. The cushions have copper springs in place of the ordinary wire type, and the upholstery is in drab cloth. A moderate-priced car which has many interesting points is the Adler 9-h.p., which can be fitted with either a two or four seated body. The motor comprises two cylinders arranged in V form, of 85 mm. bore and 90 mm. stroke. The inlet valves, which are of the ordinary suction type, can be quickly taken out by loosening a screw and taking off the cover, without it being necessary to remove the inlet pipe. A point worthy of notice is that both Simms-Bosch high-tension magneto and accumulator and coil ignition are provided. A transverse shaft in front of the motor, operated off the half-time shaft, actuates the contact maker as well as the magneto. The water circulation is maintained by a gear-driven pump, while an automatic carburettor furnishes the mixture. The clutch, which is of the metal-to-metal cone type, can be taken out without dismantling the engine or gear. Three speeds and a reverse are provided by a change-speed gear of the sliding pinion type. The top

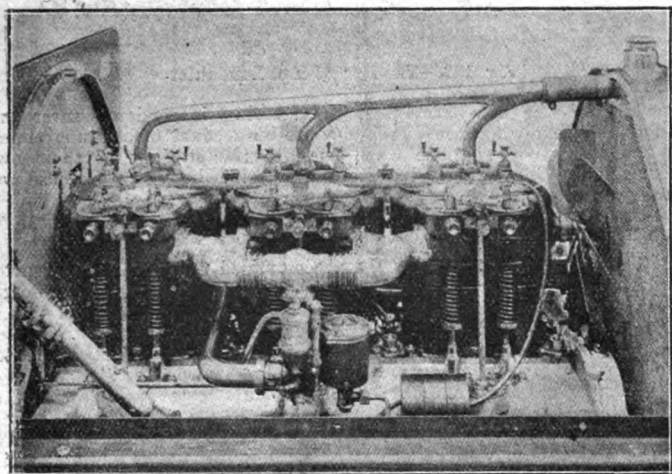


Fig. 119.—The Itala Six-Cylinder Motor.

speed is direct, and when this is in operation the side shaft is entirely out of gear. The change-speed control is on novel lines; it is actuated by a lever that has a T-shaped handle. The driver has only to make direct forward or backward thrusts of the lever, the actual selection of the gear required being achieved by the turning of the specially-shaped handle. The final drive is by cardan shaft and bevel gear to a live axle. The road wheels are of a new design; they are built up entirely of pressed steel, the spokes being electrically welded to the rims. Tests with the steel wheel, which is no heavier than the artillery type, have shown it to be much stronger laterally.

The Itala Cars.

The display of **ITALA AUTOMOBILES, LTD.**, attracted throughout the show considerable attention, partly because of the prominent position given to the identical car on which Prince Borghese won the Pekin-Paris race, and partly to the high-grade qualities of these Italian-built vehicles. The chassis on view comprised a 35-45-h.p. four-cylinder model and a six-cylinder one of 60-h.p. (Fig. 119), the cylinder dimensions in both cases being 130 mm. bore by 130 mm. stroke. As regards the mechanical details of the Itala vehicles, these remain practically the same as last year. The cylinders are cast in pairs, and the ignition is by low-tension magneto, the operating cams being located on the top of vertical rods which run up between each pair of cylinders. The throttle is controlled both by pedal and a hand lever on the steering wheel. The automatic carburettor is of the Itala Company's own design and construction, a notable feature being that the induction pipes are provided with expansion joints. We note, too, that the dredger form of dashboard lubricator has been superseded by one comprising four small pumps which force the oil to

the various bearings. The clutch is of the metal-to-metal type, using flat discs, and is very sweet in action. A new departure is seen in the fitting of a large but light ring universal joint between the clutch and the gear-box to allow for any want of alignment between the two parts. The transmission from the four-speed gear-box is by a cardan shaft and bevel gear to a well-designed live axle. Three pedals are provided; one operates the clutch only, the other actuates a contracting brake on the primary shaft of the gear-box, while the central pedal withdraws the clutch and applies the expanding brakes in the hubs of the rear wheels; the latter can also be operated by the hand lever

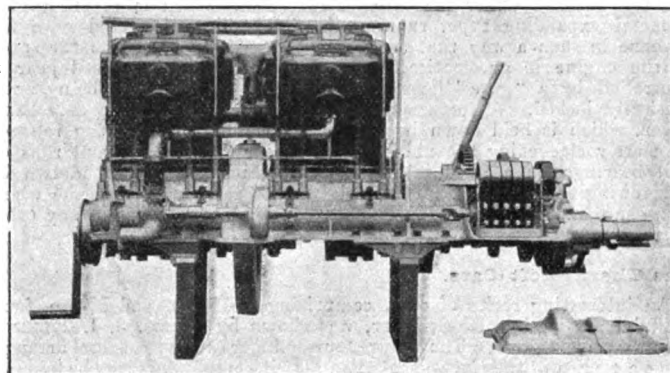


Fig. 120.—The Engine and Gear-Box of the Motobloc Car, showing the flywheel located between the cylinders.

at the side of the driver. The cardan joints have metal cup protectors, and ball bearings are fitted throughout. A 20-h.p. car fitted with an Italian-built park phaeton body was also shown, this forming one of the most graceful vehicles in the Show.

The Motobloc Cars.

A vehicle which has many interesting points is the Motobloc, exhibited by the **BARTISH MOTOBLOC SYNDICATE, LTD.**, which is making arrangements for its construction in this country. Four sizes are made, all with four-cylinder engines—viz., 18-h.p. (90 mm. by 110 mm. bore and stroke), 25 h.p. (100 mm. by 100 mm.), 35-h.p. (120 mm. by 120 mm.), and 45-h.p. (130 mm. by 130 mm.). The first two have live axles, and

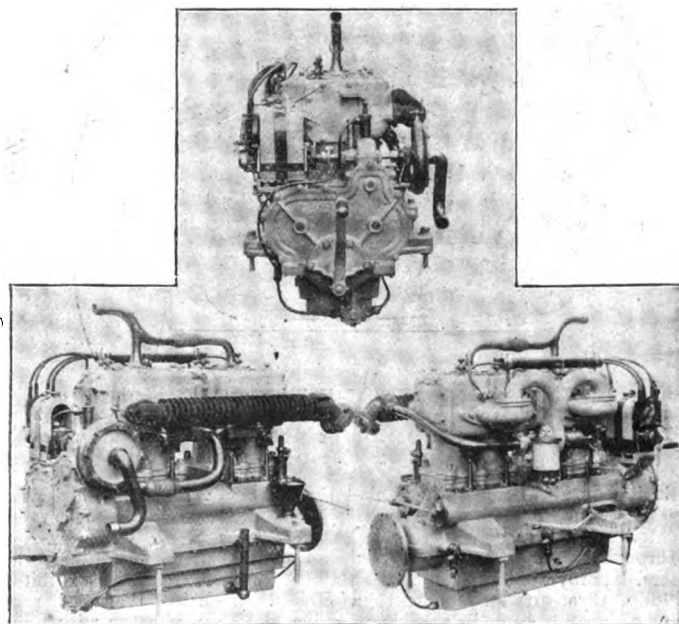


Fig. 121.—Three Views of the new Theraveroft 30-h.p. Engine. (See page 876.)

the more powerful cars have side-chain transmission. The name of the car is based on the fact that the engine and change-speed gear are built up in the form of a unit (Fig. 120). Another special feature is that the flywheel is enclosed, and is situated between the two pairs of cylinders, where it is supported on both sides by phosphor-bronze bearings of ample dimensions. The four cylinders are cast in pairs, and have the exhaust valves on one side, and the inlet valves situated in the centre of the cylinder heads, assuring a free and more direct transmission of gas; the inlets are actuated by rocking arms mounted on eccentrics, providing a simple and effective method of varying the

lift of the valves in order to regulate the speed of the engine. The automatic carburettor is heated by a supply of hot water from the cylinder-jackets, the temperature of which can be regulated by a tap provided for the purpose. The fuel feed is by exhaust pressure, which forces the petrol from the main reservoir to a small auxiliary tank on the dash, whence it is fed by gravity to the carburettor. Two systems of high-tension ignition, using the same contact maker and distributor, are provided. The magneto is mounted on a platform at the side of the gear-box, and driven by an extension of the pump shaft. The system of lubrication is on novel lines; a pump in front of the dashboard forces oil to the sight feed, and each drop of oil, as it falls from the latter, is picked up by another pump and forced through to its allotted bearing under pressure. The clutch, which is of the metal-to-metal expanding type, running in oil, is inter-connected with the throttle in such a way that as it is withdrawn by the pedal the speed of the engine is automatically cut down. The change-speed gear is controlled by a "gate" lever, the gears not in operation being automatically locked. A feature of the gear-box is the readily-detachable cover, which is held down by six hinged catches, these being released by merely slackening the nuts. The side shaft is hollow, and runs on ball bearings on a solid internal shaft, which can be withdrawn by unscrewing the large nut formed solid on its rear end, when the whole side shaft and its gears can be lifted out without disturbing any other parts.

The Thornycroft Cars.

An interesting series of cars, comprising 14-18-h.p. and 30-h.p. four-cylinder and 45-h.p. six-cylinder, was shown by Messrs. J. I. THORNYCROFT AND CO., LTD. The 30-h.p. four-cylinder car is in general arrangement a replica of the six, so that the following particulars may be taken as applying to both. Three views of the 30-h.p. are given in Fig. 121. The cylinders, which are $4\frac{1}{2}$ in. bore by 5 in. stroke, are cast in pairs, with the valves arranged on opposite sides. A gauge is provided for instantly determining the amount of lubricating oil in the crank chamber, and an air pump is driven off the cam shaft for forced petrol feed. The absence of sharp corners in the water service pipe is a special feature, as is also the design of the detachable front end portion of the crank case. The water-circulating pump and the magneto are located at the front of the engine, off which they are driven by skew gearing. The lever on the steering wheel is connected up to both the ignition and the throttle, the extra air inlet being automatically varied in conjunction with the latter. To facilitate starting the engine the exhaust cam shaft can be moved laterally to give half-compression,

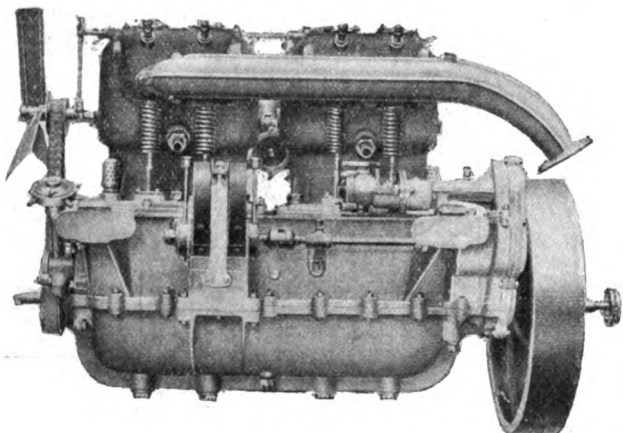


Fig. 122.—The Benz 40-h.p. Four-Cylinder Motor, showing the gear operating the valve cam-shafts located at the rear of the engine. It will also be noticed that the pump and magneto are driven by separate shafts.

while it may also be mentioned that the exhaust pipe is provided with ribs to assist in cooling. The clutch is of the multiple-disc type, actuated by five readily-adjustable external springs. The transmission is through a three-speed gear-box and cardan shaft to a live axle. Messrs. Thornycroft, in addition to the six-cylinder chassis, exhibited a 30-h.p. three-quarter-landaulet; a 30-h.p. limousine (both of very high finish, and painted dark blue), and a 14-18-h.p. phaeton with Cape hood, the carriage work of the latter being by Messrs. A. Meier and Son, of Redhill.

The Benz Cars.

The name of Benz is one of the oldest in the automobile world, and one, judging from the models now being turned out, that is likely to long remain familiar. For some time past the Benz Company have been devoting attention to the construction of powerful high-grade vehicles, and the chassis displayed by the CANNSTATT AUTOMOBILE SUPPLY ASSOCIATION were amongst the finest in the show. The engine comprises four cylinders cast in pairs and with the valves symmetrically arranged on opposite sides. As will be seen from Fig. 122 a noteworthy feature of the motor is that the gear wheels operating

on the valve shafts are located at the flywheel end, instead of behind the radiator, as usual, an arrangement which is claimed to increase the available body space on the chassis without any drawbacks in the way of inaccessibility. It will also be noted that the water-circulating pump and magneto, while located on the same side of the engine, are operated by separate shafts. Two systems of ignition are provided, low tension magneto and high-tension by coil and accumulators, the distributor for the latter being mounted at an angle at the front end of the engine. The carburettor is of special design, a lever on the steering wheel controlling the throttle and at the same time varying the air inlet. The leather-faced type of cone clutch is retained, the transmission being through a "gate"-controlled four-speed to either a differential shaft and thence by side chains, or direct by a cardan shaft and bevel gear to the back axle, both methods of driving being supplied. The axles are of H section, and a peculiarity of the front one is that the centre of the axle and the centre of the wheels do not fall in line. The latter are set back from the centre, the claim for the arrangement being that, besides enabling simpler and more solid con-

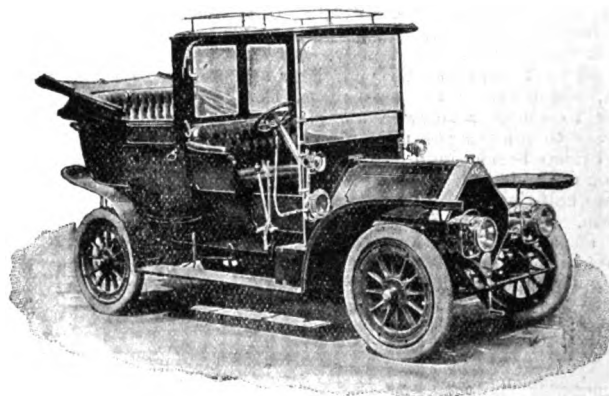


Fig. 123.—The Iris 25-h.p. Landaulet.

struction of the axle arm pins, the steering is rendered surer and easier, and that when the wheels deviate on account of any unevenness on the road they at once come back to the straight of their own account. A 40-h.p. with luxurious limousine body by Hooper was also shown.

The Iris Cars.

The display of IRIS CARS, LTD., comprised a 25-h.p. three-quarter landaulet (Fig. 123), a 35-h.p. chassis, a 35-h.p. car with Roi des Belges touring body, Cape cart hood, wind shield, and high side door, a 40-h.p. chassis, and a 40-h.p. Pullman limousine. Since their introduction about two years ago, these vehicles, which are made at Willesden Junction by Messrs. Legros and Knowles, have quickly taken a prominent place in the ranks of British-built motor vehicles, and so satisfactory has the design of the various details proved that only a few minor changes have been found necessary in the 1908 models. The 25-h.p. and 35-h.p. vehicles are fitted with four-cylinder engines, while the 40-h.p. is a six-cylinder model which retains all the leading features of the Iris design. The cylinders are cast in pairs, with the valves all set on the same side; the bore is $4\frac{1}{2}$ in. and stroke $5\frac{1}{2}$ in. As in the four-cylinder, the lubrication is forced to all parts of the engine by a gear pump in the crank chamber, and driven off one of the cam shafts. Two systems of high-tension ignition are fitted, while to facilitate starting a half-compression arrangement is provided. The clutch is of the multiple-disc type, and the gear-box gives three forward speeds and reverse, with direct drive on the third. The gear case has a three-point suspension, and can be removed from the chassis by dismantling three nuts and bolts, while all the shafts, gear wheels, and bearings can be removed without taking the case from the chassis. The back axle casing is continuous from end to end, so as to avoid any possibility of sag at the centre. The road wheels are mounted on self-lubricating ball bearings upon the ends of the case, the power being transmitted from the live shafts to the hubs. The differential gear and the bevel wheels are carried in the aluminium case forming the centre of the axle in a novel manner, which enables them to be removed bodily in a few minutes without disturbing any of the other parts, and the ratio of the bevel gears to be readily changed.

Price's Lubricants.

From the beginning of the motor industry Messrs. PRICE'S PATENT CANDLE COMPANY LTD. have given close attention to the necessary lubricants, &c., and have met with a great degree of success in the preparation of various specialties for particular purposes. Among their several oils and greases for motor-cars are Motorine, Oleogene, Gas Engine Oil, Steam Motor Oil, Battersea Gear Oil, Belmoline, Belgraphine, Cirogene, Rangraphine, Rangoon Oil, Rangoon Jelly. An important speciality is Curroleum, which is an oil dressing for leather-faced clutches, which combines the properties of a lubricant and of a preservative for leather. Purity and quality are the secrets of the success of the Price's Candle Company in these lines.

The Pullcar.

One of the novelties of the show was undoubtedly the Pullcar vehicle exhibited by the PULLCAR MOTOR COMPANY, LTD., Preston. Since this car was first introduced the design has been considerably improved, and it would seem that, in view of the neat and graceful machines now being turned out, the Pullcar will soon become a very familiar type. A feature of the construction is that the engine and gear (Fig. 124) are all practically contained under the driver's seat and dashboard, power being transmitted to the front wheels, which thus

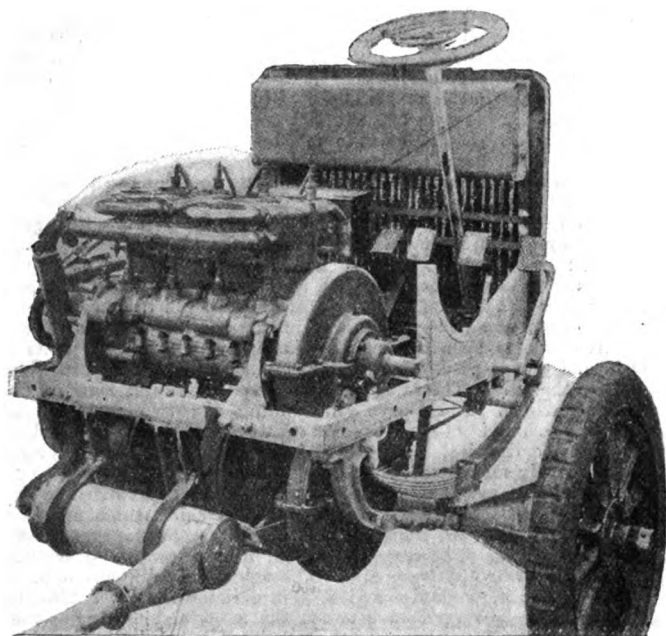


Fig. 124.—The Motor Fore-Carriage of the "Pullcar" Vehicle.

act as steerers and drivers. The arrangement gives the coachbuilder full scope for the carriage portion, the exhibit comprising an attractive-looking victoria suspended on C springs and a landaulet (Fig. 125), both exceedingly well adapted for town use. The motive power is supplied by a 14-16-h.p. engine comprising four separate vertical cylinders having the usual modern equipment in the way of ignition, carburation, water circulation, and lubrication. As will be seen, it is fixed in the frame with its crank shaft parallel with the axles; the power is transmitted by enclosed helical gear wheels to the change-speed gear counter-shaft below, and thence to the front axle by a Renold silent chain, no bevel gear being employed in the car, as the drive throughout is by parallel shafts. The change-speed gear is of epicyclic design, fitted, when required, with a patent locking device with automatic release. The gear is arranged to give three speeds forward and reverse—viz., 6½, 15, and 24 miles per hour with the motor running at 1,200 revolutions per minute. The gear wheels are always in mesh, being of the true sun-and-planet design, without a single internally-cut gear. On the top speed, on which the greater part of the running is done, no gear wheels are in operation, the gear being locked and revolving as a whole, acting as an additional flywheel. The combined driving and steering front axle is of the live type, the power being transmitted to it in the centre, and from thence to the road wheels through special universal joints. The axle is fitted throughout with Hyatt flexible roller bearings, which run constantly in oil. The differential gear and other component parts can be dismantled *in situ* without disturbing the carrying axle. Among the claims made for the Pullcar are that it does not skid, that solid tyres may be fitted to the rear wheels without interfering with the comfort of the passengers, and that the motor fore-carriage can be attached to any type of body.

The Calthorpe Cars.

The Calthorpe car, made by the CALTHORPE MOTOR COMPANY, LTD., John Bright Street, Birmingham, remains in its main features as in 1907, but in details and in refinements many distinct advances have been made. As was the case last year, only one type is manufactured, this being of 16-20-h.p. The cylinders, which are 93 mm. bore, with a stroke of 104 mm., are cast in pairs, with the mechanically-operated valves arranged on one side. The exhibits included a touring phaeton of standard design, a similar body being fitted to another example, but in this case a hood and glass screen is provided, completed by the customary polished chassis. Amongst the more important improvements effected, mention may first be made of the provision of the Brown and B-rlow automatic carburettor, which is claimed to effect very considerable economy in petrol consumption; a further improvement is the adoption of the Hele-Shaw clutch in all

models as a standard, whilst the difficulty sometimes experienced in the past in withdrawing the clutch has been overcome by the re-designing of the clutch pedal and levers, whereby a leverage in the ratio of six to one is secured by a double link motion, and under all circumstances the prompt withdrawal of the clutch is rendered absolute. Ball bearings are now fitted throughout the car, except in the motor itself, and, to ensure more perfect cooling, 32 ft. of gilled tube have been incorporated in the radiator. All control rods are now fitted with ball-joints of eminently practical design, ample wearing surface and the necessary provision for adjustments being provided. Splash lubrication and the fitting of the rear cross suspension spring are still continued, but the clearance for steering lock has been considerably increased.

The Motor Supply Company.

The MOTOR SUPPLY COMPANY, LTD., exhibited on their stand in the Annexe a 15-20-h.p. Mors car fitted with a handsome limousine body, a 10-15-Spyker car with a well-constructed landaulet body, and a 15-20-h.p. Spyker car with a side-entry touring body provided with a double-extension hood. A prominent place was also found for the popular little "Passe-Partout" car, for which this firm has the exclusive agency. The model displayed had a De Dion engine of 8-9-h.p., with automatic inlet valve, but we understand that the standard models are provided with motors fitted with mechanically-operated valves. The accessories are of the best—a Bassée and Michel coil, Dinin accumulators, and Autoloc control levers being fitted, whilst lubrication is by pressure feed, and the water circulation by a centrifugal pump. Although shown as a two-seated car, the car is also supplied with a long chassis for side-entry bodies. Three speeds are obtainable, and internal expanding brakes are provided immediately behind the gear-box and also on the rear road wheels.

The Cadillac Cars.

The ANGLO-AMERICAN MOTOR-CAR COMPANY, LTD., showed the Cadillac 10-h.p. single-cylinder car, which, except for detail improvements, remains unaltered. The wheel base has been increased, and longer springs are now fitted, while the riding qualities are improved. The 20-h.p. Cadillac is a new model shown for the first time, this having a vertical four-cylinder engine and cardan shaft transmission. There was also a 30-h.p. model fitted with a three-speed epicyclic gear.

The Mercedes-Mixte Cars.

A handsome 45-h.p. limousine built on a Mercedes-Mixte chassis was to be seen on the stand of the CANNSTATT AUTOMOBILE SUPPLY COMPANY, LTD. A feature of this vehicle is that the power developed by the petrol engine is transmitted electrically instead of mechanically to the rear road wheels, the usual clutch, gear-box, differential gear and driving mechanism being dispensed with, their place being taken by a dynamo at the rear of the engine and two electric motors built up to form the hubs of the rear road wheels. Changes of speed are effected by the action of a controller which alters the electrical connections. Five forward and three reverse speeds are available, as well as four electric brake positions. The exhibit also included a Mercedes electric



Fig. 125.—The "Pullcar" Landaulet.

carriage, in which the hub system of electric motors is employed, the necessary current being, however, in this case furnished by a battery of 42 Tudor accumulators arranged under the front and rear seats. A feature of the vehicle is the provision of a new regenerative controller, by means of which, whenever it is desired to stop the car or when running downhill, when the motors are being driven by the motion of the car itself, the latter are automatically converted into generators, the current generated going back into the battery. Not only does this intermittent recharging very much increase the distance that the car

will run on a single charge, but the frequent replenishing of the battery is beneficial to it, apart from the distance run, and a battery working under these conditions has a longer life than when used with the ordinary form of control. At the same time a powerful braking action is made available when the motors are used as generators. We may add that one of these vehicles recently made a run of 64 miles on one charge under the observation of the R.A.C.

The N.E.C. Cars.

The NEW ENGINE (MOTOR) COMPANY, LTD., of Acton Hill, W., had a display of their N.E.C. cars, which for originality of design were

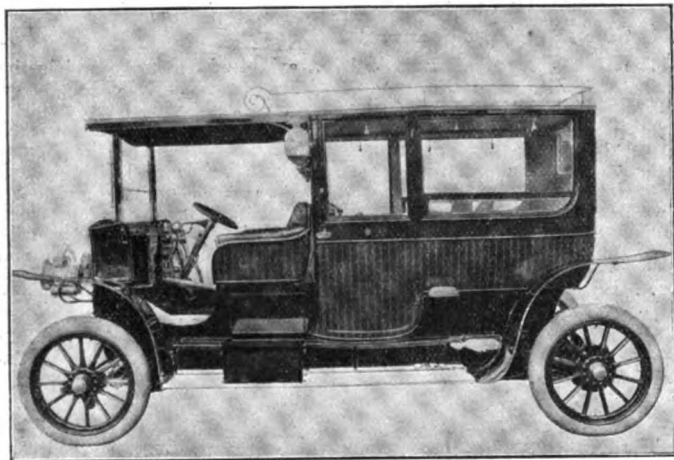


Fig. 126.—The N.E.C. 40-h.p. Limousine built for Sir Thomas Brooks Hitching.

amongst the most interesting in the Show. Although at first the fact that the mechanism is entirely hidden from view may lead some to think that it is difficult of access, a perusal of the following description will show that, far from this being the case, the arrangement is such that all the different parts of the engine and gear can be got at with a minimum of trouble and without having to get under the car. Three sizes are being built—20-h.p. two cylinders, and 30-h.p. and 40-h.p. four-cylinder, all being fitted with horizontal opposed cylinders. Except as regards the number of cylinders, the arrangement of the vehicles is practically the same, so that the following particulars may be taken as applying to all three. In the first place it may be

stroke of the 20-h.p. and 40-h.p. engines is 5 in. by $4\frac{1}{2}$ in., while the dimensions of the 30-h.p. are $4\frac{1}{2}$ in. by $4\frac{1}{2}$ in. The cam shaft and valve tappets are carried in a detachable case, which can be readily removed *en bloc*, so giving access to the crank shaft and its big ends. The ignition is by high-tension magneto-coil and accumulators with synchronised high-tension distributor being provided as a reserve. A governor is provided, by means of which the ignition is automatically advanced and retarded in accordance with the speed of the engine; it is also so linked up to the carburettor that the quality of the mixture is also varied in accordance with the motor speed. The lubrication is maintained by a pump mounted on the front end of the crank shaft; a range of sight-feed drips on the dash supplies oil to each cylinder and to the filter chamber. The crank shaft is hollow from end to end, and a constant stream of oil is kept moving through this passage, flowing out through small holes into the centre of each bearing. The oil then returns to the filter chamber, where it is thoroughly cleansed before again passing through the crank shaft. One gallon of oil will, it is claimed, run the car between 500 and 800 miles. The water circulation is on the thermo-siphon system, the fan being incorporated with the flywheel. The usual bonnet is replaced by the dashboard, which consists of the radiator and a wooden case serving to hold the petrol and oil tanks. The clutch is of the leather-faced cone type; the epicyclic change-speed gear has been abandoned in favour of a four-speed gear-box operated by a "gate" lever. On the fourth speed a direct drive is obtained, but on the other speeds, including the reverse, separately mounted eccentric lay shafts controlled by cams are employed, the gear wheel being thus engaged on the full width of the teeth in place of being slid into engagement sideways. The transmission from the gear-box to the rear live axle is by a cardan shaft which has universal joints at both ends and worm gear, the worm engaging with its corresponding wheel below the axle. The latter is entirely encased, and runs on ball and roller bearings. The sleeve surrounding the two parts of the divided driving shaft is of steel tubular construction, facing and bolting on to a central cylindrical casting containing the differential and worm drive. As already mentioned, special attention has been devoted to the accessibility of the mechanism, every part of which is arranged so that it can be got at from the top or sides of the vehicle, which are made removable or hinged. As there is nothing to get at underneath the engine, a close-fitting underscreen is fitted, the motor and gear being thus thoroughly protected from dirt. The vehicles exhibited comprised a 20-h.p. and 30-h.p. landaulet and a 40-h.p. limousine (Fig. 126), the bodies being entirely supported between the axles and rendering them exceedingly comfortable. In fact, the whole of the appearance of the N.E.C. cars is one of comfort, and we are not surprised to find them rapidly becoming a popular type.

The Belsize Cars.

BELSIZE MOTORS, LTD., as this old-established Manchester concern is now known, are building six models for the 1908 season—15-h.p., 20-h.p., 28-h.p., and 30-40-h.p. four-cylinder, and 30-h.p. and 60-h.p. six-cylinder

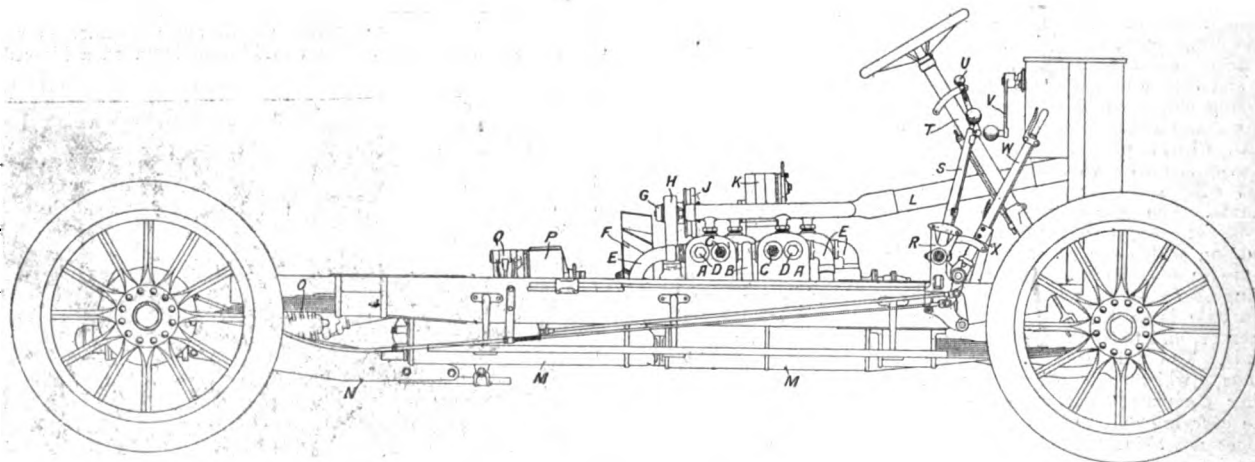


Fig. 127.—Elevation of N.E.C. Chassis.

A. Cylinders.
B. Inlet pipes.
C. Exhaust pipes.
F. Flywheel with fan blades attached to rim.

K. Magneto.
L. Water-pipe from cylinders to radiator.
M. Underscreen.
R. Gate for four speeds and reverse.

S. Gear changing lever.
T. Steering column.
W. Hand Brake.

observed that the body is entirely supported between the axles; special attention has been paid to the question of suspension, with the object of providing an easy-riding vehicle. The frame is of channel steel, the side members being narrowed at the extreme front and connected by transverse members, the whole being stiffened at the angles by web plates. The springing of the car is novel, half-elliptic springs being placed fore and aft, and connected underneath the axle at the back and on the top in front. The motor, as will be seen from Fig. 127, is located below the front seat floor board. The cylinders, which are separately cast, are arranged in pairs on the opposite side of the base chamber, the valves being all operated off a single cam shaft. The bore and

—all having bevel-gear-driven live axles. The 15-h.p. car has the cylinders— $3\frac{1}{2}$ -in. bore by 4-in. stroke—cast in one piece. The ignition is by high-tension magneto, and the water cooling is by thermo-siphon circulation. The 20-h.p. car is similar in all respects to that which secured the gold medal in its class at the Scottish trials. The 28-h.p. is a new model, and has many interesting details, including special oil pump. The bore is $4\frac{1}{2}$ in. and the stroke 5 in.; the valves are located on opposite sides. High-tension magneto ignition is fitted, and the cooling is on the thermo-siphon system, large pipes being used. The tappets, guides, and valve spindles are hidden from view by an easily-removed twin semi-cylindrical casing, which reduces the noise due to the impact of the valve spindles.

on the tappet ends. A metal-to-metal cone clutch running in oil transmits the power to the gear-box; the latter gives four forward speeds in addition to the reverse, the direct drive being on the third. The usual practice with regard to the brakes is reversed, the pedal controlling the rear wheel hub brakes, and a side lever one on the end of the gear-box. With the exception of the engine, ball bearings are employed throughout. The 30-h.p. six-cylinder vehicle is a new model; the cylinder dimensions are 4-in. bore by 4½-in. stroke. As will be seen, the Belsize Company have an interesting series of cars for the coming season, and in view of the relatively low price at which they are being offered, are deserving of close attention.

The "Valveless" Cars.

One of the most interesting vehicles in the Show was the "Valveless" of Valveless, Ltd., and exhibited on the stand of Messrs. CRAWSHAY, WILLIAMS, LTD. Fig. 129 gives a view of the 20-h.p. chassis displayed, while the exhibit also comprised a landaulet with front extension and wind screen to seat six. The main feature of the chassis is, of course, the engine, which works on the two-cycle system, and has neither valves, valve tappets, nor cam shafts. Fig. 128 gives a section view of the motor, from which it will be seen that it has two vertical cylinders placed side by side, sharing in common a single combustion chamber, carburettor, air-tight crank case, inlet port, exhaust port, and ignition. The two pistons B operate separate crank shafts CC1, which revolve in opposite directions, being geared together by teeth cut on their disc webs. The gearing is so arranged that the pistons move up and down together, while on each crank shaft there is a balance weight. The bore and stroke are respectively 5¼ in. by 5½ in. The action of the engine is as follows:—When the pistons ascend, the vacuum which they form in the airtight crank case draws air in through the passage G. This air lifts the disc V, which is attached to the needle valve S, so that petrol is sprayed from the jet K into the passage I. The pistons then descend and compress the charge of air in the crank case. On reaching the bottom of their stroke they uncover the ports D and E. The opening of the port D permits the charge of compressed air to pass from the crank case through the passage I into the cylinders. On its way the air is carburetted by the petrol which has already been sprayed into the passage I. The mixture so formed displaces the waste gases from the cylinders, pushing them out through the exhaust port E. The pistons then ascend, and compression is followed by explosion in the usual way. As the pistons approach their extreme downward position, the exhaust port first opens and lets out the remaining pressure of the explosion, and then the inlet port opens and lets in a fresh charge as already described. In fact, while one charge is being used in the cylinders another is being prepared in the crank case, so that explosion takes place at every revolution, as against every other revolution in the ordinary four-cycle engines. As will be seen from Fig. 129, the engine is placed at about the centre of the frame under the driver's seat, so that the radiator, which occupies the front of the car, can lie at

the receiver at regular intervals thus ensuring the efficient lubrication of the entire mechanism. The ignition is by coil and accumulators, the two cylinders being fired by a single plug. A notable feature is that the installation is in duplicate throughout, so that in the event of a defect in one series of wires the reserve can be immediately switched on. The power is transmitted through a metal cone clutch which works in oil to a Renold silent chain, which drives a secondary shaft carrying a double-jaw clutch. Two speeds are obtained by en-

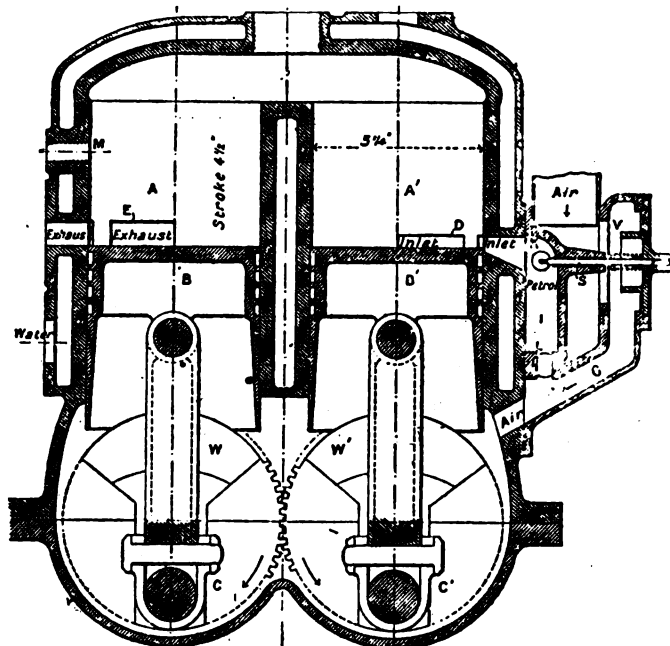


Fig. 128.—Section of "Valveless" Two-Cycle Engine.

gaging the jaw clutch with two chain wheels which drive on to the axle at different speeds by means of ordinary roller chains. The reverse motion is accomplished by an epicyclic gear contained inside the main clutch. The gear is motionless during the forward running of the car, but it is instantly brought into action when the clutch pedal is pressed down beyond its usual travel. The ease with which either forward or backward movement can be obtained by a single movement of the driver's foot renders the car extremely convenient to handle in an

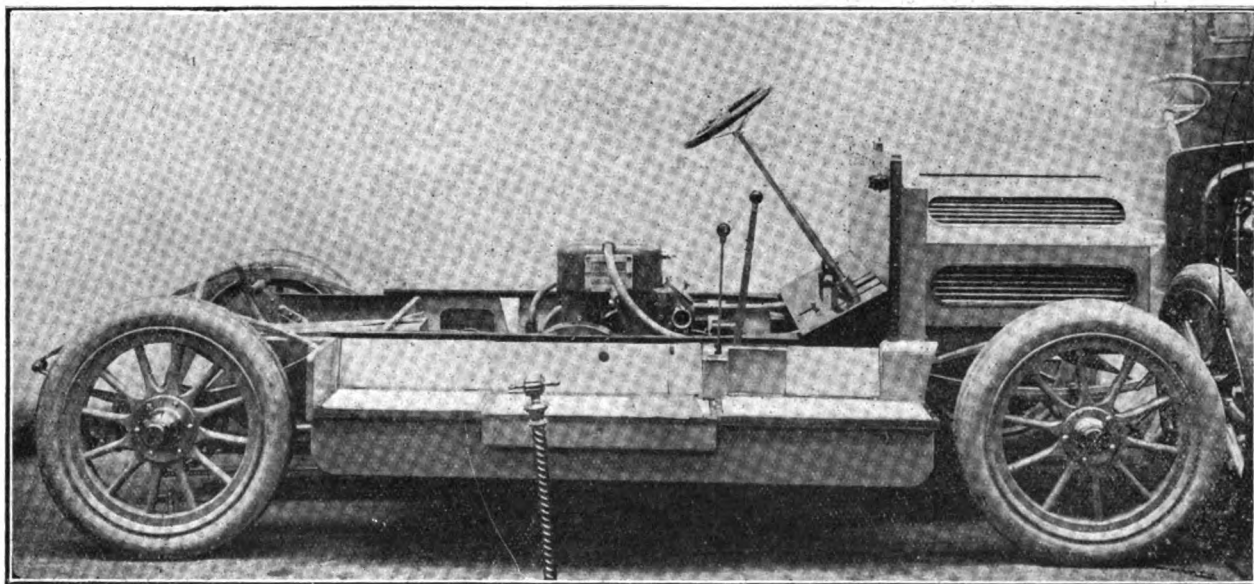


Fig. 129.—Chassis of the Valveless 20-h.p. Car.

a considerably higher level than the cylinders. By this arrangement a rapid circulation of the cooling water is obtained without the use of a pump. The tubes of the radiator are disposed horizontally, and afford a free passage to air passing vertically between them. The lubrication of the motor is effected by a pump operated by worm gear off one of the crank shafts. The oil is taken through a distributor in view of the driver to the pistons and bearings of the engine, and is afterwards ejected on to the chains and other working parts, the mere filling of

awkward garage, and when the vehicle is blocked by traffic enables the driver to back immediately by merely forcing down the clutch pedal. The epicyclic gear is of use also for another purpose. The engine, since it goes through the same cycle of operations at every revolution, will run equally well in either direction, and can, in fact, be easily reversed from the driver's seat by a single manipulation of the ignition lever. When the engine is reversed the reverse becomes a very slow forward gear (giving less than half the speed of the nominal low gear).

The frame of the vehicle is on novel lines; it is constructed of thin steel plate in the shape of a punt 16 in. deep, and forms at the same time an extremely rigid support for the body and a dust-proof case for all the working parts, a steel casing being formed over the driving chains. The central steel tube containing the live shafts of the back axle is relieved of all strain by a sheet steel framework. The springs are full elliptic, and ensure easy running, even on the worst roads. Two extremely powerful brakes are fitted, the foot-operated one acting on a drum on the clutch shaft, those controlled by hand lever working on drums on the driving wheels. The vehicle, which is the outcome of several years' close study on the part of Mr. Ralph Lucas, is exceedingly quiet in operation. It is claimed that the "Valveless" engine obtains with two cylinders a greater freedom from vibration than either the four-cylinder or six-cylinder motor of the ordinary type.

The Hillman-Coatalen Cars.

A new addition to the ranks of British-built cars is the Hillman-Coatalen, built by the HILLMAN-COATALEN MOTOR CAR COMPANY, of Coventry. Two models are being made—25-h.p. four-cylinder and 40-h.p. six-cylinder—examples of both of which were on view. Except as regards the number of cylinders, the general arrangement of the two vehicles is on the same lines. The engine has separately-cast cylinders, the bore being 5 in. by 5 in. stroke. The design is of interest in that the crank case carries almost all the parts that can be classified as belonging to the engine. Cooling is by a gear-driven positive pump and a novel type of flat-tube radiator. A feature of the six-cylinder car is the employment of two water-circulating pumps driven off one shaft. The ignition is by high-tension magneto with fixed firing point; coil and accumulators are also installed as a reserve. The crank chamber is provided with two large inspection doors, enabling the big end bearings to be readily examined. The clutch, which is of the leather-faced cone type, has two side springs in place of the usual central one. The change-speed gear gives three forward speeds, with direct drive on the top. A double-jointed cardan shaft transmits the power through bevel gearing to the rear live axle. The weight of the

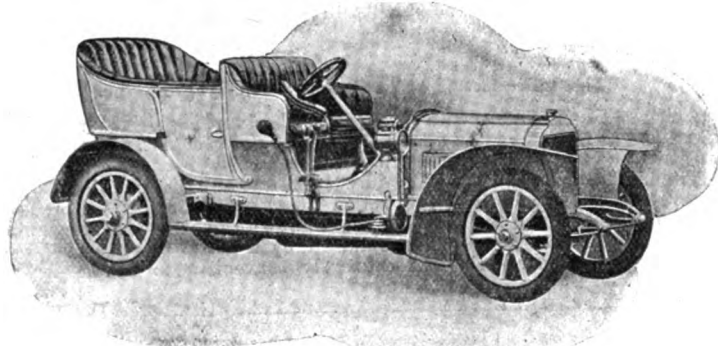


Fig. 130.—The Hillman-Coatalen 25-h.p. Car.

car is taken by the axle casing, the live shafts, which have only the driving effort to withstand, transmitting the power to the rear road wheels through their hexagonally-shaped ends. With the exception of the engine, ball bearings are used throughout.

The Sizaire-Naudin Car.

The interesting little two-seated car known as the Sizaire-Naudin, the agents for which in this country are Messrs. JARROTT AND LETTS, continues to attract considerable notice, the success of this vehicle in the recent light-car trials in France having given it a decided fillip. Throughout the details of the car are on novel lines; the frame is of armoured wood suspended on three springs; the engine is of the single-cylinder type—120 mm. bore by 110 mm. stroke. A governor acting on the ignition is provided, while the speed of the motor is controlled by a variable lift of the inlet valves. Transmission is through a single metallic-disc clutch and a special form of three-speed gear-box, giving a direct drive on all speeds. The change-speed gear is combined with a special system of transmission to the live axle. Fitted with a two-seated body, the little car has quite a racy appearance, and its moderate price is bringing it many purchasers.

The Horley Car.

The HORLEY MOTOR AND ENGINEERING COMPANY, LTD., showed two models of their 8½-h.p. cars, fitted in both cases with four-seated bodies. So far as the motive power is concerned, they are identical, the two cylinders, having a bore of 80 mm. and 90 mm. stroke, of Messrs. White and Poppe's manufacture, this firm's carburettor being also employed. In the cheaper model the control is by Autoloc levers on the steering column, a friction-driven pump maintaining the water circulation, a tank and radiator with fan being provided. In this car the contact breaker is placed horizontally at the top of the cylinder, the ignition being by accumulator and coil. In the second model, whilst the engine, carburettor, and ignition are the same, the contact breaker is placed vertically, the pump is gear-driven, and the radiator is self-contained.

The suspension, too, is improved, a transverse spring at the back being provided. Steering wheel control is fitted. In other details this type follows the first-described model.

The N.A.G. Cars.

The NEUE AUTOMOBIL GESSELLSCHAFT showed two models of their cars—a 16-h.p. four-cylinder type being fitted with a landaulet body by the Connaught Motor and Carriage Company, Ltd., the British agents for these vehicles, and a 28-32-h.p. chassis fitted with a double landaulet finished in bright yellow, by the same makers. In addition an example of the 28-32-h.p. type was to be found in chassis form, specially finished for exhibition. The latter has cylinders cast in pairs, with a bore of 115 mm. and a stroke of 125 mm., the whole of the distribution gears being encased, and the valves placed symmetrically on either side. The ignition is by low-tension magneto, the ignition gear being actuated by vertical rods worked from the induction cam shaft, the advancement being attained through the medium of a lever and sector on the steering wheel. Cooling is effected through a gear-driven pump on the exhaust side, a peculiarly designed gilled tube radiator and a fan being fitted. The peculiarity of the radiator is that its central element or nest of tubes can be taken down for repair, replacement, cleaning, &c., without in any way disturbing the remaining nests or breaking the ordinary water-joints. The transmission is by chains from a gear-box providing four speeds, controlled by a lever working in a "gate" sector, direct drive being given on top speed. The male member of the clutch is of the leather-faced cone type, but in this instance the leather is attached to segments, so that the ease of dismounting is rendered particularly facile. A contracting brake is fitted to the secondary shaft in front of the gear-box and internal expanding brakes to drums on the rear road wheels, these also being provided with an ingenious ratchet device which acts as a sprag. The carburettor is improved from that of previous models. A hot-air chamber is provided around the exhaust pipe, a method of controlling the choice of admission of either hot or cold air being provided by a shutter controlled by a lever working in a ratchet, a further shutter at the other extremity controlling the fixed air supply. Lubrication is by pressure from the exhaust to the dash, and thence by pumps through two sight feeds; an ingenious mounting of the glass tube in brass fittings with bayonet catches permits of the removal of these sight tubes instantaneously and without interference with the lubricator. The 16-20-h.p. model is similar to the 28-32-h.p. car, except that the cylinder dimensions are 90 mm. by 110 mm., and that in this model the change-speed gear permits of only three speeds, and finally that the transmission from the gear-box is by a cardan shaft to the live axle.

The Nagant-Hobson and Decauville Cars.

Interest at the stand of Messrs. H. M. HOBSON, LTD., was centred in the chassis of the Nagant-Hobson 35-40-h.p. car, which is built by the old-established engineering firm of Messrs. Nagant Frères, of Liege. The engine comprises four cylinders, 125 mm. bore by 140 mm. stroke, cast in two pairs, with the valves arranged on opposite sides. The ignition is by low-tension magneto, provision being also made so that coil and accumulators may be employed as a reserve. A half-compression device is provided to facilitate the starting of the engine. The clutch is of the disc type, a neat clutch stop being provided to facilitate changing gear. The change-speed gear is adapted to give four forward speeds and a reverse with "gate" control and direct drive on the top speed, the final transmission being by side chains. Two brakes are provided on the differential shaft in addition to the usual internal expanding ones on the rear road wheels. The frame is of pressed steel, and the front axle is of I section, ball bearings being fitted to the pivots—in fact, to all parts except the engine. A new shock absorber known as La Glissoire, and which acts by the displacement of oil, is fitted in conjunction with the springs. The complete car on view was fitted with a side-entrance double phaeton body fully equipped for touring, it being provided with canopy and special wind screen placed close up to the steering wheel. Drawers are arranged under the seats and under the footboards, and a feature is the addition of a spare seat on the near side footboard. A new 20-30-h.p. model on similar lines has just been introduced. Except that two brakes instead of three are fitted, and that the ignition is by high-tension magneto and accumulators and coil, this is on similar lines to the 35-40-h.p. car. A 16-20-h.p. Decauville landaulet was also shown, this being practically unaltered, except for the gear being lower than formerly, so that the bulk of the driving can be done on top speed. The body, which is by Messrs. Laurie and Marner, is painted green and upholstered in Bedford cord, making an excellent carriage for town use.

The West-Aster Cars.

In their main features the various types of West-Aster cars exhibited by Messrs. WEST, LTD., resembled each other, excepting that the horse-powers varied from 14-16-h.p. to 30-35-h.p., a 22-h.p. forming a connecting link between the two. The two last mentioned are provided with a gear-box giving four speeds, whilst the 14-16-h.p. has only three speeds. In addition, the 14-16-h.p. engine has its four cylinders in one casting, whilst in the 22-h.p. they are cast in pairs, and in the remaining type separately. The transmission is by propeller shaft to a live axle in each case; the firm's well-known practice of carrying the propeller shaft from a hinged double link or stirrup

attached to the central cross member of the main frame is adhered to, as is also the self-oiling double universal joint. The West cars have always been known for the excellent coach-work embodied even in the standard bodies as ordinarily fitted, and it would be difficult to surpass in luxurious elegance and quiet refinement the various models shown. One comprised a touring phaeton of the Roi des Belges type finished in green and black alternating stripes, upholstered in crimson enamelled buffalo hide; another a luxurious limousine of the semi-berline type, finished in rich dark green with black mouldings lined out in white, the upholstery being in heavy cloth fabric of mixed green tints; and yet another a limousine-landaulet body, finished in dark green with black mouldings, upholstered in drab cloth. The exhibit was completed by examples of the gears, axles, &c., employed in the cars and an example of the Noakes lubricator.

The Porthos Car.

A vehicle which attracted considerable attention was the Porthos, exhibited by Messrs. COLIN DEFRIES, LTD. Two models were on view—24-32-h.p. four-cylinder and 50-h.p. six-cylinder. The engine comprises separate cylinders, with the valves arranged on opposite sides. The ignition is by high-tension magneto, while the carburettor is of special automatic type, the extra air valve being opened by means of a leather diaphragm, on which the suction of the engine acts. Another feature of the carburettor is that the vaporising and mixing chambers are separate. The lubrication of the engine is effected by a small pump built in connection with and operated by one of the exhaust valve tappets. The transmission is through a leather-faced cone clutch, four speeds and reverse gear-box, with direct drive on top, cardan shaft and bevel gear to a live axle. The latter forms a somewhat novel departure from the ordinary practice, the usual design being practically reversed—that is to say, the power is transmitted to the road wheels through hollow sleeves, which, instead of being fixed as usual, rotate in ball bearings. The weight of the car is carried by a solid shaft which extends in one continuous piece from wheel to wheel, and which also rotates with the wheels. The differential is of the parallel pinion type, and the intermediate pinions have been made much longer than usual, so that the driving gear is, to a certain degree, free to move laterally on the driving sleeves and so adjust itself to any strains which might otherwise tend to disturb the correct meshing of the bevel gears. This "floating" action is facilitated by the absence of torque rods, the natural tendency to turn being resisted by the casing provided around the cardan shaft.

The Lindsay Cars.

The LINDSAY MOTOR MANUFACTURING COMPANY, LTD., are now confining their attention to a 16-h.p. vehicle, the chassis of which is adapted to receive any type of closed or open side-entrance body. The motor has four separately-cast cylinders, with the valves all on one side. Both high and low tension are provided, and the carburettor has an automatic air inlet valve. The specification comprises forced feed lubrication, cone clutch, three speeds forward and a reverse, ball bearings to all parts except the engine. The final drive is by cardan shaft to a live axle.

The Roydale Cars.

The ROYDALE ENGINEERING COMPANY, Huddersfield, were present with two polished chassis of the Roydale vehicles of respectively 18-22-h.p. and 25-h.p., both having engines the four cylinders of which are cast in one piece. There are many points of interest in these vehicles, which made their *debut* at the Cordingley Show in April last, among them being a two-jet by-pass carburettor, which is very simple in its action, while allowing the mixture to automatically adjust itself according to the speed of the motor. Ignition is by Simms-Boach high-tension magneto, accumulators and coil being provided as a reserve ignition system as a stand-by. The throttle is arranged to be operated in three ways—by a hand lever on the steering wheel, by an accelerator pedal, and automatically when the clutch is withdrawn. The ball-bearing gear-box furnishes three forward speeds, with a direct drive on the top, through a double-jointed propeller shaft to a live axle.

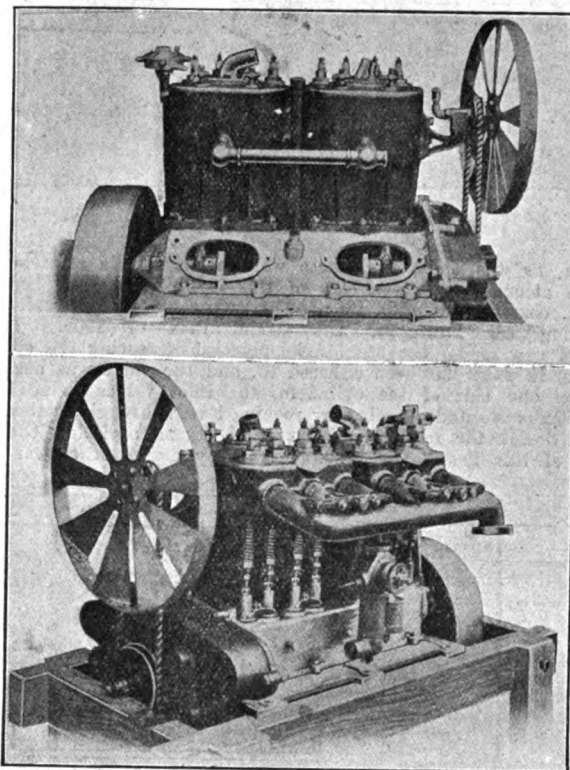
The Pilgrim Cars.

The cars exhibited by the PILGRIM'S WAY MOTOR COMPANY, LTD., were of an exceedingly novel design, and radically different to what may be termed standard practice. The exhibit comprised a three-quarter landaulet and a double landaulet, as well as a chassis and a neat two-seated car. The engine, which is mounted in the centre of the frame, comprises four horizontal cylinders all located on the same side of the crank shaft. The cylinders, which are $4\frac{1}{2}$ in. bore by 5 in. stroke, are cast separately but complete with water-jacket. The cam shaft is arranged so that it can be quickly detached, while the large inspection doors fitted to the crank chamber enable a piston to be withdrawn without it being necessary to dismantle the engine. The system of lubrication is an improvement on the 1907 model, a valveless or oscillating pump located in the crank case forcing the oil from the base chamber through a distributor to the different bearings, the oil returning to the tank to be repumped. The transmission is through an epicyclic type of change-speed gear, providing two forward speeds and a reverse. The gears are automatically operated by one pedal and

an indication lever, which can be set at any time to the gear required. The final drive is by a single central chain, which is enclosed. Other features of the car are the self-starting device and the adjustable steering gear and the fact that only five sizes of nuts are used throughout the chassis.

The North British (Drummond) Car.

This car was shown in chassis form and also equipped with a touring body on the stand of Mr. A. C. PENMAN, of Dumfries. In its main features it remains as originally designed, the chief variations being in minor details and in giving increased accessibility, &c. The motor (Figs. 131 and 132) has its mechanically-operated valves on one side of the cylinders, which have a bore of $3\frac{1}{2}$ in. and a stroke of 4 in., giving 20-h.p. at 1,500 revolutions. Cooling is on the thermo-siphon system through a well-designed radiator carried in front of the bonnet in the usual manner. Ignition is by high-tension from accumulators and trembler coil, but at choice synchronised ignition can be fitted, and provision is also made for a high-tension magneto as an alternative. The carburettor is of good design, ensuring flexibility, and testimonials from users give proof of an average of twenty miles to the gallon with four or five seated bodies. Lubrication of the engine is effected by splash, all other rotative parts being provided with grease cups. The clutch is of the leather-faced cone type, and the transmission from the three-speed gear-box is by propeller shaft to the live axle. A contracting brake is carried behind the gear-box, each road wheel being provided with internal expanding brakes. The steering is irreversible and adjust-



Figs. 131 and 132.—Two Views of the Motor of the North British (Drummond) Car.

able, enabling the inclination of the pillar to be set at any desired angle; the wheel carries the control levers, a decelerator pedal also being fitted. The back axle is of great strength, the differential being of the parallel type of large proportions. Both the engine and gear-box are hung on steel plates, being extensions from the main frame, and provided with a dust-excluding apron. Another model of the same horse-power is constructed to carry a two-seated phaeton de luxe. In this case, whilst most of the foregoing details of construction are retained, the drive is attained by a worm floating on a feathered shaft and held in position by springs at either end. These cars have already acquired a good reputation for ease, flexibility, and lightness in fuel and tyre consumption in the North, and for steady reliability their reputation is being daily augmented.

The Aster Cars.

In addition to their display of engines in the Gallery, the ASTER ENGINEERING COMPANY, LTD., had on view two complete chassis of respectively 20-22-h.p. and 24-30-h.p. The motors are of the four-cylinder type, and are equipped with Longuemare carburettors, to which the Aster Company's automatic attachment is fitted. Two systems of high-tension ignition are employed. The transmission is through a three-speed gear-box, giving a direct drive on the top speed. The front axles are of a new pivot design, with the hubs of the road wheels running on ball bearings.

The Ariel-Simplex Cars.

ARIEL MOTORS (1906), LTD., had an interesting display in the centre of the main building, the carriage bodies fitted to the various chassis being of the most elaborate type. They included a very handsome double landaulet fitted to a 30-40-h.p. chassis, finished in dark blue, and possessing much originality in design, a limousine finished in dark crimson attached to a chassis of 40-50-h.p., and a touring phaeton with all necessary equipments, completed in deep cream colour, with brown-red mouldings and upholstery, applied to a chassis of 30-40-h.p.

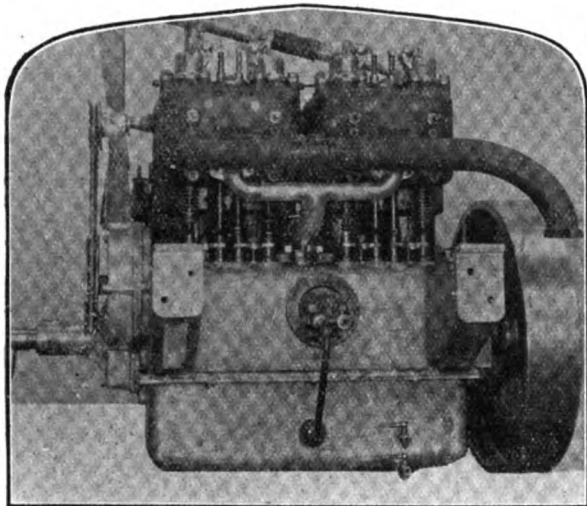


Fig. 133.—The Ariel 25-30-h.p. Motor.

Although, as was their due, these well-known models attracted considerable attention, yet the *clou* of this exhibit was the firm's new 25-30-h.p. chassis (Fig. 134), its popularity perhaps being divided with the racing car built for the Grand Prix of 1908. In the 25-30-h.p. new model the usual Ariel practice of casting the cylinders (Fig. 133) in pairs has been adhered to, and the valves, as usual, are placed on one side of the cylinders, the inlet valves being located over the exhausts and operated by rocking levers through vertical rods. In main design the remaining features of the motor follow the usual practice of this firm. The lubrication is by means of a gear-driven

shaft to the four-speed gear-box, the selector rods of which are now entirely enclosed, and are operated through a "gate"-type sector by a single lever. The gear-box is suspended on a tubular underframe carried at its rear end on a tubular cross member of the main frame and at its front end by a downwardly-bent tubular cross member, which also serves as a fulcrum for the clutch withdrawal mechanism. Lubricators are fitted to all moving parts and to the spring shackles. A contracting brake is fitted behind the gear-box, and the rear road wheels carry internal expanding brakes whose action is synchronised by a rocking lever. Both the gear-box and back axle are, of course, fitted with ball bearings throughout. The frame is inswept at the front and cambered at the rear, the rear suspension being by three-quarter elliptic springs.

The Isotta-Fraschini Cars.

These high-grade Italian-built cars have quickly gained a prominent position in the motoring world. Two sizes were exhibited by Messrs. HALL, CAPRIS AND Co.—18-24-h.p. and 40-45-h.p.—both being fitted with side-chain transmission. The four-cylinder engine has the valves operated off separate cam shafts, and the ignition is by high-tension magneto. The flywheel is adapted to act as a fan, while the clutch is of the multiple disc type. On the smaller car the usual brake on the differential shaft is supplemented by one on the forward end of the gear-box side shaft, while the larger one has two brakes on the countershaft. The cylinder dimensions are: 18-24-h.p. 105 mm. bore by 130 mm. stroke, and 40-45-h.p. 130 mm. by 150 mm. Messrs. Hall, Capris and Co. inform us that a new live axle model is being introduced by the Isotta-Fraschini Company, this being fitted with a 14-h.p. four-cylinder engine, a straight or dropped frame—the latter being intended for low side-entrance town carriages—and an arched back axle, this construction being rendered possible by the adoption of two pairs of bevel wheels with the differential casing.

The Rothwell Cars.

The ECLIPSE MACHINE COMPANY, LTD., exhibited three sizes of their live-axle cars—15-h.p., 20-h.p., and 25-h.p. The water circulation is by thermo siphon, no pump being used. A feature is the accessibility of the valves, it being only necessary to loosen one nut to take out both valves in the same cylinder, while large inspection doors allow of easy inspection of the interior of the crank chamber. The leather-faced cone clutch is fitted with an addition in the shape of rubber buffers, engaging with apertures in the cone, to allow of progressive engagement. The road wheels are of the double-artillery type.

Coach Work for Motor Cars.

An inspection of the chassis on the stand of Sir WM. ANGUS, SANDERSON AND Co., Westgate Street, Newcastle-on-Tyne, revealed more than any words can describe the high grade work which is now

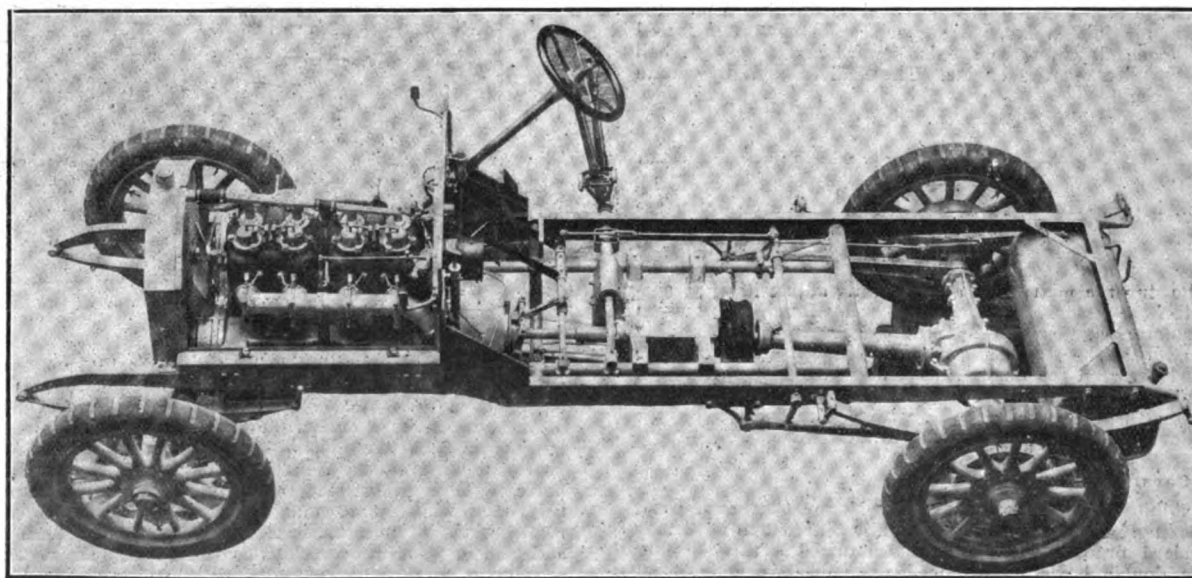


Fig. 134.—Chassis of Ariel 25-30-h.p. Car.

pump operated from the cam shaft. The clutch is of the inverted cone type faced with leather, a ready means of adjustment being provided by an external square-headed nut operating the internal mechanism. The carburettor is carried on the side of the motor opposite the cam shaft, and the feed is by a double-armed casting through ports in the cylinder heads to the inlet valves on the other side of the engine. The magneto and water-circulating pump are also on the right side of the motor, being driven by the same shaft from the distribution gear. From the clutch power is conveyed through a double cardan-jointed

being put upon the chassis of automobiles in order to bring them into line with the best carriage work of the country. There were two examples which would make the reputation of the firm—if that had not been already assured. One was a 42-h.p. Daimler limousine to the order of Mr. Emerson Bainbridge, ex. M.P., constructed on coach lines even to the driver's seat, which instead of being a part of the enclosed vehicle, is independent of that portion of the body like the coachbox. At the rear, too, the luggage grid can be folded up so as to preserve the carriage outline when not in use. This limousine has a fixed top. The pillars are

swung up, and by means of a double acting hinge are secured to the roof out of sight, while the glasses of door and sides can be dropped into the panels of the vehicles as in an open car. The convenience of the driver, as well as the comfort of the passengers, has been thought of, and the slope for his feet is at an extremely good angle. As an example of carefully designed internal fittings, the landaulet on a 42-h.p. Daimler chassis, also the work of Messrs. Sir Wm. Angus, Sanderson and Co., was noteworthy. In addition to the usual seats in the rear of the vehicle are swinging seats at the sides which can be adjusted to several positions so as to facilitate the movement of passengers. These seats can be folded away and collapsible tables brought into position to extend across the car and form a complete barrier. To the rear of the driver there is another collapsible seat. A special fitting is a semi-circular canteen, divided into three compartments, which is enclosed under the rear seats, and which revolves so as to afford entry thereto. The upholstery of the interior is in a taking French material of light grey. The driving seats are in pigskin, with a bucket division for maps, etc. A notable feature of both these vehicles is the exceptionally wide wings, which are covered with leather. Each of these can be easily removed, when it is desired to get to the tyres, by removing three bolts, which are, however, hidden from view on the uppermost side.

Motor Bodies from Scotland.

From Dumfries Mr. A. C. PENMAN brought admirable examples of motor body work. His reputation is not restricted by the Solway Firth, and his clientele extends to the southern shore of this island. An examination of the various bodies on the stand went far to explain his success. The 24-h.p. "Deasy" three-quarter landaulet is a good design. Within are folding seats which fall into the floor when down, thus being right out of the way. In their place a writing table can be obtained, and with the advantage of a roomy interior the carriage—for such it really is—is an ideal society vehicle. In connection with the electric sidelights the switch is located near the lamp to facilitate removal, &c. The second vehicle in the collection was a 24-30-h.p. "New Arrol-Johnston" limousine with a detachable top. This is so well contrived as to disguise the fact to the ordinary observer. The colouring is in two shades of blue, which form an artistic and unusual combination. To this car is fitted the "Millaro" wind screen, reference to which has been made in an earlier Show Report. The third car on Mr. Penman's stand was a 16-20-h.p. "North British" tulip phaeton of a type that has become popular in the north. The body is in polished walnut, and in the rear portion no fewer than 150 pieces of wood have been used to secure the rounded form. For the comfort of the passengers the floor boards can be raised to any angle so as to rest the feet, a convenience secured by having a double floor. Altogether these exhibits testified to most careful design, as well as good workmanship—a combination that led to an excellent display of modern motor body work.

Vincent Motor Bodies.

Although his stand in the Annexe was of restricted area, Mr. W. VINCENT tagged thereon a magnificent example of coachwork applied to a Mercedes chassis of the latest type, whilst other examples of his manufacture were to be found displayed on the stands of Messrs. Mann and Overton's and Straker and Squire, Ltd. Both the last-mentioned examples are of the double phaeton type, that fitted to the Brasier car being finished in carmine, with hood and wind screen, and that displayed on the Straker-Squire "C. P. B." 25-30-h.p. car, built for the Maharajah of Bikaner, being completed in beautiful shades of green, upholstered in a light green leather in pastel tint. The Mercedes chassis on Mr. Vincent's own stand was equipped with a "runabout" body *de luxe*, in single or "Parisian" phaeton form with a hood. As is usual with bodies of this firm's construction, every possible refinement is comprised; tool-boxes and tool-drawers are made weather-proof, with double doors or lids, each cover being double-grooved and tongued. The upholstery is a perfect example of the coachbuilder's art, and is carried out in enamelled hide of a delicate green tint, whilst the paintwork is completed in three shades of dark greens, the whole harmonising perfectly. The body of the phaeton has its corners composed of a chamfered panel, the mouldings of which conform in artistic contour with the side and back panels, and the complete vehicle possesses an artistic merit, as well as a comfortable elegance.

Lowe, Bevan and Co.'s Wind Screens.

A large and effective display of their wind screens and motor body builders' specialities was made by Messrs. LOWE BEVAN and Co., of the Clarence Works, Birmingham. Among the new patterns for the coming season, all of which seem to have been designed with a practical appreciation of the problem to be solved, is the "Kenilworth" type with patent fittings, by means of which any angle of adjustment can be secured. The combinations that are obtained are most comprehensive. The screen is in two halves, which can be used as one straight screen if desired; or the bottom portion can be used that way with the top member adjusted to any required angle. If necessary it can be half folded down to form a half screen. Supplied with either brass or nickel-plated fittings, the screen is a thoroughly practical device. Another useful invention exhibited by Messrs. Lowe, Bevan and Co. was the "Combination" folding wind screen which combines in one all the various positions given by most of the screens familiar to

motorists. In other words, it gives a range of five positions, viz., a straight screen, half, bottom half angled, top half to open outwards, bottom half straight, and top half angled towards steering wheel. All kinds of motor body fittings were also shown, many ingenious joints and hinges being introduced into their construction. A special point is made of close plating and electro-plating in all branches.

The Duplex Two-stroke Engine and "Simple" Variable Speed Transmission.

THE MOTOR ENGINE AND MANUFACTURING COMPANY, LTD., had on view a 30-40-h.p. four-cylinder car, the feature of which lies in the Duplex two-stroke engine with which it is fitted. An illustrated description of the motor was given in the *M.C.J.* about a year ago, and, although a few modifications have been introduced in the details, the principle remains the same. The disposition of the valves for delivering the mixture to be compressed in the cylinders has been altered, there being now no overhead valve, the inlet being situated at the bottom of the stroke, exactly opposite the exhaust, the piston controlling the entire inlet and exhaust operations. In common with most types of two-stroke engines, the incoming of the new charge and the outgoing of the exhaust is governed by the piston, the engine being therefore valveless, cam shafts and tappets being consequently unnecessary. The Duplex differs, however, from the usual two-stroke motor, inasmuch as there is no crank-case compression, and the air enters the working cylinder in advance of the combustible mixture, preventing back-firing and allowing the engine to run at very high speed. The working parts are only three per cylinder, viz., (1) piston, (2) connecting rod, (3) crank. Each of the cylinders consists of two chambers, and the explosive charge is first drawn into the bottom chamber of one cylinder and is

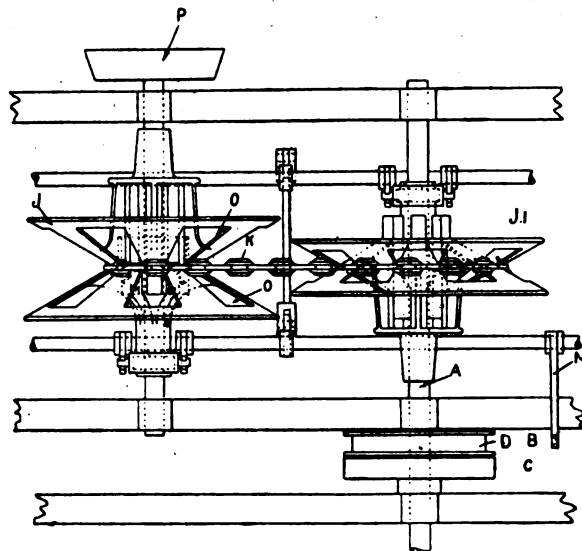


Fig. 135.—The "Simple" Variable Speed Transmission Gear.

passed to the top or combustion chamber of the second cylinder with a cushion of pure air in front of it, which effectively "scavenges" or drives before it the burnt gases resulting from the explosion which has just taken place in that cylinder. The advantage of air scavenging in high-speed engines is well known, but so far it has not been possible to utilise this without grave complication, the engine being expensive to manufacture, and the consequent liability of getting out of order. Under the Duplex patent these advantages are obtained by means of the three working parts named. A further advantage claimed for the Duplex engine is that, although the crank case is not utilised as a pump, no auxiliary pumps are employed. The engine is entirely self contained, and when the gas is shut off a very powerful air brake is obtained. The mixture is furnished by a T. and M. three-jet carburettor, and the ignition is by high-tension magneto. The car shown was fitted with the usual pattern of sliding change-speed gear and cardan shaft transmission. Arrangements have, however, been made to adopt, when desired, the "Simple" variable speed transmission gear introduced by the Simplex Motor Gear Syndicate, Ltd., of Goschen House, Henrietta Street, London, W.C., and a working model of which was to be seen at the stand of the Motor Engine and Manufacturing Company, Ltd. As will be seen from Fig. 135, this consists essentially of two expanding pulleys J and J' and a combination chain belt K, by means of which the drive is obtained. The expanding pulleys are built up of two wings, in each of which radial slots are cut in such a way that in each conjugate pair of wings the slots alternate, the solid portions of one wing thereby being suitable to slide into the slots of the other, and vice versa. It will be obvious that in this manner the effective diameter of the pulley can be altered at will; when the two wings or plates of the pulley are separated as far as the speed lever permits, the driving chain-belt will run at the bottom of the V-shaped groove, and will effectively be running on a pulley of small diameter. When the operating lever

closes the two wings as closely as they are designed to go, the alternate slots and webs will intermesh and the V-shaped groove will be formed much nearer the top of the wings; in this position the chain will be running on a pulley of large diameter. The two pulleys are controlled by the lever M, and are so arranged that as one is contracted in diameter the other is expanded, enabling any ratio between one to eight and one to two to be obtained, the speeds not being restricted to three or four, as in the usual type of change-speed gear. A reverse motion to the driving shaft A is obtained by the introduction of a planetary or epicyclic gear at D. It is claimed that the pulleys can be expanded without any effort on the part of the operator, even when driving a heavy load, and that the system gives a smooth, noiseless drive.

Continental Tyres.

The CONTINENTAL TYRE AND RUBBER COMPANY has had a good season and contemplates an equally successful one for next year. For the coming season the Continental tyre and non-skid has a square washer under the rivet, a good innovation. The Red Rubber steel armoured non-skids continue to maintain their reputation. These are made with a grey rubber tread and red rubber sides—a combination of exceptional strength. Reference to the "Continental" Vinet detachable rim will be made on a later occasion.

New Motor Tyres.

Messrs. GEORGE SPENCER MOULTON AND CO., LTD., made their debut as exhibitors at automobile exhibitions, and took the opportunity of introducing a new motor tyre they are bringing out for the 1908 season. Agents are now being appointed, the arrangements in connection with which could be obtained from the stand in the Gallery, or from their office at 77, Cannon Street, London, E.C. The firm are not newcomers in the rubber business, having been established in Wiltshire for many years, and having supplied rubber goods to many of the important railways. Here they had a selection of rubber mats, &c., for motor-cars. The special feature of their new motor tyre is the groove larger at each side than at the centre, which throws out the dirt, and so maintains the efficiency of the device. The firm have also a stud led tyre of good design, and at their works at Bradford-on-Avon undertake all classes of tyre repairs. They are usually able to do retreading work in about seven days, but rightly advise motorists to allow the repair to remain three weeks before being used—a wise precaution that should be generally followed.

Peter Union Tyres.

The productions of the PETER UNION TYRE COMPANY'S works were to be seen in the Gallery, and also at the London depot of the concern, 6, Upper St. Martin's Lane, W.C. They include pneumatic tyres for touring and racing cars, as well as for motor-cycles: solid tyres for commercial motor vehicles, lorries, vans, and vehicles of that type; and the Peter Union puncture proof bands. These latter are made in an endless ring for service inside the tyre, being laid between the outer cover and inner tube, thus affording protection where most needed. In this way the resiliency of the tyre is in no way impaired, and full protection is given. The company's detachable rim has a detachable band brought together by a right and left hand threaded screw worked with a tommy bar.

Sawyer Non-skids.

The various specialities which have become favourably known to motorists under the name of the Sawyer specialities in connection with tyres were shown by the PADDINGTON MOTOR COMPANY, LTD., of 315, Euston Road, N.W. These comprised non-skid bands of the detachable and also the vulcanised type, the "Sawyer" combination non-skid, and also examples of what can be done in the way of repairs. The vulcanised non-skid band is a protective chrome leather studded outer cover placed over the outside of any worn or new pneumatic tyre. The band is light but possesses great strength and elasticity, enabling it to withstand any sudden strains. The "detachable" Sawyer band can be attached in a few minutes by deflating the tyre, inserting the clips under the wheel rim, and re-inflating. When the tyre is properly inflated, and the non-skid in position, it presents a neat and shapely appearance, cannot creep, and, while protecting the tyre from skidding and puncturing, cannot injure the tyre in any way. The combination tread has equally good merits of its own, and, despite the growth of rivals, the Sawyer specialities maintain their place.

Pumps and Radiator.

The ALBANY MANUFACTURING COMPANY, LTD., of Willesden, were early identified with improvements in motor-car components and accessories, and a visit to their stand was, this year, of interest owing to the presence of two pumps of good design and construction, securing a maximum of efficiency in operation. One was the Willesden Albany double helical patent positive pump. This has only two working parts, viz., double helical gear wheel gearing into a second helical wheel which is part of the driving shaft. This secures the advantages of a positive valve pump and is noiseless in action. In connection with the system of forced lubrication on cars the pump should be arranged on the circulating system to draw from an oil tank delivering into the sight feeds. These are adjusted in the usual way, and should be fitted with a relief valve and

adjusted to lift at about 30 lbs. to the square inch, returning the excess of oil to the tank. The pump can be run at practically any speed, but 100 to 200 revolutions per minute will be found adequate. Another type of pump shown by the company was the Lamplough-Albany positive pump. This has three working parts, viz., an eccentric which is part of the driving shaft, a circular piston and an oscillating valve cradle. In conjunction with the rocking cradle the piston acts as a suction and delivery valve, giving a positive as well as a noiseless operation. Albany honeycomb radiators, carburettors, and pumps were also included in the exhibit.

Van Raden's Specialities.

At the stand of Messrs. VAN RADEN AND CO. the visitor expected to find high grade electrical novelties, and he was not disappointed. A magneto for four-cylinder vehicles was exhibited which is extremely small and light. This was secured by dispensing with the distribution gear, a point which also simplifies the construction. The new magneto is comprised of eight sections only, held in position by two screws, and the whole can be taken apart in half a minute. It can be used either left or right and is driven at the speed of the crank-shaft. The firm also showed accumulators of spun and woven glass type, in new pattern unbreakable, celluloid, ebonite and glass boxes. One of these accumulators has been in use for seven years and is still doing good work. They also exhibited a wide range of single and multi-cylinder trembler, and distributor coils, as well as plugs, voltmeters, amperemeters lighting batteries and other specialities. Models demonstrating the construction of the Van Raden woven glass accumulators were also on the stand.

The Gillett-Lehmann Carburettor.

Among the many excellent exhibits to be found on the stand of the UNITED MOTOR INDUSTRIES, LTD., was the Gillett-Lehmann carburettor, introducing a novel system of control and securing economy and flexibility in operation. The adjustable float is of a special shape, giving great sensitiveness, and the level of the petrol is adjusted by a mere turn of a thread. The throttle lever acts so that a start can be made without the "tickling" that is often necessary. There is an extremely accessible jet which is removed by unlocking one milled nut only, and altogether the system is well calculated to interest practical motorists. Reference to other Gillett-Lehmann specialities will be made in a later issue.

Lathes.

In the Gallery, where accessories and tyres were mostly found, were to be seen the well-known machine tool makers, Messrs. DRUMMOND BROS., LTD., of Ryde's Hill, near Guildford. The firm showed several types of their tools, which have lately come well to the notice not only of makers of cars, but also of those who undertake the repair of the same. The lathes exhibited have 3½ in. and 5 in. centres respectively. The latter tool is of great capacity and power and is fully capable of taking a deep cut in rough hard cast iron with the scale on, on pieces 14 in. in diameter by treadle. The 3½ in. lathe is a useful appliance supplied with the following accessories, viz.—face-plate and driver chuck, travelling back-stay, hand-rest, coned centres, driving belt and spanners. The whole design of the lathe is much more rigid than the ordinary pattern appliance. It is speeded highly for small work and wood turning and has low speed also for large work. The workmanship of all the lathes of Messrs. Drummond Bros., Ltd., is of a high grade character.

Mr. ROWLAND HILL, of the Albion Foundry, Coventry, was represented by a selection of aluminium, gunmetal and bronze castings. Various examples of motor cylinders were also shown.

"Nickel steel" frames for motor-cars and a selection of "nickel steel" cross members were exhibited by Mr. JOHN THOMPSON, of the Etingshall Boiler Works, Wolverhampton.

In the "B and B" carburettors for the 1908 season Messrs. BROWN AND BARLOW, Ltd., have made a successful endeavour in the direction of accessibility while in no way sacrificing the efficiency. The various parts of the device can now be easily dismantled and readjusted.

At the stand of Messrs. WILLANS AND ROBINSON, LTD., were some excellent specimens of their cylinder, piston, and piston ring castings, as well as "Vanadium" steel crank-shafts, etc. Here, too, was the Wirtz gear, to which we shall make further reference in a later issue.

At the stand of the MOTOR SUPPLY COMPANY, LTD., was a collection of accessories, including the Willocq-Bottin headlight and automatic generators. These "glareless lamps" have a good projecting power and yet overcome the disadvantages of the searching glare often experienced with motor lamps.

Every variety of device used in connection with lubrication was comprised in the exhibition of Messrs. ROTHERHAM AND SONS, of Coventry, whose petrol filters and sight-feed lubricators have many points of advantage. Many new patterns in taps, &c., were on view, and the collection was of general interest.

A complete range of ignition and accumulators was shown by Messrs. J. C. FULLER AND SON, of Wick Lane, Bow, E., as well as self-starting magnetos and high-tension magnetos. Here, too, were found the firm's Syntonic high speed coils, which are tested up to 3,000 revolutions per minute, and special coils for synchronised ignition.

(To be concluded.)

THE STANLEY SHOW.

ON Friday, the 22nd, the thirty-first annual show of the Stanley Club opened at the Royal Agricultural Hall, London, N., and will continue until 10 p.m. on the evening of Saturday, the 30th inst. It is well up to anticipations, the number of exhibitors being practically as last year, while special interest attaches to the display of motor-cycles and motor accessories. Below we refer to some of the main features likely to prove of most interest to our readers:—

The "Royal Starling" and "Imperial Starling" Cars.

The STAR CYCLE COMPANY, LTD., Wolverhampton, have for some years been devoting attention to the construction of cars suitable for motorists of modern means, and in the "Royal Starling" have a vehicle which has already won many friends on account of its sound construction and reliability, as well as its relatively low price. The design follows the usual lines of live axle vehicles; the engine, which is rated at 10-h.p., comprises two cylinders $3\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke. The transmission is through a leather-faced cone clutch, a three-speed gear-box and cardan shaft to the back axle, which is of ample proportions. All the details of the car are on modern lines, as an indication of which it may be mentioned that both the gear-box and back axle are mounted on ball bearings. The vehicle can be supplied with either a two or four seated body, examples of both of which are on view. One is also shown in a form rendering it extremely useful for commercial travellers, a sample chest taking the place of the usual rear seats. The Imperial Starling is the latest production of the company; it is, generally speaking, on similar lines to the Royal, the engine is an 8-h.p. single cylinder, while the three speed gear-box is gate-controlled. Constructed with the view of providing a reliable car at a small cost, the vehicle is one which should have a large number of purchasers.

The Opel Cars.

A new series of German-built petrol cars known as the Opel makes its debut in this country under the auspices of the British Electromobile Company, Ltd., of Halkin Street, London, S.W. Three sizes are on view, 14-20-h.p., 18-30-h.p., and 25-40-h.p.—all fitted with four-cylinder engines, and while the general arrangement is that of standard live-axle cars, the details comprise many points of interest. The cylinders are cast in pairs, and while in the 14-20-h.p. the valves are all on one side in the larger models they are operated by separate cam shafts. Two systems of ignition are provided—low tension magneto and coil and accumulators. A governor acting on the throttle is installed to prevent the engine racing; a foot accelerator is, however, available for cutting the governor out of action when desired. The honeycomb radiator is provided with a large fan, the spindle of which is supported on springs in order to keep the driving belt at the right tension. The oiling of the engine is effected by a dredger type of lubricator mounted on the dashboard. The clutch is of a cone type, leather-faced in the case of the 14-20-h.p. car, metal-to-metal in the others, the shaft connecting it with the gear-box being provided with a universal joint to allow for any want of alignment between the two parts. Four forward speeds are available in

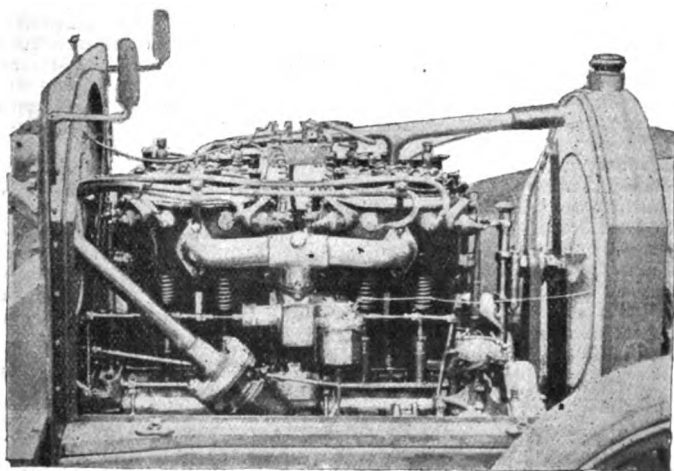


Fig. 1.—The Opel 25-40-h.p. Engine.

addition to the reverse, these being "gate"-controlled. The cardan shaft has universal joints at each end, while the live axle is enclosed in a casing, which carries the weight of the vehicle. Ball bearings are used to all parts except the engine, while the wheel base of the chassis is such as to allow of any type of closed or open side-entrance body to be fitted. Altogether the Opel cars make a very favourable impression. Two of the B.E.C. electrical vehicles are also to be seen at this stand, one in chassis form, the other finished as an exceedingly comfortable landaulet.

The Sabella Car.

A new two-seated car known as the Sabella is shown by the SABELLA MOTOR CAR COMPANY, LTD., of Camden Town, N.W. The arrange-

ment follows the usual lines of live axle vehicles, the motive power being supplied by a 10-h.p. two-cylinder engine having accumulator ignition and thermo syphon cooling. The cam shaft is so arranged that it can be readily withdrawn. The clutch is of the multiple disc type, and the gear-box gives three forward speeds in addition to the reverse.

The Aries Car.

An interesting display is made of the latest models of Aries cars, which are now being handled in this country by a new concern known as ARIES MOTORS, of which Mr. R. Lee Philpot is the manager. The 16-h.p., which is shown both in chassis form and complete with a roomy side-entrance double phaeton body, is a new model, in which there are several departures from the practice hitherto followed in Aries vehicles.

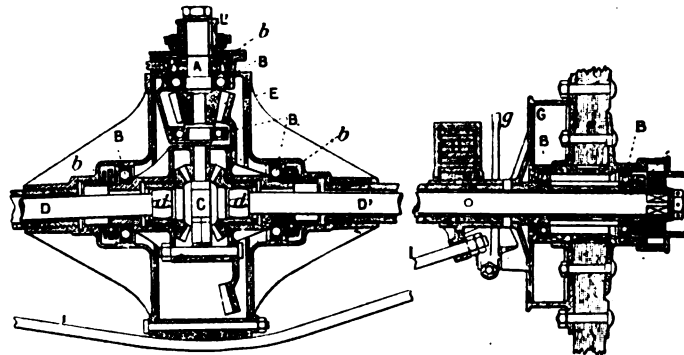


Fig. 2.—Sectional View of the Rear Axle on the Aries 16-h.p. Car.

In the first place, the four cylinders are all in one casting with the valves operated off a single cam shaft. The bore is 84 mm. and the shaft 110 mm. The ignition is by Simms-Bosch high-tension magneto, and a feature of the automatic carburettor is that all the engine cooling water passes through its jacket. The engine lubrication is effected by a pump which draws the oil from a sump or well in the base chamber. The transmission is through a leather faced cone clutch and three-speed gear, giving a direct drive on top to the cardan shaft, which is connected with the rear live axle through bevel gearing. Fig. 2 gives a sectional view of the new back axle, which is so arranged as to allow the road wheels to be splayed slightly out of the perpendicular, this feature being rendered possible by the introduction of the special joints d.d. The other cars on view include a 20-25-h.p. limousine landaulet and a 30-35-h.p. polished chassis. The 20-25-h.p. model has separately cast cylinders 105 mm. stroke, while the dimensions of the 30-35-h.p. are 120 mm. by 140 mm. The most powerful car is equipped with a special carburettor, in which the speed of the motor is automatically controlled by the varying pressure of the circulation water acting on a special form of throttle. In both the 20-25-h.p. and 30-35-h.p. cars the clutch is of the metal disc pattern, while the back axle is of a special type that has been previously illustrated in these columns. The weight of the car and the differential case is carried by a curved fixed axle forged in one piece, the ends being shaped to form journals for the rear wheels and bored out to allow the live shafts to pass through. The latter are provided with a flexible coupling, which enables the road wheels to be splayed so that the bearings are immediately over the point of wheel contact with the ground. We may add that ball bearings are used to all parts of the Aries cars except the engine.

The Chater Lea Carrette.

A novel two-seated car, built on motor-cycle lines, is displayed on the stand of Messrs. CHATER LEA, LTD., Golden Lane, London, E.C. The motive power is supplied by a Sarolea 6 h.p. two-cylinder V-shaped engine located on the outside of the right member of the frame. The motor, which is air cooled, is furnished with a Longuemare carburettor and a high-tension magneto. The power is transmitted to the off side rear wheel through the Chater Lea variable speed pulley and a chain belt, enabling speeds up to thirty miles per hour to be attained. The variable speed pulley is made with one fixed flange; a system of cams varies the position of a sliding flange, and so alters the effective diameter of the pulley. The latter is mounted on a countershaft, chain driven from the engine, which is mounted on a lever pivoted on a centre corresponding with the centre of the engine shaft. By a movement of the lever the countershaft can be partly revolved round the engine shaft, forward or backward, varying the distance between the pulley carried on it and that on the road wheel. This alters the tension of the belt, which, when slack, permits the engine to run without driving the road wheel and allows the vehicle to be driven in traffic in the same way as with a clutch. A separate rod with an operating handle sliding upon the lever controls the variations of the speed ratios, which can be varied from $4\frac{1}{2}$ to 1 to 7 to 1 or in like proportion. The steering is controlled by an inclined wheel and the cycle type road wheels are shod with 28 in. by $2\frac{1}{2}$ in. tyres. The little vehicle has been introduced to meet the demands of those motorists who have hitherto been content with motor-bicycles or tri-cars for something "just a little better" than any of these, and may be regarded as the stepping stone from a motor-cycle to a car.

AUTO CARRIERS, LTD., of Norwood Road, S.E. exhibit one of their light three-wheel delivery vehicles, and a similar machine arranged with a seat for an additional passenger in place of the goods chest. As an illustrated description of the interesting three-wheeler has been given in the *M.C.J.* it need only be mentioned that it is fitted with a 5-6-h.p. air-cooled engine having two fly-wheels. The transmission is by a single chain wheel to the rear road wheel, a two-speed gear being contained in the hub of the latter. The AUTOMOBILES DE LUXE, LTD., display a number of Darracq cars ranging from 12-h.p. to 40-h.p. which they keep on hand for hiring-out purposes, a branch of business in which they have met with considerable success. The N.S.U. CYCLE AND MOTOR CO. have on view a new 12-h.p. car fitted with side-entrance double phaeton body. The engine comprises four cylinders, 70 mm. bore and 100 mm. stroke, while the transmission is through a three-speed gear-box and bevel gear to a live axle.

A feature of the Exhibition is the large number of motor-bicycles on view; among the novelties in this section are the Max, in which no seat is provided, the rider assuming a standing position on footplates which are within a few inches of the ground.

The "Sentinel" accumulators are shown by the BOWEN AND ODERY MANUFACTURING COMPANY, of Pomery Street, New Cross, S.E. The plates of these are cast in pig lead hardened by the admixture of antimony and pasted with a special composition unusually hard and porous. The Sentinel ignition accumulators are fitted with the firm's non-corrosive terminals, which effectively prevent the creeping of the acid. Trembler coils and a variety of electrical accessories make up an interesting display.

Mr. R. W. COAN is again in his familiar corner at the entrance to the hall with illustrations of how effectively he can repair cracked aluminium castings. This is a department he has made his own, and he has done work for all the leaders of the motor trade.

The COUNTY CHEMICAL CO., LTD., of Excelsior Works, Birmingham, have come well to the front with their vulcanisers. Their Hay electric device, recently introduced, has already been adopted by many motorists, including Lord Powerscourt and Sir Henry Norman, M.P. The requisite temperature is obtained in ten minutes from a 4 volt accumulator. The vulcaniser consists of a wooden block having a curved metal plate on one side and a flat metal plate on the other. Beneath the plates are a collection of wires heated by the current. All that the operator has to do is to connect up the wires to the accumulator, and in twenty-five minutes the patch will be found thoroughly vulcanized. Other vulcanisers of the company are a combination air tube and cover vulcaniser—a capital all-round workshop apparatus, a jointing up vulcaniser and a special air tube vulcaniser. In addition to these specialities, mention may be made of the Chemico carbide, G.B. motor oils, and a full range of vulcanising materials.

In the tyre section of the Show will be found "Le Persan" motor tyres. These are on the stand of the INDIA RUBBER, GUTTA PERCHA AND TELEGRAPH WORKS CO., LTD., of Silvertown, Essex, and although made, as are the majority of motor tyres, out of rubber and canvas, are so constructed as to secure unusual resiliency and durability. The beading is practically unstretchable, so that it has no tendency to become limp and stretch, even when the tyre is well worn. The materials employed in the manufacture of "Le Persan" tyres are so compressed that the covers are thoroughly homogeneous and have great strength. Reference may also be made to the firm's metal-studded non-skid motor tyre, the studs in which are fitted by a special process and will not pull out, so that the tyre retains its good qualities of overcoming skidding right to the end of its life.

Mr. H. J. HARDING, of 211, Northumberland Park, Tottenham, N., will be found in the Arcade with a selection of motor accessories, prominent among which is the "Pushon" patent "Eclair" instantaneous pump connection for motor-cars, &c. This will fit any type of valve, and obviates the necessity for twisting swivel joints, so that the risk of leakage and other trouble is minimised. It consists of an air chamber which is connected by the usual rubber tubing to the pump. The rubber washer is provided with two turned lips, the inner one of which is pushed over the valve and the outer one lies against the side of the open end of the air chamber. Locking rings are provided to hold the washer in place, and there being no twisting the usual strain on the rubber tubing is entirely done away with.

The "Universal" piston ring remover is shown by SHARPE'S UNIVERSAL PATENTS COMPANY, of 720-722, Holloway Road, London, N. This is designed to overcome the troublesome business of removing rings from pistons. The points of the remover are inserted in the split of the ring, which is opened on the application of pressure to the handles of the device. It can then be easily and safely removed. Equally effective is the "Universal" valve spring lifter, which has a parallel movement securing the desired object without putting any strain upon the stem of the valve.

Messrs. T. H. LEWIS, LTD., of the Chalk Farm Coach and Motor Works, Gloucester Road, London, N.W., show their motor-car bodies fitted with wind screens and Cape cart hoods. These are of excellent design and finish, and the firm are evidently well able to undertake all classes of motor-car body work.

The Belmont non-skidding tyre protector, which is shown by the BELMONT TYRE PROTECTOR CO., LTD., of Linden Arcade, High Road, Chiswick, London, W., has points of advantage which should obtain for it the consideration of practical motorists. It is made of special fibrous material and constructed in such a way that it does not fray or stretch,

wearing evenly and well and never losing its gripping effect on the road. The attachment of the Belmont device to the wheel is extremely simple.

The ELEPHANT CHEMICAL COMPANY, of Camberwell, have a good assortment of their Calcoide, carbide oils and greases and similar specialities for motorists.

Demonstrations of the merits of their vulcanising process are being made by ARA, LTD., of 100, Long Acre, W.C., whose ingenious system has been previously explained in our pages. The principle upon which it is based is that of collecting together particles of raw rubber in a container, vulcanising them by immersion and welding them together. It is claimed by this method to produce a homogeneous material of high tensile strength.

The UNION RUBBER AND CHEMICAL COMPANY, LTD., Shaw Street, Ashton New Road, Manchester, show the new Turco electric vulcaniser for use in an ordinary four volt accumulator, and also the full range of Turco productions, such as carbide, tyre repair outfits, rubber solution, chain dressing, motor oils, and other preparations which have quickly gained the favour of practical motorists.

The Oleo plug is on the stand of Messrs. LEO RIPAULT AND CO., 64A, Poland St., W. This plug is well known both in France and in Great Britain, it having been adopted by many of the leading makers of cars. A reliable device, it forms but one of the attractions in an exhibit of considerable interest to motorists. Mention may also be made of the Oleo-Davidson puncture detector. This is based upon the pressure of the air in the inner tube, the device being fixed by a collar to the wheel spoke. The usual valve cap is dispensed with, the union piece of the puncture detector being screwed on to the valve instead. Then when the air pressure falls a handle is set loose to strike an arm connected with the electric bell on the dashboard in front of the driver, who is thus informed of the trouble.

The PRESTED MINERS' LAMP COMPANY, LTD., of 1, Elthorne Road, Holloway, N., show their complete sets of electric ignition for motor-cars.

Among other exhibits of interest to motorists are the "Exonite" specialities of Dover, Ltd.; the tool bags, &c., of Messrs. J. B. Brooks and Co., whose novelties we described in our report of the Olympia Show; the Taylor Quick-grip spanners; Mr. W. G. Nixey's graphite grease for gear-boxes, motor chains, &c., as well as the firm's other graphite specialities in connection with lubrication; a selection of motor accessories by Mr. M. Adler, of Coventry; the Autoloc patents for the control of the throttle, spark advance, &c., by the Autoloc Syndicate, Ltd., 3, The Mall, Church End, Finchley, N.; horn bulbs by the Leicester Rubber Company, of Granby Place, Leicester; motor clothing by the Express Trading Company; accumulators, lamps, voltmeters and the like by the City Importing Company, who have a selection of the Frankonia motor headlights; tyre pressure gauges, tool kits, &c., by Mr. E. H. Hill, of the Beta Works, Sheffield; the various ingenious devices brought out by Messrs. T. S. Nickells and Co., 2, Dornberg Road, Blackheath, such as the combined connector and tyre tester, telltale fittings for rear lamps, &c.; Brampton's chains; a good type of motor-car house shown by Mr. Randolph Meech, of the West of England Appliance Works, Poole, Dorset, which has the merit of economy in price as well as quality in construction; the Ajax detachable rim with its ingenious method of attachment and detachment; the well-known bifurcated and tubular rivets of the company of that name; the Cnez-lui enamels of Messrs. J. Price and Son; the specialities of the Bowden Brake Co.; the rubber goods in connection with the motor and kindred industries manufactured by Messrs. W. and A. Bates, Ltd., St. Mary's Mills, Leicester; the "Coventry chains and chain lubricant, introduced by the Coventry Company; the motor novelties of the South British Trading Company; the "Moebius" challenge motor oils, and also the "Challenge" motor grease of Messrs. Moebius and Co., of Howard Road, Stoke Newington, N.—preparations which have shown a remarkable consistency both in summer and winter; the washers of Fastnut, Ltd., which have gone well forward since their introduction at one of the Cordingley Motor Shows; Carroleum for leather-faced clutches and the motorist's soap, Manulav, prepared by the Price's Patent Candle Company, Ltd.; and the "Patchquick" motor patches of Messrs. Woodgate Bros., of Tiverton.

THE "Wapama" dust device for preventing the raising of dust by motor-cars is being introduced to motorists by Messrs. Wayman and Matthews, 1, Albemarle Street, Piccadilly, W. This was fitted to a 28-h.p. car and obtained distinction in the dust trials held on the Brooklands track during the summer—a fact just notified the inventors by the judges. Based upon the view that the spokes of the wheels are a great factor in raising dust, discs are provided for encasing these and thus preventing the raising of dust by the propelling action of the spokes. The discs are easily put on in twenty seconds and can be detached in even a shorter time. The "Wapama" device has certainly proved its value, and, although we are not troubled much with the dust nuisance at this season of the year, such inventions are well deserving of consideration at all times.

CASES UNDER THE MOTOR CAR ACT.

— DANGEROUS DRIVING. —

At the Eastbourne Borough Bench, on Friday of last week, William Chapman, of London, and Miss Florence May, New Cavendish Street, London, S.W., were summoned for driving a motor-car in Terminus Road and Grand Parade at a speed dangerous to the public. P.C. Cook stated that he saw the car travelling at about twenty-five miles an hour. Later John William Soddy also spoke to seeing the car in Terminus Road travelling at an excessive speed. He felt it his duty to complain to the last witness. His attention was called to the motor by the horn sounding, and it had to swerve in the road to avoid a pedestrian. There was no vehicular traffic at the time.

Mr. T. Kirtlan, who represented both defendants, contended that there was absolutely no evidence against Miss May, who gave no orders which would occasion a dangerous speed. Chapman said he was engaged on the understanding that in no case was he to exceed the speed limit. On this particular day the car broke down in the country, and afterwards Miss May had to complain about the slow speed. In Terminus Road the speed did not reach ten miles, and it was not increased on the Parade. After some consideration, the case against Miss May was dismissed, and Chapman was fined £5 and costs.

SPEED OF TAXIMETER CABS.

William Gibson, a taximeter cabman, living in South Norwood, has been fined by Mr. Marsham at Bow Street Police Court £5 for driving in a manner dangerous to the public. It was stated that the cab was travelling in the Strand at about ten miles an hour. A constable at the Charing Cross refuge put up his hand as a signal to the driver to stop. He did not stop, and Mr. W. Humphries, an elderly gentleman, was knocked down by the cab. Defendant said he did not see the constable raise his hand, and when he noticed Mr. Humphries he did all he could to avoid an accident. Mr. Marshall said he had no doubt that the constable held up his hand, and if Gibson had stopped at the time there would have been no accident. Elderly people must be protected.

NO REAR LIGHT.

Cases in which motorists have been convicted for driving without a rear light are reported from Harrogate, Eastbourne, and Leeds.

A DISMISSAL.

John Rhodes, Royal Engineers, East Liss, was summoned at the Guildford Borough Bench for having driven a motor-car at a speed exceeding ten miles an hour, in High Street, on November 7th. P.C. Hatcher estimated the speed at fifteen miles an hour. The street was full of traffic, and the car was shooting in and out at a very fast speed. Defendant said he knew about the limit, and thought the police must have been misled by the size of the car. Lord Torrington, owner of the car, agreed with defendant that the speed was not above ten miles an hour. There was very little traffic. The Bench decided that there was a doubt in the case, and they gave defendant the benefit of it.

FIRST CASE AT SOUTHWELL.

The first case under the Motor Car Act that has come before the Southwell magistrates has just been investigated, when William Birkett, chauffeur, of Southwell, was summoned for driving a motor-car at a speed dangerous to the public, on the lower road at Southwell, on November 6th. The defendant was fined £5 and costs.

EXCEEDING TEN-MILE SPEED LIMIT.

At the Kingston Borough Bench, John M. Bonstead, of Wimbledon Common, was summoned for driving a motor-car in Clarence Street on October 27th, at a speed exceeding ten miles an hour. P.C. Beck said he timed the car driven by the defendant, which was going towards the bridge, and it covered the measured furlong at a speed of about seventeen miles an hour. Defendant said he was not aware that he was driving within a ten-mile area, and he did not think he was going more than eight miles an hour. He asserted that he was waved on by the constable on duty at the bridge, and put on his accelerator in consequence, so that he was really drawn into the trap by the police. P.C. Davis, who took the time at the other end of the furlong, said the speed was over eighteen miles an hour. The magistrates decided to convict and called for the defendant's licence, which showed a previous conviction at Bow Street for exceeding the limit in one of the Royal parks. A fine of £3 and 15s. costs was imposed. Defendant asked where he could raise the question of the conduct of the police, as he did not think it was fair for the two constables who were timing the car to employ a third to lure a driver into a trap. The magistrates told the defendant if he was dissatisfied with the decision he could appeal.

EXCEEDING THE LEGAL LIMIT.

On Monday cases against four motorists for exceeding the legal limit were heard at the Shoreham Petty Sessions. Fines were inflicted in all cases.

PUBLIC MOTOR SERVICE.

A MOTOR-BUS service is being established at Stafford with a vehicle of 30-36 h.p. supplied by Commercial Cars, Ltd., of Luton. Councillor M. Mitchell is at the head of the enterprise.

COMPANY NEWS.

AJAX DETACHABLE RIM COMPANY.—£500. Coventry Works, Arthur Street, Small Heath, Birmingham.

AUTOMOBILE ASSOCIATION.—Limited by guarantee. Twenty members. Liability, £1. As title. Managed by administrative committee.

LONDON AND PORT TALBOT MOTOR COMPANY.—£10,000. As title. Agreements (1) with A. Haswell, and (2) with S. Broad. First directors: Captain O. Felton and Mr. D. Jones. Bank Chambers, Aberavon, South Wales.

IRISH MOTOR TYRE SYNDICATE, LTD.—Capital £500. To develop, test and exploit a specially-prepared leather tyre for motor-cars, &c., invented by Mr. Edmond Kerr, 8, Duke Street, Dublin.

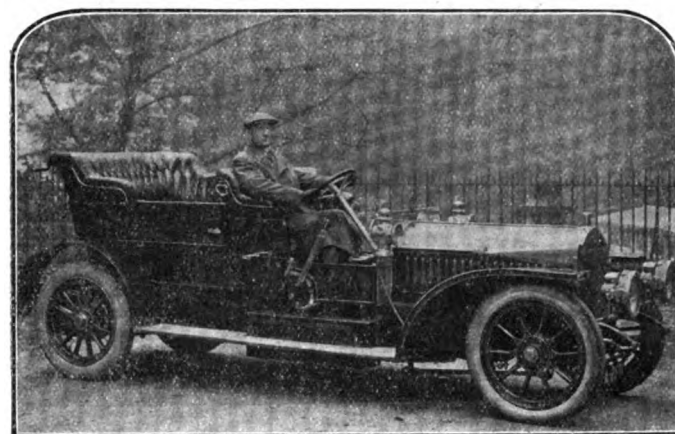
UNIVERSAL MOTOR IMPORTS.—£2,500. To adopt an agreement with Mr. J. Barnham for acquisition of business formerly carried on at 1, Charles Place, Drummond Street, N.W., as Universal Motor Imports. No initial public issue. First directors: F. H. Jones and F. Canham.

HUMPHRIES ENGINEERING SYNDICATE.—£4,800. To adopt agreements (1) with Mr. F. Humphris for acquisition of certain patents and rights and (2) with Mr. E. G. Abrahams, for acquisition of his interest in certain patents. No initial public issue.

ELSWICK SIMPLEX AUTOCARS.—£12,500. Automobile builders and proprietors. Agreement with MM. P. Piellat and O. C. Selbach. No initial public issue. First directors: Messrs. O. C. Selbach (managing director), P. Piellat, J. T. C. Moore-Brabazon and W. J. Wright. 110, High Street, Marylebone, N.W.

J. AND R. OLDFIELD.—£5,000. To acquire business of lamp manufacturers carried on at Warwick Street, Birmingham, as J. and R. Oldfield, 47, Warwick Street, Birmingham.

ROADS CONSTRUCTION COMPANY.—£20,500. To construct roads for motor and cycle traffic. Agreement with Mr. J. H. Borrer and others.



Mr. A. W. Gamage at the Wheel of his 40-h.p. Six-Cylinder Napier.

SWIFT COMPANY.—Mr. Alfred Du Cros, presiding on Tuesday at the meeting of the Swift Cycle Company at Coventry, proposed the adoption of the report, showing nearly £40,000 profit on the year's trading. Their sales of motor-cars had exceeded by over 40 per cent. those at the same period of the previous year. Mr. C. Thomson seconded, and the report was unanimously adopted. A 6½ per cent. preference dividend, and the last six months' ordinary dividend at 25 per cent., making 20 per cent. for the year, were declared.

ARGYLL MOTORS, LTD.—The report for the year ending 30th September, 1907, has been issued. The motor account shows a gross profit of £30,360 as compared with £125,133 in the previous year, the lower prices accepted for cars entailing a diminution in the returns of £45,300. A large number of obsolete parts, &c., were discarded at a loss to the company estimated at £32,000. The plant and premises have been thoroughly maintained out of the revenue at a cost of £12,533. The result of this severe method of dealing with the accounts brings out a total loss of £15,213, from which the directors have deducted the sum of £3,230, being the balance from last year, and £4,000 from the general reserves, leaving the net sum of £7,982 at the debit of profit and loss account. The directors felt justified in paying the interim dividend in May last, as up to that time sales showed an increase of 30 per cent. over last year's returns. The further dividend due on the 6 per cent. preference shares and on the seven per cent. participating preference shares is to be deferred to May, 1908. The board will nominate at the forthcoming meeting Mr. Thomas Dence as a director, and he has agreed to take the largest interest in the company held by any individual. The directors are convinced that the company has a great and prosperous business before it in the future, and ask the shareholders to have patience for a short time. In a circular Mr. W. A. Smith, the chairman of the company, says that there is nothing in the judgment of the directors to justify the present low prices of the shares, and adds that he is consistently increasing his holding and now owns one-third more shares than he did at the inception of the company.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

ARRANGEMENTS are being made with the General Steam Navigation Company for the issue of passenger tickets by the Club for the company's London to Bordeaux service. It will also be possible to book the transport of cars through the Club to Bordeaux, and, as a number of cars are sent by this route during the winter, the arrangement should prove very useful. The G.S.N.C. quote special rates to the Club for the transport of these cars.

The offices of the touring department of the Club have been removed from 16, Down Street, to rooms in the Club's new motor house, 108, Piccadilly, with an entrance at 18, Brick Street.

THE MOTOR UNION.

At the meeting of the general committee of the Motor Union held last week, the notice from the Royal A.C. terminating the agreement between the club and the M.U. was taken into consideration. In the result an emergency committee has been formed consisting of the representatives of the affiliated clubs and the representatives of the individual members upon the general committee, with power to take such action as they may think desirable.

The members of this committee present met after the conclusion of the general committee, and appointed a sub-committee to go fully into the matter and to prepare a full report upon the position of the Union and the clubs included in its membership. This will be circulated in due course, and in the meantime the committee suggests that the clubs should



A Juvenile Motorist.

[Mr. A. Arthurton, Port Dinorwic.]

defer taking steps arising out of the action of the Royal A.C. until the situation is fully before them.

AUTOMOBILE ASSOCIATION.

AMONGST the 287 members elected at last week's committee meeting of the Automobile Association were the following:—The Marchioness of Donegall, Muriel, Countess de la Warr, Viscountess Chelsea, the Archbishop of Westminster, Viscount Brackley, Viscount Torrington, Lord Vernon, Sir W. J. Baird, Bart., Sir George Meyrick, Bart., Sir George Faudel-Phillips, and Messrs. Leopold, Anthony, Lionel, and Evelyn de Rothschild.

The election of these members marks an epoch in the history of the Automobile Association, inasmuch as with the election of Lord Vernon the membership reached 5,000, being a really remarkable increase of 3,000 in the preceding twelve months.

THE INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

A MEETING of the Council of this Institution was held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., on the 20th inst.

There were present:—Colonel R. E. Crompton (in the chair), Messrs. Dugald Clerk, Henry Lea, Victor Riley, Douglas Leechman, Chas. Marston, T. C. Pullinger, David J. Smith, F. C. A. Coventry, Douglas Mackenzie, T. B. Browne, Chas. Wheeler, L. A. Legros, C. R. Garrard, F. W. Lanchester, John S. Napier, and Alex. Craig.

The following were elected members of the Institution:—Messrs. Rowland Winn (Leeds), W. F. Rainforth (London), and C. Lorenzen (London). Messrs. W. Williams (Plymouth) and J. Butler (India) were elected associate members, and Dr. J. L. Lock (Uxbridge) was elected an associate of the Institution.

The question of admitting ladies as graduates of the Institution was further considered, and it was resolved that they could not be admitted.

A letter was read from Mr. B. H. Morgan offering to read a paper before the Institution on "Air Cooling for Petrol Motors."

A design for the seal of the Institution was submitted, and it was left in the hands of Dr. H. S. Hele-Shaw, Mr. Douglas Mackenzie, and the secretary.

The report of the representatives of the Institution at the Conference on Screw Threads of the Engineering Standards Committee, held on October 24th, 1907, was deferred until the next meeting, Mr. F. W. Lanchester promising to make a written report.

The following resolution was passed:—"That a unanimous vote of thanks be accorded to Mr. Rees Jeffreys for his zealous work in connection with the incorporation of the Institution."

At the opening meeting of the present session of the Automobile Engineers, held on Wednesday of last week, at Storey's Gate, S.W., Colonel R. E. Crompton, C.B., R.E., took as the subject of his presidential address the future of automobilism. The developments in road engineering which had recently taken place, mainly due to the demands of motor engineers, and which had led to a better knowledge of road construction, showed that roads can now be treated in such a manner that, when carrying moderate loads, probably not exceeding 500 lb. per inch of tyre width, or with tractive stresses not exceeding half this amount, they could, in the majority of cases, form a cheap and serviceable road, provided reasonable arrangements for cross drainage and for obtaining suitable gradients were made. It seemed quite reasonable to suppose that road engineers could design such light roads, having a metalled surface 12 ft. wide, of ample strength, with light bridges to carry axle weights not exceeding four tons, with ferries for taking the motor tractors and their trailers across large rivers, for a cost not exceeding £2,000 a mile. The speaker then referred to the strong objections railway engineers had to four-wheeled locomotives, owing to their hammering action on the metals, and suggested the adoption of the same system in motor-wagons. He had found, in fact, in the case of the Renard train in France, that the six-wheeled wagons, carrying six tons and travelling at ten miles an hour on steel-tyred wheels 3 ft. in diameter, ran very much smoother than those with four wheels of the same size, though only moving at about six miles per hour. In addition, too, the damage was very much reduced when the extra pair of wheels was used. A further advantage of the Renard train was that, as the power was transmitted through a flexible shaft to each vehicle, the driving stress was small, since it was divided among the whole number, and, therefore, slipping in wet weather was avoided.

THE MOTOR CLUB.

THE house-dinner given at the Motor Club on Wednesday of last week, in celebration of the Olympia Show as well as the entertainment organised and provided by Messrs. Harvey du Cros, jun., and Charles Jarrott, was a huge success. Every seat in all three dining-rooms had been secured several days previously, and the theatre was packed.

THE AUTO CYCLE CLUB.

THIS year the club has decided to make arrangements for a dinner and entertainment to be given to the road-menders on the Ripley road, and for this purpose has opened a subscription list. The first paper of the season will be "Variable Gears," by Mr. J. Van Hooydonk, on Thursday, December 19th.

These few weeks promise to be busy in social events. On November 27th the Southend and District Motor Club have a social gathering at the Hotel Victoria, Southend; Tuesday, December 3rd, the Motor Cycling Club have a smoking concert at the Tudor Hotel, Oxford Street, W.; and on the following Saturday, December 7th, the Essex Motor Club have their annual dinner and presentation of prizes at the Great Eastern Hotel, Liverpool Street, E.C. The Lincolnshire Motor Cycle Club have their annual meeting, smoking concert, and presentation of prizes on Wednesday, December 11th, on which night the Southend and District Motor Club also hold their first annual dinner, and on the following Saturday, December 14th, the Motor Cycling Club meet at the Trocadero Restaurant for their annual dinner, and the Walthamstow Motor Club at the Manchester Hotel, Aldersgate Street, E.C., for their annual dinner and Bohemian concert.

ON Saturday a meeting of the Auto Cycle Club was held at the Stanley Show, with Mr. Robert Todd in the chair.

A long discussion took place, mainly on the change of name to the Auto Cycle Union, and this was declared carried. It was also agreed to drop the social programme, to form local centres, and to take up the question of legislation affecting motor-cyclist.

ESSEX MOTOR CLUB.

THE Essex Motor Club have held a paper-chase at Woodford, the course being from the Castle Hotel, Woodford, to the Wake Arms, on the Epping Road; and although by a direct route these houses are only six miles apart, the hares made a detour covering twenty miles. The "hares" were Messrs. T. W. Applebee and H. Fuller, and there were twenty "hounds."

The "hares" carried bags of paper shavings for "laying the trail," and an extra bag of coloured paper squares for denoting false trails. One "hare," leaving his companion, would make a half-mile dash along a bye-road, industriously strewing the white shavings, then he would stop, deposit a liberal sprinkling of coloured squares, and ride back to rejoin his confederate. When the "hounds," half-an-hour afterwards, encountered this divided track, some rode one way and some the other. Those who rode on till they found the coloured squares realised that they had been "had," and, of course, raced back to the other trail, along which the luckier party of "hounds" had already made good headway. The winner was Mr. W. Pershke.

NOTTINGHAMSHIRE.

At a committee meeting of the Nottingham Club the following resolution was adopted:—"That notice be given to determine the agreement dated 12th December, 1906, and made between this Club and the Automobile Club of Great Britain and Ireland, now the Royal Automobile Club and the Motor Union of Great Britain and Ireland."

Many who are interested in the development of motoring in Nottinghamshire hope that it may be possible for the Union to be able to make such terms with the Royal A.C. that there may be still one organisation supreme in the motor world.

YORKSHIRE AUTOMOBILE.

THE Yorkshire A.C. will open their winter programme by holding a smoking concert at Bradford. Arrangements are also being made for lectures at the headquarters of the club, the Hotel Metropole, King Street, Leeds.

BROOKLANDS.

IN consequence of requests having been addressed to the Brooklands A.R.C. for facilities for the establishment of records in their respective standard classes, the committee of the club have decided to countenance only the following performances in connection with record claims in their standard classes (subject to Nos. 77 to 81 of the open competition rules of the R.A.C.):—

1. The 26-h.p. Standard Class Short Record, over half a mile, with flying start.
2. The 26-h.p. Standard Class Long Record, over ten laps, with standing start.
3. The 40-h.p. Standard Class Short Record, over half a mile, with flying start.
4. The 40-h.p. Standard Class Long Record, over ten laps, with standing start.
5. The 60-h.p. Standard Class Short Record, over half a mile, with flying start.
6. The 60-h.p. Standard Class Long Record, over ten laps, with standing start.
7. The 90-h.p. Standard Class Short Record, over half a mile, with flying start.
8. The 90-h.p. Standard Class Short Record, over ten laps, with standing start.

WELSH.

RECENTLY eighty-five motorists attended a dinner of the Welsh A.C. held at the Hotel Metropole, Swansea. Mr. Basil W. Valentin (president), of Llanelly, presided, being supported by four guests in Mr. Cory Yeo (the past president) and Captain D. Hughes-Morgan, who have presented handsome trophies for competition; Mr. H. Morton Evans, who was conspicuous for his hospitality in connection with the recent hill-climbing competition, and Mr. S. L. Gregor, to whom, as a former secretary, is due much of the success of the club. After the loyal toasts, in proposing the toast of the evening—"Our Guests"—the chairman spoke in eulogistic terms of them. Mr. Cory Yeo's generosity and love of the sport was mentioned; of Captain D. Hughes-Morgan the chairman referred to his motoring prowess; Mr. Morton Evans he alluded to as one of the earliest pioneers of motoring in the district, and with respect to Mr. S. L. Gregor, Mr. Valentin remarked upon the very able manner he had piloted the Welsh Club to its present state of high efficiency.

Each of the gentlemen replied. Mr. Cory Yeo's only regret was that Mr. T. W. R. Mason (Swansea), the winner of his cup, was not present. Captain D. Hughes-Morgan presented his cup to Mr. Hubert Thomas (Llanelly), and prior to doing so said he wished pressure could be brought to bear upon drivers of vehicles in front to give some sign that they heard motor-horns. Mr. H. Morton Evans suitably replied, and Mr. S. L. Gregor spoke of the support he had received from members of each committee. In conclusion he proposed the health of Mr. Shimmell Andrews, who, he said, was going to do the club a great deal of good.

Mr. Andrews, whose health was drunk with musical honours, replied saying that since February last the membership of the club had increased by thirty-seven.

Other toasts were "The Motor Union," proposed by Mr. F. Cory Yeo and responded to by Mr. Rees Jeffreys; "The Welsh A.C.," proposed by Mr. J. Thompson Willows and replied to by Mr. Jones; and "The Visitors," on whose behalf Colonel Morgan and Mr. J. Viner Leeder tendered acknowledgments.

AUSTRALIA.

A FIFTY-SIX miles petrol test was held on Saturday, October 19th, from Parramatta (near Sydney) to Medlow Baths, in the Blue Mountains. Although there were several good hills to be taken, Mr. J. Mailard (the winner) did the journey on 1 gallon 5½ pints of petrol, his car being a 12-14-h.p. Unic.

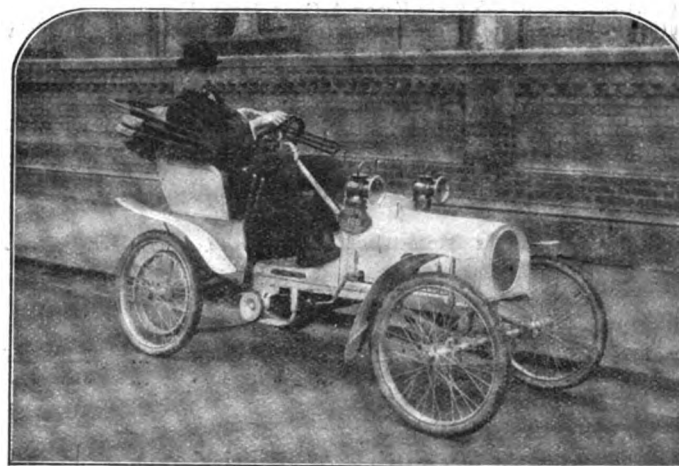
There is a decided increase in the numbers of motor-boats, launchers, cruisers, &c., this season both in Sydney and Melbourne, some of the new boats just going into commission being very fast. Henley-on-Yarra (Melbourne) regatta was held on October 26th, but the programme did not include any motor event, though several were being utilised by the officials.

The Automobile Club of Victoria are arranging a three-days' reliability trial for the end of November, possibly in the Western district, where the roads are good and the traffic light.

MR. T. H. RYLAND having resigned the hon. secretaryship of the Midland A.C., which has headquarters at the Grand Hotel, Birmingham, Mr. Frank H. Cerrito has been appointed as his successor.

A CHAUFFEUR IMPRISONED.

MR. JUSTICE GRANTHAM, at the Kent Assizes, has heard an indictment against Henry Copsey, aged 21, a chauffeur, of Islington, for the manslaughter at Bromley of Edward Akers, a cyclist. Witnesses for the prosecution spoke of seeing the prisoner driving his car at thirty or thirty-five miles an hour, and running into the deceased, who sustained a fracture of the skull, from which he died almost immediately. The jury returned a verdict of "Guilty," the foreman adding: "We



Captain W. E. D. Owen, a prominent competitor at Brooklands, at the wheel of a 54-h.p. O.T.A.V. Voiturette.

strongly recommend the prisoner to mercy on account of his youth, and because we think there was some negligence on the part of the deceased." His lordship said he would give effect to the first part of the jury's recommendation, but not to the second part, because he found that the prisoner had already been convicted four times of furious driving. Motor-car drivers, added his lordship, must not think that everyone ought to get out of their way, and if they caused the death of a fellow-creature by their carelessness, it was necessary that an example should be made. His lordship then sentenced prisoner to six months' imprisonment.

POLICE TRAPS.

POLICE traps are in operation on the Chichester road, Arundel, the Upper Worthing road, Angmering, and also in the parish of Poling.

THE police have lately been watchful of motorists between Whinney Moor Lane and the Nag's Head, on the Louth road, Retford.

SEVERAL traps in the vicinity of Edinburgh have been notified us, including those on the Berwick, Peebles, Penicuik and Linlithgow roads.

THE trap in the Eltham road, Eltham, is again in frequent operation.

SERGEANT MARKS has been again operating against motorists on the road at Esher.

THE Morden Road, Merton, is the latest suburban thoroughfare to have its police trap.

A TRAP has been established and is in almost daily operation at Rogate, near Midhurst.

THE control on the Great North Road, near Grantham, is again being worked by the police.

BETWEEN the Kingston Lane and the Windmill Inn at Southwick, and on the lower road from Lancing to Shoreham are police traps leading to the Petty Sessions at the latter place.

FORTHCOMING EVENTS.

—◆—
NOVEMBER.

30th (S.).—Annual Dinner of the North London A.C. at the Midland Grand Hotel, London.
Stanley Show closes.

DECEMBER.

1st (S.).—Last day of the Paris Motor Show.
2nd (M.).—Cheshire A.C. annual dinner.
5th (Th.).—Exhibition at Berlin.
Annual Dinner of the Southern Motor Club at the Trocadero, London; Ald. G. Howlett presiding.
7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
Annual dinner of the Hertfordshire C.A.C.
11th (W.).—Southend and District M.C. annual dinner.
Mr. Dugald Clerk at the Institution of Automobile Engineers, on—"The principles of carburetting as determined by exhaust gas analysis."
12th (Th.).—Annual Dinner of the Sheffield A.C.
18th (W.).—General Committee of the Motor Union.
The Tenth Annual Dinner of the Founder Members of the Royal A.C. will be held at the club-house.
21st (S.).—Opening of the Brussels Exhibition.
26th (Th.).—Annual Reliability Trial of the Motor Union of Western India.

JANUARY, 1908.

4th-11th.—Dublin Motor Show.
9th (Th.).—Dinner of the West Essex A.C. at Seven Kings.
17th (F.).—Annual Dinner of the Nottinghamshire A.C. at the Victoria Station Hotel, Nottingham.

FEBRUARY.

7th-15th.—Manchester Motor Show at Belle Vue.
12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
15th (Sat.).—Auto-Cycle Club Annual Dinner.

MARCH.

21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Dec. 1st—4.53	...	3rd—4.51	...	5th—4.49	...	7th—4.47
" 2nd—4.52	...	4th—4.50	...	6th—4.48	...	8th—4.46

AUTOMOBILE ACCIDENTS.

ON Saturday a boy aged about nine years was run over by a motor-car belonging to Mr. Watson Smyth, of Wadhurst Castle, Sussex. The chauffeur was taking the car to meet a passenger by the train at Wadhurst station. As he was descending the hill with the brakes on he is said to have noticed two lads in the road, and to have shouted to them. Both boys started towards the right, but one apparently changed his mind, and darted across the road in front of the car. The chauffeur quickly pulled up, but was unable to avert the boy being knocked down. A doctor was sent for, when it appeared that death must have been instantaneous, for the lad's neck was broken.

A RINGMER man, Harry Baker, of Mill Plane, was the victim of an unfortunate accident on the Cliffe Bridge at Lewes on Sunday. He was cycling between two motor-cars, one being in front of him and the other immediately following. On the bridge it seems he made a movement as though he were about to turn back. The rear car, belonging to Dr. A. E. Newington, of Ticehurst, unable to pull up so shortly, caught the cycle and threw the man under the front wheel. His shoulder was badly bruised, and the bicycle considerably damaged.

MR. LLOYD-GEORGE was motoring from Manchester to London, on Sunday, and when on a rough piece of road between Stafford and Lichfield the car jolted over an obstacle, and the President of the Board of Trade was thrown against the wind-screen on the front of the car. His head struck the guard and the glass cut his left eye. On reaching Lichfield a doctor put several stitches in the eyelid, and after being bandaged he was able to proceed to London.

AT Heatherside, between Camberley and Bagshot, on Sunday evening about dusk, Sir Henry Colville, K.C.M.G., was returning on a motor-cycle along Heatherside Road to his home near by. At the corner where the road joins the Maultway which leads from Blackdown Deepcut barracks to Bagshot, he collided with a motor-car driven by Brigadier-General Sir Henry Rawlinson, who was turning into Heatherside Road from the direction of the barracks to go to Camberley. The motor-cycle struck the car on the off front corner, and Sir Henry Colville was thrown with great violence over the bonnet of the car, on to the side of the road. Sir Henry Rawlinson stopped his car as quickly as possible, and ran to where Sir Henry Colville was lying. It was at once

seen that Sir Henry, who had pitched on his head, was terribly injured, and Brigadier-General Rawlinson communicated with the Brompton Hospital Sanatorium, while a telephonic communication was sent to Camberley for the St. John Ambulance van and for Dr. W. L. Stuart, of Camberley, who proceeded at once to the spot on his motor. The injured general was removed to the Sanatorium, where he was found to be suffering from a severe fracture of the base of the skull. The injured general did not regain consciousness and died after a few hours. The corner where the collision took place is a dangerous one, for it is not possible for persons coming either way to see round the bend for more than a yard. It is evident from the spot where the collision occurred that neither Sir Henry Rawlinson nor Sir Henry Colville saw each other until it was too late to avoid an accident.

AT the coroner's inquest on Tuesday at Frimley, Brigadier-General Lloyd, describing how Sir Henry Colville left him shortly before the accident, said that he went quite thirty miles an hour down the hill. Sir Henry had spoken about his fast travelling, saying that he frequently motored over to Windsor in about twenty minutes. Sergeant Meers said that he had known Sir Henry Rawlinson as a motorist for about three years, and he was a very careful and considerate driver. The coroner, in summing up, said there was no doubt that Sir Henry Rawlinson was driving very carefully round the corner. From the fact that the motor-bicycle struck the car on the off-side, and from the measurements which had been made, no blame could be attached to Sir Henry Rawlinson. The foreman of the jury said that they returned a verdict of "Death from fracture of the skull caused by an accident." They wished entirely to exonerate Sir Henry Rawlinson from all blame, feeling that he had taken every precaution, and was a careful driver, and that it was an absolute impossibility for the accident to have been prevented. They also desired to ask the owner of the hedge to have it removed, or so cut down as to prevent any accidents there in the future.

A LAMPLIGHTER was fatally injured by being knocked down by a motor-car in the High Road, Gunnersbury, and on Tuesday the driver of the vehicle was sent for trial from the Acton Police Court, bail being allowed.

AN INLAND REVENUE CASE.

FREDK. DAVIS has been summoned at the Guildford County Bench for keeping a motor-car without taking out a licence for same. Robt. Waldron, Inland Revenue officer, said that on August 20th he saw defendant driving a motor-car in Haslemere High Street. Witness sent him a form of declaration, and marked the duty for motor-cars. Witness waited for three weeks, but no licence was taken out, and he then went to see defendant. The latter said he had only taken people on trial runs, and was trying to sell the car. Witness explained that that did not exempt him. Mr. Turner said defendant had only once used the car, to take it to a prospective purchaser. He was trying to get rid of it, as trade was bad. Thinking that was not "using" it, he refused to pay for the licence. However, he now pleaded guilty to a technical offence.—Fined 20s., with 8s. 6d. costs.

BUSINESS NEWS.

THE Ole 'plugs marketed in this country by Messrs. Leo Ripault and Co. will be made in England ere long.

THE "Pegasus" detachable non-skid and motor tyre protector was shown at Olympia on the stand of Messrs. A. W. Gamage.

WE learn Mr. J. Spyker has resigned his position as managing director of the Industriële Maatschappij Trompenburg, Amsterdam, the manufacturers of the well-known Spyker cars.

THE BRITISH PETROLEUM CO., LTD., have issued about a dozen different designs of picture postcards of motoring subjects.

WE learn that Mr. R. Lee Philpot has been appointed managing director of West, Ltd., and will in future be responsible for the conduct of that company's business. This does not in any way interfere with the arrangement already made regarding Aries Motors, Ltd., both undertakings being under his management as separate concerns.

MESSRS. BROWN BROTHERS, LTD., had the honour of supplying a "Gabriel" horn to the King of Spain.

MESSRS. E. G. HERBERT, LTD., of Rosamond Street, East Manchester, have sent out a catalogue of their metal sawing machines and machine tool accessories which will be of considerable service to all engaged in the motor-car industry.

THE number of Dunlops fitted to cars exhibited in the Paris Salon this year is more than double that in the 1907 Show, an indication of the ever-increasing progress of Dunlops in the esteem of French motorists.

FROM Fiat Motors, Ltd., comes a copy of their new catalogue of Fiat cars. The models illustrated and described are six in number, viz., 15-20-h.p., 20-25-h.p., 28-35-h.p., and 35-40-h.p. four-cylinder, and 45-h.p. and 70-h.p. six-cylinder.

FROM the London and Parisian Motor Company comes an interesting booklet relating to the recent 21,250 miles reliability run of a Hotchkiss six-cylinder engine. The certificate issued by the R.A.C. in connection with the same is reprinted, and several illustrations are given showing the condition of the leading parts of the mechanism of the vehicle after the trial.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, DECEMBER 7, 1907.

[No. 457.]

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“THE INDUSTRIAL MOTOR REVIEW.”

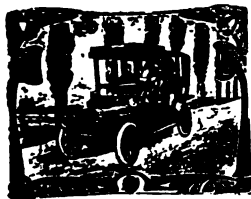
“THE INDUSTRIAL MOTOR REVIEW,” which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

“The Industrial Motor Review” is published at 6d.; post free 8d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



AT this season of the year we generally hear of motor-cars conveying parties to the hunting meets—as a matter of convenience. And we also hear the protests of many Masters of the Hunt—as a matter of course. The latest is from the North of England, where the Cheshire Hunt considers that motor-cars are being used in a way that is detrimental to the interests of fox-hunting. Subscribers to the Cheshire Hounds met a few days ago and passed a resolution directing their Secretary to call the attention of the Royal A.C. to the growing practice of motor-cars following hounds, and to ask that the influence of the Club should be used to put an end to the practice. Unfortunately for the universal success of such an admonition, we live in a busy age, and the saving of time and worry associated with the motor-car is too important to be lightly ignored.

Legal Activity.

FEW have any adequate idea of the amount of legal work that has been rendered necessary by the Motor Car Act—a department of activity that is on the increase rather than otherwise. This is proved by the figures forthcoming as the result of an examination of the number of cases in which the advice and assistance of the Legal Cases Committee and the Highways Protection Committee of the Motor Union have been sought. In September, 1906, these totalled 60, while for September of the present year the number was 120, and for October 135. Consequent upon the termination of the touring season, the volume of work for November in those departments was not so great. The cases numbered 87, and the amount of money voted by the Legal Cases Committee in November was a few shillings short of £200. Applications are received from all classes of society, and the subjects upon which advice is sought cover a very wide range. Apart from questions arising under the Motor Car Act, and the payment of a portion of the legal costs of the defence of members carrying the car badge and prosecuted for offences which the Committee regard as unsubstantiated by the evidence, there are disputes with makers, repairers, motor house proprietors, and insurance companies. If settlements cannot be arrived at in the ordinary way, the Union offers arbitration facilities. Support is given in appeals to higher courts, and in October success attended three such cases. In response to an appeal for subscriptions the Motor Union

received during October and November the sum of £63 8s. 6d. towards its Legal and Legislative Defence Fund.

Arbitration in Disputes.

THE department concerned with arbitration between buyers and sellers of cars has proved its economical utility on several occasions. Recourse to the law courts is generally expensive—the costs not being limited to those which are actually reported. If the parties to disputes could agree to submit their differences to an unbiassed person capable of comprehending the technicalities and the customs involved, motorists would gain in time, temper and money.

High Hedges.

COMPLAINTS as to the high hedges that are observable in many places, to the exclusion of roads and bye ways beyond, are coming freely and fast, following the Comment on this subject in our last issue. While we cannot see our way to publish a list of such dangers to users of the road, we would urge our readers wherever possible to communicate with the owners of such hedges—either through their automobile club or the rural council of the locality. In many cases such communications have had the desired effect of securing the lopping of the hedgerows or their removal altogether. For landowners are not only recognising the dangers of high hedges, but the fact that many are motorists themselves has given them practical object lessons of considerable value. It must be remembered, to the credit of the Local Government Board, that they recently circularised County Councils on the subject, urging the value of friendly negotiations between such bodies and local landowners.

The Legal View.

WITH regard to the legal aspect of the matter, we understand that as the law now stands, highway authorities have no control over the height of hedges. Section 65 of the Highways Act, 1835, does not empower local authorities to cause any tree or hedge that obstructs the view at cross and side-roads to be cut or pruned. The restraint of local authorities under this section is probably limited to the removal of actual obstruction to carriageways, and to the pruning and lopping of trees and hedges which exclude sun and wind from the roads, to the damage thereof. But where this damage to roads cannot be proved, there is no legal obligation on the part of the landowner. At the same time, common sense and a kindly feeling for others will secure the object in the majority of cases.

Cordingley's Motor Show, 1908.

INTEREST is growing in the next great British motor show, which will open at the Agricultural Hall, London, on March 21st, 1908. In connection with this we note that the *Daily Telegraph's* motoring correspondent, in his reference to the Paris Show, writes:—"As for the individual exhibits, there are all that were in Olympia, and many more besides, though in several cases the new model was shown in London, while the old type is staged in Paris. As an example of this, the S.C.A.T. 1908 model is not here, only the 1907 type. But this does not apply to the French makers; on the other hand, there are types in Paris staged that London has yet to see. Epicyclic gears are perhaps best exemplified in the S.C.A.R., manufactured at Rheims. In this car the third and fourth gears are direct on the live axle, different diameter crown wheels being enmeshed. A six-cylinder 35-h.p. chassis is staged, besides smaller models. Duhanot, the Italian "Standard," or F.A.S.T., as it is called in England, the Swiss Safr, the Eisenach or Regina Dixi, the H.I.S.A. (Hermes Italiana Societa Automobila), the Licorne or Unicorn; Belgica, Henriod, the Pax, are all cars that are on more or less standard



Touring in Spain.—A Daimler Car on the old bridge of Alcantara, Toledo.

lines, and probably will be seen at Cordingley's Show, so their distinctive characteristics can be left over till that event."

Motor Adventure in Abyssinia.

Not so very long ago, to journey across Shap by motor-car and run round Hindhead were adventures that became duly chronicled as items of news proving the progress of the automobile movement. Nowadays, such performances are daily incidents that call for no comment; and the car that cannot get over such roads has little chance to become popular. The Pekin-Paris trip, and many of the journeys by pioneer motorists in new countries, however, call for high qualities of man as well as of car, and deserve recognition. Of such an order is the trip now being undertaken by Mr. B. J. F. Bentley, in company with Mr. Wells, across Abyssinia and

Somaliland to Khartoum. But a few months have passed since Mr. Bentley, fresh from Egyptian travel, called at the office of the *M.C.J.* thirsting for new adventures and full of enthusiasm for a carefully projected journey by a new means of travel over new country. The intrepid motorists on their Siddeley motor-car have just been heard of within fifty miles of Adisababa. To reach that point, over 6,000 feet above sea level, they had climbed for twenty miles on end, they had run out of petrol on the way, and for fifty hours they were without food of any kind. Having to send on their boys to obtain the petrol, which should have been waiting for them, the travellers were left absolutely alone for five days and nights. They had to take it in turns in mounting guard over the car during the night, being fearful that hyenas might demolish the tyres. They were also at one time reduced by thirst to drinking the water out of the radiator. The journey lay off the usual caravan route, through a waterless area where there was no bird nor animal which could be shot for food. We await with interest the continuation of the story.

Profit by Stopping.

UNIQUE among shareholders in motor-bus companies has been the experience of those who financed the Torquay Motor-bus Company, the final meeting of which was held on Friday of last week. This was by no means a doleful gathering, for the liquidator was able to report that the company had not only returned the whole of the share capital, after paying a dividend of 7½ per cent. from the commencement, but was able to give the shareholders a bonus of more than 8½ per cent. on the winding up of the company. The chairman, Mr. W. Callard, pointed out that the directors' decision to close the concern was due to an intelligent anticipation of the coming competition of the electric trams. The motor-buses that were originally at Torquay are now doing service at Harrogate.

"The White Rose Mystery."

COMMENCING with a wretched cab-horse in Regent Street, the incidents in the latest novel of Mr. Gerald Biss come fast and furious to the conclusion of the thirty-seventh chapter of a book which sustains the interest of the reader over 300 pages. As becomes the White Rose Mystery, the plot radiates through aristocratic circles. Cabinet Ministers flit across the scene as thickly as lords at a motor-show, and the Earl of Portcullis, Viscount Stepney, Lord Ben Nevis, Lady Grizelle, Lady Bena Belsize, add distinction to the thrilling incidents which are pictured in an easy style which Mr. Biss has familiarised to many motorists in the free and easy columns of a contemporary. On finishing the book we have a desire for more from the same pen—and that is the best tribute to the author. Of course, there is a motor incident—no modern novel is complete without it.

The Event of 1908.

IN view of the interest that attaches to the annual Trial in connection with Motorism, and also the pecuniary expenses involved on the part of prospective competitors, it would be well if the Royal A.C. quickly came to a decision as to the limitations of its proposed programme for 1908. Already the trade element of the industry has notified their lack of enthusiasm for the suggested race in the Isle of Man, and the feeling is growing that one comprehensive trial is enough for any year. The outline of the 2,000 miles contest embraces the route of the Scottish Trial, and, although that event will continue as a separate contest for those firms who thus wish to be identified with this North British contest, its inclusion as part of the British test is regarded as a matter of course. We notice that Mr. R. J. McCreedy is putting in a plea for the Emerald Isle, the trials in which this year were mainly supported by amateurs as compared with the trade element; but, unfortunately for the suggestion,

there is a little strip of water between the two islands which would destroy the continuity of the road trial.

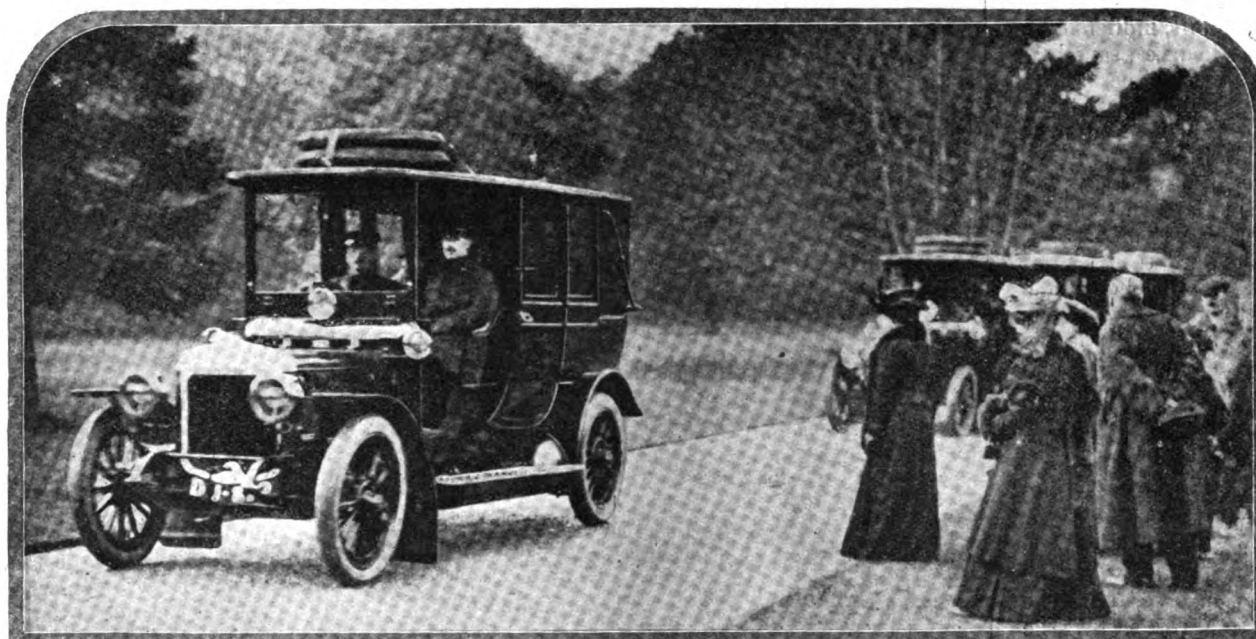
Motor Ambulances.

CONSIDERABLE attention has been given by the members of the Metropolitan Asylums Board to the subject of motor vehicles for the conveyance of their patients. In view of early additions to be made to the present motor-ambulances and motor-omnibuses owned by the Board, some difficulty has arisen with regard to arrangements for their accommodation. It has now been agreed to establish a motor garage department at Fulham, where a motor workshop will be installed and an inspection pit constructed. This will be under the control of a superintendent, and should help the scheme for the transfer of patients by motor vehicles which is now being developed. The Board is advancing in the direction of centralisation in connection with a policy which the vice-chairman of the ambulance committee (Dr. Gell) believes will effect considerable economies as applied to the conveyance of patients by automobiles. It will be remembered that it was at one of the Cordingley Motor Shows that members of the Metropolitan

resolved that the clerk to the Council should submit a case to a legal authority to ascertain whether this traffic might be brought within the category of "extraordinary," for which the District Council could recover damages.

A Code of Signalling.

IN our correspondence columns recently one of our readers made a suggestion which, although hardly likely, to be endorsed by the Legislature, may provoke some discussion. Several attempts have been made from time to time to institute a kind of universal freemasonry among motorists, but the rapid growth of the movement has rather tended to relegate such efforts into obscurity. Recognising that this matter requires careful organisation, the Automobile Association has done for the South what our correspondent, who resides in Scotland, suggests should become general. Unfortunately, his scheme of signalling by means of the horn would probably add another argument to the already full quiver of those who are inclined to oppose motoring on the ground of noise; or, for the matter of that, anything else which they do not entirely appreciate.



The German Emperor leaving the grounds of Highcliffe Castle in a Daimler Car. His suite is also seen following in three other cars of the same make.

Asylums Board made their first inquiries into the subject of the motor for ambulance purposes, making an afternoon's investigation which is now bearing considerable harvest to the motor industry.

Extraordinary Traffic.

CONSIDERABLE discussion has taken place at several centres in the North of England with regard to motor-wagons and extraordinary traffic, but the action of the Hexham Rural Council at their last meeting promises to bring the problem a little nearer legal solution. Mr. Surtess, the surveyor for the North Highway District, called attention to the growing motor vehicle traffic, and particularly to the instance of a motor vehicle taking coals from one local pit to various large institutions in the district. These travel over some of the roads which, while quite sufficient for the ordinary cart traffic, were, in his opinion, quite unfitted for the heavier class of traffic we have mentioned. Ultimately the Council decided to inform those responsible for this motor traffic that certain bye-roads were decidedly unsuitable for such traffic, and it was also

Welcoming a New Chassis.

To celebrate the amalgamation of the interests of the Eadie Company, of Redditch, with those of the Birmingham Small Arms Company a dinner was held on Thursday of last week at the Trocadero Restaurant, London, over which Mr. Albert Eadie presided, supported by Messrs. R. M. Smith, C. A. Hyde, Kenneth Davis, and several others. The new B.S.A. chassis having been rightly eulogised, a good word for the motor Press was spoken by Mr. Albert Brown, whose knowledge of the subject adds weight to his observations. He dwelt upon the integrity and unbiassed attitude of that section of the Press, deprecating the practice of some of the other journals in misleading the public as to the reduction of prices and similar matters upon which they imagined vain things. Mr. A. W. Gamage was also among the speakers, his equanimity in no way impaired by the fire of last week.

At Hong Kong the Oriental Battery Company have opened a works to make dry batteries for service with automobiles there, where the motor-car is rapidly advancing in popularity.

A TOUR IN BRITTANY.

A TRIP round Brittany, in connection with a tour of Normandy, will require an additional five or seven days, and the two, combined with Touraine, say three weeks, allow at least a nodding acquaintance with the charms of these three fairest and most picturesque provinces of France. If Normandy or Touraine be considered separately, and one goes out direct from Paris, there are 250 kilometres of the Route de Bretagne before Mayenne is reached *via* Alerçon, or 300 to Laval *via* Chartres and Le Mans. It is a superb itinerary by either route, but if one is bound for St. Malo and the Côte d'Emeraude, or Concarneau and its *plages*, there is still the matter of another 300 kilometres to roll off before one arrives at the objective, and one will have no time to linger *en route*, save to make such passing observations as fancy suggests.

From Paris the best route is out *via* Versailles, Chartres, Nogent-le-Rotrou, and Le Mans, through the very heart of one of the finest agricultural regions in all France, with Routes Nationales all the way, great tree-bordered, sandy-surfaced roads without flints, hidden level-crossings or bad curves, save here and there where one passes through some little old-world village with a cobble-paved main street. It is in these crowded little French towns that most motor accidents happen; but the local authorities generally cut the *vitesse* down to twelve, ten, or six kilometres an hour, and put up great staring signs reading "*Ralentir*" or "*Virage Difficile*," so it is one's own fault if anything happens. What the motorist needs to look out for before and after coming to a town are the *culverts* and *caniveaux* crossing the road; many a back spring has been broken by taking them at a speed above a dozen miles an hour. Generally they are marked, and so, too, are dangerous cross roads, by the distinctive signs of the French Association Generale Automobile.

From Le Mans, practically the gateway to Brittany, it is another hundred kilometres to Laval. Coming out of Paris, lunch at Nogent le Rotrou, at the Hotel du Dauphin. There is nothing of *luxe* here—simply plain, bountiful fare, cooked and served by the *patron-chef* of the hotel (*vin compris*), and charged for invariably at the same price, whether you be a peasant-farmer in town for the day with a donkey cart loaded with vegetables or an automobilist in a flying "fifty." This is the charm of French travel by road. It is only in the resorts, like Biarritz, Vichy, Trouville or Aix-les-Bains, that one pays through the nose, as the French say. Nogent-le-Rotrou is worth an hour after lunch, looking over its three mediæval monuments, its two churches dating from the tenth to the fifteenth century, and its eleventh-century ruined chateau, unspoiled by modern embellishments.

It is sixty-seven kilometres to Le Mans and a hundred more to Laval, where you may sleep at the Hotel de Paris or keep on another thirty-five kilometres to Vitre, by which time the entire

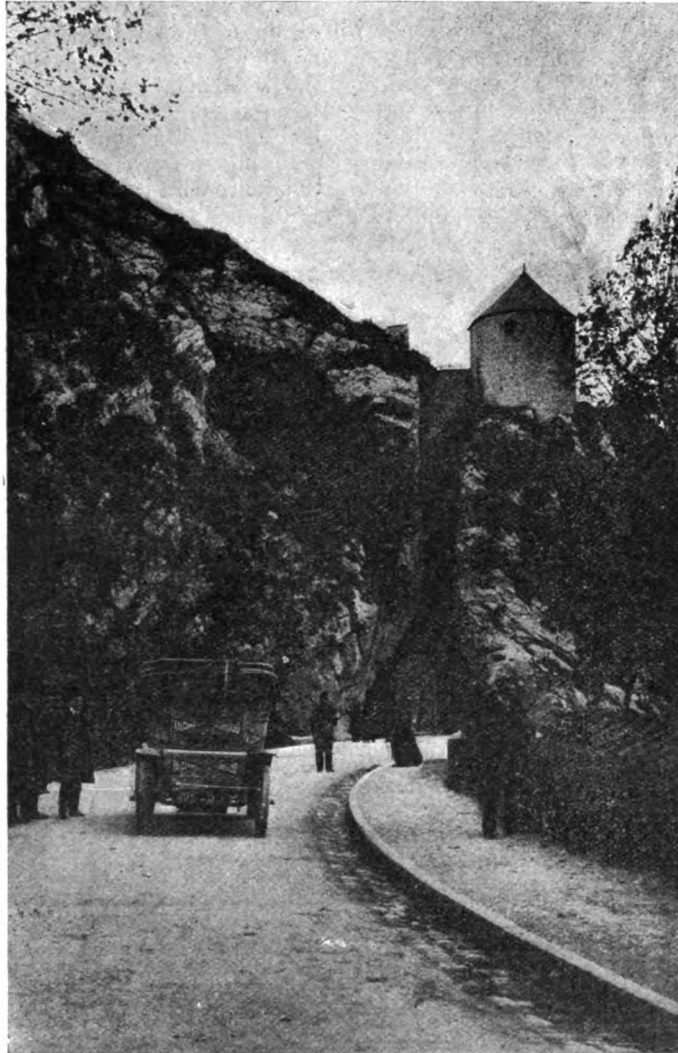
topographical aspect of the land has changed and become sterner, with more of what the quality artists call character and less of the scenic prettiness of the stage. Laval is really worth seeing. It is an admirable relic of an old mediæval town, with a twelfth century donjon, a Renaissance chateau, a twelfth century church and a fortified gateway, besides a history made vivid by its seigneurs of the *moyen age*. Indeed, Laval and its neighbour Vitre, with an excursion to the Chateau des Rochers of Madame de Sévigné, are, taken together, worth a day's sightseeing.

Vitre's chateau is the best photographic subject among all the chateaux of France, save perhaps Langeais, in Touraine. At Vitre the Hotel des Voyageurs, besides the railway station, has good, but small garage accommodation, and *chambres hygiéniques*, installed at the suggestion of the Touring Club de France. The

combination, with the very excellent fare and the extremely moderate charges, will be hard to beat in all Brittany or Normandy. For that reason it is worth making a long day to arrive at Vitre for the night. The excursion to the Chateau des Rochers should not be omitted. It is five kilometres from Vitre, along a beautifully boulevarded roadway, quite different from what it was in the days of Madame de Sévigné, when that accomplished letter-writer informed her daughter, Madame de Grignan, that "finally she had arrived," after having made the last league on foot, leaving her coach stuck among the rocks and mud of a slough. There is nothing very massive about the chateau, but its *ensemble* is exceedingly picturesque. One may visit the chapel and the *chambre* occupied by Madame de Sévigné, and may walk in the alleysed park and be told by the *concierge* that *par ci* and *par là* Madame la Marquise used to take her promenades. A very beautiful garden it is, too, designed by the great Le Notre, who laid out the gardens of Versailles.

If one will, he may go on to Rennes, thirty-five kilometres, the ancient capital of the province, but it is a stuffy, pompous town, with hotels always full to overflowing with congressionists of a medical conference or something of the sort, and motorists have a scant welcome. The only thing of note to see at Rennes

is the Council Chamber of the Palais de Justice, where the Parlement de Bretagne formerly sat. The writer has got a rule for touring which invariably works well; make one's stopping place a small town, not a large city; leaving price out of the question, it is more amusing and the fare is better and more characteristic, and that verily is what one wants, or ought to want, when travelling by automobile. Cut Rennes out, then, and go north from Vitre to Fougères, twenty-eight kilometres. Merely a sight of Fougères, *en passant*, is worth coming miles for. It is, outside of Carcassonne, one of the best examples of a decrepit old walled town to be seen in France. It is palpably a ruin, and its walls and towers, crenelated battlements and pinioned chateaux are all inextricably mixed in such a maze of architectural wonders that it looks more like a thing of the



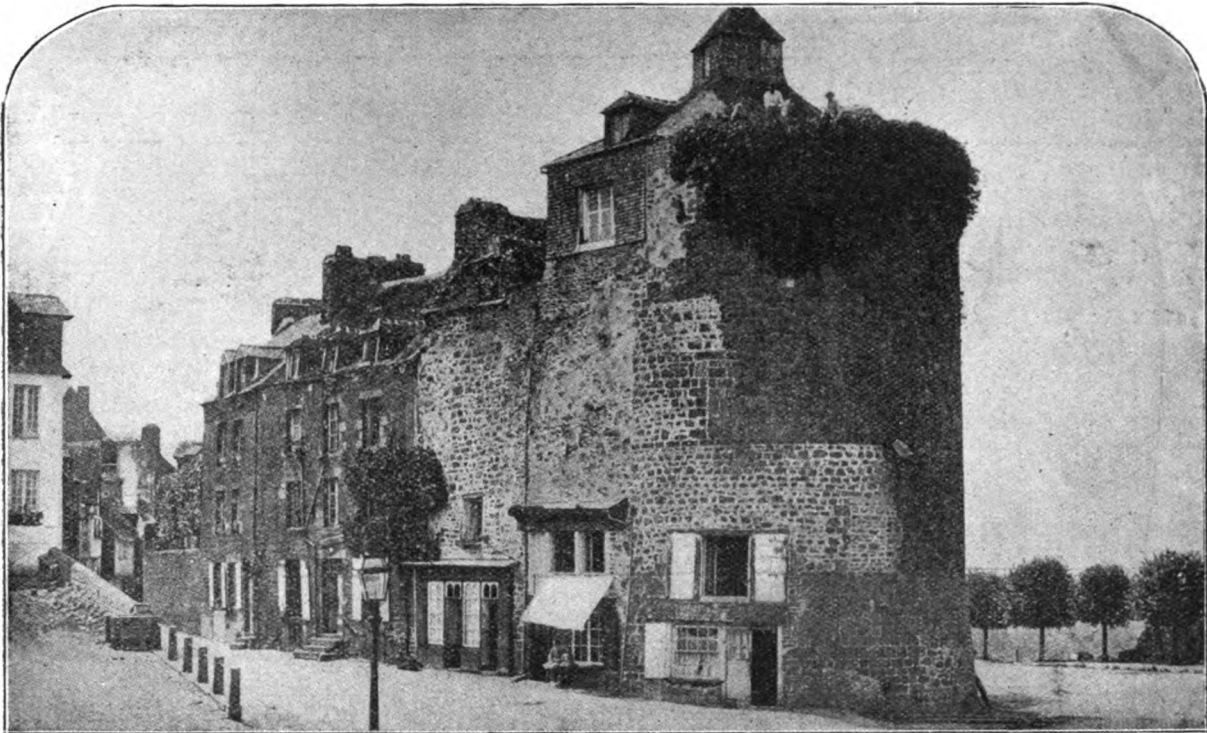
Touring in France.—A Mors Car at the Gate at the entrance to the town of Besançon.

imagination than reality. Not many tourists—automobilists or others—"do" Fougères. This is a pity! Anyway, pass through it *en route* for St. Malo, Dinan and Dinard. From Fougères to Dinan, *via* Dol, is seventy-eight kilometres and about the same to St. Malo. The former is preferable, as it allows one to make a gorgeous excursion by a little steamer down the Rance to St. Malo and Dinard. It is a trip not to be missed by all lovers of the beautiful. From Fougères to St. Malo, including the steamer trip, is good for a day. The Hotel de France et Chateaubriand—the ancient home of the author himself—is very good indeed, but a typical tourist hotel where one eats at one of those interminable long-drawn-out tables d'hôte.

The historical monuments of St. Malo and its neighbour, St. Servan, their cathedrals, the Chateau, the old fortifications, the Tour Solidor, &c., are wonderfully interesting, and the green sea and blue sky setting of it all is as impressive as anything of its kind in nature or art. From St. Malo westward to St. Brieuc is the Cote d'Emeraud, one of the beauty spots of the coast line of France. It is lined with little resorts and detached villas, and the panorama is only comparable with that of the Riviera

coast towns of Plouha, Paimpol, Tréguier (Renan's birthplace) and Lannion. Practically this detour will take a day. There is much of interest *en route*, and it is worth going slowly over the ground. If one leaves Guingamp in the morning—a much better stopping place than St. Brieuc, though both are full of quaint houses, curious shops and architectural surprises—he might lunch at Tréguier, spend an hour in the afternoon at Lannion, full of curious old wood and stone houses, or stop *en route* and have a look over the old Chateau de Touquédec, ten kilometres distant. This last is a grand old ruin of the fourteenth century, with a donjon with walls ten or a dozen feet thick, and all the accessories of a mediæval fortress-chateau. The road drops down from Lannion in thirty-six kilometres through a wild, savage region with sharp descents to Morlaix, the Sous-Préfecture of Finistère. The Hotel de l'Europe is double starred in the Guide Michelin and the Hotel de Provence bears a single star, but the latter is decidedly preferable. Each has garage accommodation of a very acceptable kind.

There are numerous sights at Morlaix in the town itself, and the excursion to the fourteenth-century fortress, built by



Touring in France.—A Curious Old House at St. Lo.

—the Cote d'Azur and Biarritz, and about there—the Cote d'Argent, with, of course, quite a different colour scheme. From Dinan to Brest, almost to the extremity of Finistère, is something over two hundred kilometres of exceedingly picturesque rising and falling *route nationale*. Generally speaking, the surface is good—the best in Brittany—but there are many hills not so heavy in grade as the cross-country routes, say from Dinan to Vannes or from Morlaix to Quimper, but annoying all the same, for it means a continual coaxing and pushing of one's car in order to keep moving without being obliged to change speed.

After Dinan comes Lamballe, St. Brieuc and Guingamp, all typical Breton towns, peopled with a sturdy, dark-skinned folk, who are becoming so used to intercourse with strangers that they have lost not a little of their former picturesqueness. The *chapeau de paille* and the *gilet rond* are giving way to an imitation *panama*—made in Madagascar—and a sweater knitted in Nottingham. Farther west in Finistère, and in the Penmarc'h peninsula, the costumes of the peasant men and women are, more or less, as they were a hundred years ago. A detour of a hundred kilometres might be made from Guingamp, *via* the

the bourgeois of Morlaix as a defence against the English, in the Rade de Morlaix, a great land-sheltered bay or harbour, should not be omitted from the visiting list. Directly north of Morlaix, twenty kilometres out and back, is St. Jean-du-Doigt, a famous place of pilgrimage among the Breton fisher folk of Finistère and the Côtes-du-Nord. In the church is preserved as a relic the index finger of the right hand of St. John the Baptist. The great religious fête, known as the pardon of St. Jean-du-Doigt, takes place on June 23rd in each year, and is perhaps the most celebrated of all these great religious pilgrimages of Brittany.

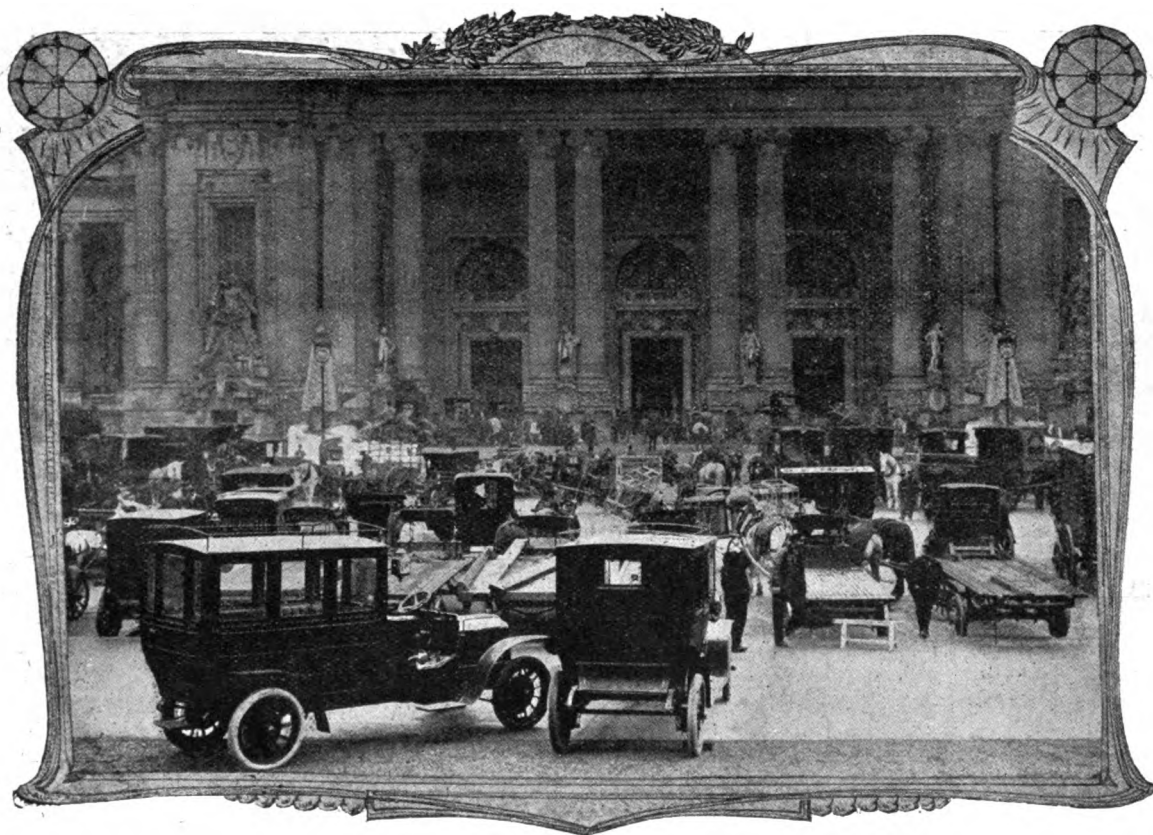
(To be concluded.)

THE catalogue of artillery motor wheels, axles and springs issued by Messrs. Smith, Parfrey and Co., Ltd., of the Pimlico Wheel Works, Rannoch Street, Fulham Palace Road, London, W., is fully comprehensive of the productions of this firm, whose electric welding plant has enabled them to do successful work in many ways, such as welding new gear wheels into a solid shaft without disturbing the others, and fitting new parts to broken crankshafts.

SOME NOTES ON THE PARIS SALON.

ONE result of the coincidence of the annual British and French Shows was that very few visitors from this side of the Channel were seen in Paris during the early days of the *Salon*. Last week, however, the position was changed, well-known English motorists being met with at every turn in the large building in which the famous Show is held. The *M.C.J.* has already so fully dealt with the new features and novelties to be seen, that I do not propose to do more than give a few of the impressions that forced themselves upon me as I scampered—for scamper it is, if one means to visit every nook and corner—through the huge Grand Palais. I arrived on the scene on Friday morning last week to find a sort of mild disturbance going on, the tooting of horns and the shrieks of sirens seeming to indicate that the end of the Show, which took place on Sunday last, was being antedated. On making enquiries, it was found that the day was being made the occasion of a fete in aid of the fund for the sufferers in the recent floods in the South of

which has always been prominent at previous shows, while M. Chaboche, who has for long supported the steam car section, is now centring his attention on industrial vehicles, his stand being, consequently, relegated to the Annexe. As to the petrol cars, it was observable that, while the old-established makers are still building high-powered vehicles, many of them are also now introducing one of medium power, say from 15-h.p. to 20-h.p., while it will be interesting to the motorist of moderate means to learn that much more attention than ever is being devoted to his needs. Hitherto the small car has been, except by one or two firms, somewhat neglected by French builders, but now a mention of only the names of a few of the vehicles that were on view—the Sizaire-Naudin, Delage, Lion-Peugeot, Dorey, Passe Partout, Werner, Turicum, &c.—is sufficient indication that makers are at last recognising that there is a vast field still to be exploited. As regards transmission, while the struggle for supremacy between the cardan shaft and side-chain systems still continues—with the honours lying with the former—it was interesting to note the



The End of the Paris Salon.—The Scene Outside the Grand Palais on Monday last.

France, and that not only had the charge for admission been raised to 10 francs, but the fiat had gone forth that no tickets—not even exhibitors' tickets—would be accepted. This order raised quite a storm, for many of the *exposants* of cars gave orders for their stands to be covered up, while those in the Galleries announced their disapproval in the manner alluded to above. Eventually, however, the objectionable order was rescinded and all was peace.

Entering the familiar building, the visitor immediately found himself amidst the stands, the artistic design of which has not by any means been over-described, while one great improvement was seen in the covering of the old shingly floor by matting, an innovation which was not only much better to walk upon, but was found advantageous by exhibitors in the greatly reduced amount of dust that was raised. From one point of view, that of the steam car enthusiast, the Show was disappointing; petrol reigned supreme, not a single steam car being included in the display. The early death of M. Leon Serpollet has caused the disappearance of one exhibit

appearance of three or four cars in which for purposes of simplicity and low cost the drive is by belt, and also of a number in which the ordinary type of gear-box is replaced by a friction disc transmission, by means of which any desired speed between the minimum and maximum available can be obtained by the movement of a single lever. Although this idea is by no means new, and in many quarters looked upon as being impracticable for automobiles, yet the increase in the number of manufacturers adopting it would seem to indicate that many of the difficulties which, it is held, have hitherto been associated with it are now being overcome.

Attention has already been drawn in these pages to several of the novel engines to be seen, among them the Burlat and the R.E.P. of M. Esnault-Pelterie. I have, however, not seen any reference to the Eudelin, which is of an exceedingly interesting type, the feature being that by an ingenious arrangement the stroke of the piston can be varied, enabling the motor to develop full power at varying engine speeds, and so practically obviating the need of a change-speed gear.

There appears to be a pronounced tendency to cast the four-cylinders of the engines of the cars of relatively low power in one block. The aim is to reduce weight to a minimum, so as to economise both as regards fuel consumption and tyre expense, the *bloc* motor being lighter because the walls of the water jackets between the cylinders are dispensed with, and more compact, because the distance between adjacent cylinders is reduced to a minimum. The chief objection to the design is, of course, that if a defect develops in the cylinder walls during the process of manufacture or later, the whole casting may have to be thrown away, instead of only a single cylinder, or a pair, in the usual way. During the past few years, however, ironfounders have made considerable progress in cylinder casting, and the proportion of defective castings is now comparatively small if the product is obtained from a foundry that specialises in this class of work.

Greatly increased attention is being given to the question of petrol engines which work on the two-cycle system—that is to say, there is an explosion in each cylinder at every revolution of the crank shaft as against one for two revolutions in the four-cycle motor—the number of exhibitors of cars with two-cycle engines, although still small proportionately, showing an increase, a remark which also applies to combination petrol-electric vehicles. One point which greatly interested me was the pains taken by many of the manufacturers to render their exhibit of an instructive as well as of attractive nature, the working model of a De Dion chassis cut in half and enclosed in a glass case, and the Gobron-Brillié engine with glass cylinders being two of the things which call for remark in this category.

I had only time for a rapid glance through the carriage builders' section, where the principal features of note were the great preponderance of the covered body, and the increasing practice of suspending the rear portion of the carriage on separate C springs. The accessory display in the Galleries was full of interest; as usual, non-skids, spring and "elastic" wheels were shown by the score, while the novelties in the tyre section included one made of paper, and another which to be inflated has first to be punctured! As regards ignition, the outstanding feature is the almost universal adoption of magneto ignition—more particularly the high tension pattern.

Having seen the reference to the Retrospective Exhibition at the Annexe in the *M.C.J.*, I naturally made a point of visiting it, as a result of which I can fully endorse all that has been said of this very interesting collection of historical cars. The first vehicle that met the eye on entering the Annexe was Cugnot's steam car of 1760, succeeding which were, among others, one of Herr Gottlieb Daimler's early productions, the first Panhard, the first Renault, the first Delabaye, to mention only a few. One of the strangest of the lot was the first Berliet, dated 1900, and, having inspected only a few minutes before the exhibit of the Berliet Company in the Grand Palais, it was difficult to imagine that but seven years had elapsed since it had first seen the light. It seems a pity that such a collection of historical relics, having been once got together, should not be found a permanent home in some public building, where they would form a lasting tribute to the efforts of the early workers in a movement which has developed with such lightning speed.

C. J. W.

THE Automobile Club of America has accepted the invitation of the Florida East Coast Automobile Association to take over the management of the sixth annual race meet on the Ormond-Daytona beach, which will take place in March next. This step has been taken with the view of making the tournament more international in character than hitherto. The programme, which is being drawn up by the Contests Committee of the A.C.A., will include long and short distance races. The mile race for the Sir Thomas Dewar Trophy will take place as usual, and in order to prevent the entry of what has been known as "freak" cars, the committee will insist that all vehicles entered for the mile and two-mile-a-minute races will have to qualify by going at least twenty miles at a minimum speed of about 45 seconds to the mile.

SUBSTITUTES FOR THE DIFFERENTIAL GEAR.

MANY attempts have been made to obviate the use of differential gears in motor-cars. Among these is the Hedgeland equaliser, which was introduced about two years ago, of which, although it attracted a good deal of attention in this country at the time, little has since been heard. However, we learn that in the meantime the inventor has been busily engaged in perfecting the idea, which in its improved form has now been put on the market by the Hedgeland Manufacturing Company, of Canton, O., U.S.A. While the underlying principle

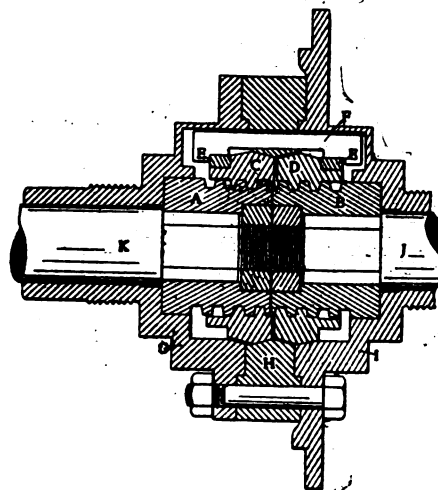
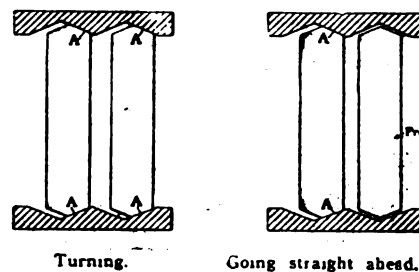


Fig. 1.—Sectional View of new Hedgeland Equaliser.

remains the same, the design has been considerably changed from its original conception. As shown in Fig. 1, the clutches have been moved to the centre, and the axle is divided, as when a differential is used. A and B are screws milled from the solid bar, both right hand pitch, of about 23 degrees thread angle. A is fast on shaft K, and B on shaft J. On these threads are double cone steel clutches C and D. The clutch faces are hardened, but the threads are left soft. Around the outer edge of C and D are steel rings E E, which are split on one side and act as a light-pressure friction brake on the clutches. The rings are free to move endwise with the clutches, but must always revolve with the casing, as each has a forked jaw which



Figs. 2 and 3.—Diagrams illustrating the action of the Hedgeland Equaliser.

engages with one of the keys F. There are three of these keys, and besides holding the rings E from revolving they serve to limit the end motion of the clutches. The clutches make contact with the forged steel cups formed in G, H, and I. The action is as follows:—The gear or chain wheel attached to I turns the entire case; the resistance of the shafts K and J to turning causes them to lag behind, and as C and D are rotated by the friction of E E they move endwise on the screws A and B until they make contact with their cups. If the car is going straight ahead the contact is as shown in Fig. 3. If going straight back in the reverse direction it would be on the opposite faces. The clutches cannot slip, for the more power it takes to drive the

car the tighter are they pressed together. Suppose the car is turned towards the side K, clutch C continues to drive as before, but the outer wheel turns the screw B faster than I is turning, and throws out the clutch D. The latter runs over until it bears lightly against C and then turns uniformly with B. The relation of the friction surface at this time is shown in Fig. 2. When turning towards the side J the action is similar; only the clutch D drives; C is free and is held from going too far by keys F. There is no movement between the clutches and their brake

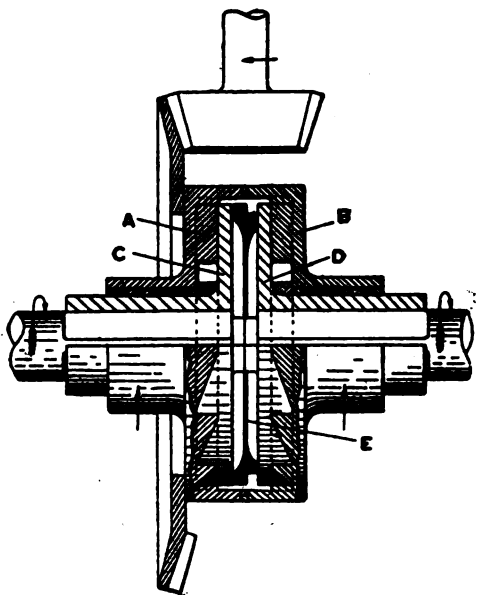
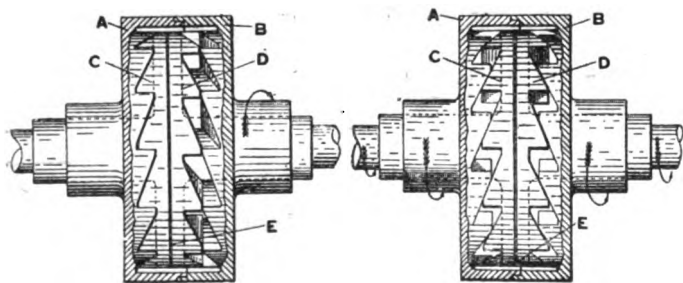


Fig. 4.—The F.R.V. Gearless Differential. The view shows the position for straight ahead driving.

bands except when turning a corner. The inner wheel always drives, and no power can be wasted by spinning the idle wheel on slippery surfaces. With this new arrangement of parts the axle can drive the engine while running down hill, with the main clutch engaged, so enabling the motor to be used as a brake.

Another substitute for the ordinary differential is the "F.R.V. gearless differential," which is being introduced by the F.R.V. Auto Parts Company, of 116, Nassau Street, New York. The principle of the arrangement is that the usual bevel or spur gears are replaced by two sets of face ratchets. The two ratchet discs A and B are attached to the driving axle halves and, by



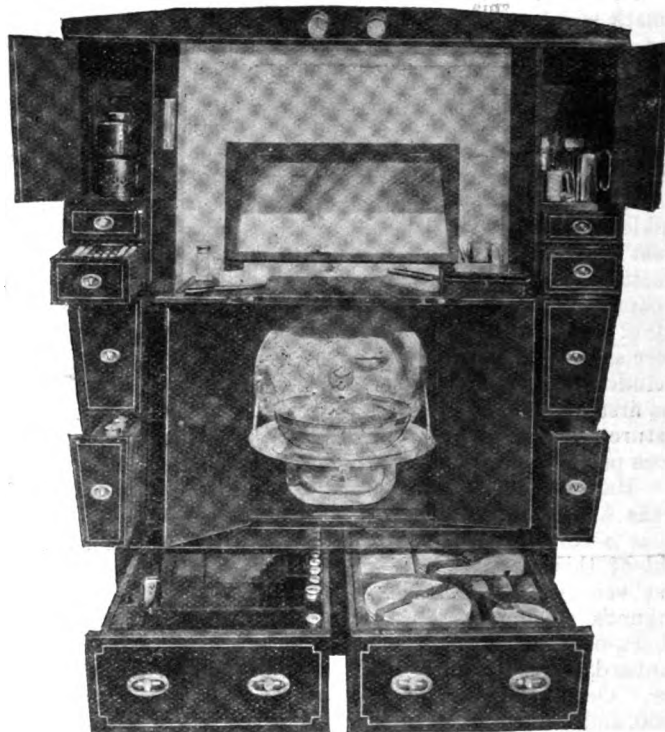
Figs. 5 and 6.—Diagrams illustrating the action of the F.R.V. Gearless Differential. The first view shows the position when turning a left hand corner, and the second that when the reverse motion is in operation.

means of a disc spring E between them, engage with the female ratchet parts C D cut on the inner faces of the casing, as shown in Fig. 4. To the casing is attached the bevel driving gear, and when driving in a forward direction the male ratchet members, which are longitudinally free, engage with the ratchets in the case and thus apply an equal driving stress to each wheel. If, however, a corner is turned the outer wheel overruns the ratchet on the inner side of the case, and the male driving ratchet is forced out of driving engagement, the disc spring

being compressed, as shown in dotted outline in Fig. 5. The reverse drive is as positive as the forward because of the proportions of the parts, which are such that both male ratchets cannot be overrun at the same time. That is, the reverse driving action tends to overrun both ratchets, but the male members are of such thickness that they abut, and a wedging action is set up between them and the driven ratchets, as in Fig. 6. As will be observed, the chief feature of this device is that it differentiates for distance and not resistance. On this account the device is claimed to eliminate all tendency to skidding which can be attributed to the action of the differential as commonly employed.

A MOTORIST'S VADE MECUM.

A COMPACT and ingeniously contrived fitment cabinet of solid mahogany has been designed for motorists by Messrs. Waring and Gillow, Ltd., of which we give an illustration. It is so replete with useful appliances that it might almost be called the "motorist's vade mecum." Nothing is omitted which



a tourist is likely to require during a long journey, the sixteen drawers of the cabinet being fitted with every requirement of the dressing table, the luncheon basket, and the writing desk. The central portion is occupied by a white metal washing basin, enclosed with folding doors. The top forms a shelf for brushes and toilet appliances, with a sliding swing mirror at the back. There is also a flap which can be drawn up to form a writing desk. The surrounding drawers contain a luncheon service of china, glass, plate, &c., for six people, a dainty china tea service, a kettle with spirit lamp, a stationery cabinet with writing materials, a bookcase, cigar cabinet, a supply of articles necessary in case of accident or emergency, a fitted dressing case, a clock, a barometer, and stoppered decanters and flasks. The whole contrivance is a capital example of multum in parvo, the full dimensions being only 5 ft. 2 in. high, 4 ft. 6 in. wide, and 9 in. deep.

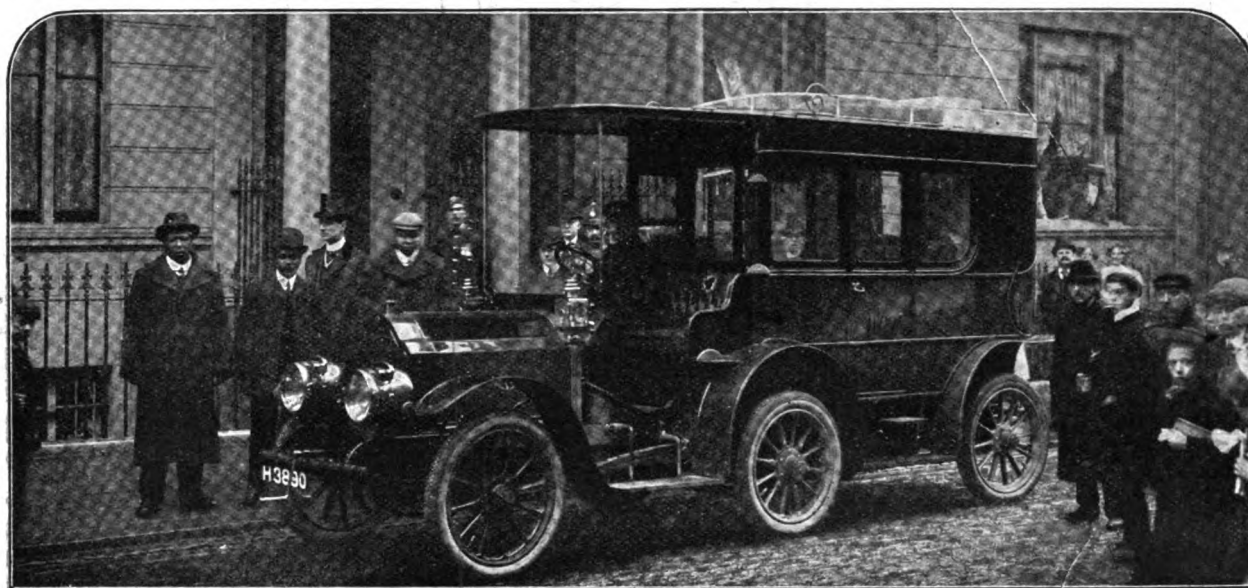
THE St. Albans and Luton Motor Company, Ltd., have now control of the motor works in the New Bedford Road, Luton, of which branch Mr. A. E. Clarke has been appointed manager. The garage is on the main London to Bedford road, and not only is it well equipped for motor storage, but an efficient staff of practical engineers will attend to the requirements of motorists.

A MOTORIST'S CAUSERIE.

THERE comes a time, I suppose, when all motorists suffer from tyre troubles. One concern is now guaranteeing its tyres for 4,000 miles, which should do much to give their particular make considerable popularity. I have not yet covered that distance with my present set—which are not those referred to above, by the way—but have already begun to suffer delay and worry by reason of frequent punctures and bursts, and have lately had to pay out some fairly large sums for repairs. The object of this note is to elicit the opinions of fellow-motorists with regard to re-treaded covers, for at the present time, as a result of recent trouble, I am somewhat in doubt whether the game is worth the candle. My first trial of having a cover re-treaded was all right; it has run a considerable distance, and seems to be standing up splendidly, notwithstanding that when it was sent to be repaired it had a nasty large hole which extended right through the rubber and canvas. The second experience, however, was exactly the reverse, for the cover, the re-treading of which cost nearly £2, only carried me about twenty miles when it burst in an irreparable fashion. On com-

by the exhaust cut-out. My motor is of a high compression type, requiring frequent cleaning, which would have been very expensive if I had had to remove the cylinders for the purpose. With the aid of the above described outfit I can do the job in an hour—there are two cylinders—and can get the whole inside surface absolutely clean. Of course it is necessary to do the work thoroughly, as otherwise partially loosened fragments of carbon would heat much more readily than when firmly attached and would only aggravate pre-ignition."

AN old car always has a certain amount of rattle, which may be much or little, according to the quality and age of the vehicle and the attention it has received. The hinges of the bonnet may be loose, the brake and change-gear lever connections may have probably worn loose; these are two items of a list which might be almost indefinitely extended. Many of these things have nothing to do with the condition of the principal bearings of the engine and transmission, which, after they have been properly taken up or replaced, may be as good as ever. Even if the looseness does not indicate immediate danger it is always annoying and is liable to lead to trouble, owing to the



The above illustration depicts the Swasi Chiefs, at present on a visit to England, just before their start to Buckingham Palace to inspect the King's horses, on a 40-h.p. Six-wheeled De Dietrich Pullman Car, placed at their disposal for the day by Messrs. Jarrott and Letts.

The Chiefs who were taken in the car were Prince Malunge N'Kosi, who appears on the extreme left of the photograph wearing a slouch hat; Chief Ngo'ool, seen on the right in a cap; and Induna Manikiniki, who acted as interpreter. They were delighted with the car, and were particularly interested in the electrical fittings, pressing the buttons, switching on the light, and communicating with the driver on their way down to the Palace.

paring notes with some fellow-motorists I find that several of them had a similar tale to tell, one indeed going so far as to say he had done with re-treaded tyres.

So many motorists appear to suffer from pre-ignition troubles due to carbon deposits on the piston and explosion chamber walls of their engines that the method adopted by an American automobilist to get rid of the deposit will doubtless be of interest. Mr. H. L. Towle, the gentleman in question, writes:—"I have found the best way to clean carbon from motor cylinders, without removing the latter, to be by the use of small iron scrapers, suitably bent to be introduced through the sparking plug holes or the plug holes over the valves, according to the type of cylinder. Injecting paraffin softens the carbon or dust deposit, but in my own motor, at least, I never found it to have much effect in detaching it. To aid in the exploration I use a small battery lamp, protected by a cage of wire and introduced through the opening over the valves. I use also a dentist's flat mirror to help me to see around the corners. My own practice is to take out the exhaust valve and scrape the debris into the valve chamber, from which it is carried into the silencer, or out

fact that the rattle obscures sounds of knocking or other troubles in vital parts of the engine and gear. It is worth while once a season to go carefully over the principal sources of noise. It is frequently possible to make even an old car run as quietly as a new one by a comparatively small amount of work, which, if done when the car is dismantled, can be effected at a small cost.

THE habit which many motorists fall into of running the engine continually at its top speed is one to be deprecated. The effect is additional wear upon the piston and cylinder, owing to the increase in piston speed, and also on the gudgeon pin and big end bearings. Supposing the normal speed of the engine to be 1,000 revolutions per minute, accelerating to 1,200 r.p.m. means that, if the engine is habitually run at the latter speed, it makes no less than 12,000 revolutions per hour more than it is intended to do. Acceleration is provided to give an increase of power when required for short intervals.

ARCANUM.

At Banbridge, on the main road to Belfast from the south of Ireland, a motor repair establishment is being established by Mr. T. Sloan.

CONTINENTAL NOTES.

Motor Vehicles for Military Purposes in France.

The French military authorities continue to give indications of the careful way they are watching the progress of industrial motor vehicles: During the course of the *Salon*, which closed on Sunday last, about sixty students of the Military School at Versailles paid a visit to the Annexe, where M. Girardeau gave a lecture on the military uses of industrial motor vehicles. The advantage of holding the meeting at the Exhibition lay, of course, in the fact that the lecturer was able to illustrate his remarks by the actual vehicles that were shown.

The Paris Salon.

The tenth annual Paris *Salon* was brought to a successful conclusion on Sunday last, the 1st inst. Throughout the day the huge Grand Palais was packed with visitors, and in the

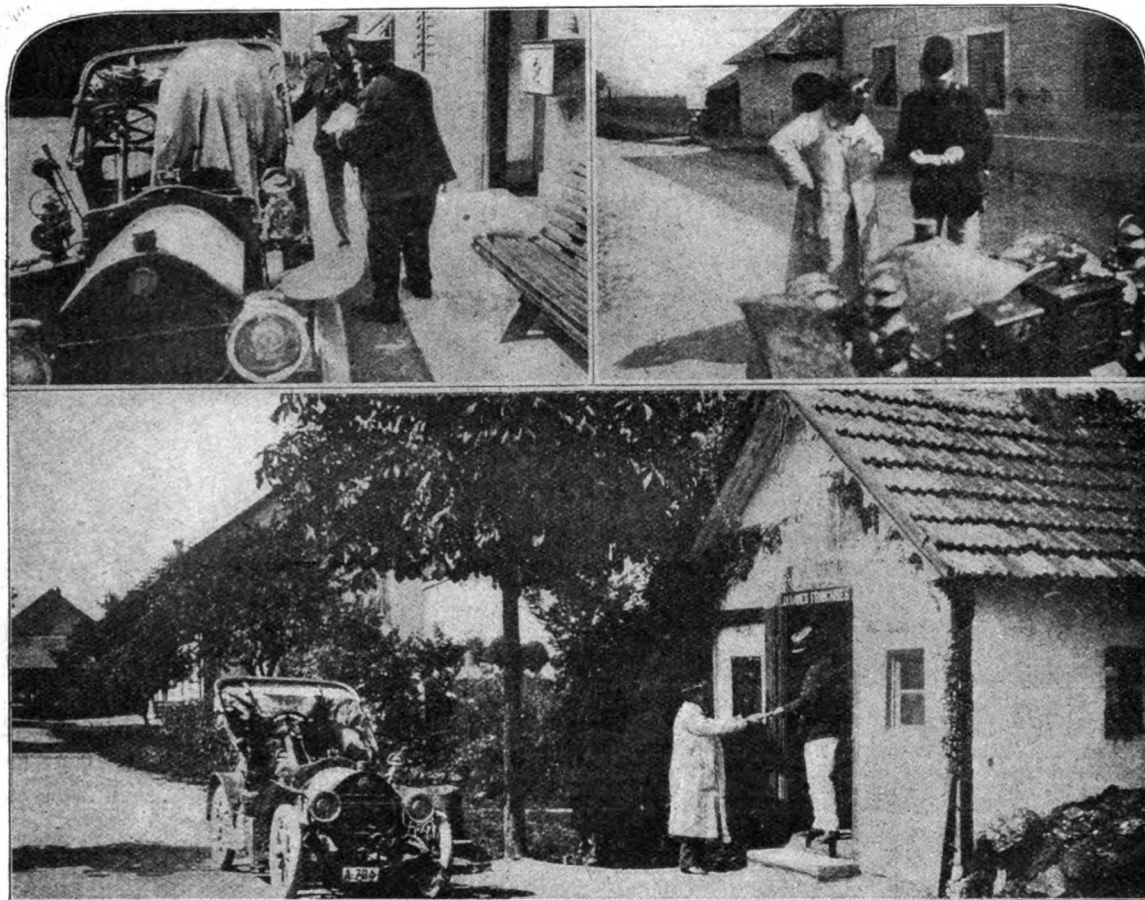
the first-named category the Prix d'Excellence went to Messrs. De Dion-Bouton and the Grand Prix to the Mors Company, while the Delaunay-Belleville Co. carried off the Elegance prize.

Preparations for the 1908 Racing Season.

Both the Benz and the German Daimler Companies intend to take part in the principal races and competitions in the 1908 season. Hanriot and Hemery will be included in the former's team of drivers and Poege and Salzer in the latter's. The Fia and De Dietrich concerns will again be to the front, their car being entrusted to the same men as in 1907, viz., Nazzaro, Lancia and Wagner for the first named and Duray, Gabriel and Rougier for the Lorraine-Dietrich.

Miscellaneous Items.

It is reported that arrangements are in hand for the establishment of a motor-car service between Alexandrette (Syria) and Bagdad.—The German Automobile Exhibition was, in the



Customs Formalities on the Continent.—1, Bavaria. 2, Austria. 3, France.

evening great interest was shown in the Tombola. It may not be generally known that every visitor to the show received a numbered ticket entitling him to participate in the draw for the hundred or so prizes—ranging from a motor-car to a repair outfit—which are annually offered by various firms in connection with the exhibition. We have not space to print the whole list of prize-winning numbers, but, in case some English visitors hold the lucky numbers, we give the first six:—

No.		Winning No.
1.	De Dion 15 h.p. Car	143312
2.	E. V. M. Bicycle	198568
3.	Hurtu Bicycle... ..	681448
4.	Sabine Bicycle	604107
5.	Nilmelior Magneto	437529
6.	Pair of Vinet Detachable Rims	585102

A number of awards were also made in connection with the best decorated stands and for the most elegant carriage bodies. In

absence of the Kaiser, opened in Berlin on Thursday by Prince Henry of Prussia.—A company has just been formed in Paris with a capital of £28,000, and the title *La Société Française des Chaines*, to manufacture motor-chains in France.—The King of the Belgians has just placed an order for a 40-h.p. De Dietrich, which is to be fitted with a limousine body.—The Isotta-Fraschini car which Minola drove to victory in the contest for the Florio cup, on the Brescia circuit, has been bought by Mr. George West, jun., of Ballston Spa, N.Y., who will drive the vehicle in all American road races during the coming season.—The most successful attempt at aerial navigation yet made was that of the crew of the French military airship "La Patrie," on the 23rd ult., when the Panhard engines propelled the machine from Chalais-Meudon to the frontier—a distance of 236 kilometres.—"La Patrie" has since disappeared, its fate being still unknown.

THE Renard road train has been attracting much attention at Manchester, where it was unshipped at the docks on the way from Ireland to Coventry.

AUTOMOBILE exhibits were shown in the workshops of the Northampton Polytechnic Institute, Clerkenwell, in connection with the presentation of prizes by the Duke of Connaught, K.G., on the 29th ult.

AN order for Argyll motor-cabs to the value of £20,000 has been placed in London. Should success attend this development it may be increased to £80,000 ere long.

THE Board of Education has approached Messrs. Rudge-Whitworth, Limited, with a request for an exhibit for the South Kensington Museum consisting of a Rudge-Whitworth patent detachable wire wheel.

It is reported from Meltourne that a road record has been set up of 422 miles in twelve hours and 777 miles in twenty-four hours, by two motorists named Stevens and Jones, on a Dunlop-tyred Darracq car—the gentlemen named presumably driving in turns.

MESSRS. HERBERT TERRY AND SONS, of the Novelty Works, Redditch, send their new list of springs, wirework clips, &c., for the motor and other trades. The firm's productions have long been before the industry, and the new list will be of value to all requiring such work.

THE Companies' Diary and Agenda Book for 1908 has just been published by Messrs. Jordan and Sons, Ltd., the well-known company registration agents. It is indispensable in the offices of limited liability concerns, and will be found useful in all commercial establishments.

BEFORE the Canals and Waterways Commission, Mr. J. K. Bythell, the chairman of the Manchester Ship Canal Company, referred to the growing motor-wagon competition between ten to fifteen miles round Manchester. This is likely to increase in the near future, adding another difficulty to the problem of successful canal administration.

THE committee which organised the recent provincial meets of commercial motor vehicles met last week and formally dissolved itself. Mr. Leo Harris, the hon. secretary, submitted the statement of accounts for the Reading meet, which showed an expenditure of £61 with an income rather less. The balance, £1 18s. 4d., having been contributed by the hon. secretary, the accounts have now been closed.

IN May last Mr. S. F. Edge instituted a tyre economy competition among drivers of six-cylinder cars, prizes of £25, £15 and £10 being offered for the best distances covered by any four tyres. Mr. A. Waters has proved first, the car he drove having run on each of its four tyres an average of 5,910 miles; Mr. T. Brockell second, with 5,396 miles; and Mr. F. G. Toye, third, 5,302 miles. The total average of all the cars competing works out at 3,835 miles.

UNDER the title "Ignition Devices for Motors," Mr. Guilbert Pitman, of 85, Fleet Street, London, E.C., has just published a new work by Mr. S. R. Bottone. As the title implies, it deals more especially with the different ignition systems employed on petrol motor vehicles, and the information and illustrations given should prove extremely useful. A good deal of space is devoted to describing the construction and ignition of induction coils and magnos, while an interesting chapter is given in which there are many useful hints as to the choice and management of motor-cars.

MR. F. R. DAVIS, of Shawford, Winchester, is responsible for a paraffin carburettor, which seems to fulfil the requirement mentioned in the report of the Fuels Committee of the Motor Union as to the essential necessity that any such device should secure "a mechanical and accurately measured feed of the liquid fuel." In view of the attention now being given to the subject the carburettor is of particular interest, and reference may usefully be made to the fact that its merits were recognised in the *M.C.J.* of April 20th last, when we published an illustrated description of the device.

HERE AND THERE.

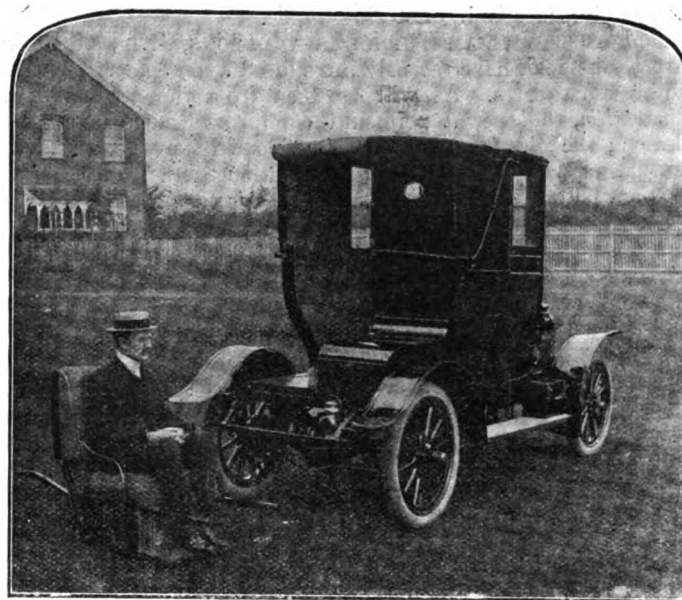
No less than forty-two per cent. of the motor-cars and motorcycles exhibited at the Stanley Show were fitted with Continental tyres.

MR. WALTER JACKSON, the well-known Yorkshire automobile engineer, has offices at Tanfield Chambers, Bradford, and garage and repair shops at Baildon Bridge, Shipley. The latter are open all the twenty-four hours of the day.

THE Electrical and Motor Company have a garage open day and night opposite the Town Hall, at Banbury. They have accommodation for fifty vehicles.

TURNER'S MOTOR MANUFACTURING COMPANY, LTD., Wolverhampton, inform us that they are producing for next season a new model 10-h.p. Turner-Miesse steam car fitted with cardan shaft transmission and two-seated body.

MR. CLIFFORD-EARP has given notice that he wishes to attack the present records for touring cars for the following distances on the Brooklands track, viz., fifty miles, one hour, one hundred miles, one hundred and fifty miles, and two hours.



A 12-16-h.p. Vauxhall Landauet supplied to the order of Dr. J. Kingston Barton, of London, who always drives the car himself. It will be observed that one seat can be entirely removed and taken anywhere to fetch the passenger if desired.

THE Avon India Rubber Company, Ltd., of Melksham, Wilts, whose excellent motor tyres we have recently noticed, are specialising in repair work. Many tyres they have repaired have run from five to ten thousand miles, and they were the first of the firms to introduce the system of vulcanised repairs to motor tyres.

FROM Messrs. Donne and Willans, Ltd., comes a copy of the illustrated catalogue of Piccard-Pictet cars, for which they have just acquired the British agency. Three sizes of four-cylinder vehicles are being made, viz., 12-16-h.p., 18-24-h.p., and 28-40-h.p., as also a 28-40-h.p. six-cylinder. The list gives full particulars of the cars, which throughout are on modern lines and comprise a number of special features.

THE Continental Tyre and Rubber Company, whose non-skids have obtained a high reputation in the past, have, after repeated experiments, produced a tyre that will not harm the road surface, or reduce its effectiveness as a non-skid. These tyres are manufactured in the well-known black and red rubber style introduced by the Continental Company, while the steel studs have been considerably shortened, and only project sufficiently above the rubber to preserve their non-skidding qualities. A further improvement has also been made in the canvas backing which will greatly add to the life of the tyre.

MR. JOHN ADAM, who is well known in connection with the Scottish Trials, has become the possessor of a Sunbeam of 20-h.p.

MESSRS. WITTLER AND BURDEN have taken over most of the tools of Mr. F. Moller, Ackland Street, Adelaide, Australia, and are developing business in the automobile trade.

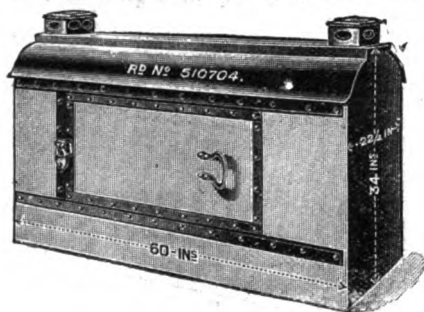
AMONGST recent purchasers of Itala cars are Sir William Eden, who has ordered a 40-h.p. four-cylinder vehicle, and Lord Tollemahe; the latter's car is an 80-h.p. six-cylinder.

THE Archbishop of Canterbury, accompanied by Mrs. Davidson, has been making a tour by motor-car through the scattered parishes in the Romney Marsh grazing district.

THE third edition of their "Useful Hints and Tips for Automobilians" has been published by Messrs. Liffé and Sons. They are nearly 600 in number and embrace practically all the difficulties likely to occur to motorists.

THE sixth annual report of the Pembroke Technical Instruction Committee, co. Dublin, has been issued by the Secretary of the Congested District Board for Ireland, and emphasises the fact that the success of the Ringserd motor classes has been due in a great measure to the Siddeley motor-car provided at the commencement of the session. This has been run over 7,000 miles, mostly by motoring pupils.

MESSRS. WILLIAM TUPHOLME AND SONS, LTD., of Bridge Street, Sheffield, have recently introduced a new pattern of their motor spirit safes. As will be seen from the accompanying illustration, the special point in the improved model is the ventilation; the old form was by movable chimneys, whereas the ventilators are now fixed. The ventilation tubes are fitted with Davy gauze, thus making them perfectly safe and free from all



risk of explosion. These safes are strongly made of galvanised iron, and are supplied in three sizes, viz., to hold 10, 20, or 30 tins of petrol, each containing two gallons. In the event of any leakage, there is a spirit-tight well, below the level of the door, of sufficient capacity to hold all the spirit which may leak from any or all of the tins. The accessory is one which will be found useful by all interested in the safe storage of petrol.

WE learn by telegraph from New York that it has been decided that the race for the Vanderbilt Cup shall be run on Long Island in October, 1908. The conditions remain unchanged, except that ten cars will be allowed from each country, of which only three may be of the same make. The maximum weight has been fixed at 1,100 kilos.

ON the Brooklands Racing Track, on Saturday, F. Newton, driving a 60-h.p. Napier, created class records for the half-mile and ten laps (nearly twenty-seven miles) in the 60-h.p. class. The half-mile record was established at a speed of 96½ miles an hour. Some fast laps were made while the ten-lap record was being set up, and in two or three cases the speed exceeded ninety-four miles an hour. The official rate of speed, however, for the whole ten laps was just over eighty-six miles an hour.

THE new catalogue of Messrs. Benton and Stone, of Brackbridge Street, Birmingham, has a full list of the "Enots" specialities in pumps for motor-car tyres fitted with Taylor's locking arrangements securing the rod and handle rigidly in place when not in use; lubricators, pressure pumps, petrol filters, sparking plugs, &c. Since going to press with this an interesting improvement has been adopted in the lubricator, by which the ratchet thumb screws, spring and stock bar are dispensed with in the regulation of the drips.

THE Automobile Club of Philadelphia is arranging for the erection of signs on various cross roads inscribed with the words, "Blow your horn."

MR. F. K. HUSSEY has well-equipped motor works in Southgate Street, Gloucester, from which he conducts a hiring as well as a repairing business.

THE Sherburn Rural Council has passed a resolution in favour of the speed limit being reduced to twelve miles an hour in the country and six miles an hour in villages.

THE introduction of motor-cabs into Cairo is meeting with strong opposition on the part of the horse-cab drivers, so much that it has been necessary to call in the aid of soldiers to protect the garage.

It is reported that the Postmaster of the Presidency of Bombay is considering a scheme of replacing the horse-drawn postal delivery vans by motor-vehicles, and that he has already asked the Indian representatives of the leading British makers for particulars of suitable vehicles.

REPLYING to a letter from Mr. L. J. Martin, Pickering Place, London, the General Purposes Committee of the Worthing Town Council state that, subject to previous inspection and approval, they are prepared to recommend the granting of licences for a limited number of motor-boats to ply for hire, the boats to carry not more than twelve persons.

FROM Messrs. Welte and Owens, Ltd., we have received a couple of photographs showing interior and exterior views of their extensive garage and showrooms at 16, 18, and 20, Colquitt Street, Liverpool. As we mentioned in a recent issue, the firm are sole district agents for the Vulcan and Hotchkiss cars, while they hold a very large stock of motor accessories of all kinds.

MR. MERVYN O'GORMAN, chairman of the Expert and Technical Committee of the Royal Automobile Club, has offered a Challenge Trophy for a race of one hundred miles on the Brooklands track, for cars having engines which are not limited either as to dimensions, fuel allowances, quality of fuel, or method of propulsion, and no restriction to be placed on weight.

A MAN named John Blacklock, charged with driving a motor-car to the danger of the public in Newcastle-on-Tyne, pleaded that he could not have been travelling at even twelve miles an hour, as was alleged, as he had in the car a 24-stone giantess; her sister, weighing 10 stones; the manager, weighing 12 stones; a boy of 10 stones, and himself. Despite such an accumulated weight of evidence the Bench imposed a fine of 10s.

THE "Phos" Company, whose works are at 205 and 207, Ball's Pond Road, London, N., issue a well-illustrated catalogue of their specialities for acetylene lighting. One section is devoted to motor-car lamps, their "Phos" calcium carbide cartridge lamp being specially described. This will run for six hours with only one charge, and its simplicity of construction is proof against any disorder that might possibly arise. The Phos system of acetylene lighting for motor-omnibuses, coaches, &c., has been approved by the G.P.O. authorities, and is adopted in lighting the interior of the Royal Mail coaches. Here the firm's success has been distinctly notable.

AMONG the new tyres which may be expected to find a place on many cars in the coming season is the Calmon, which was introduced to the British trade at the recent Stanley Show. The fact that the makers, the Calmon Asbestos and Rubber Works, Ltd., of 1, 2, and 3, Trinity Place, Tower Hill, E.C., guarantee their tyres for 3,500 miles, if run under reasonable and fair conditions, is proof of a confidence that should encourage many motorists to give them a trial. The tyre has a square tread, with large rubber walls, and is ribbed on the extreme top, giving a non-skid surface and great durability on account of the weight of rubber used. A steel-studded tyre has the hardened steel studs fixed in the secondary tread, all being built in together with the walls of the tyre. The same firm has also brought out an automobile rubber overshoe known as the Chauffeur Boot. This is a well-made and neatly-designed means of protecting the driver from the wet. Its use gives him extra protection where generally wanted in severe weather, while his grip of the pedals is by no means lessened.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

TRAFFIC ON THE ROADS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—There seems a general impression that wherever the surface of a public road is at all cut up the motor is responsible for the mischief, but I would emphasise the appeal that is now being made by the Motor Union urging motorists to watch the wear and tear of the roads which arises from hauling agricultural wagons from fields to barns, &c. Much of this is quite unnecessary and could be avoided if the farmers would have the wheels of their wagons scraped before leaving the fields.

In some places the importance of this has been publicly urged, and the matter was discussed at the last meeting of the Chard Rural District Council, where unfortunately the members ultimately came to the conclusion that nothing could be done. A more serious view of the importance of the matter was taken by the Taunton Rural Council when several members pointed out the damage that had been done recently on main and district roads by agricultural wagons. Several practical members of the Council observed that they have generally waited for fine weather before doing their haulage work; this, of course, is not possible in all cases. Others said that the mud should be scraped from the wheels before the vehicles went on to the road, a course which was approved by the chairman, who raised the interesting point that bringing such mud on the roads might be considered extraordinary traffic, and that it might be possible for the Council to take proceedings against the owners of the vehicles.

You recently called attention to the increase of horse-drawn traffic in the area of the Holborn District Council as tending to show that motor vehicles were not by any means wholly responsible for the increased wear and tear of road surfaces in towns. This point with regard to the haulage of agricultural and other produce seems to be an

the latter car, bearing the official seal of the R.A.C., are on view at 87, Davies Street, and doubtless the parts of the "Silver Ghost" will also be exhibited to any one who cares to see them. It seems to me, therefore, that honours are easy, and that both cars have achieved a magnificent performance: any further attempt to belittle the record of either the one or the other car can but be harmful to both, and detract from the value of two certificates honestly and fairly earned, and both equally unequalled in the history of motoring up to the present time.

One word more. The only result of the voluminous correspondence on this subject has been that the Royal Automobile Club has officially notified both our firms that neither of us can claim the world's record for reliability. I trust that my friend Mr. Johnson will stay his hand and let the matter rest here, lest yet more be taken away from us!—Yours truly,

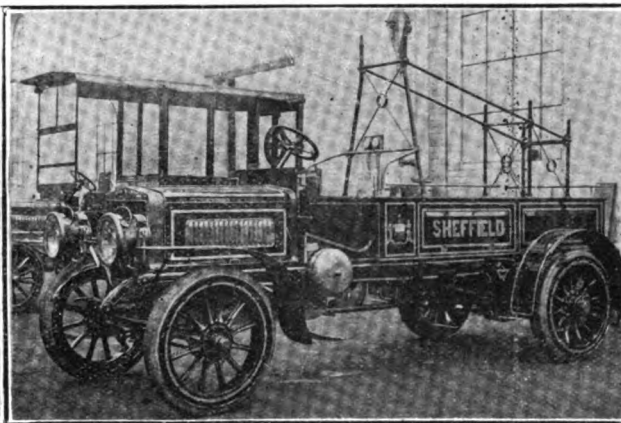
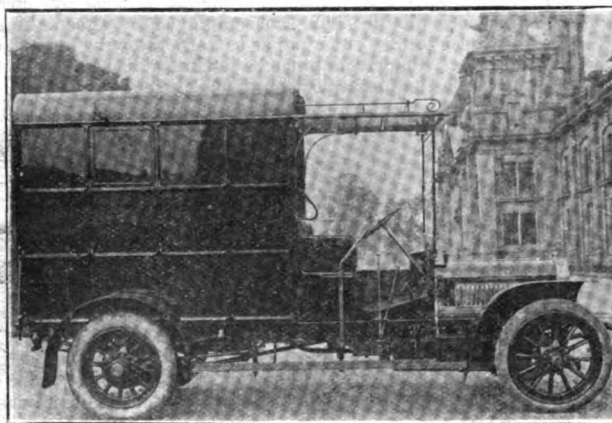
B. D. CORBET.

CARS FOR MODERATE MEANS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I paid a visit to the Olympia Show, and I must say I was disappointed at not finding more good 15 to 18 h.p. cars, with four cylinders, dual ignition, and gate change with four speeds at a moderate price. I regard the four speeds as very important (I live in Cornwall), for with this moderate power the first speed must be fairly low, and naturally the car, to be attractive, must be capable of a good pace on the top. The dual ignition gives one a feeling of security and saves stops on the road for adjustment, which are sure to come sooner or later with only one ignition.

I am aware that there were cars in the show built somewhat on the above lines, but, with one exception, the cost with hood, screen, lamps



The Motor Ambulance and Fire Tender recently supplied by the Argyll Company to the Sheffield Corporation.

almost identical one, and I am glad to see that the Motor Union is taking the matter up with considerable energy.—Yours truly,

A. WALKER.

[The point raised by our correspondent is not wholly a new one, and is being brought to the front just now by one of the motoring organisations. We shall be glad if readers in the provinces will keep us informed of any local discussions that may arise on the point in question, the subject being of considerable value as well as of interest.]

THE WORLD'S RECORD FOR RELIABILITY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice some further correspondence from Mr. Claude Johnson upon this vexed question; incidentally Mr. Johnson suggests that in the definition of "reliability" given by the R.A.C. some words have been omitted, "possibly through a clerical error." Let me assure him, as also those of your readers who may still have an interest in this matter, that there has been no omission—clerical or otherwise—in the quotation to which Mr. Johnson refers; should this gentleman care to call at the offices of the London and Parisian Motor Company, I shall be pleased to show him the letter in question, and on the same occasion endeavour to put an end to the unfortunate differences of opinion between us.

The whole question seems but a simple one, after all: the Rolls-Royce car ran 14,371 miles non-stop and the Hotchkiss 10,474 miles, but per contra a total of 40 hours 13 minutes was spent on adjustments to the "Silver Ghost," against a total of 9 hours, 44 minutes, 21 seconds spent in adjustments to the six-cylinder Hotchkiss. All the parts of

and spares would not be far short of £500. Now, although this may appear a moderate price from a seller's point of view, it is by no means so from a buyer's. The high-powered cars are certainly only for the rich, for the cost of running one per mile is about the same as that of running an express railway engine.

I think it a mistake to attribute the falling off in sales of cars to the wet summer, for people usually buy a car a few days before they want it, when the weather is an unknown quantity, and that the real cause is that the public are finding out from experience that cars are expensive in proportion to their capacity; and I am afraid that the trade will not have benefited much by the show just passed.—Yours truly,

F. R. L. CHALK.

A KNOCKING QUERY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 12-16-h.p. Decauville four-cylinder car which has developed a severe knocking. I have gone over the usual formula. Cleaned deposits off piston ends and top of cylinders, cleaned plugs, no water in cylinder, fly wheel is not slack on shaft, &c. I have lately changed over to a new oil, and, thinking this was not suitable, I went back to the old make, but still the knocking continues. I purchased the car second-hand and have run it 3,500 miles without the slightest trouble. When the engine runs slowly there is no knocking, but when I open the accelerator the knocking begins. There is no governor on the engine or any projections that I can see; the big ends and the piston bearings are correct, being in every way in good order. One bearing in the gear-box is slightly worn, but the engine knocks with the clutch

out and each cylinder knocks when separately tried. I may say that the knocking gradually developed; it is not heard if I run the car or engine slowly, only when I open throttle or advance spark. The timing has not been interfered with. I am seldom at a loss with engine troubles but the above fairly puzzles me.—Yours truly,

BRAIN RACKED.

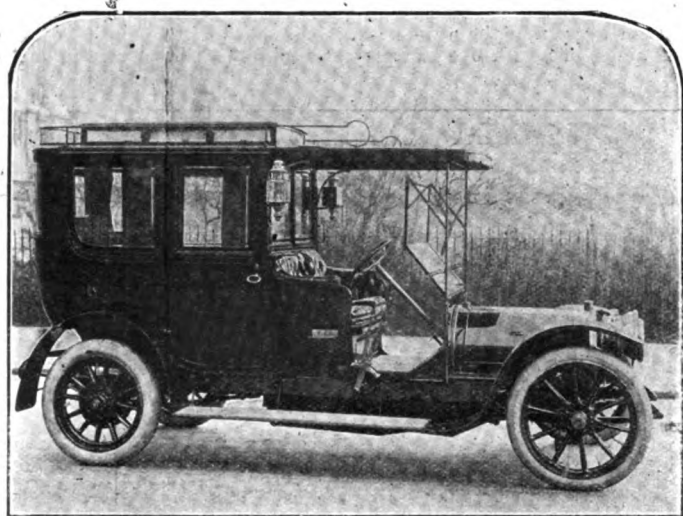
[Since our correspondent purchased his car second-hand, and has himself run it some distance, the cylinders are no doubt worn a bit; perhaps when he accelerates the pistons, reciprocating more rapidly and thus coming with greater impetus to the upper end of the worn part of the cylinder bores, cause a knock by touching the lesser worn part. The difference in diameter may not be sufficient to be termed a ridge round the walls, and may be almost imperceptible until accurately gauged; but it is nevertheless sometimes a cause of knocking in old engines—that is, of course, only in those in which the cylinders have not a clearance at the top of the bore, past which the upper part of the piston is allowed to reach on the completion of the up stroke.]

If the reason indicated does not apply in this instance, we should be inclined to suspect that a careful measurement of the gudgeon pins and journals will show that they have worn oval sufficiently to cause a knock when the motor is run at its full power. It is surprising what a very small amount of play will cause a knock in a high speed engine, or, at any rate, it surprises many who are not acquainted fully with the strict accuracy necessary in an absolutely perfect fit.—ED.]

POWER ABSORPTION BY PUMPS, MAGNETOS, &c.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In going round the recent show I was very much struck with the increasing work which the engine of petrol motor-cars is being called upon to perform. In the old days, apart from driving the vehicle,



A 28-h.p. Germain with Pullman Limousine Body.

the only auxiliary task set upon the motor was that of driving the water pump. Now we find that in some cars it has also to work the air inducing fan, the oil pump, the magneto, and, in addition, in a few other instances, an air pump for maintaining the petrol feed by pressure, and a dynamo for charging accumulators and starting the engine. It would be interesting to know if any experiments have been made with the view of ascertaining how much of the power developed by the engine is absorbed in driving these auxiliaries, which I fancy is much greater than is usually suspected. If any of the more technical readers of the *M.C.J.* have given attention to the matter perhaps they will send you the result of his enquiries.—Yours truly,

C. J. BENTLEY.

THE ACTION OF CARBURETTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I thank Mr. Frank Smith for his reply to my letter. I do not see that his views accord with those of other authorities and present day practice. Have not the designers of carburetors arrived at such knowledge as will enable them to state definitely if a constant or variable quality of mixture is desirable for all engine speeds? The word "quantity" in the third line of Mr. Smith's letter should, of course, be "quality."

Let me quote Mr. Mervyn O'Gorman. In his paper on carburetors, read before the Institute of Automobile Engineers, Birmingham, he says, "Makers have begun to recognise that the desirable mixture is not of constant quality (2 per cent. by volume of vapour, as is still occasionally asserted) but should vary according to the quantity taken, the speed of the engine, and the power required at that speed."

I think the repeated success of the Talbot cars in hill-climbing contests is unparalleled by any other make of car, and I have seen it stated that their success is due to the additional air tap fitted to the induction pipe. I may say that I am in no way connected with the Talbot firm.—Yours truly,

SYDNEY WRIGHT.

LOCAL AUTHORITIES AND THE DESTRUCTION OF TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a constant reader of the *M.C.J.* I write asking if any of your readers can give advice in the following circumstance. Our town is a very hilly place, and only lately the Corporation have thrown down ashes in the streets, which are paved with asphalt to prevent the horses from slipping. Now they are throwing down small sharp stones, which punish the tyres of my motor-car terribly. I use my vehicle to do my work as a medical man, and would like to know if I have any redress in such circumstances. Will motorists who have suffered in a similar way kindly inform me if they have been able to obtain any redress?—Yours truly,

DR. A. C.—.

[The nuisance referred to by our correspondent was often a source of annoyance to motorists in West End boroughs three or four years ago. But now and again it occurs and representations should be made to the local authorities by the local automobile club, or, when such does not exist, by the county organisation.]

LEATHER FOR FRICTION CLUTCHES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or any reader of the *M.C.J.* could inform me as to the right kind of leather to use for the friction clutch of a motor. I should also like to know whether in removing the clutch for the purpose of renewing the leather it is necessary to use clamps to overcome the spring!—Yours truly,

R. MITCHELL.

[The best leather for clutches is such as is used by harness makers, this being more pliable than that employed by shoemakers. For the shape it is best to first cut a paper pattern, allowing enough on the width for trueing up. The rivets must be let in the leather so as not to come in contact with the metal portion of the clutch. It is also advisable to turn up the leather after it is riveted on. For removing the clutch it is generally necessary to take down the gear-box, no clamps being used. The re-leathering cannot be done satisfactorily with the clutch in position.]

ENGINE STARTING DIFFICULTIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a two-seated car fitted with a 6-h.p. De Dion engine and carburettor. The motor has run very well for a thousand miles or so, but now I have the utmost difficulty in starting it. The only way I can get it to go is by putting petrol in at the sparking plug, then it will start off at a furious rate, although I cannot regulate it. The compression and everything appear all right. My idea is that the carburettor has gone wrong. I have had it out on several occasions, but it appears in good order. I should be much obliged if you could advise me on the matter.—Yours truly,

W. J. FLOCKTON.

[Our correspondent's difficulty is, in all probability, due to a slight sticking of the inlet valve; this would cause great difficulty in starting, although, once started, the motor would run all right. If this were the cause, it would be impossible to get good suction by turning the starting handle, as it is not possible to turn this quickly enough to overcome the sticking.]

MORE ENGINE TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you could help me in the following trouble. I have an 8-h.p. single-cylinder car; when the vehicle is at a standstill the motor will run smoothly and without a miss, but when it is in motion the engine misses and causes a knocking noise, the car jumping ahead at every explosion. I have tried everything I can think of—new plugs, batteries, &c., and when I test the ignition I get a good spark. I do not know what the trouble is. The car, when running, will not run more than five or six revolutions without a jumping motion.—Yours truly,

R. FOTHERGILL.

[THE misfiring trouble may be due to the contact breaker not giving good contact, or perhaps the spindle is worn somewhat and making the earth circuit bad; this would cause similar trouble as explained by our correspondent, the road vibration causing the spindle to work out of true. Failing this, the carburettor may be carefully examined, trouble of this kind sometimes arising from a bad petrol supply or the jet being slightly choked.]

A HUMBER wheel cap has been discovered near Messrs. Brown and Co.'s garage, Yeoman's Row, Brompton Road, London, S.W., and can be had on application to that address.

THE OLYMPIA SHOW.

(Concluded from page 884.)

Motor Accessories.

Very comprehensive was the collection of motor accessories shown by Messrs. BRANSOM, KENT AND COMPANY, 40, Great Eastern Street, E.C. The selection of horns was large, and included many new models with musical and yet penetrating notes, lamps, tools, lubricators and tyre levers. A distinctly good type of tyre pump was shown by the firm, this being the Aeolus telescopic type, which is reliable, efficient, lasting and strong. The principle is explained by the word telescopic, and as every part is accurately machined it can be thoroughly relied on. Goggles, insulated wires and terminals, and lamps of every description were also shown, as well as a good range of sparking plugs, these including the "Darap," "Optima" and "Bo Ko."

Simms Specialities.

On the stand of the SIMMS MANUFACTURING COMPANY, LTD., Welbeck Works, Kimberley Road, Kilburn, were several working models of high-tension magnetos for two to six cylinder cars, as well as a comprehensive range of "Simms" magnetos of British manufacture. The new Simms magneto sparking plug was on view, this being suitable for use with any high tension magnetos and for accumulator and coil ignition. The new plug is strongly made and highly finished, and the material used for insulation is specially made for this purpose, being extremely tough and of high insulating properties. This plug does not soot up or burn away, and any adjustment of the points required from time to time can be made in a moment without the slightest difficulty. The body

slightly more power at all speeds, and that the engine will run up to a very high speed and pull at a very low one with this form of ignition. The igniter is mounted in a mahogany case well adapted for the dashboard, and either 4 or 6-volt batteries may be used without risk of breakdown. In the lid is a window, through which the spark is visible, this occurring simultaneously with that in the cylinder.

The "Ajax" Rims.

On the stand of the MIDLAND RUBBER COMPANY, LTD., of Ryland Street, Birmingham, was a collection of the "Midland" motor tyres of both the plain and grooved variety, as well as a good display of repaired and retreaded tyres and covers and tubes. A novelty of more than ordinary interest was the "Ajax" detachable rim, which was on the stand. The rim and tyre can be exchanged in three minutes, and the "Ajax" principle can be easily applied to existing wheels. The ordinary wood motor wheel is fitted with a light steel felloe into which three keyways have been cut. The detachable rim has three corresponding keys (or projections) on its inner side. These three keys and keyways fitting exactly, in addition to preventing any creeping movement, act as a stop in pushing the rim on to the wheel. The rim has a flange on its outer edge drilled with three holes which fit on to three corresponding bolts fitted into, and projecting from the wood felloe; it is then secured by three fly nuts. The three fly nuts on the side of the wheel are taken off, and the tyre and rim is then slipped off bodily, the fresh tyre and rim is slipped into place (the projecting bolts acting as a guide into its right position), the keys and keyways engaging automatically, the three fly nuts are screwed up, and all is then ready for the road. It will thus be seen that no tools are necessary, while the fact that there

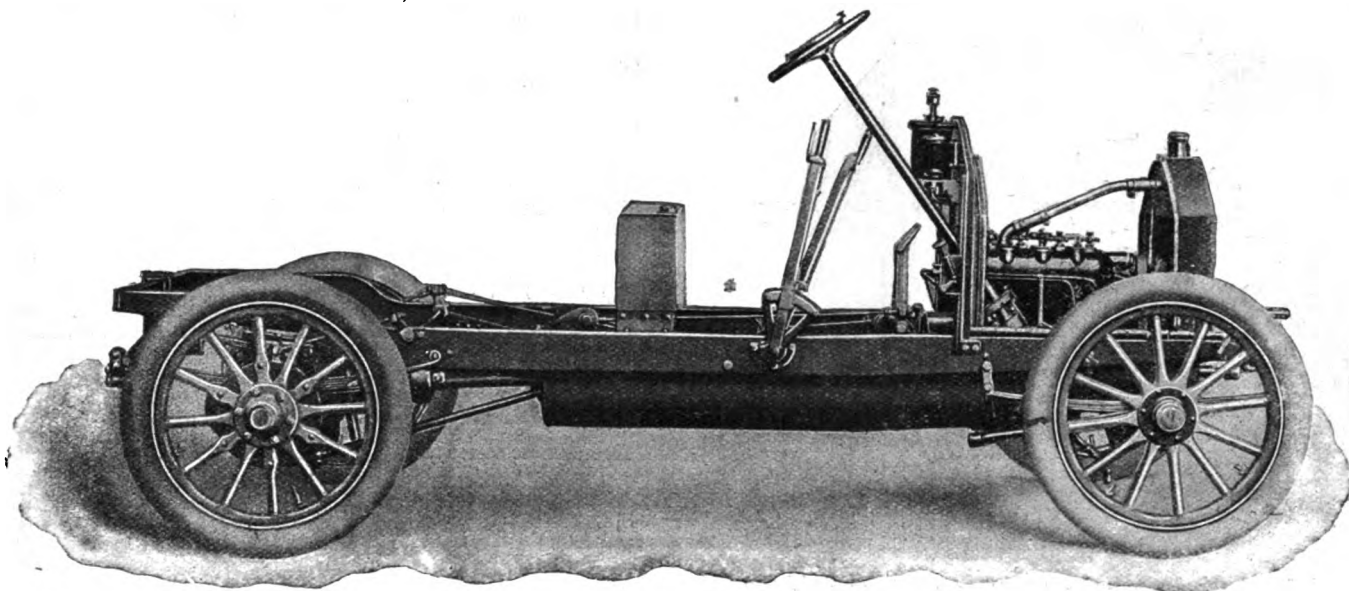


Fig. 136.—Elevation of Chassis of Darracq 18-h.p. (See page 808, November 16th issue.)

and locknut of the Simms magneto plug are constructed of hardened steel, thus preventing any unsightly burring over, or the slipping of spanners. The central pin is made of special nickel steel. It may be pointed out that the magnetos of the company are now known as Simms magnetos, the title formerly used having been disposed of.

The Lodge Igniter.

The new Lodge motor-car igniter, which was shown for the first time by Messrs. LODGE BROS. AND CO., of 14, New Street, Birmingham, attracted considerable attention. The Lodge is the invention of Sir Oliver Lodge, and its application to motor-cars is the result of experiments extending over three years. It is applied in precisely the same way as the ordinary high-tension trembler coil, viz., with single coil, battery, and high-tension distributor for multi-cylinder engines. A notable igniting spark is furnished, and one that, as was demonstrated daily, is unaffected by any such common causes of trouble as damp or sooty plugs. Water and oil on the sparking plug have no effect upon the spark; and it was shown that the spark will occur even when the plug was wholly immersed in water. No more current is consumed than is taken by the ordinary trembler coil. The practical effects of the Lodge igniter are due wholly to the impulsive character of the high-frequency "B spark." This is produced by special glass condensers, or Leyden jars, in the secondary circuit, which are charged up, overflow, and precipitate across the gap provided at the sparking plug an instantaneous surge of current of great potential and energy. Obstructions in its path are carried away, and the combustible vapour instantly ignited. The intensity and vigour of the spark from the Lodge igniter was remarkable, and it is said that in practice a motor-car engine using this ignition develops

is no strain on the axle and that the only alteration required to existing wheels is the fitting of a light steel felloe on the top of the existing wooden one adds to its merits.

Sumner's Wind Screen.

One of the most ingenious wind screens in the Exhibition was that of Messrs. Sumners, shown on the stand of Messrs. PANHARD AND LEVASSOR in the Gallery. It consists of the usual two sheets of glass in frames, constituting the top and bottom halves of the device. These are easily adjustable at any angle and can be fixed by the simple operation of turning one fly nut. The screen can be brought into action while the car is travelling, by the passenger sitting by the driver, and safely secured without any risk. There is a complete range of adjustment. The top part can be brought near to the eyes and raked backwards to avoid reflections—a position which secures comfort to the eyes as well as the maximum protection from dust, wind, and rain. Fixed to the frame of the car is a stay rod which takes the strain, relieving the dashboard of the pressure usually associated with such devices. Besides being extremely simple so far as attachment is concerned, there is a notable rigidity about the screen and absence of rattle which adds to the favour with which Sumners' wind screen has been received. In this Messrs. Panhard and Levassor have secured a popular accessory to the car.

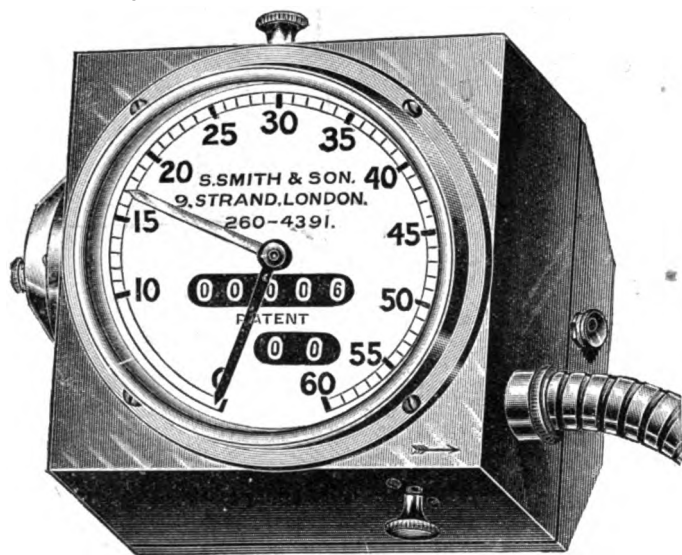
White and Poppe Engines.

Messrs. WHITE AND POPPE, LTD., were represented by their engines and carburettors. The four-cylinder engine of 80 mm. by 90 mm. dimension was shown with full equipment, including the Simms-Bosch high-tension magneto. In this, each cylinder is cast separately, and large

valves are a feature of the motor. It is readily accessible, the contact maker and water-circulating pump being easily dismantled. Carefully designed with a view to secure silent running, the new White and Poppe engine should have a distinct success. A four-cylinder engine 120 mm. by 130 mm., with magneto ignition, and another with the valves all on one side, were also shown. This latter is of 110 mm. bore by 110 mm. stroke, and special attention has been paid to economising space. By the valves being placed upon one side of the cylinder only, more space is given in the chassis for the steering column and ignition gear. The engine is supplied with carburettor ready fitted, and in a position which will be found to clear all parts of the chassis. The pump and ignition gear, including magneto, form a separate unit, which is detachable by the removal of four nuts only, and each separate detail is also readily detachable. The lubrication is by splash through the timing gears chamber, which is constructed so that the gears themselves circulate the oil in the crank chamber.

The Parsons Non-Skid.

A new point in the PARSONS non-skid for the coming season consists in the improved Grippa principle. The non-skid is now made with one endless chain side hoop and one divided in two places and fastened with coupling. This considerably facilitates the attachment or detachment of the device. The principal feature of the improved type is the substitution of chain for wire in the side hoops. It has been found after careful experiment that the chain is to be relied upon for strength, indeed it has the advantage over wire in this respect, as it is not affected and weakened by rust. It is quite easy to shorten the chains should the non-skid be a little too large, and they are sent out when new with the outer hoop chain a little too long, to meet the case of re-treaded or extra size tyres. The



— Fig. 137.—Smith's Speedometer. (See page 846, November 23rd issue.)

method of attaching the cross chains to the hoops with soft wire connecting hooks is certainly simpler and less troublesome than the original attachment with clip and split pin. The chains being shorter are consequently lighter, and renewal chains are supplied at a proportionately reduced cost.

The Bleriot Headlight.

The features of the Bleriot "Noglar" headlight have become familiar to those motorists who are frequently on the road, and have been greatly appreciated by those who combine tour and country travel. On previous occasions we have detailed the method by which the lamp shade is rendered reliably automatic in its action, obviating the constant care on the part of the driver which is a constant source of irritation with many other lamps. The full light is projected by the lamp right ahead and on the road in front of the car where it is required, but the high-rising rays of light are all cut off. And as our readers know, these are the rays which constitute a nuisance to other users of the road. In addition to these, Messrs. BLERIOT, LTD., who are well represented by Mr. Norman Chereau, showed the improved Parabolique headlights and the lenticular projector. The Autoelectric arrived late at the exhibition, and details of its many excellent features are reserved till a later occasion.

H.F. Vulcanisers.

The King of Spain was interested in the H.F. system of vulcanisation and made a full inspection of the little "Car" vulcaniser on the stand of Messrs. HARVEY FROST AND COMPANY, LTD., where were also shown the many excellent devices they have introduced for the benefit of motorists. Their H.F. vulcaniser has obtained wide popularity. It consists of a steam generator, the heat being transmitted to the part under treatment by the outer surface of the generator, which is adaptable to the outer cover or inner tube (as the case may be) under treat-

ment. The steam is quickly raised by means of a methylated spirit burner, while the adoption of a safety valve ensures users against accidents. The other fittings are, briefly, a filling plug, water level gauge, tube press, and special chain attachment for dealing with cover repairs *in situ* on the wheel.

Stepney Spare Wheel.

At practically all the car stands in the main hall the Stepney spare wheel was shown fitted, proving its universal acceptance by the automobile world. The exhibit entirely devoted to this useful accessory in the Gallery comprised specimens of the spare wheel for ordinary motor vehicles with equal wheel and attached with an improved leather spoke strap, and also of the combination "Stepney" wheels for automobiles of large size, where the tyres on the front and back wheels are of different sizes. These are fitted with four expanding or contracting clips by means of which the wheel is adaptable for use on either the front or back wheels. The accessories exhibited in connection with the Stepney wheel comprised ring carriers and brackets to secure the wheel to the driver's side of the car when not in service; a sun-proof cover for the protection of the tyre and a mudguard extension for preventing the splashing of mud when the Stepney wheel is in use.

Jenatzy Tyres.

In the Gallery Messrs. H. M. HOBSON, LTD., 29, Vauxhall Bridge Road, S.W., showed the Jenatzy tyre and non-skid covers. Resilience, strength and durability are combined in this tyre, the use of various rubbers and special fabrics in building up the tyre contributing to this end. The fabric composing the tyre is woven under a special process, the threads themselves being coated with rubber, giving strength and resilience to the casing. The walls of the tyre are composed of soft black rubber, securing pliability. The beaded edge is composed of a specially prepared tough rubber, and altogether the tyre is one of notable merits. At this stand, too, were shown the Jenatzy-Houben non-skidding covers, the special feature being a patent tread composed of alternate steel and leather rivets.

The Kempshall Tyre.

Among the exhibits to be seen on the stand of Messrs. CHAS. MACINTOSH AND CO., LTD., was the Kempshall non-skid pneumatic tyre, which is claimed to have distinctive features in its absolute freedom from skidding propensities and the great resiliency secured. It was recently tried on a 40-h.p. Fiat running continuously for three hours at a speed of 60 m.p.h. on the Brooklands track, and at the conclusion of the run was found to have developed no heat. The characteristic feature of the Kempshall tyre is the series of circular indentations around the tread. This system gives great adhesion on greasy surfaces, and is destructive of any skidding tendencies which might otherwise be developed. It is claimed to give increased speed, durability and resiliency and generally add to the efficiency of the tyre.

Fafnir Components.

Messrs. G. STRAUS AND CO., LTD., made a good show of Fafnir motor components, notably of the 8-h.p., 15-h.p., and 24-h.p. sets as well as the 16-h.p. motor. These combine power with lightness, and the engine parts, which are standardised, are thoroughly accessible. The Fafnir engines have a crankshaft of the finest grade steel. At the clutch end of the crank case are two ball bearings to compensate for any thrust on the engine shaft or gear-box. Mechanical valves are fitted. The water circulating pump is easily detachable, this being a pump of ample capacity. The various sets are well designed, and those who are interested in the production of touring cars or commercial vehicles were greatly interested in the display.

U. M. I.

Several of the novelties exhibited by the UNITED MOTOR INDUSTRIES, LTD., have been described in other columns, and here it will suffice to say that the display made by the firm included a full range of their "Castle" motor specialities, such as coils, carburettors, jacks, horns, indicators, lamps, &c., as well as the Wagner electric horn, some good types of pneumatic jacks, &c., and the Dubrule lubricators and Eisemann magnetos. The Mero gear described and illustrated in our columns on the 9th ult. was also on view, as well as the Warren pneumatic jack. By means of the latter device a weight of 2½ cwt. can be lifted without any difficulty.

The "Avon" non-skid.

At the stand of the AVON INDIA RUBBER COMPANY, LTD., was a good selection of covers, treads, gaiters and other specialities in connection with motor tyres. The "Avon" non-skid motor-tyres are deserving of mention. These consist of hardened steel studs securely riveted into a tread of rubber and fabric and vulcanised to the tyre casing under steam pressure. Between the base of the studs and the casing a layer of fabric and canvas is vulcanised to prevent the studs from injuring the casing. Thus the risk of danger is obviated and a capital device secured.

Imperial Tyres.

A good display was made by the IMPERIAL TYRE COMPANY, LTD., of Eagle Wharf Road, London, N., whose West End depot is at 228,

Shaftesbury Avenue, W.C. The Imperial motor tyres are made of the grooved flat type as well as the plain round pattern. An interesting type is that with the arrow tread. A neat and effective non-skid band with steel studs is a speciality of the company, which also undertakes the retreading and repair of tyres by an improved process of their own. Tyre levers, garters and general tyre sundries were also among the exhibits on this stand. The Imperial Company have a department for executive experimental work for inventors and others interested in tyres for motor cars.

Electrical Accessories.

Messrs. PETO AND RADFORD, LTD., had a good show of armoured accumulators for ignition and lighting, "Viaduct" coils and other specialities. They have their own accumulator factory at Ashted, Surrey, where repairs to accumulators of all types are undertaken. Electrical measuring instruments, dynamos, charging boards, &c., were also part of the exhibit. The new switch-boards are self-contained, with regulating resistance instruments and two-pole switches complete. The interior lighting of cars has also received attention from this firm, which keeps well to the front in electrical work.

Cann's Carriage Work.

Specimens of most effective carriage work were shown by Messrs. CANN, LTD., 12-14, Miller Street, Camden Town, N.W., on "White steam" chassis. The exterior of all the vehicles on view was highly finished, and the general outlines indicated an artistic appreciation as well as sound workmanship. The 30-h.p. White limousine with a fixed top was a good type of work. The body is fitted with folding side pillars, which are folded into the roof, making the sides quite open—altogether a roomy and comfortable vehicle for touring as well as for town use. The exhibit generally was greatly admired for its artistic effect as well as excellence of work.

The Sirdar Company.

An attractive exhibit was that of the SIRDAR RUBBER COMPANY, whose special grooved, studded, and plain tyres have long ago won the favour of motorists. By the adoption of the patent Royal Sirdar non-nipping tubes the motorist can minimise his tyre troubles. The company is also undertaking repairs and making a special feature of the retreading of motor beaded-edge covers.

Bell's Wind Screen.

Mr. C. E. BELL, of the Stanley Works, Paisley, showed on one of the stands in the main hall his new wind screen, which can be easily adjusted to almost any position on the car. The screen is particularly serviceable for use with a Cape cart hood and affords perfect protection in all weathers. All adjustments are made from the driving seat and there are no binding screws to work loose.

The Gaulois Tyre.

The Gaulois tyre was shown on the stand of the GAULOIS TYRES, LTD., who also drew attention to the Gaulois Forre non-skid cover, in which the hardened steel rivets are carried in washers which are set in the outer tread of the cover itself. This is one of the latest innovations in armour protected covers, and naturally drew many visitors to the stand.

Miscellaneous.

Messrs. GAUTHIER AND COMPANY, 8, Great Marlborough Street, W., exhibited several of the M.A.B. specialities, including a "gate" change gear with four speeds and reverse, suitable for a 30-h.p. car, and a specimen of the live axles used on motor-cabs in the metropolis. Levers, back axles, carburettors, &c., were also included in the display. Included among the exhibits were the T. and M. multiple-jet carburettors, which give a correct mixture of constant proportions of petrol and air, whatever be the speed of the engine.

Good workmanship was the dominant note of the exhibits on the stand occupied by the COVENTRY MOTOR FITTINGS COMPANY, of Far Gosford Street, Coventry. The stand included radiators both of the genuine honeycomb and also the C.M.F. patent imitation honeycomb types; bonnets, silencers, lubricators of every variety, lubricator racks, gauges, ball joints, unions, &c.

The "Samson" plain treads and studded tyres were on view at the stand of the SAMSON LEATHER TREADS AND TYRE COMPANY, LTD., of New Burlington Street, W., a concern that also undertakes the execution of repairs to all classes of covers and tubes. These special non-skids have long been before the motoring public and are well sustaining their reputation.

Messrs. PANHARD AND LEVASSOR had a good selection of parts, &c., in the Gallery, where they also showed Sumners' wind screen, referred to elsewhere, and Mackie's patent car electric lighting and ignition system.

Mr. E. H. JONES showed examples of his specialities in Cape cart hoods, wind screens, &c., and similar work, all marked by a good distinctive style and having features of interest. A wind screen which can be easily set at any angle was shown.

The idea of detachable bodies, enabling one chassis to do service in two or more capacities, has often been regarded as a desirable thing, but until the WINDHAM SLIDING DETACHABLE MOTOR BODY COMPANY

brought out its notion few realised the real value of the plan. Now it has been satisfactorily demonstrated it is proving popular. It was shown at the exhibition in connection with a 30-h.p. six-cylinder Napier with a Roi des Belges side-entrance phaeton. By the Windham's detachable and interchangeable system the body slides on or off the frame of the chassis and when taken quite apart is supported on four legs fitted with castors. Not only is the exchange of bodies quickly effected, but there is no rattle when attached and the self-locking arrangement gives every security.

At the stand of the COVENTRY CHAIN COMPANY (1907), LTD., visitors were shown the company's specialities in automobile chains, chain wheels, &c. The exhibits also included chain repair tool sets and the well known chain lubrication bath. Chief interest, however, centred in the silent running chain, the Coventry Wormo Roller, recently referred to in our columns.

Messrs. BRAMPTON BROS., LTD., were again represented at Olympia with a complete selection of their motor chains. These are so generally known that it will here suffice to say that the firm is now making a special feature of those of 36 mm. pitch by 16 mm. wide, the roller being of 16 mm. diameter. The breaking strain of this chain which weighs 21 oz. to the foot is no less than 10,000 lb.

THE RELIANCE MANUFACTURING COMPANY, of 19, Milton Street, Lower Broughton, Manchester, had a display of the radiators bearing their name. Although light in weight, they are of strong construction and give a large cooling area. The tubes are made so as to require no solder or other filling medium in the vertical joints. Other specialities of the company include condensers, bonnets, tanks, silencers, wings, &c.

"Shell" motor spirit is kept to the fore by the GENERAL PETROLEUM COMPANY, LTD., who took this opportunity of familiarising the motoring public with the various packages by which it is transported in the United Kingdom. The many successes of the "Shell" spirit have made its merits generally recognised.

The "Arcelite" motor head lamp was to be seen on the stand of Messrs. H. MILLER AND CO., LTD. In the new pattern for 1908 some important points have been incorporated. A new generator has also been introduced, so that the water and carbide can be left for an indefinite time without wastage. In addition to a full range of their motor lamps the firm also showed a wide selection of motor horns fitted with dust screens in a way that prevents their being shaken off by vibration.

A good selection of carriage-builders' ironmongery and brasswork was shown by Messrs. FREDERIC SELBY AND CO., LTD., who have long been known as makers of motor-car axles, springs and ironwork, landaulet fittings, Cape hood joints and wind shield fittings. Their specialities included the new "Longmore" revolving seat, and a front steering axle with pivot arms for ball bearing hubs, with steering arms and connecting rod complete, suitable for a 16-20-h.p. car.

Messrs. E. AND H. HORA, LTD., had good examples of their motor body work, including a limousine landaulet to seat five passengers inside, the fauteuil spring seats being a capital feature; the seats fold back out of sight when not in use. A square-fronted car with similarly-designed body and an open "Roi des Belges" touring car with the firm's double extension Cape cart hood were also shown.

Messrs. W. H. WILLCOX AND CO., LTD., made a special feature of their oils and greases, which under actual running conditions have given good and economical results on all makes of cars. Their motor lubricants of the "Atlas" brand are of heavy, medium and soft consistencies for various purposes, and for electric and steam vehicles a special oil has been prepared. Motor pumps, lubricators, joints, packing and general engineering sundries were also exhibited.

MESSRS. T. F. BRAIME AND CO., LTD., are specialising in pressed steel brake drums for motor-cars, and are making a seamless steel oil can for use on motor vehicles. Their works are in Goodman Street, Hunslet, Leeds.

A CATALOGUE of the accessories for 1908 has been issued by the United Motor Industries, Ltd., whose association with the automobile industry dates from very early days. In addition to the "Castle" proprietary articles the firm are sole British agents for many well-known accessories, including the Dubrulle lubricators, the Dupressoir components, Hannoyer springs, Wagner electric horn, &c. The firm have also issued a pamphlet entitled "All about Castle Coils and Accumulators," by Mr. S. J. Watson, which will be of great service to all users of the reliable accessories.

A CONFERENCE of delegates representing various London trade unions of drivers of different kinds of vehicles has been taking into consideration the means whereby London's ever-increasing vehicular traffic can be better facilitated. A resolution was passed suggesting, with a view to preventing blockages and street accidents, that all walking teams and slow-going vehicles should, as far as possible, keep to the near side, thus giving trotting teams, cabs, trams, and quick-moving vehicles a better opportunity to get through the traffic. A generous give-and-take policy among drivers was recommended.

ALCOHOL AS A FUEL FOR AUTOMOBILE MOTORS.*

BY THOMAS L. WHITE.

IN considering the possibilities of alcohol as a fuel for automobile motors, it is impossible to avoid alluding, however briefly, to the economic conditions which must eventually determine its use as a fuel at all, and this independently of all technical considerations. Petrol is the by-product of a geographically limited and monopolistically controlled industry, and there are reasons to believe that the available supply is more than mortgaged by a world-wide and growing demand. Alcohol is, one might say, the product of the four seasons. It can be manufactured from any vegetable substance which contains sugar or some material like starch, which is easily convertible into sugar. As to available supply, it can be and will be produced in unlimited quantities at a steadily diminishing cost. From corn-cobs it has already been experimentally prepared at less than 3d. a gallon, and there seems little reason to doubt that if the technical problems connected with its use can only be solved, and if, also, what is important at the present moment, its use can be reduced to current practice; if, in other words, some means can be devised of economically burning this fuel in the thousands of automobile motors in existence to-day, there is little doubt that the demand so created will be satisfactorily met, both as to quality, quantity and price.

Passing now to the question of denaturing, it is gratifying to see that the authorities in the United States have yielded to the pressure brought

rate of the motor alcohol is sluggish compared to petrol. (3) Alcohol containing ten per cent. of water is capable of very high compression (150 pounds upward) without pre-ignition. (4) Alcohol in the process of inflammation does not radiate heat so rapidly as petrol. (5) Expectation to the contrary, alcohol is most efficient as a fuel when the wall of the cylinder is maintained at a temperature of about 200 deg. Fahr. (6) When alcohol is used as a fuel the penalty of incomplete combustion is not merely loss of efficiency in the motor, but the corrosion and destruction of valves and other exposed parts due to the production of acetic acid, formaldehyde, and other deleterious compounds.

It is a well-known fact that the efficiency of an Otto cycle is a function of the compression ratio. It follows that in motors specially constructed for alcohol we should expect a very high thermal efficiency, and this expectation is borne out in practice. With the Deutz motor using a nine to one compression a thermal efficiency of over thirty-one per cent. has been obtained, which shares with the Diesel the distinction of being the high-water mark of efficiency for explosion engines. In the case of the automobile motor, however, the problem is to accept the compression ratio as a datum and to seek efficiency in other directions. This essentially means that the use of alcohol under such conditions is a carburation problem.

Speaking generally of alcohol motors, carburation practice falls naturally into two divisions. (1) Motors, like the Deutz, which have a high compression and in which the alcohol is simply sprayed into the ingoing air just as it enters the cylinder, the hot cylinder walls and the heat generated by compression being relied on to complete the vaporization. (2) Motors, like the Dürr, in which the compression ratio is moderate, say six to one, and in which a superheated mixture of air



The Fleet of Electrobus at present in Service in London.

to bear on them, and have reduced the quantity of added methylene from ten to two per cent. This, however, is only a step in the right direction. When the use of alcohol in motors becomes more general, I think that the motor industry will be entitled to demand the same special consideration in the matter of a suitable denaturant as is now accorded to the chloroform, vinegar, ether, and other industries where the selection of a denaturant suitable to the needs of the case is permitted. So far as the motor industry is concerned something like this is already in force in Germany and Austria, where motor alcohol is distinguished from domestic alcohol, that is, alcohol for general purposes of heat, light, and fuel. If I might make a suggestion, I think that the revenue would be sufficiently safeguarded if alcohol destined for use in motors was saturated with acetylene gas with possibly the addition of a little acetone to facilitate its solution. Methylene as a denaturant has the one commanding advantage in the eyes of the revenue officials, that by no means known to science can it be separated from ethyl alcohol. In the motor, however, it is a disadvantage in every way. Its action is corrosive, its calorific value is low and it is costly. The less of it the better. If alcohol must be nasty, let it, at any rate, be cheap.

Coming now to the main subject of this paper, namely, the use of alcohol in existing motors working with a compression of four to one, or thereabouts, whose r.p.m. rate is high, it is as well to briefly review, even at the risk of being considered trite, the essential facts with which we have to deal. They are: (1) Alcohol calls for six per cent. of its calorific value to completely evaporate it. (2) With ordinary compression the inflammation

and alcohol vapour is produced by exhaust-heated baffle-plates situated in the carburettor itself. In both cases the motor cannot be started by hand. In the first case, because the hand compression is not rapid enough to evaporate the atomized charge in the cylinder; in the second case, because there is a precipitation of the volatilized alcohol on the cold cylinder walls. In efficiency tests these two types come out about level. Thus in the Dürr motor the perfect carburation offsets the lower weight of the mixture and the lower compression ratio, while in the Deutz motor the thermal gain due to greater compression is qualified by the fact that the evaporation in the cylinder is never complete and consequently part of the fuel is wasted thermally by being burnt late in the stroke or not at all. It is clear that in automobile practice we must seek something in the line of complete carburation, even at the expense of reduced charge weight, so that in order to produce efficiency under existing conditions of motor construction we must aim at:—(1) Perfection carburation with the aid of the exhaust heat. (2) The acceleration of the rate of inflammation in the cylinder. (3) The maintenance of the cylinder walls at a temperature of about 200 deg. Fahr.

Passing to the actual phenomenon of combustion in the cylinder itself, it would seem that the slow inflammation rate of a mixture of alcohol vapour and air is a necessary corollary of the fact that such a mixture is susceptible of a high degree of compression without spontaneous ignition. It is, I think, now a recognised fact that when an inflammable mixture is ignited by a spark the propagation of the explosion is not due to direct consecutive ignition throughout the body of the gaseous mass, but to the successive compression to the self-ignition point of layers of gas immediately enclosing the inflamed nucleus at the moment considered. Now, if petrol and air be ignited, the shell

* Abstract of paper read before the American Society of Automobile Engineers.

of gas surrounding the explosion focus has only to be compressed about five to one to spontaneously ignite throughout its extent. In the case of alcohol a much higher compression is necessary, so that the explosion acceleration is necessarily slower. All commercial denatured alcohol contains 10 per cent. of water, and the function of this water in the alcohol motor is practically an undetermined problem. There is reason to believe that the corrosive action so much complained of in alcohol motors is partly due to its presence, and it undoubtedly has something to do with the high compression ratio. Of course, it is known that the presence of water in an inflammable mixture in a motor is not altogether a disadvantage. In the first place, combustion in the absolute absence of water is impossible. Thus phosphorus absolutely refuses to burn in pure oxygen. Then, again, we have the experiments of Banki and others, who have deliberately injected water into the cylinder during the compression stroke with a resulting increase of efficiency in the motor. I have not seen records of any experiments made with absolutely pure alcohol, but they would be decidedly interesting, if only as a guide. It is, however, generally believed that alcohol containing water is the better fuel.

In an address delivered last year, Dugald Clerk showed that the development of the stationary motor shows a decrease of the heat loss into the water jacket and an increase of the heat loss into the exhaust. Indeed, what has been gained by the swings seems to have been lost on the roundabouts. Owing to its low radiative quality alcohol comes naturally into line with this tendency in modern practice. In fact, were it not for the necessity of maintaining a high cylinder wall temperature, the question of cooling an alcohol motor would be a simpler one than in the case of petrol, as the actual amount of heat to be dealt with is less. With regard to the chemical reactions which take place in an alcohol motor, there seems to be much doubt and much difference of opinion. Thus, while on one hand we find Sorel, the French expert, attaching the greatest importance to the erosive effort of acetic acid formed by incomplete combustion, we have Fehrmann, the German expert, denying the existence of acetic acid altogether. Be this as it may, it seems to be a definitely ascertained fact that when the carburation is incomplete, pitting of the inlet valve seat and the formation of an incrustation upon it result. As to what excess of air should be present seems largely to depend on the r.p.m. rate, and in this connection it should be remembered that the record efficiencies for the use of alcohol for motors have all been attained with a low speed, in some cases as low as 200 revs.

One of the most mysterious phenomena of the explosion motor is heat suppression, or the addition of heat during the expansion stroke, so that the expansion curve remains above the adiabatic drawn between the same limits in spite of the fact that heat has been radiated all the time. The suppressed heat in case of alcohol is, according to Sorel, greater than with a gas engine. So far as a comparison with petrol is concerned, the advantage appears to be slightly with alcohol.

It is now with some diffidence that I come to mention an attempted solution of the carburation question due to Mr. Barker and myself. The two objects of our device are to carburet air with alcohol instantly and completely and to promote approximately instant inflammation at minimum compression in the motor. What we propose to do is to pass air containing partly atomized and partly vaporized alcohol through a layer of calcium carbide before such air enters the cylinder. A portion of the 10 per cent. of water in the alcohol is taken up by the carbide and replaced by acetylene gas, and the heat of this reaction simultaneously vaporises the alcohol. From the nature of its formation such a mixture of acetylene, alcohol vapour and air must necessarily be a very intimate one. In the cylinder we consequently have:—(1) A well-diffused mixture. (2) An endothermic compound in the form of acetylene, which contains heat over and above its thermal value and which spontaneously ignites at comparatively low pressures, so that when the mixture is fired the pressure set up round the sparking plug causes the practically simultaneous detonation of the acetylene throughout the body of the alcohol.

Taking into consideration that the substitution of acetylene for water is a net gain calorifically, and that the elimination of this water will probably do away with much of the erosion complained of in alcohol motors, we hope to produce for the ordinary automobile motor an alcohol-air-acetylene charge, whose characteristics thermally are not very different from those of a mixture of petrol and air.

There is an impression in some quarters that alcohol has to some extent received a set back in Europe. It would probably be more correct to say that, while with slow-going motors it has proved a great success, the development and perfection of the automobile motor have left little leisure to designers to study the alcohol problem with any thoroughness. In fact, it is more or less virgin forest, which the automobile engineer has to clear when he is dealing with the question of alcohol motors.

FOR the information of those motor-car firms who are developing export business Messrs. Davis, Turner and Co., Ltd., 52, Lime Street, E.C., have issued a freight list giving the duty required in the various countries on the Continent and colonies of the empire together with the cost of cartage in London.

THE CENTURY MOTOR COMPANY, LTD., of Holland Gate, Kensington High Street, London, W., inform us that the statement that they are introducing a new French-built car known as the Weyher-Richmond is incorrect; they have no intention of handling this vehicle, nor have they been approached on the matter.

CLUBS AND ASSOCIATIONS.

THE MOTOR UNION.

THE Motor Union, whose new badge is now ready, has provided at the offices, 1, Albemarle Street, Piccadilly, W., a room for the convenience of the members, and, at the suggestion of Mr. C. D. Rose, the chairman, this has been newly decorated and comfortably furnished. The current motor literature and a complete set of maps of the United Kingdom will be found in the apartment. Provincial members visiting London may have their correspondence addressed to them, care of the Motor Union offices, and writing materials will enable them to deal with it immediately. Afternoon tea will also be obtainable.

AUTOMOBILE ASSOCIATION.

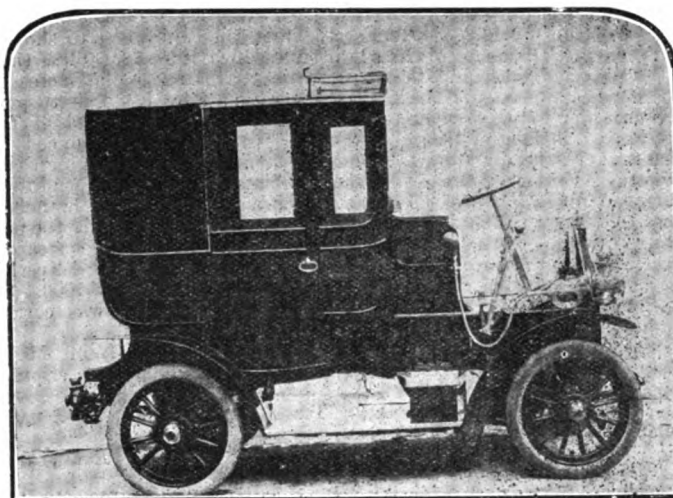
THE enterprise of the Automobile Association, which, in conjunction with the Motor Club, furnished a room at the Salon des Automobiles, Paris, for the convenience of members, was greatly appreciated. Considerable interest was also evinced by foreign motoring enthusiasts in the work of the A.A., and this was carefully explained by the attendant in various languages.

AERO.

MR. R. W. WALLACE, K.C., presided at the annual dinner of the Aero Club at the Savoy Hotel, London, last week, being supported by about a hundred guests. The royal toasts having been duly honoured, that of "The prosperity of the Aero Club" was proposed by Lord Montagu and responded to by the Chairman. Vice-Admiral Sir Charles Campbell proposed the toast of the visitors, on whose behalf Baron Henri Deutch de la Meurthe responded.

NORTHAMPTONSHIRE.

A MEETING of the committee of the Northamptonshire A.C. was held at the George Hotel, Northampton, last week. There were present



The new Private Cab just introduced by Messrs. Humber, Ltd. It is built on the 10-12-h.p. Coventry-Humber chassis, conforms to Scotland Yard regulations, and, notwithstanding its compactness, it affords ample seating room for four persons. The body is so arranged that the vehicle can also be used as a private open carriage.

Major P. E. T. Hibbert (in the chair), Dr. Hope, Dr. Lewis, Mr. C. W. Bartholomew, Mr. S. Yarde, Mr. Webb, Mr. J. C. Hipwell, Mr. T. Horton, and the hon. secretary (Mr. Sidney Harris).—The secretary read a letter from the Clerk to the County Council stating that the Roads and Bridges Committee had considered the letter sent by the committee of the Northamptonshire Automobile Club drawing attention to the very dangerous corners on the Peterborough and Oundle road, in the parish of Warmington, and that they had instructed the County Surveyor to erect two caution notices at the places in question. Mr. C. W. Bartholomew reported that he, having obtained the consent of the local authority, was about to erect two "concealed turning" signs at each end of the hamlet of Woodend, the signs to be placed at a distance of fifty yards from the point of danger. The existing caution notice, which is practically of no use, as it is fixed close up to the place of danger, will be removed and erected by the surveyor in some more useful position. Mr. Bartholomew will also erect at Blakesley, in positions where caution is necessary, three caution signs carrying the name of the village. Mr. J. C. Hipwell drew the attention of the committee to a very dangerous turning on the Northampton and Bedford road, where there had been several very serious accidents. He also reported that the Bucks County Council had been approached with a view to getting a caution notice, and that they would take no action. It was resolved that a letter, with full particulars, be sent to the Motor Union asking them to take steps to get a caution sign erected. The following gentlemen were elected members of the club:—Mr. S. G. Stepford Sack-

ville, Mr. Walter Bairstow, Mr. G. H. Winterbottom, and Mr. C. Wright. A vote of thanks to the chairman for presiding terminated the meeting.

SCOTTISH AUTOMOBILE CLUB.

THE Commercial Vehicle Department of the Club some time ago made representations to the Leith Dock Commissioners with regard to the exclusion of motor vehicles from the docks and harbour at Leith.

The Commissioners, having now fully considered the matter, have framed a code of bye-laws under which the docks and harbour, may be used by mechanically-propelled vehicles, and they are prepared to receive applications for the necessary permits.

MR. C. JARROTT is to preside at the dinner of the Essex Motor Club to-day (Saturday).

THE Derby and District A.C. is urging the Staffordshire County Council to erect warning signs at the village of Branston.

MR. E. H. RUSSELL, 7, Haydon Place, Guildford, will be pleased to hear from local motor-cyclists willing to join a club for Surrey.

MR. C. F. LACKY, 5, Greyfriars Road, Norwich, is the dinner secretary of the Yarmouth Motor Cycle Club, which is foregathering at the Maid's Head, Norwich, this week.

ON Saturday last a very large number of the members of the North London A.C. took part in the annual dinner in the Venetian Room of the Midland Grand Hotel. Among the speakers were Col. Bowles, Captain Banbury, Mr. A. W. Gamage and Mr. Rees-Jeffreys.

COMPANY NEWS.

A. DARRACQ AND CO. (1905), LTD.—The second annual general meeting of A. Darracq and Co. (1905) (Limited), was held on the 27th ult., Mr. E. F. Kelly in the chair, in the absence of the chairman of the company, Mr. J. S. Smith-Winby, through indisposition. The address which that gentleman had prepared was read by the secretary, and stated that the sales during the past year were £80,000 in excess of those of the previous year. For the first time they had to show a reduction in the amount of the net profits, which were £8,000 less than in the previous year, and that was to be attributed to the increased cost of raw material and the higher wages that they had had to pay. Also in order to clear their stock of finished cars at the end of the season, and in face of the general reduction of prices announced by other makers, the directors thought it prudent to offer certain increased advantages to their agents, and to increase their advertising expenditure. They had made a loss of £6,000 at one of their Continental branches. They could look to the future with quiet confidence. Already the new season showed a distinct improvement, as compared with the corresponding period, and October was quite a brilliant month, the deliveries, including cabs, being nearly five times those for October, 1906. Sir William B. Avery, Bart., seconded the motion, which was carried unanimously.

SMITH'S FLEXIBLE HUB.—£20,000. To acquire from Motor Finance, Ltd., the benefit of a certain invention. Minimum subscription, 10 per cent. of shares offered.

NORTHERN MOTOR-CAB AND TRANSPORT COMPANY.—£10,000. As title. 26, Park Road, Bradford.

AUTO-CARRIERS.—£100. As title. 158B, Norwood Road, West Norwood, S.E.

ALBANY AUTOMOBILE COMPANY.—November 27th. £100. As title. 106, Albany Street, N.W.

THE R.M.C. SYNDICATE, formed to deal in Rover motor-cabs, has been before the public this week in connection with the issue of 125,200 shares of 1s. each. Mr. F. C. Lewis is the secretary and the offices are at 109, Victoria Street, Westminster, S.W.

ARGYLL MOTORS, LTD.—At the annual meeting of Argyll Motors, Ltd., held on Tuesday, Mr. W. A. Smith, the chairman, in moving the adoption of the report, said the auditors had declared that the interim dividend paid had not been earned. The directors at the time thought the profit earned justified the payment. The turnover for the first six months showed an increase of 30 per cent. on the previous year, and everything promised well. When Mr. Govan, their managing director, died everything was thrown into confusion, and this, coupled with a deplorably wet summer, meant that sales fell off terribly. The year's figures turned out £103,000 less than the estimated turnover. Meanwhile material had been ordered for increased production. The commission drawn by the directors on the ground of the dividend being paid had been repaid. He considered that the future for motor cab and commercial motor construction was good. Mr. E. H. Watson seconded the adoption of the report, remarking that with the exercise of forbearance he was sure future results would fully compensate the shareholders. After a number of questions had been asked the report was adopted unanimously.

ATTEMPT TO BRIBE THE POLICE.

MR. JUSTICE GRANTHAM, at the Surrey Assizes, recently, fined William Nelson Barnborough, of a Jermyn Street hotel, an American, £60 for attempting to bribe Police-constable Miles, of the county constabulary, after he had stopped his motor-car for exceeding the speed limit at Esher. Defendant, who pleaded guilty, apologised for what he had done.

ALLEGED BREACH OF WARRANTY.

BEFORE Mr. Justice Ridley and a special jury, Mr. Henry Lowenfeld, of 2, Waterloo Place, Pall Mall, proprietor of the Apollo Theatre, was defendant in an action to recover £73 5s. for work done on a motor-car brought by Mr. Walter Roberts, trading as the Westminster Bridge Garage and Works. Mr. R. S. McCall, K.C., and Mr. Grimwood Mears, instructed by Mr. T. W. Staples Firth, appeared for the plaintiff; while Mr. J. B. Matthews represented the defendant. As Mr. Lowenfeld admitted the claim for the £73 5s., and as he counterclaimed for £295 for breach of warranty with regard to the car, he became in effect the plaintiff. Mr. Roberts denied the alleged breach of warranty. Mr. Matthews, in opening the case, said that Mr. Lowenfeld was attracted by an advertisement of a 25-h.p. C.G.V. car with engines of the 1905 pattern. It was said that the car was a magnificent one, and that the owner would accept £850, or an offer. Mr. Lowenfeld saw Mr. Roberts, who said that the car had not run 1,000 miles. Subsequently Mr. Lowenfeld bought the car for £550, and started off with his wife for Marienbad. During the journey from Rotterdam the motor-car broke down constantly, and on arrival at Marienbad had to be overhauled. It was found that, instead of 1,000 miles, it had travelled 4,000, and probably 9,000 miles. Some of the machinery was worn out, and new parts had to be obtained from Paris. Also it was found that instead of being a 25-h.p. it was only a 15-h.p. or 16-h.p. car, and that the machinery was of the 1904 pattern. In the course of defendant's examination, Mr. Justice Ridley asked:—Did you buy the machine from the advertisement or from the report of the engineers?—I bought it from the advertisement, but if the engineers had reported that there was anything wrong with the machine, or that it had differed in any particular from the description in the advertisement, I should not have bought it. Mr. Justice Ridley: Then I doubt if the action will lie. Mr. McCall: That is my contention. Mr. Matthews argued that the action would lie. As a matter of fact the defendant bought from the advertisement, but not knowing anything about motor-cars himself he sent experts to examine the car, to ascertain if it complied with the description in the advertisement. Mr. McCall submitted that the defendant did not rely on the plaintiff's statement, but on the opinions of the experts whom he sent to examine the car, and whom he had not dared to call.

The jury found for the plaintiff, Mr. Roberts, and judgment was accordingly given for him.

MOTOR-CARS AND INDIAN TIGERS.

IN the King's Bench Division, Mr. Justice Darling and a jury have had before them a case in which a superintendent of police was sued for damages for assault arising out of a raid on the International Athletic Club, Marylebone Road, N.W. In the course of the case Dr. Russell O'Brien gave evidence as to the injuries caused to the plaintiff. He added that if he had known what the case was he would not have taken it up. He did not like to have anything to do with motor-cars either.—(Laughter.)

His Lordship: Why not?

The Witness: Because I think they are dangerous. (Laughter.)

His Lordship: Do you mean to the driver or the person who is injured?

The witness said he would treat them as tigers were treated in India. (Laughter.)

His Lordship: You mean if anyone was hurt by a tiger.

The Witness: No; the tiger itself.

His Lordship: Oh, you mean you would not bind up the tiger. (Laughter.) Do you mean you would not attend to the man who was driving the motor-car or the man who was run over?

The Witness: I think they are both responsible.

In cross-examination the witness explained that he was once nearly knocked down by a motor-bus, and that had biased his thoughts.

His Lordship: You said before that you would put them on a level with Indian tigers, and you therefore would not attend any motor-car driver who might be injured. You also said, and that is what astonished us, that you extended your objection to the person who was run over by the motor-car.

The Witness: No; the people inside.

His Lordship: Then if people either use or drive motors you class them with the Indian tigers? (Laughter.)

The Witness: I would not care to attend to them. (Laughter.)

HORSE v. MOTOR-CAR.

MR. LINDLEY was driving a motor-car from Messrs. Simpson and Co.'s engineering works at Balderton into Newark. He had with him on the car Mr. Jones, one of the works foremen. When near the Grove Hotel, New Balderton, they were met by a horse and trap. The horse appears to have shied, and swerved across the road. It ran into the motor-car, and apparently attempted to jump over it. The frightened animal placed its fore feet on the steering wheel of the car, and jumped it, pinning the driver to his seat. Mr. Jones, who was badly cut and bruised by the shafts of the cart, escaped over the back of the car, and helped to liberate Mr. Lindley. The horse sustained a broken leg, and had to be shot. The car was seriously damaged, and had to be hauled to a Newark garage.

CASES UNDER THE MOTOR CAR ACT.

THE VALUE OF THE LICENCE.

"You hold a County Council licence for driving," said counsel to a motor-omnibus driver who was giving evidence at Shoreditch County Court.

"I do," said the witness.

Counsel.—And you consider that proves your ability to drive?—I do.

Do you know that they issue these licences to oblige people?—No, sir.

Did you apply for it personally?—I did.

Were you put through any tests?—None whatever.

Any one can get these licences who can pay five shillings?—Yes.

And no qualification is necessary?—Not the slightest.

EXCEEDING THE LEGAL LIMIT.

Ainslie Kempthorne, 26, chauffeur, was charged on warrant at Woolwich with driving a motor-car at a speed of thirty miles an hour at Eltham Road, Eltham. Prisoner told the magistrate that the reason he did not appear to the summons was that he had not the funds to pay a fine. He had been out of work almost the whole time since the offence. Inspector Wallis stated that an officer of the Essex Constabulary was in waiting to arrest prisoner on a warrant for an offence in that county. Prisoner had been convicted for exceeding the speed limit in Staffordshire, and for driving to the common danger. A few days before, at the South-Western Court, he was fined £5 for exceeding the speed limit, but this was in respect of an offence on June 24th. The magistrate said defendant must pay a fine of £10, or undergo six weeks' imprisonment. Prisoner: Can you grant time? I have half the amount. The Magistrate: No.

The same chauffeur was charged on a warrant at Kingston, on Monday, with exceeding the speed limit while driving Mr. Okura. Superintendent Marks proved several previous convictions against Kempthorne, who, he said, was last week arrested on three warrants for offences whilst driving Mr. Okura. The fines he had to pay last week totalled £15. The Bench discharged the accused on payment of the costs, £1 4s., the chairman telling him that he had been sufficiently punished for the offences committed while with Mr. Okura.

WHERE CARS ARE PROHIBITED.

James Hanning, motor-car driver, has appeared before Bailie Steven son at Edinburgh Burgh Court, in connection with a charge of having driven a motor-car on the road near Dunsappie Loch, Holyrood Park, being a part of the park where motor-cars are not allowed by the regulations. While admitting the offence, he pleaded ignorance of the regulation, and the magistrate fined him 15s., with the alternative of seven days' imprisonment.

MAGISTRATES AND THE LICENCE.

Although only four motor cases came before the Arundel County Bench on Monday, the fines imposed totalled £44 10s. and the costs £4 8s. 7d. James Adams was summoned for driving at 47 miles 648 yards per hour. Mr. Buckwell, who represented the defendant, pleaded not guilty. Inspector Wakeford said the car did the quarter-mile in 19 sec. P.C. Legg corroborated, and P.C. Heather stated that he received the signal from Inspector Wakeford. He was stationed 150 yards beyond the measured distance, and at once jumped into the road and put up his hands. The car pulled up ten or twelve yards beyond him. By Mr. Buckwell: Witness came through a convenient gap in the hedge, but only took a short time to do so. Mr. Buckwell drew attention to the fact that there was no traffic about at the time. The magistrates decided to convict, and the chairman asked to see the licence. Mr. Buckwell submitted that the magistrates were not entitled to see the licence. It was for the police, he said, to prove previous convictions. P.S. Waghorn then went into the box and proved a previous conviction against the defendant at Hailsham on July 17th last. The speed was thirty miles an hour and the fine £3 and £3 8s. costs. The certificate of a further conviction was produced, but Mr. Buckwell objected to P.S. Waghorn giving evidence upon it, as it was not for an offence of the same character as the one now before the Bench. After conferring with the other magistrates, the chairman said: "We consider it is in our power to insist on seeing the licence. Mr. Buckwell, can you state any case, or give us any authority, why we should not see it?" Mr. Buckwell: No, sir; I submit to you I have not put the defendant in the box, and I am not bound to produce the licence. I will stand on that. The Chairman remarked that whatever they saw on the licence made no difference to the fine, and with that assurance Mr. Buckwell handed up the licence. A moment later, while the magistrates were deciding the amount of the fine, he drew their attention to the Act of Parliament, which stated: "Shall produce it (the licence) within reasonable time for endorsement." Defendant was fined £20 and £1 13s. 9d. costs.

ROAD REPORTS.

AYRSHIRE.—At a meeting of the Northern District Committee of Ayrshire County Council at Kilwinning a letter was read from the Parish Council of West Kilbride anent damage done to roads by motor-vehicles, and urging the Council to take steps in the matter. Mr. McDonald, the road surveyor, reported that he had perused the letter, and he said that

the question had become a general one, applicable not only to the road at West Kilbride, but more or less throughout the district. At the present juncture road maintenance, in relation to mechanically-propelled traffic, appeared to be approaching a transition stage, and although there were already numerous modes of combating the effects of such traffic, none were thoroughly effective.

WHITCHURCH.—The steam roller has been at work in Whitchurch during the last few days, and the parts of the roads that have been mended have been rolled promptly, causing the minimum of inconvenience to motor and other traffic.

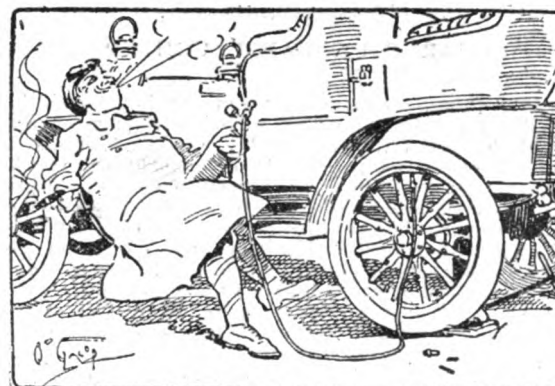
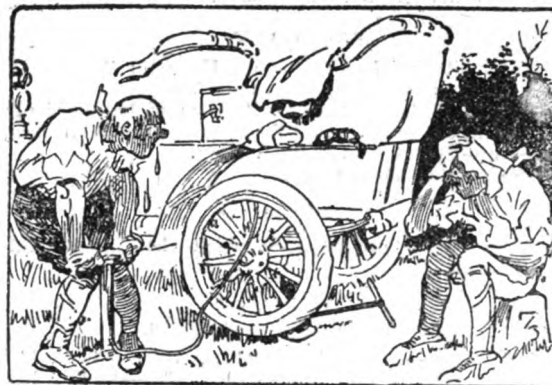
CHRISTCHURCH.—During the next few days the main roads in Christchurch from the Cross to the junction of High Street, Castle Street and Church Street will be up for repair.

PETERBOROUGH.—We understand that no extensive repairs of main roads are contemplated by Mr. J. W. Walshaw, the city surveyor of Peterborough, during the next few weeks.

SLOUGH.—The Bucks County Council has resolved to apply to the L.G.B. for a ten mile an hour speed limit in Slough.

CHELTEMHAM.—None of the main roads in and about Cheltenham will be under repair for some weeks to come, so that motorists can journey safely in the district.

SUNDERLAND.—We understand it is the intention of Mr. J. W. Mongur, the borough surveyor of Sunderland, to re-coat the whole of the main roads within the borough this season, viz.:—Newcastle Road,



The Old and New Ways of Inflating Tyres.
From a Sketch by "Galop" (Published by the Michelin Co.)

Stockton Road, Durham Road, Chester Road and Hylton Road. As regards Stockton Road there is a suggestion to double for a considerable length the tramway track, which is at present a single line. In that case the margins will be paved with granite setts upon concrete.

EAST HAM.—With regard to the repairs of main roads in East Ham, Mr. A. Horsburgh Campbell informs us that that does not affect the safety and facility of motor traffic in the district, as the whole of the main roads are now laid with tramways, and a wide space is kept clear along the centre for the constant and safe passage of motor-cars.

BACUP.—Two roads in Bacup, viz., Burnley Road and New Line, will be under repairs during the present month. Mr. W. H. Elce, the Borough Engineer, hopes they will be finished as quickly as possible.

MUSSELBURGH.—An inquiry was held in Musselburgh last week, by the commissioner appointed by the Secretary for Scotland, into an application lodged by the local town council for the imposition of a ten mile speed limit on motor traffic on certain streets in the burgh. Mr. George H. Robb, solicitor, Glasgow, appeared on behalf of the Scottish Automobile Club, which was also represented by Mr. Robert J. Smith, its secretary.

ISLE OF WIGHT.—Binstead Road, Ryde, Isle of Wight, is now under repair. This is the main road to Newport and Cowes, and the repairs will be finished about the middle of the month.

FORTHCOMING EVENTS.

DECEMBER.

- 7th (S.).—Annual Dinner and Presentation of Prizes in connection with the Essex Motor Club.
 Annual dinner of the Hertfordshire C.A.C.
 Harrogate and District A.C. Annual Dinner.
 11th (W.).—Southend and District M.C. annual dinner.
 Mr. Dugald Clerk at the Institution of Automobile Engineers, on "The principles of carburetting as determined by exhaust gas analysis."
 12th (Th.).—Annual Dinner of the Sheffield A.C.
 14th (Sat.).—Motor Cycling Club Annual Dinner.
 18th (W.).—General Committee of the Motor Union.
 The Tenth Annual Dinner of the Founder Members of the Royal A.C. will be held at the club-house.
 21st (S.).—Opening of the Brussels Exhibition.

JANUARY, 1908.

- 4th-11th.—Dublin Motor Show.
 9th (Th.).—Dinner of the West Essex A.C. at Seven Kings.
 17th (F.).—Annual Dinner of the Nottinghamshire A.C. at the Victoria Station Hotel, Nottingham.

FEBRUARY.

- Annual Reliability Trial of the Motor Union of Western India.
 7th-15th.—Manchester Motor Show at Belle Vue.
 12th (W.).—Mr. F. W. Lancaster on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 15th (Sat.).—Auto-Cycle Club Annual Dinner.
 24th (M.).—Motor Show at Bcmby.

MARCH.

- 21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

LIGHTING-UP TIMES—LONDON.

Dec. 6th-4.51 ... 8th-4.50 ... 10th-4.49 ... 12th-4.49 ... 14th-4.49
 „ 7th-4.51 ... 9th-4.50 ... 11th-4.49 ... 13th-4.49 ... 15th-4.49

CHARGE OF MANSLAUGHTER.

A CHARGE of manslaughter has been preferred at Guildford Assizes against William Adams, 19, chauffeur in the employ of Mr. John Alexander McCandlish, 117, Piccadilly, W. On July 17th Miss Rebecca Mahew, walking on the footpath at Walton-on-Thames, was knocked down by a motor-car driven by prisoner and died soon afterwards. For the prosecution it was alleged that the speed of the car was very great, but the defence asserted that at the time it did not exceed ten miles an hour. A van had turned suddenly to the off-side of the road, necessitating the car passing to the near-side. The car ran on to the pavement and knocked deceased down. Prisoner was found guilty, but was recommended to mercy on the ground of his youth. Mr. Justice Grantham said he agreed with the verdict and recommendation, and in view of it and the fact that prisoner bore a good character he would not send him to prison, but would bind him over to come up for judgment if called upon.

POLICE TRAPS.

THERE is a police-trap in operation on the road between Glasgow and Aberfoyle.

THE parishes of Walburtin and Angmering and Washington, Sussex, are almost daily the scene of police-traps.

THE Roke Road, Rogate, has its police trap, leading to Midhurst Sessions House.

PUBLIC MOTOR SERVICE.

EASTBOURNE.—The motor-bus service via Carew Road and Meads is again under the consideration of the committee of the Town Council that is responsible for the undertaking.

THE AVON INDIA RUBBER COMPANY have taken over a site at 35, Long Acre, London, W.C., whereon they will erect their London depot in the near future. Meanwhile they have acquired the premises formerly occupied by the City and Rubber Company, at 31, Brook Street, Holborn, E.C., where a stock of Avon motor tyres will be kept.

BUSINESS NEWS.

THE United Electric Tramways of Montevideo, Ltd., Bailedon House, London, E.C., have placed an order with the Daimler Company for a 36-h.p. Phaeton car of the Rugby type.

THE STERN SONNEBORN COMPANY, LTD., are inviting the attention of motorists to their Clutcholine in various qualities for metal and leather clutches.

DR. BAGO-ROBERTSON, of 3, Cathedral Street, Glasgow, reports that he has driven his 10-18-h.p. Coventry-Humber 15,000 miles in eleven months without a single mechanical stop of any description whatever.

THE MOTOR ACCESSORIES COMPANY, 55, Great Marlborough Street, London, W., have been appointed selling agents for the new Gillett-Lehman carburettor in addition to their sole agency for London and the Home Counties for the Gillett-Lehman carburettor controllers.

THE YUKON MOTOR COMPANY, Yukon Road, Balham, S.W., secured the third place in Class II. of the R.A.C. dust trials with their 18-h.p. six-cylinder Malcolm car entered by Mr. Malcolm Brooke, of the Southern M.C.

THE DEASY MOTOR MANUFACTURING COMPANY, LTD., inform us that their new telephone numbers are 1144 and 1145 Western.

MR. W. H. GOODERHAM, of Toronto, has a six-cylinder Iris car, which is rendering good service over the roads of the Dominion.

MESSRS. VALVELESS, LTD., have a 25-h.p. chassis at 7, Upper Street, St. Martin's Lane, W.C., and are arranging for cars to go on two trial routes for the convenience of those interested in the Valveless car.

VAUXHALL MOTORS, LTD., Luton, have now opened a London showroom at 157, Knightsbridge, S.W., where the latest model of the 12-16-h.p. Vauxhall can be seen, and trial runs arranged.

AMONG the posters issued in connection with the recent motor show in London, distinction was attained by those of the Daimler Motor Company.

WE learn from the United Motor Industries, Ltd., that 35 per cent of the induction coils on the cars exhibited at Olympia were of the "Castle" make.

MR. ERNEST COURTIS, who drove the winning Rover car in the Tourist Trophy race this year, has left the Rover Company and is at present unattached.

THE ADLER COMPANY, of Berlin, has made a series of experiments on a big car with the Stepney spare wheel and has been thoroughly convinced of its utility.

IN the 15,000 miles Long Distance Trial recently completed by the six-cylinder Hotchkiss and observed by the R.A.C., it will have been noticed that the petrol consumption was heavy, and only showed an average mileage of 7.35 miles to the gallon. The carburettor fitted to the engine, although being thoroughly efficient, was extravagant, and for that reason for some months past the Hotchkiss Company have been working on and experimenting with an entirely new carburettor, and have now produced a device which not only gives better results than the old one, but is also much more economical. In order to obtain an official record of the consumption of this new carburettor, a six-cylinder 40-50-h.p. Hotchkiss was submitted to a petrol consumption test under the observation of the R.A.C. on the 8th ult. The distance was 100 miles, and the result was an average mileage of 13.79 miles per gallon, the weight of the car, excluding passengers, was 1 ton 12 cwt. 3 qr. 27 lbs.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, DECEMBER 14, 1907.

[No. 458.]

Published Weekly by CORDINGLEY & CO., 27-33, Charing Cross Road, London, W.C.

"THE INDUSTRIAL MOTOR REVIEW."

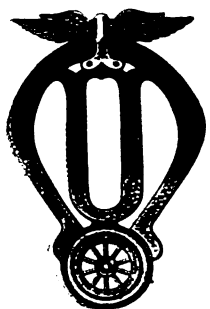
"THE INDUSTRIAL MOTOR REVIEW," which, established in February, 1903, can claim to be the oldest journal in the world exclusively devoted to the interests of the commercial and industrial motor vehicle, has been acquired by Messrs. Cordingley & Co., and is now published from the office of *The Motor Car Journal*, 27-33, Charing Cross Road, W.C.

It will continue to be issued as a Monthly Review, devoted to

the development of the Industrial Motor Vehicle, and affording a means of inter-communication between users and makers of commercial vehicles of every description. Under the new proprietary, those features which have proved acceptable in the past will be continued and extended, while innovations to increase its influence with all interested in the motor movement will be introduced.

"The Industrial Motor Review" is published at 6d.; post free 8½d., on the 15th of the month. Annual subscription, 8s. post free.

COMMENTS.



NOW that the controversy between the Motor Union and the Automobile Association is at an end, the former has produced its new badge, which must be regarded as an improvement on the discarded design and also as steering clear of the confusion that was possible with the earlier one. The idea of speed is well exemplified in the wings at the head of the outline, while the wheel at the bottom is equally symbolic of the organisation for which it stands. In preparing public opinion for any necessary changes in the law the Motor Union has much useful work to do, and its legal activities are equally necessary for the welfare of motorists as individuals and motoring as a movement. Recently it has extended a watchful eye on those road surveyors who seem to neglect their work on the roads by leaving long stretches of unrolled metal to harass all users of the highway. This is an important matter, and one that forces itself unpleasantly to the notice of motorists at this season of the year.

Motor Cycling.

APART from the presentation of prizes, the annual dinner of the Sheffield and Hallamshire Motor Cycle Club, on Friday the 6th inst., centred in an interesting address by the President, Mr. J. H. Hall. Mr. Hall has taken a prominent part in recent developments in connection with the organisation of motor-cyclists, and he made some pointed remarks with regard to the controversy that now seems likely to end satisfactorily so far as this section of motorists is concerned. He mentioned that there were 54,000 motor-cyclists, only about 2,000 of whom were connected with the Auto Cycle Club. Meetings have already been held at Durham, Lincoln and Nottingham, and apparently the provincial clubs are determined that the central organisation shall be really a motor-cyclists' Union, looking after the interests of those who have not, as yet, attained to the dignity of the ownership of a car or who prefer the smaller motor. Many of those who own the latter machines believe that magistrates make too little distinction between them and the possessors of large motor-cars when they are brought before the Bench, and it is felt that there are inequalities in taxation which can only be remedied by strong representations being made to the country by a body specially formed to watch the interests of those directly concerned, and to suggest a policy which will place their views more adequately before the Legislature than has been possible under the regime that now appears to be drawing to a close.

Club Life.

Now that the touring season for 1907 has been entirely left behind and club meets and gymkhanas no longer bring motorists together in pleasant assembly, many officials of provincial and county organisations are in a quandary as to how to continue the interest of members in the organisation. With its many social distractions and the claims of other movements in which individual motorists are concerned the winter period is one of anxiety to the hard-working secretary. A few years ago it was comparatively easy to get the members together by means of lectures and discussions on technical subjects, but complaint is now heard that so generally diffused has motor knowledge among motorists become that such meetings lack the zest, if not the value, they once possessed. Dinners have a sense of vain repetition unless attended by some record-maker or venturesome soul—of whom there were several a decade ago. But even here things have changed, and the attractions of past events no longer maintain their magnetic influence on any but the most ardent motoring enthusiasts. The subject is perhaps of less practical interest to metropolitan readers than to those at a distance, but all who are officially associated with motor club life will profit from the interchange of ideas on the subject.

An American View.

ONE of the most patient investigators of the features of the recent motor show in London was Mr. Alfred Reeves, the general manager of the American Motor Car Manufacturers' Association, who visited us and also the Paris Show for the purpose of gaining information likely to be of value to his countrymen in the disposal of their automobile products. Elsewhere we give his impressions as set forth in the "Motor Age," and it will here suffice to say that in his peregrinations at Olympia he was accompanied by Mr. H. C. Marmon, a member of the technical committee of the American Motor Car Manufacturers' Association.

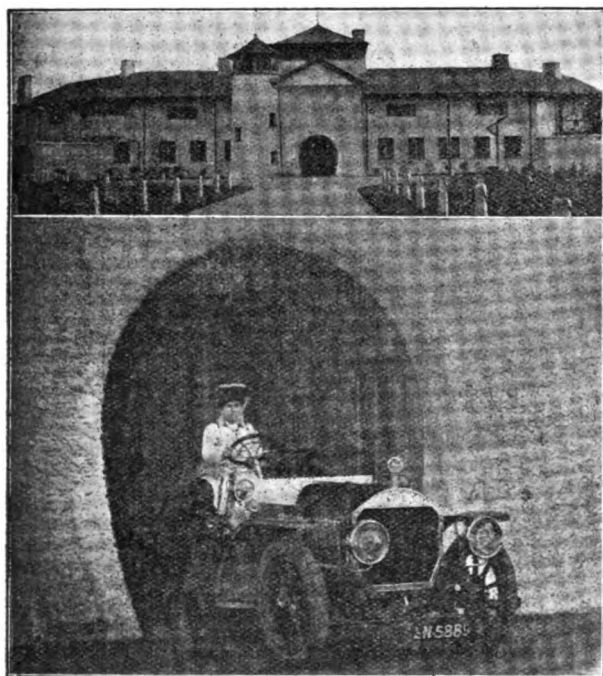
A New Road out of London.

A DEPUTATION from the Motor Union has waited upon Mr. Kearley, M.P. (Parliamentary Secretary to the Board of Trade), with reference to a motor road scheme. Colonel Sir Herbert Jekyll, head of the London Traffic Branch of the Board of Trade, was also present. The deputation, which was introduced by Lord Montagu, presented a scheme for which they have deposited a Bill in Parliament, for the purpose of constructing a road from London westwards out to Colnbrook for the use

of motor-cars and motor-bicycles. They represented that urgent need existed for a new main road out of and into London on the west, mainly for the use of motorists. The promoters explained the outline of the scheme, and asked for the benevolent assistance of the Board of Trade. Mr. Kearley, in reply, without committing the Board of Trade to the Bill, which has not yet appeared in print, pointed out that security would have to be given that the road should revert at some future date to a local authority, or a series of local authorities, for the use of the public.

The Gilbey Hall.

VISITORS to the Agricultural Hall, London, will be interested in the extension of what was once known as the Minor Hall, but which in future will be called the Gilbey Hall. Certainly, now that the square of houses round which the Renard train was driven last year has been demolished, the site being covered by the extension of the Hall, the old name had become a misnomer. At the March Motor Show the Gilbey Hall will accommodate an important section of the great exhibition which has become known throughout the world as Cordingley's.



The above illustration depicts Mrs. Walker Munro, of Rhinefield, Hants, on her Six-Cylinder Napier coming out of the horse-shoe shaped entrance of the garage at her seaside residence, The White House, Milford, Hants.

This house, a view of which is given in the upper picture, is most interesting, as it was specially built with an eye to motor vehicles, the garage being in the centre of the building. Mrs. Walker Munro, who was one of the first ladies to drive her own car, has had six Napier cars, and altogether has driven over 60,000 miles, including many tours on the continent, through France, Switzerland, &c.

Motor-Car Imports and Exports.

THERE was a marked revival last month in the importation of foreign motor-cars and parts into this country. The number of complete vehicles which reached the United Kingdom during November was 409, their value being given at £173,712. Parts were responsible for an additional £193,614, which gives a total of £367,326, as against only £358,255 in the corresponding month of last year. For the first eleven months of the current year the figures are:—Number of cars imported, 4,615; value of same, £2,002,068; imports of motor parts, £2,325,756; total, £4,327,824. For the similar period of 1906 they were:—5,553 cars of a value of £2,385,261; parts, £1,764,285; total, £4,149,546. Turning to

the exports of British motor-cars and parts, these continue to show a steady expansion, the number of vehicles shipped during the eleven months ending with November last being 2,116, of a value of £782,958; to this have to be added parts estimated at £433,527, which gives a combined total of £1,216,485, as contrasted with only £718,636 in the corresponding period of 1906.

The Daimler Scholarship.

WE have received from Coventry particulars of the Daimler engineering scholarships, the announcement of which at the recent dinner of the company was duly recorded in our columns. These will be five in number, tenable at the Daimler works for two years, and will be awarded in July of next year. Candidates must not be younger than eighteen years and not older than twenty-two years on July 1st next, although exception will be made for those who have spent twelve months or more in a workshop and who are not more than twenty-three years of age at that date. Candidates must have passed the examination of some recognised educational institution, and the scholarships will be awarded on the result of an elimination test, an essay on some engineering question, and a *viva voce* examination. With regard to the first of these conditions the candidates must present themselves at the Science and Art examination in May, and forms of application can be obtained from the pupils' department of the Daimler Company at Coventry.

The Holidays.

WE have received communications from some of the leading firms in the motor industry with regard to the course of business during Christmas week. It will probably not have escaped the attention of our readers in the industry that Christmas Day this year falls on a Wednesday, Thursday being Boxing-day and consequently a holiday. Therefore it is suggested that only a little arrangement with the staffs of the various firms would be necessary to secure a vacation running from the Christmas Eve to the following Monday morning. Doubtless, after the rush of the Exhibition, such a break in business routine would be welcome to the majority of members of the Metropolitan trade. It would also be appreciated in the provinces. There is, however, another aspect of the matter so far as the latter is concerned, for, given fine weather that week, a good deal of hiring of cars for house parties and the like is being anticipated by many enterprising firms, and probably the practice might not be so universally possible in the country as in London.

Cost of the Motor- 'Bus.

AFTER a series of calculations, Mr. W. E. Hardy, the engineer of the Bath Electric Tramways, which runs motor-'bus services throughout the district, has come to the conclusion that the total working costs of the average motor-'bus company come to 90 per cent. of the total receipts, and that therein lays the obstacle to a more general adoption of this mode of traction. At a meeting of the Society of Road Traction Engineers on Tuesday he took the case of a company owning twenty motor-omnibuses running an average of thirteen daily a distance of ninety miles each. The working costs, including depreciation, for a week he estimated at about £370. By following that figure out for the fifty-two weeks in the year, and filling in receipts at a shilling per mile, the profit would amount to £2,024 odd. He pointed out that the sum of 1s. per mile was a high rate to estimate on, for 10d. was about the average on most tramways in the country, and, moreover, the electric car could accommodate some 55 to 60 people, whilst the seating capacity of the motor-'bus was only 32 to 35. Accordingly, he considered that if these companies were to pay, the cost of working must be reduced, and the items to which, in his opinion, attention should be given, were petrol, oil, grease, and carbide, tyres, repairs, and

attendance, and insurance. Improvements and economy in the use of petrol and oil would probably soon lower the bill for these items, but tyres were the "dead weight" of the motor-bus, pulling it down all the time. Repairs and attendance worked out at 2½d. per mile, which seemed a large amount, but there was little hope of any immediate decrease in that direction. Insurance was largely a question of tyres, and as soon as the skidding propensities of the motor vehicle were reduced the premiums would be lowered.

Accepted Challenges.

New interest has been given to the 1908 programme of the Brooklands A.R.C. by the announcement that some of the challenges recently issued by Mr. S. F. Edge have been accepted, and that the events will be run off on the track at Weybridge between May 14th and July 1st next. The President of the Metallurgique Company of Belgium has accepted the challenge in the 26-h.p. and the 40-h.p. classes, and Mr. O. Cupper will drive Metallurgique cars against Napiers in both events. Similarly the challenge in the 90-h.p. class has found an acceptor in Fiat Motors, Ltd., and Mr. Nazzaro will drive

frequently happens in the case of motor-cycles. In fact, in one case Mr. Percy J. Sheldon, the Registrar for the Act in the county of Essex, recently found that a machine had changed hands six times, and the only intimation he had had was from the last owner. In order to familiarise motorists with their duty in the matter he has issued an official announcement through the county Press quoting the law on the subject, and concluding that "It must be distinctly understood that if persons drive motor-cars or cycles that are not properly registered, they will be held responsible for any proceedings that may be taken by the police authorities." The hint is one of universal application.

Earl Russell and the Club.

WITH reference to the correspondence which Earl Russell recently had with the secretary of the Royal A.C., his lordship finds that his recollection was at fault as to what took place at the committee. Some shorthand notes have been produced from which it appears that the chairman was asked whether some statement as to provincial clubs would be made public together with the resolution, and the chairman appears to have replied that such a statement would be made public. The chairman him-



The Berlin Motor Show.—The Arrival of Prince Henry of Prussia on the Opening Day.

the Fiat car. Deposits have already been made, and the motoring world will await the events with some eagerness. Certainly such challenges and acceptances will whet the sporting appetite more than was the case with the programme of the present year.

Change of Ownership.

WHEN a motor-car changes ownership the fact should be notified "either by the new or the old owner to the Council with whom the motor-car is registered, and an application shall also be made either to cancel the registration of the car or to continue the existing registration under the ownership." Such is the essential point of Article 4 of the Local Government Board Regulation under the Motor Car Act, 1903, which also entitles the local registering authority to charge fees of five shillings and one shilling respectively for alterations in the registers of motor-cars and motor-cycles. As the onus of notification is left to either the seller or the buyer of such cars, responsibility in the matter is often shelved, and no notice of transfer is given to the authorities—a procedure which

self, Mr. Rose, does not agree with Earl Russell's recollection that he stated that nothing but the resolution should be published, and there appears to have been misapprehension as to a conversation on this subject. In these circumstances Earl Russell withdraws unreservedly the suggestion that the statement was published without authority. The mistake, he says, would have been avoided if the secretary, in his letter, had referred him to the verbatim report and given him that information which a member of a committee expects from its officials.

MR. CHARLES CORDINGLEY has left London for Marseilles, en route for Algiers, whither he has gone for the benefit of his health. He will be away for several weeks.

THE fouling up of cylinder heads is a trouble which may generally be ascribed to the prevailing use of automatic carburettors, which usually supply a very rich mixture for very slow running. Four years ago the fouling up of cylinder heads was almost unknown, but nowadays it is a very good plan to have the cylinder heads scraped out after four or five thousand miles running.

A TOUR IN BRITTANY.

(Concluded from page 895.)

NORTH-WEST of Morlaix is the Pays de Leon and Finistère, a region to be "explored" by any automobilist who likes to get away from the beaten track. The roads are passable, that is, good enough as to surface, when they are not loose or broken up, but the hills are practically a continuous performance. It is a region away off from the rest of France, the "Land's End" of North Europe, and no one among its peasant population knows or cares for anything away from his immediate environs. *Essence* and *huile* are hard to find; the native never ceases to marvel a *la mécanique* and marvel still more when you put in the "reverse." It will be some years yet before "*ces choses droles, ces automobiles*" will fully "arrive" in the wilderness of Finistère. Between Morlaix and Brest, Landivisian and Landerneau re interesting, but Brest itself had better be omitted

two kilometres by the route nationale, Nantes-Quimper. Ros-porden is a sleepy, dull town, with nothing to detain the tourist more than a glance of the eye, but it is the turning point for Concarneau—where the sardines come from. Concarneau is ancient, picturesque and smelly, but it is delightful all the same, and the sea food served at déjeuner at the Hotel des Voyageurs will be remembered for long. *Langouste remoulade* and *sardines fraiches* are *plats* which cost relatively large sums of money on the Paris boulevard, but here they are regular *plats du jour*, and one pays three francs only (*vin compris*) for déjeuner or dinner.

Pont Aven for the night, at the Villa Julia, is the best thing to be had in Brittany. Julia years ago ran a modest little artists' hotel, but to-day it has grown with prosperity until there is a great four-story brick and steel structure beside the little inn. Blanche Willis Howard's story of "Guenn" will tell you much of the life of the peasant folk of Pont Aven, and ought to be read *on the spot* to be thoroughly appreciated. There are fourteen water mills at Pont Aven, and it is locally known as the *Ville des Moulins*.



Touring in France.—Market Day in the old town of Auray.

From Landerneau to Plougastel is a dozen kilometres, and the view over the great Rade de Brest is finer than anything from the other shore. For the night Plougastel-Daoulas is not bad. The Hotel des Voyageurs has been braced up quite recently by the Touring Club de France, and is about the most modern thing in the hotel line in these parts outside the large towns.

From Daoulas, fifty or sixty kilometres out and back, will bring one to Crozen and Camaret. There are no sunsets quite so brilliant in western Europe as those over the bay of Camaret. If that interests you the detour is worth making, otherwise one reaches Quimper from Daoulas, *via* Chateaulin, by *route nationale* No. 170, in sixty kilometres. From Quimper there is a hundred kilometres round to Douarnenez, Port Croix, Pont l'Abbé and Penmarc'h that shows the best of Brittany; the quaintest, the least spoiled, and the most picturesque customs and costumes of men and women. Quimper has twenty thousand inhabitants, and, if one excepts the great marine arsenal of Brest, is the metropolis of Finistère. From Quimper to Rospenden is twenty-

Fifteen kilometres eastward from Pont Aven one strikes the route nationale again at Quimperlé, charmingly situated on a little tidewater river with a couple of admirable old churches, some curious houses and a good café-hotel, the Lion d'Or, on the quay. Lorient is 21 kilometres east of Quimperlé and is an unappealing seaport, once the headquarters of the French East India trade. It is the least lovely large town in France, in spite of the fact that it is endowed with a magnificent situation. The inner man and the automobile will find nothing here that may not be had better elsewhere. Ten kilometres after Lorient is Hennebont, situated on the estuary of a deep-cut little river, the Blavet. It is all Lorient is not, an ideally picturesque spot with charming promenades along the river banks, some old moss-grown fortifications, innumerable curious old houses, a stupendous late Gothic church and a most excellent hotel with "good enough" garage accommodation. If you have slept at Pont Aven, cut your journey here and take déjeuner in the all-sufficient little Breton Hotel de France at Hennebont. If time presses, how-

ever, keep on to Auray, where, at the Lion d'Or, you will do equally as well, 28 kilometres farther on.

The monuments of Auray and round about are very numerous and interesting. There is a pilgrimage to be made to Ste. Anne d'Auray—where, on July 25th in each year, is held a great religious fête—and the excursion down the great peninsula of Quiberon and through the *Lignes de Carnac*, the name given to a regiment of great stone *menhirs* like those at Stonehenge, only here there are thousands instead of scores.

Off-shore, a dozen kilometres, is Belle-Ile, where Fouquet ensconced himself when he fled from the wrath of his king after the great fête of Vaux, and where Aramis of the "Trois Mousquetaires" became a landed proprietor. To-day Belle-Ile is a little island kingdom all by itself, with a capital, Le Palais, a local newspaper, and hotels and restaurants, even though a good half of the population have never set foot on the mainland. There are no automobiles on the island, and the greatest celebrity is Sarah Bernhardt, who has a summer home here. From Auray to Vannes is twenty odd kilometres, skirting the north shore of the Morbihan, a great inland bay.

On the road hereabouts the Breton types are seen at their best, young men and maidens and old men and market-women, but all of them picturesquely clad. They invariably walk in the middle of the road, and it takes more than a mere "honk" of the horn to make them move.

Another warning may be given here, though it might well have been put at the beginning of this article. There is an infrequency of motor-cars in Brittany, and for that reason live stock, particularly horses, donkeys and mules, are easily frightened. There is no pleasure or satisfaction in bolting a donkey cart into a ditch and spilling out its invariable load of lovely femininity—for they are lovely, the little Breton maids. Go slow, then, and be rewarded by smiles instead of frowns. At all times, when stopping, look carefully over the tyres and extract the *sabot* nails, the great flat-headed hobnails of the Breton peasant's *sabots* which drop out in dry weather when the wood around them shrinks. The nails will not penetrate the tyres if they are thick enough; but if they are not you will suffer continual annoying punctures. In Brittany one must be more careful than elsewhere. Vannes is a great, big, overgrown country town. It rises to the dignity of being a Préfecture, but is a sad, dull place with inefficient hotels and only interesting for the visitor because of its accessibility to the Golfe of the Morbihan, its old houses, its thirteenth century cathedral, its old city walls and the grim donjon known as the Tour Connétable, in 1387 the prison of Olivier de Clisson. Pass Vannes by so far as eating or sleeping goes, if possible, and keep on to Rochefort-en-Terre or Redon; you will do far better at the Hotel le Cadre at the former place or the Hotel de la Poste at the latter. Each abounds in character, a vague term, but one understood of the travelled person. Rochefort-en-Terre is a little artists' paradise exploited almost entirely by French and Americans

jamais les Anglais, says the patron of its little next-to-the-soil hotel.

If the atmosphere here is too artistic another twenty kilometres brings one to Redon, and if you don't have to wait an interminable while at the railway gates you will be very pleased indeed with your déjeuner eaten in the *salle à manger* of the Hotel de la Poste—one might say the *musée*, for the walls are hung with all sorts of curious trumpery—some of it good, but certainly as great a hodge-podge as was ever collected by a cranky hotel proprietor. Barring this idiosyncrasy he knows well how to run a hotel, though it is abominably situated opposite the railway station and has no pretence to architectural beauty of any kind whatever. The gates of the railway crossings throughout Brittany, and frequently in other parts of France

as well, are often kept closed. This is a protection for the public, of course, and cannot be complained of, beyond wishing that the day may soon come when all level crossings shall be abolished. It is annoying, nevertheless, to be held up at a French railway crossing, or *passage à niveau* to speak the vernacular. Usually it is guarded by a feminine personality of uncertain age, who simply tells you in response to an inquiry, "*On ne passe pas!*" "Where is the train?" you ask, with an absolutely clear view up and down the line for five kilometres. "*Il peut venir,*" she tells you coldly. "Yes, truly, it may come; but why does it not come?" You wait, perhaps, three, five, ten, or fifteen minutes at this Robespierre of *passages à niveau*, but the woman is incorruptible—as she should be, that we will not deny.

From Redon to Chateaubriant is fifty-four kilometres, and if you have had enough for the day the modest little Hotel de la Poste will care for you admirably. You will eat of simple fare served by a dainty coiffed Breton maid, and most likely somewhere in the dinner's menu will be a *boudin*, which is a black sausage made of congealed pig's blood—and some other things. You needn't eat it if you don't like; there will be plenty else. There is a *moyen âge* chateau here with pepper-box towers and all the ear-marks of the best Renaissance architecture, and there is a legend concerning the horrors of the time when a certain

Comtesse de Chateaubriant was first almost starved to death in a dungeon and then cut into pieces by the surgeons upon the orders of her unworthy spouse. So altogether—what with the *boudin* and the drawing and quartering and a church bell that clangs loudly every quarter hour—there is every prospect of pleasant dreams.

It is from Chateaubriant that the chateau country of Touraine can best be tapped on returning from the Breton tour. It is 75 kilometres to Angers, the southern gateway, where is opened up the whole Loire Valley and the water-sheds of the Vienne, the Indre and the Cher, embracing the best of Renaissance chateaux and the "Garden of France."

The route back to Paris taking in the chateau country is scarcely prolonged 250 kilometres, while the direct road *via*



Touring in France.—A Mors Car at the Cathedral of Rheims.

Laval is a trifle less than 400. As a variation, and since after a Breton tour hills may be presumed to have no terrors for an automobilist, another cross-country route to Paris, omitting the chateau country proper, is *via* Serge, 40 kilometres; Chateau-Gontier, 24; La Flèche, 54; Le Lude, 19; Chateau du Loire, 21; and Vendome, 59. It is a most charming and unconventional itinerary, entirely by second and third class roads, but most excellent roads they are, crossed only here and there by routes nationales, but nearly as good; and when one does get a long, silent stretch, with a gentle slope downhill, he may make any speed he likes, and no one to say him nay, unless he meets with a brace of strolling gendarmes, who are everywhere in the most unexpected places—in France. *Méfiez vous, alors!*

Vendome is better known than the last half-dozen large towns, and is a most interesting place. Hotel accommodation is scant and not remarkable, though good. But the architectural monuments, the flamboyant Gothic church, the Hotel de Ville, and the Chateau Donjon are worth doing, if only by moonlight, after dinner, when peasants and blue hussars wander aimlessly. From Vendome to Chateaudun is forty-one kilometres, with nothing to hold one's speed down save an excessively dangerous *passage à niveau* at Monplaisir, thirteen kilometres from Vendome, and another at Cloyes, a dozen kilometres before arriving at Chateaudun, with its memories of 1870-71. This town (Hotel du Bon Labourer) is a good place for déjeuner or for the night, but Bonneval, fourteen kilometres further on towards Chartres, is better—for déjeuner, at any rate. The Hotel de France will give you about the best country fare you will get in France—chickens, veal, crisp salads, asparagus, strawberries and the like. All are in season between May and September; at any rate, they have four or five months of strawberries—such strawberries as are found only in France. By Vitray-en-Beauce, through the great grain-growing region of France, one arrives at Chartres, thirty kilometres from Bonneval. From Chartres it is plain sailing and easy going to Paris, *via* either Rambouillet or Ablis. In either case, *via* either Versailles or Sceaux, one strikes the terrible *pavé* of suburban Paris twenty kilometres before the capital is finally reached. If one is going east to Fontainebleau or the Côte d'Or the route from Chartres is *via* Ablis, Etampes and La Ferté-Alais. If the north, Normandy or the seaport towns in connection with England are the objectives, suburban Paris can be avoided by crossing the Forêt de Rambouillet and through Houdan to Mantes.

To sum up: The roads of Brittany, the main roads, are excellent, but hilly, and so long as one is ready for surprises of sharp ascents and descents, particularly in the towns, for innumerable sabot nails in the tyres, for frightened donkeys, geese and peasants, and for gendarmes always looking for trouble, the Breton tour is as enjoyable as any in France. One must not forget that it is 600 kilometres out and back from Paris or the Seine Valley before one comes to Brittany proper, and that this will take two or three days' travelling, going and coming, besides the 800 or more kilometres making the Breton circuit.

ALAN COLQUHOUN of Luss has purchased a 42-h.p. landaulet from the Daimler Company.

THE Association Automobile Mexicaine has just been formed in Mexico to promote motor races in the Republic. It is proposed to hold the first race at Gaudelajara in March or April next, while a scheme is also under consideration to construct a motor-racing track.

THE Taunton Motor and Cycle Company, of which Mr. R. E. Denning is the proprietor, has a number of motor-cabs and motor-broughams for hire in the town. They are being used by local business men in the daytime, as well as by ladies for social functions in the evening.

A MEETING of the Mechanical Branch of the American Association of Licensed Automobile Manufacturers is about to be held in Chicago to discuss the standardization of automobile bodies, co-operation between automobile engineers and coach builders, the reduction of weight and the proper wheel base for a practical car.

THE "BOWDENLOC" LEVER.

THE advantage of the self-locking type of lever for most of the operations connected with the control of motor-cars or cycles is now so generally admitted that the latest introduction of the E. M. Bowden's Patents Syndicate, Limited, cannot fail to evoke interest among all sections of motorists. The Bowdenloc Lever, which we illustrate in Figs. 1 and 2, has been designed with a view to the special requirements of the Bowden wire mechanism, while at the same time being equally applicable where any other form of self-locking lever can be used to advantage. The merits claimed for the Bowdenloc are many, and may be summarised as



Fig. 1—Bowdenloc Lever (assembled).

follows:—1. No springs are used. 2. The lock is automatic and immediate in action. 3. The lever responds at once to the manipulation of the operator, while remaining absolutely immovable to any tensional strain from the wire. 4. There is an entire absence of backlash or shakiness, no matter at what point the lever may be left. 5. Overpulling is impossible, stops being provided to prevent the lever being moved too far. 6. The wire is at all times fully enclosed. 7. The wire does not come in contact with any sharp edges, and is not bent at an acute angle. That these advantages are not overstated can to a certain extent be grasped by an examination of Fig. 2, which shows the lever dissected in conjunction with the following description:—A represents the body recessed to receive the drum or disc B, to which the inner member of the Bowden mechanism is anchored by

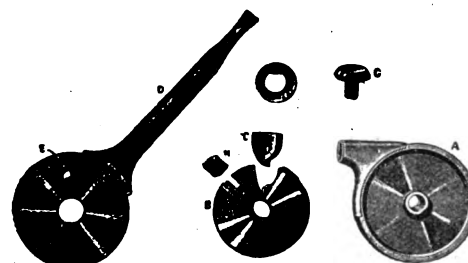


Fig. 2.—Bowdenloc Lever (dissected).

means of the block H, the wire passing out through the projecting portion of the body A. This projecting piece is specially designed to serve as the necessary stop for the outer member. D is the lever with a stud E on its inner face, which engages with the hole in the pawl C, the disc B being cut to accommodate the pawl, as shown. The various parts are held together by the screw and washer, G and F. In operation, the movement of the lever D revolves the disc B along with the pawl, the two remaining concentric, but on pressure being removed from the lever the tension of the wire on the disc B causes the pawl to tilt and wedge itself against the inner periphery of the rim on the body A, the wire mechanism being thereby held firmly locked until released by again operating the lever D. The levers are made in various sizes, while the material and workmanship throughout are of the highest quality.

It is reported that the makers of the Itala cars are taking up the construction of commercial motor vehicles, in the design of which a number of special features will be incorporated.

AN officer of the Society of Automobile-Mechanic Drivers of the United Kingdom is always in attendance at Rawlings' Garage, Halkin Street, Belgrave Square, London, to give advice to drivers and others interested in the chauffeur side of motorism.

AN AMERICAN VIEW OF BRITISH AUTOMOBILE DESIGN.

BY ALFRED REEVES.

THAT the strongest tendency is toward the small car here as in America; that the changes in the 1908 models, both French and English, are in the matter of detail, the makers apparently being willing to fall into conventional practice; that it is a battle for lightness in construction, and the total absence of the three-seated runabout so popular in America, are some of the impressions gained by two Americans after a careful study of the motor-car show at Olympia.

From our English cousins we can learn a great deal, and, in my judgment, it is a grave mistake for American makers to neglect sending a representative to visit this show. On the other hand, there are many things in which, without egotism, it might be stated, John Bull could learn much from our shores, particularly about our methods of doing business. While there has been some reduction in prices, as forecasted months ago, it has mainly affected the big cars. The trade outlook is very good, although nothing of a boom nature. There has only been a slight falling off in attendance, and the feeling among the dealers is one of conservatism but not pessimism.

frame without the use of arms integral with the crank-case; three-fourth elliptic springs on the rear; larger brakes, and grease cups on ball-and-socket steering joints; hand adjustment for brakes; the casting of all four cylinders in one on small cars; the use of the thermo-syphon system on town cars; a change in the carburettor which locates the auxiliary air valve on the manifold instead of on the carburettor; the exhibiting of a shaft-driven car in every space at the show except Mercedes; the inclination to increase rather than decrease the present long wheel-base; the use of ball bearings on the transmission shaft; an increase in the use of shock absorbers as general equipment; an unlimited fancy in regard to the design of radiators; a growing practice to leave off the spark adjustment on the steering wheel; a comparative lack of interest in self-starting devices, there being only two cars using it as regular equipment; and a tendency to have as little as possible on the dashboard.

There is the ever-apparent English design made on the lines of practicability rather than looks, and the thorough workmanship of the English mechanic. One is impressed with the air of business that permeates the atmosphere of the Olympia. There is very little attention paid to general decorations, such as mark the American shows. Some plain red and yellow bunting



The Visit of the Swazi Chiefs on Argyll Cars to General Booth, at the Headquarters of the Salvation Army, on the 4th inst.

It is absurd for us to blind our eyes to the fact that the demand is now for the small car, especially those of 15 to 20-h.p., and selling at less than £400. No one denies that there will always be buyers for the big, high-priced cars, which certainly have had a rage for some years, but just now the buyers seem to favour the small machine. The popular car here and the one greatest in favour is that of 10-12-h.p., having a four-cylinder engine and with a body made to carry four persons. It is peculiar that the only runabout with a rumble seat, so universal in America was at the Buick stand. There has been apparently a great effort to reduce the weight of cars, and students of motor-car construction are of the opinion that this tendency will continue.

In a stand-to-stand examination Mr. Marmon and myself were impressed with certain tendencies from an American point of view, some of which might be of general interest. Among other things we noticed some advances in the use of the motor as a brake; the almost total disappearance of cone clutches; an effort at reviving the front drive for town cars; a decided improvement in coach-work and conveniences for passengers; the use of tubular front axles on many English cars; adjustable clutch pedals; a ratchet sprag on the transmission; the use of a brake on the transmission; the placing of the crank-case in the

and a few additional arc lights are all the general decorations, although many of the individual stands show artistic tendencies that catch the eye and make an impression. The building itself seems bare and barren, but the individual stands go to extremes in decorations.

So far as London itself is concerned, the battle is now between the pleasure and the business motor. The former has had its rage, and in the opinion of many has settled down to a good business basis. The cry is on now for the commercial vehicle, and here we find everything from the taxi-cab, of which there are about a thousand in London, and the double-decked motor-bus, to the traction engine hauling four or five car-loads of coal.

ONE of the new radiators of the Coventry Motor Fittings Company, of Far Gosford Street, Coventry, is a gilled device of the honeycomb pattern of exceptionally good appearance as well as of real strength. It comprises a series of vertical tubes with horizontal corrugated gills extending across the whole length of the radiator. The corrugations being arranged opposed to one another, the general front view is that of a honeycomb radiator with squares turned to an angle of 45 degrees.

B

SOME NOTES ON INDUCTION PIPES.

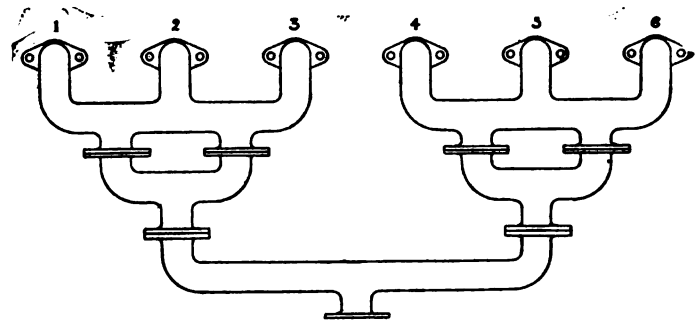
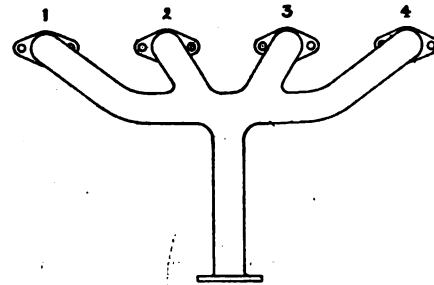
BY A. E. S. CRAIG.

THE question of the best design to adopt for the induction branches of multi-cylinder motors is much more involved, and of far greater importance to the working efficiency of the engine, than a casual observer would imagine. Many designers sacrifice, either through insufficient study of the question, or through a too keen desire to attain a symmetrical effect, a lot of the power which might otherwise be obtained from their motors, and the consequence is that, no matter how perfect may be the carburettor, the ignition, and the engine itself, it is condemned for all time to work with perhaps two of its cylinders half starved, whilst the remainder are getting their full allowance.

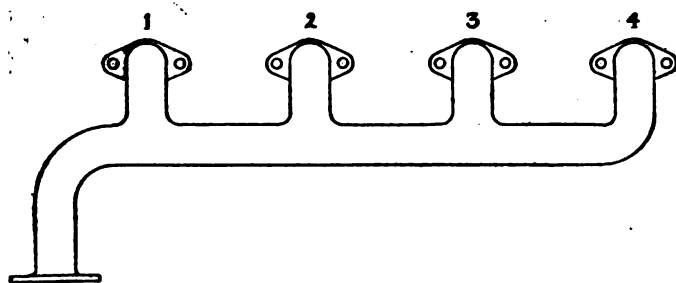
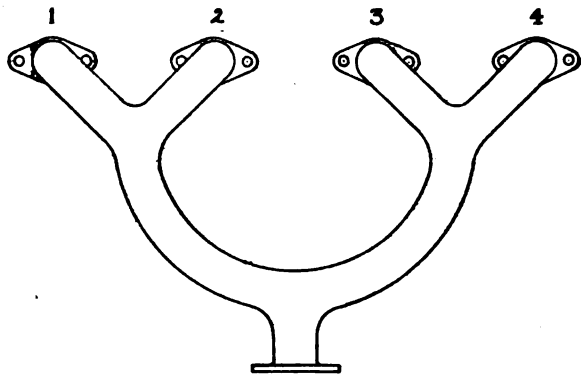
It used to be, if not the fashion, at least a very prevalent idea, that a long induction pipe was a thing to be aimed at, and I well remember, when doing some work on the motors of a certain airship, stumbling over yards of unnecessary copper pipe which had been installed on the advice of an "expert," with the promise of greatly increased power and a glorified "mixture." Before, however, the airship was wafted to its early doom, I observed that the induction pipes had been shortened to a more reasonable length, possibly owing to the terrible efforts required to induce the carburettor to sympathise with the desire of the motor to begin operation. Quite a large percentage of designers nowadays agree in making the branches as short as practicable, and at the same time endeavour to secure that each lead shall be equi-distant. This at first sight appears to be quite the correct thing, but owing to the sequence of induction disturbing the momentum of the explosive mixture, this fact has to be taken into consideration. Some have endeavoured to mitigate the effect of the disturbance by enlarging that part of

the best conditions a certain relative bore in the induction branch, and any portion of the same too large or too small in diameter must necessarily militate against best results.

I have mentioned induction sequence as a disturbing element, and a few words will explain my meaning. Most four-cylinder engines fire in the order 1, 3, 4, 2. Now assuming, as in Fig. 1, a perfectly equal distance and facility from carburettor



FIGS. 3 AND 4.



FIGS. 1 AND 2.

the induction branch which, as in Fig. 3, is common to the leads, to the cylinders, and to the carburettor, but this is obviously mistaken practice if the highest efficiency is to be attained. Alternately small and large areas are wrong, and the higher the flash point of the hydro-carbon employed the more pronounced becomes the effect of the error. A certain cylinder bore and piston speed demands for the supply of explosive mixture under

to each inlet valve in the first case, there is a tendency to starve cylinders Nos. 3 and 2, because these two will be found to have to do a considerable amount of "donkey work" in dragging up mixture for their neighbours. Changing the sequence of firing will only rob Peter to pay Paul, and therefore the type of branch precisely as illustrated is not good practice. To modify the branch in such a manner as to equalise things is an easy matter, but to an inexperienced eye the modification will look lop-sided. The same disturbing influence occurs when, in the twin cylinders of four-cylinder engines, there is a common port to two induction valves. The type of branch, as Fig. 3, equalises to a great extent the distribution, because if in the branches, as Fig. 1, the two middle cylinders have a tendency to be starved, the form shown in Fig. 3 must tend to counteract the effect by making the outer cylinders more remote, and by equalising the columns of gas in motion to each. I am, of course, assuming a carburettor of proper capacity and adjustment, otherwise results will be so erratic that no correct conclusion can be arrived at.

A method that I cannot find any particularly logical arguments in favour of consists in placing the carburettor at one end of the main branch, as in Fig. 2. Even if a compensation is sought by tapering the main pipe so that the large end is remote from the carburettor, the result is bad, and in the usual sequence of firing cylinder No. 3 stands a poor chance.

Most induction branches are cast, and herein lies a continual chance of error; for, however perfect may be the external contour, the coring, either of the main or sub-leads, may be hopelessly faulty. Nothing but a careful measurement of the inside of the casting of each branch fitted will ensure consistent results, and I am sure that conscientious inspection is well worth the trouble, and that the reason why some engines of the same make, and apparently similar in every respect, give vastly different results on the brake may often be traced to the source indicated. The same remark holds good with almost equal force to built-up branches, which are usually made of copper pipe. Although the bore of this pipe is of course regular, the

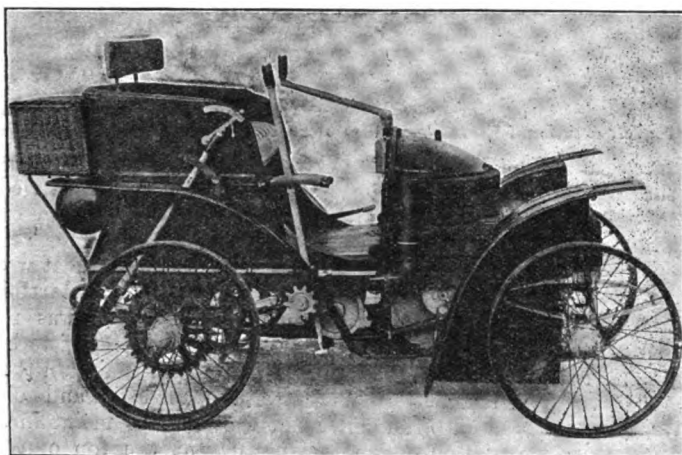
holes-made in the side of the same by the coppersmith may be anything but similar in shape and area. I am speaking of that class of branch as in Fig. 3, where the leads are fitted by means of saddle laps to the main tube. Jagged irregular edges and unequal areas are of course fatal to good results.

Reverting to the question of enlarging a portion of the branch so as to obtain, as it were, a reserve of gas to draw from, I have found in practice that in branches of the type shown in Fig. 3 a fairly good result is obtained by prolonging the ends of the main tube about six inches past each end lead, and I believe this is more effectual than increasing the diameter abnormally.

Fig. 4 illustrates a somewhat costly and elaborate system of pipes to give equal distribution, as regards distance from carburettor, to all the leads of a six-cylinder engine. The number of corners that the gas is obliged to turn must militate against efficiency, besides the condensation which is certain to occur.

THE PRINCE HENRY OF PRUSSIA TOURING COMPETITION.

SOME details of the Prince Henry of Prussia Touring Competition, which is to be held in Germany next year, in the place of the Herkomer event, have just been issued. It was originally intended to make the contest one solely for amateurs, but it was represented to Prince Henry that, if this was adhered to, German manufacturers would have no event during 1908, and it



The First Four-Wheel Wolseley Car.

The vehicle was built in 1898-9; it was fitted with a 3-h.p. horizontal engine having a mechanically-operated inlet valve, and three speeds obtained by a single belt.

was finally decided that they should be admitted. Measures have been taken, however, to place amateurs driving their own cars on a comparative equality with expert drivers. The general conditions upon which the contest will be run may be briefly stated as follows:—Each day competitors will be allowed to spend one hour in making adjustments, oiling, and filling up the tanks with petrol and water; classification will be by cylinder capacity and car weight; the order of starting each day will be governed by the horse-power of the cars; the speed of the vehicles will be regulated by official vehicles, which will accompany the competitors on their daily runs. The competition will occupy seven days, the course being laid from Berlin to Frankfort. On the first day the competitors will cover a distance of 476 kilometres from Berlin to Dantzic; the second day's stage will end at Stettin; the third at Kiel. The fourth day will be a day of rest, and on the fifth the route will be from Kiel to Hamburg, via Flensburg, during which a speed test will probably be held. The sixth day's stage will be from Hamburg to Dusseldorf, via Bremen, and the tour will conclude the next day, after a hill-climbing contest between Dusseldorf and Frankfort. No fewer than six prizes, in addition to Prince Henry's Cup, will be offered. The German Imperial Automobile Club will be responsible for the organisation of the competition.

THE COMPLETE MOTORIST.*

WHEN Sir Dyce Duckworth last week referred to the present era as the Motorial Age, and regretted the decadent effect it was having, in his view, on the womanhood of the country, he had not seen "The Complete Motorist" of Mr. Filson Young. For that work contains a letter from Lady St. Heliers which is such an able defence of the lady motorist that even Sir Dyce would have recognised how grossly unfair he was in his generalisations with regard to ladies and motoring. She writes of the fascination of motoring, and "the enjoyment of the consciousness that you are getting away from your fellow creatures, that every man, woman, child, village, hamlet or town is a landmark passed on the journey which you would like to lead to perfect solitude. There is no sensation so enjoyable—except that of riding a good horse in a fast run—as driving in a fast motor." This ill accords with the learned knight's ideas of a slower age, in which speed shall have no place and women shall lag behind.

How we have arrived at the present stage of speed is well told by Mr. Filson Young, whose book is now in a seventh edition. We have the familiar story of the midnight rides of Trevithick on Cornish roads, of Cugnot's machine attacking the wall, of Hancock's success in running steam 'buses seventy years ago, of Gurney's services and of the hostility of the tollgate people towards the new locomotion of the pre-Victorian days. Then came a great void, and when Daimler appeared upon the scene it was with the internal combustion engine, upon the basic principles of which the modern automobile has been evolved. Several types of Twentieth Century petrol cars are described, including the Crossley, Daimler, Lanchester, Humber, Siddeley, Austin, Mors, Renault and Sizaire-Naudin. The White is illustrated and its good features described, while we congratulate Mr. Young on the omission from the present edition of the account of a steam car which has not yet found its way to the market, and of which, consequently, nothing can rightly be said.

Practical chapters are concerned with the selection of the car, its use and running, and also its care. He places the average annual mileage of a small car in constant use at 5,000 miles, and suggests that a vehicle so well employed should be thoroughly overhauled in every detail once a year so that all worn parts may be replaced. That "boon and bane of motoring"—the pneumatic tyre—has a chapter to itself, and the motorist is told that his neglect and misuse of the tyre is the cause of many of his troubles. A good word is said for the Palmer Cord tyre, and the practical person is advised to equip the rear wheels of his touring car with nail catchers, which often prevent puncture—and that is always better than repairing the same. Reference is also made to the literature of motoring, and while we thank Mr. Young for placing on record the work of the M.C.J. in popularising motoring, we would remind him that it is now in its ninth, not its sixth year. Anyhow, our readers will recognise the accuracy of the statement that the Journal "gives the purchaser more for his money than any other motor-car paper with the possible exception of the —."

The least satisfactory part of a really valuable work is the appendix. Here we have the report on the Small Car Trials at Hereford in 1904—almost ancient history in the automobile world. These might well have been omitted, and the report on this year's Scottish Trial could usefully have taken its place. Seeing that, like Tennyson's brook, cars may come and cars may go, such lists should always be brought well up to the time of writing. Otherwise we have nothing but praise for a book that occupies a well-worn corner of our bookshelves, and which Mr. Filson Young's facile pen has invested with an easy interest for all men, whether they drive or not. It has, in fact, become a standard volume.

THE Newcastle Corporation is being invited by the Town Improvement and Streets Committee to purchase a motor-car for the service of the City Engineer's Department.

* "The Complete Motorist," by Filson Young, with 135 illustrations. London: Methuen and Co.

THE STEWARD TUBELESS SEMI-FLASH BOILER.

ABOUT a year ago we had our attention drawn to an ingenious type of tubeless semi-flash boiler which has been devised by Mr. G. R. Steward, M.Inst.M.E., of 28, Victoria Street, Westminster, a gentleman who has had a long experience of engineering work, and more especially in the marine branch, he having been connected with Messrs. J. Penn and Sons, of Greenwich, and later on his own account as an engineer and shipbuilder at Blackwall. During the past twelve months Mr. Steward has been busily engaged in perfecting the boiler, which has recently been submitted to a series of trials, when some noteworthy results were attained. The distinctive features of the generator are the entire absence of the tubes, which usually are the cause of considerable trouble, and of the usual crown plate. As will be seen from the sectional view, Fig. 2, the boiler consists of a number of hollow concentric cones which form annular water spaces, connected together by pipes *g*, which form the steam and waterways. The spaces between the cones form combustion chambers, and thus—with the exception of the outer shell—the water spaces are heated on both of their sides. The main feed to the boiler is carried in at the bottom, and is collected from the special reservoir at the top of the generator. It will be noticed that the water column in each cone shows a distinct thinning away towards the water level, this being done with the object of presenting a larger heating surface for the same volume of water at this part where the temperature of the gases is lower. In order to keep the water at a constant level a special reservoir or water belt is provided, this being fixed to the outer shell or casing, communication being made by small perforations at the bottom of the reservoir for the water to pass into the boiler, there being similar perforations at the top for the steam to pass out. At the bottom of this reservoir is a circular perforated pipe 2, supplied with live steam from the central super-

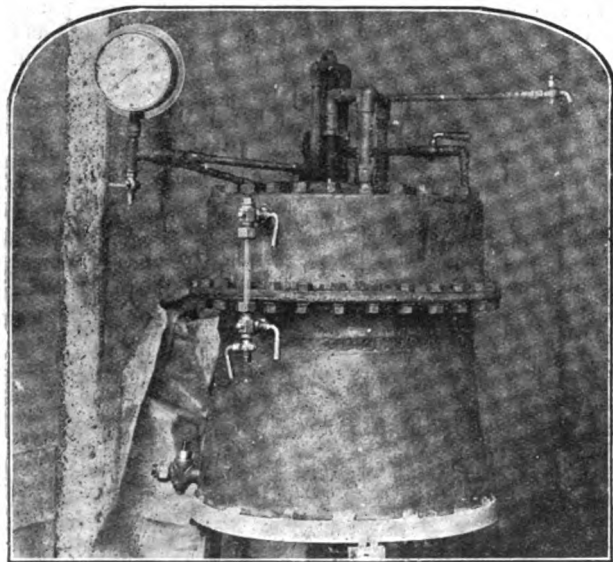


Fig. 1.—General View of Steward's Tubeless Semi-Flash Boiler.

heater, by means of which the boiler is fed with water at a temperature somewhere near the boiling point. It will be observed that the cones have a varying height, this design having been adopted with the double object of giving freedom to the gases at the bottom ends of the several cones, and also of securing an increasing steam space to the central cone previous to the steam entering the superheater. The latter is placed inside the central cone, and, in order to protect the superheater tube from extreme heat while raising steam, it can be filled with water up to the water level through a tube connected with outer cone *f*. The tube then forms part of the generator, but when sufficient steam is raised it is closed

against the water, and performs the function of the super-heater. It should be mentioned that the cones also vary in height at the bottom so as to facilitate the draining of the water which passes from the central cone to the next cone, and from that to the outer annular space, where all the water can be discharged through the drain cock at the bottom. The boiler is stated to

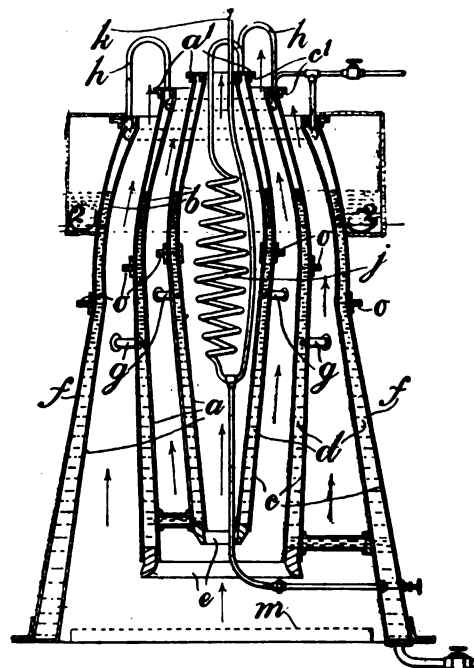


Fig. 2.—Sectional Elevation of Steward's Tubeless Semi-Flash Boiler.

be practically primeless, it being claimed that the circular pipes at the top of the two outer cones prevent water being carried over, and any that is carried over is converted into steam on reaching the superheater.

In the course of some recent tests, in which the heat was furnished by a paraffin burner of the old Bunsen type, starting with the boiler quite cold, the first indication of steam was recorded within 2½ min. of lighting up, while the gauge registered a pressure of 150 lbs. in 6½ min. In order to maintain this pressure the two main steam cocks were opened full and cold water was pumped into the boiler and the pressure maintained with but slight variation. The temperature at the top of the flues in the uptake appeared to run high, averaging between 600 deg. and 700 deg. F., and the superheated steam between 500 deg. and 600 deg. F. The boiler, which can be adapted to use either solid or liquid fuel, occupies a relatively small space, which, combined with its quick steam raising capabilities, renders it well adapted for use on pleasure or industrial steam vehicles.

ARGYLL MOTORS, LTD., have secured an order for a 14-16-h.p. 30 cwt. van from the Gas Department of the Glasgow Corporation.

IN the election for the Leuchars Division of the Fife County Council the motor-car question is being discussed, one of the candidates advocating the tarring of roads at the expense of the motoring community.

THE Leaborne Manufacturing Company, of Greenhill Parade, Harrow, have opened the largest motor garage in the district, and can undertake lathe work up to 24 in. diameter, as well as H.F. vulcanising. A stock of tyres is kept. The building has a commanding frontage of 120 ft. on the main Pinner road, and is open day and night.

SOME idea of the activity of Mr. J. E. Hutton, as well as his success as a sporting motorist, is to be gleaned from the pamphlet just issued by Messrs. J. E. Hutton, Ltd., giving an account of the performances in which the Berliet car has been distinguished at various club competitions, as well as in other contests during the year now closing.

CONTINENTAL NOTES.

Anti-Automobile Movement in Switzerland.

A good deal of antipathy is still being shown to motor-cars in Switzerland; in the Canton Grisons their use has been forbidden, while now a demand has been made by the Grand Conseil of Zurich for more severe measures against motor traffic for the protection of the public. The Government has replied that it is impossible to prevent such vehicles being used, but it is possible that an increase in the taxes on the same will be made.

The Training of Motor Repairers.

The Automobile Technical Association of Vienna is organising a training school for motor repair work in the rooms of the Handicrafts Exhibition. It is especially intended for country blacksmiths, locksmiths, and other mechanics with a knowledge of machinery, and besides helping to provide automobile repair shops in country places the school will open up a new means of livelihood to these workmen, many of whom have, it is stated, lost a good deal of their original business through the introduction of automobiles. The school will be completely equipped with tools and all requisites for the repair of cars. The course of instruction will last four weeks, and special provision is to be made for the admission of workmen in poor circumstances by the grant of a small pecuniary compensation for the time spent in the school.

The Paris Salon.

At the last meeting of the French Chambre Syndicale de l'Automobile the question as to the future of the Paris Salon was raised. Some members of the society hold that an annual exhibition puts them to too much expense in view of the results achieved, and that the interest of the buying public is also diminishing. An exhibition every second year would, according to them, be quite sufficient for all the purposes of the trade, and some are even of opinion that an automobile show every four or five years would be still better. La Chambre Syndicale is determined to thresh out the matter thoroughly, and a circular letter is being drawn up submitting a number of questions on the subject to the many firms engaged in the motor-car and allied industries in France.

Speed Trials at Toulon.

A series of flying kilometre speed trials were held on the La Crau road, near Toulon, on Sunday last. In the single-cylinder class the best time was made by Popham on a Sizaire-Naudin, who covered the kilometre in 1 min. 12.5 sec. In the four-cylinder car section, between 91 and 100 mm. bore, Mouren on a La Buire was the victor in 42 sec., while the fastest time, 39.25 sec., of the day went to the credit of M. Mery, on a Lorraine-Dietrich.

Instructing the Children.

The Automobile Club du Rhone has, with the approval of the local educational authorities, just taken a step which it is hoped will have beneficial results. The departure in question is the drawing up of a notice which is to be posted up in all of the schools in Lyons, warning the children not to throw stones at motor-cars, to pay particular attention to automobile and tramway traffic, and not to cross the roads in front of vehicles. The masters of the schools are also to occasionally give the scholars verbal warning.

French Motor-Car Imports and Exports.

The imports of foreign motor-cars and parts into France during the ten months ending with October last attained a value of £287,280, an increase of £4,000 over the corresponding ten months of 1906. During the same periods the exports of motor-cars and parts from France advanced from £4,572,120 to £4,824,440.

Motor Ambulances for Brazil.

The municipal authorities of Rio Janeiro, Brazil, have lately ordered from the De Dietrich Company four special vehicles designed for use as ambulances, and also for the

transport of police officials. The machines, which will be of 16-20-h.p., will be fitted with closed bodies, having accommodation for twelve persons and a stretcher, as well as a first-aid equipment.

The Two-Cycle Engine Competition.

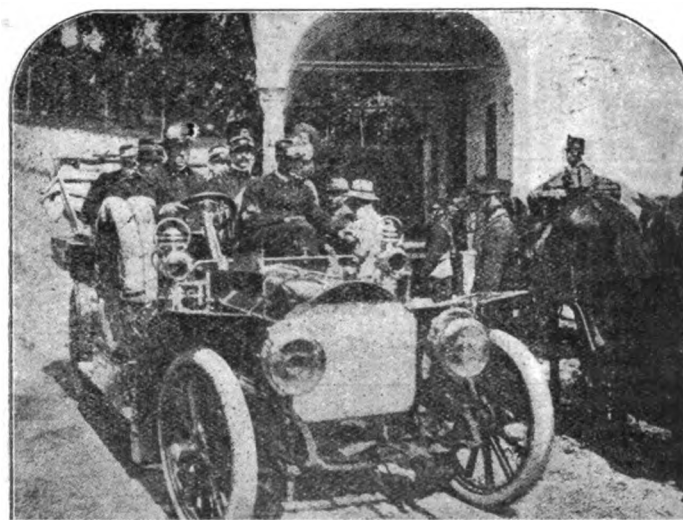
The Technical Committee of the A.C.F. has awarded the first prize in the recent competition of two-cycle petrol motors to the engine entered by the Peugeot-Tony Huber firm, and the second prize to that of M. René Legros, of Fecamp.

The Coupe de la Presse.

At a meeting of the Competitions Committee of the A.C.F. last week it was decided to again hold the Coupe de la Presse contest in the first week of August, 1908. The rules will be practically the same, except that the permitted weight of the cars will be 1,750 kilograms, as against 1,650 kilograms this year. The feature of the event, which consists of a race over a distance of about 400 kilometres, is that it is run on a petrol allowance basis of 19 litres per 100 kilometres, equal to about 15 miles to the gallon.

The Nice Automobile Week.

The programme of the annual automobile week at Nice has been provisionally drawn up as follows:—March 22nd, Auto-



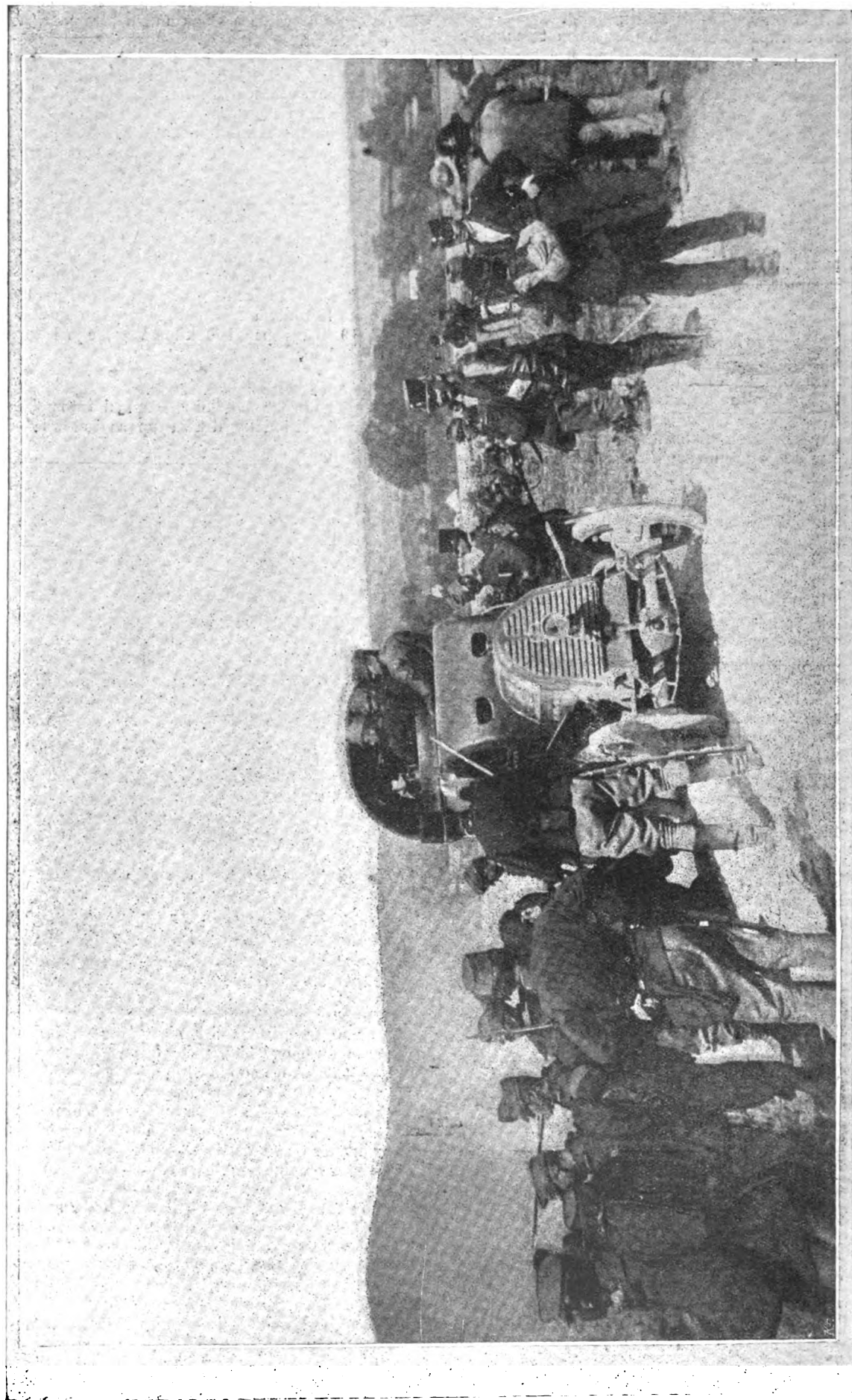
One of the cars used in the recent Military Manoeuvres in Italy.
L'Automobilista.

mobile Flower Fete; March 23rd and 24th, Touring Contest; March 25th, Elegance Competition at Monte Carlo; March 29th, the Kilometre Bull's Eye Event; and March 31st, an automobile paper chase.

Miscellaneous Items.

Captain Renaud read a paper on Industrial Motor Vehicles at a meeting this week of the Automobile Club Seine-et-Oise. —The Automobile Club d'Ostende et du Littoral has just been formed in Ostend, with Count Henri Visart de Bocarmé as first president. —A company has just been formed to introduce a service of taximeter cabs in the town of Lille. —The Grosser Berliner Omnibus Gesellschaft has lately put a Stoltz single-deck steam omnibus in service. —The "Auto's" concours de pannes has again been postponed, but is to be definitely held on Sunday next, the 15th inst. —Messrs. Renault Freres have presented a 14-h.p. four-cylinder engine to the testing laboratory of the French Automobile Club. —The Austrian Automobile Club is preparing to celebrate the completion of its tenth year of existence on the 6th February next. —A company is being formed in Landser, Alsace, to establish a public motor-car service between Muhlhausen, Obersteinbrunn, and Habsheim. —The Marchese Ferrero di Vintimiglia has been elected president of the Italian Automobile Club in place of the deceased Prince Strozzi.

Motor Vehicles for Military Purposes.



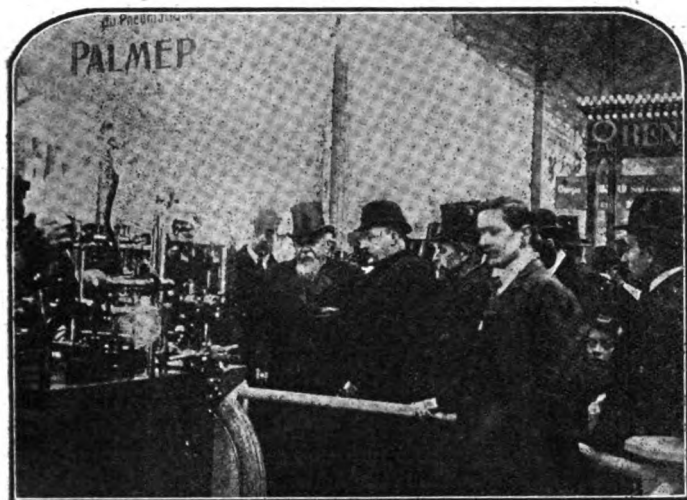
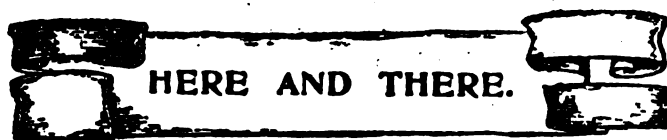
The above illustration depicts the Gun of the Armoured Motor-vehicle belonging to the Austrian War Office in course of trial during the recent military manoeuvres in Austrian Silesia.

[Allgemeine Automobil Zeitung.]

As will be seen from our Lighting-up Time Table, the times of illuminating motor-cars will gradually extend after next week.

WITH the exception of one man who is under the control of the North-Eastern Automobile Association, the whole of the road agents of the Motor Union have been withdrawn from duty.

At the Paris Salon President Fallieres was greatly impressed by the cord-laying machine on the Palmer Tyre Company's stand,



which was one of the features of the show. The principle of the well-known cord tyre was carefully explained to the President, and the remarkably ingenious piece of mechanism, now so familiar to the majority of motorists on this side of the Channel, satisfactorily performed the cord-laying process in his presence. The King of Greece also was deeply interested in the machine, and stayed for quite a long time at the Palmer stand. The first public performance of cord tyres in France has been received with acclamation by public and Press alike, and it is evident that Palmers will receive a large share of future tyre business over there.

THE L.G.B. regulation as to the speed of motor-cars being reduced to ten miles per hour over that portion of the main road from London to Brighton which passes through Handcross, between the milestones indicating thirty-three and thirty-four miles from London, comes into force to-day (Saturday).

THE "Industrial Motor Review" for December contains practical articles with regard to the running of motor-vehicles for the transport of goods, including statements of actual costs and running expenses. There is also a complete review of the motor-vehicles, tractors, &c., at the Smithfield Show, and an important paper on the organisation and management of a public service garage.

MR. HENRY MOORE sends us a photograph of his new garage in the Regency Mews, Preston Street, Brighton. This is within 200 yards of the Hotel Metropole, and is composed entirely of private lock-up compartments evidently of ample proportions for large touring cars. In the front of each lock-up is a washing ground, a separate hose being supplied for every vehicle, thus avoiding delay in getting the cars ready for the road. A chauffeurs' room has also been provided. The firm of Moore of Brighton, Ltd., have also erected a similar garage in Norton Mews, Hove, constructed on equally good lines.

A JAPANESE company has lately commenced to manufacture motor-cars in a small way in Tokio. The first vehicle was completed a few weeks ago, and it is claimed that every part was built in Japan, with the exception of the tyres, lamps, springs and coil. The car is more on American lines than English, being fitted with a 12-h.p. engine located at about the centre of the frame under the body,

MESSRS. ARCHIBALD GRAY AND Co., of High Street, and Quarry Hill, Guildford, have been appointed official repairers to the Royal A.C.

AT 18, Charing Cross Road, W.C., in a fine position opposite the offices of the M.C.J., are premises with a total floor area of 23,000 square feet, which are unlet. They are admirably adapted for the purposes of an automobile showroom.

MRS. A. E. PERKINS, of Okehampton Road, Kensal Rise, N.W., has won the motor-car offered by Messrs. Lipton in connection with their recent Limerick competition.

A MOTOR-CAR containing an American bride *en route* to St. George's Church, Hanover Square, W., on Tuesday broke down and nearly led to the postponement of the wedding.

MR. W. H. DOREY, of 14, Rue Torricelli, Paris, informs us that he has been appointed sole foreign agent for the new Vacuum silencer, illustrated in the M.C.J. of the 30th ult.

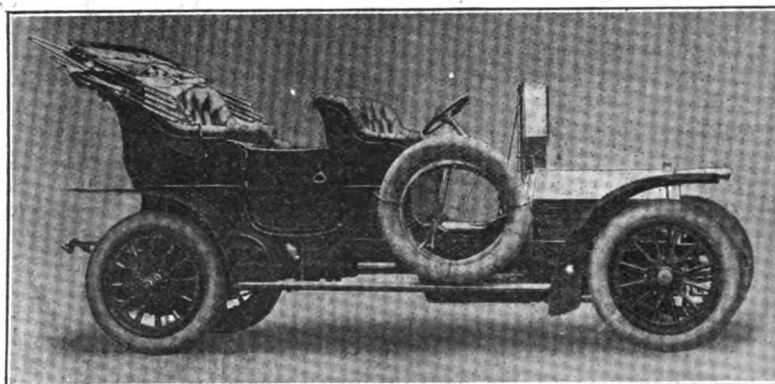
ON Sunday next a general rearrangement of fares by the various motor-bus companies in London will be inaugurated, and many of the stages of the penny fares will be considerably reduced.

AMONGST the candidates at the most recent examination of the Royal A.C. were several motor-bus drivers from the Motor Schools, Ltd. In the event of success in the examination, they will be employed by the Vanguard Company.

AT last week's meeting of the Insurance Institute of Ireland, held at Dublin, Mr. Llewellyn Meredith, of the International Insurance Company, read a paper on motor vehicle insurance, in the course of which he described the general development of the motor-car industry.

MESSRS. GAMAGE'S Sportsman's Pocket Diary for 1908 consists of nearly 200 gilt-edged pages, on good thin bank paper, and well bound. It is less than a quarter of an inch in thickness; sixty-four of its pages contain useful tables, charts, and information of sports and pastimes; there are also memoranda pages, well arranged cash account pages and a section for recording cost of motor-car maintenance. It is also fitted with a patent self-opening memo tablet and pencil, and contains a free £1,000 insurance policy.

THE accompanying illustration shows an 18-24-h.p. Fiat car, which has recently been supplied to the order of the Crown Agents for the Colonies for the personal use of Sir William Taylor, the Resident General in the Federated Malay States. The Roi des Belges body is painted dark green with white lines, the



upholstery being to match; and it is interesting to note that it has been built at the Fiat Company's Motor Body Building Department at Brighton. Special attention has been paid to rendering the car thoroughly suitable for use abroad; and with this object in view all four wheels are shod with Moseley Perfect Detachable tyres of uniform size, 36 by 5 inches.

SEVEN motor-cars of different makes are now available for hire at Messrs. Randall's motor depot, in the High Street, Andover. The firm have a garage in the White Hart Hotel yard, and have also a motor establishment at Ludgershall, Wilts.

THE Irish A.C. is about to put up 200 danger posts and signs in various parts of the Emerald Isle.

MR. G. B. GENTLE, Chief Constable of Brighton, has been elected an honorary member of the Royal A.C.

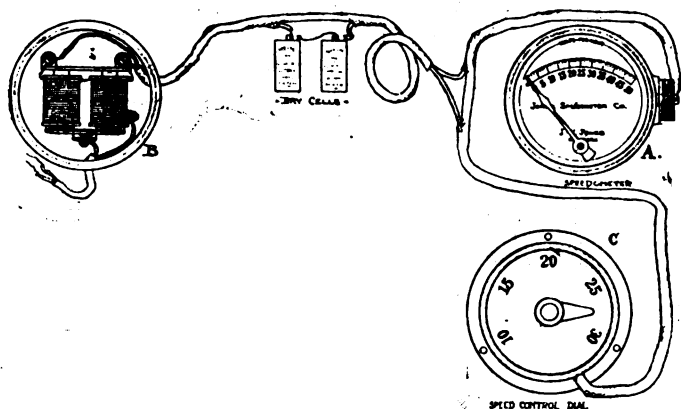
THE Erie (U.S.A.) Motor Club is awarding prizes to the road supervisors in the district for the best kept stretches of roads.

COMMODIOUS premises at 14, Corporation Road, Newport, Mon., have been opened by Mr. F. Turner, of the Alexander Motor and Cycle Works.

AT Brisbane, Messrs. Howard and Co. are extending their show-room capacity to meet the colonial demands for the Rover and Reo cars, their agencies for which have proved extremely popular.

Elsewhere in the present issue we conclude the publication of an interesting article describing a motor tour in Brittany, one of the most picturesque districts of France. It is from the pen of Mr. Francis Miltoun, and first appeared in our American contemporary, "The Automobile."

THE Jones Speedometer Company, of New York, have recently introduced a speed-control governor which enables the occupants of the closed portion of a motor-car to limit the speed of the vehicle at will. The apparatus consists of four elements—A, a speedometer provided with contacts at certain points; B, a circuit-breaker acting on the ignition; C, a speed-control dial; and, lastly, a source of current (dry cells). C is placed in the rear portion of the vehicle, while B may be conveniently placed anywhere in the ignition circuit. The pointer on C being



placed at any figure—10, 15, 20, 25, or 30 miles per hour—when the indicating finger of the speedometer reaches the corresponding figure current from the battery cells passes through the circuit and energises the electro magnets in B, causing them to attract an armature which breaks the engine ignition circuit. When the speed falls below the set figure the armature is demagnetised and the ignition circuit is again completed. An arrangement of the apparatus to act on the throttle instead of on the ignition is also being manufactured. Messrs. Markt and Co., 6, City Road, E.C., are the agents for the Jones Company in this country.

ON Tuesday Mr. W. T. Clifford Earp set up four new records on the Brooklands Track on his 60-h.p. six cylinder Thames car, viz.—Fifty miles, 39 min. 10.29 sec.; one hour, 76 miles 453 yards; 150 miles, 1 hour 58 min. 34.1 sec.; two hours, 151 miles 146.8 yards.

FROM the Touring Club of Italy come copies of four additions to the excellent series of maps of Italian roads they are publishing; they deal respectively with the Rome, Naples, Civita Vecchia and Frosinone districts, and will be found useful to all who contemplate a tour by road in Italy.

REPAIRS to motor tubes can be very neatly finished by coating the repairs with a special colouring cement before vulcanising. A preparation for this purpose has just been introduced by Messrs. Harvey Frost and Co., Ltd. This secures the repair being made invisible after execution, the colour or tint of the repair being identical with the hue of the tube. The new material is known as the H.F. Red Colouring Cement.

THE Milo Motor and Engineering Company have good facilities for motor repair work at their establishment in the High Road, Chadwell Heath, Essex.

IN the Tangye motor-car jack, which is being marketed by the United Motor Industries, Ltd., the driving worm is provided with a sliding as well as a rotary motion. It is specially designed for use with vehicles weighing up to 35 cwt.

THE Elastes Company, Ltd., have issued a pamphlet giving extracts from the many letters of appreciation they have received. These testify to the good results that have followed the adoption of Elastes by many motorists who have given the preparation a thorough test on roads of all descriptions.

IT is noteworthy that a commencement has been made in France in the way of a return to the old form of sloping engine bonnet, there being several new cars on view at the recent *Salon* in which the shape adopted is similar to that made familiar during recent years by the Renault and C.G.V. firms.

A HANDY Guide to the interesting Cannock Chase district, especially designed for the use of motorists, has been issued from the Shrewsbury Arms Hotel at Rugeley. This hotel has a well-equipped garage, and the value of the Guide is increased by the table of the principal routes passing through the town, with the mileages to important districts beyond.

MESSRS. PERRY, THORNTON, AND SCHRIEBER, the British Agents for the Ford cars, have sent us a copy of the booklet they have prepared, giving full instructions how to remove any part of these cars from the frame should they need repair, and the best method of effecting the same when necessary. Hints are also given as to methods of adjustment and inspection, while a few pages are devoted to notes on some of the common sources of trouble to which all motor vehicles are subject. The booklet also contains a full price-list of spare parts for the 15-18-h.p. Ford car; these are all numbered, and the majority illustrated, so that users will be able to obtain duplicates with a minimum of trouble. Altogether the list is one which will prove indispensable to users of these vehicles, and will also be found to contain much that should prove useful to motor-car repairers.

HAVING realised that there is a demand for small motors of substantial design which can be run direct off electric lighting mains without a series resistance, the Crypto Electrical Company, of Bermondsey Street, London, S.E., have just put on the market two machines, of respectively $\frac{1}{4}$ -h.p. and $\frac{1}{2}$ -h.p. which they claim will require a minimum amount of attention, and work for years without costly repairs. The brush holder is of the self-adjusting type, fitted with carbon brushes, the machine running sparklessly from no load to full load without altering the position of the brushes. The armature is of the slotted drum type, and the commutator is built up of hard drawn copper segments assembled under hydraulic pressure. The fields are former wound and taped and can be shunt or series wound. We may add that both sizes of the machine are arranged to work as dynamos when required.

A FEATURE of Messrs. Charles Letts's Diaries which has conduced in no small degree to their great success is the patent self-opening memo. tablet. This is a simple contrivance by means of which the diary always opens at the place in use, whilst memoranda written on the tablet are brought prominently under the eye, and, as soon as attended to, may easily be removed by a moistened rag or sponge. Another feature of Charles Letts's Diaries is the £1,000 accident insurance coupon. Over £8,000 has been paid in claims resulting from recent railway and other accidents. An entirely new series of householders' combination insurances is for the first time included in the 1908 diaries. To the details of production the greatest care is given; the papers are really good, the ruling and printing are evidently carried out by most accurate machinery, the perfect register and evenness of the work being a marked feature. In the binding, silk is used for sewing the pocket diaries in preference to thread, equal strength and much greater neatness being secured. The diaries also include those for the office desk, others devised so that the space for one week appears at an opening, and others specially prepared for commercial service. Altogether, the Charles Letts Diaries well maintain their old reputation.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE BROOKLANDS FATAL ACCIDENT.

AN APOLOGY.

IN our issue of October 5th, 1907, we printed a letter from a correspondent who criticised the driving of Mr. Sydney Smith in the race in which Mr. Hermon was killed.

We desire to express our great regret to Mr. Sydney Smith for having allowed the letter to appear in our columns, and we offer him our sincere apologies for any possible annoyance which its publication may have caused, and we unreservedly withdraw the letter. Mr. Sydney Smith is a motor driver of great skill and experience, and there was no foundation in fact for the suggestion of our correspondent that his management of his car was a cause of the accident, or that he was in any way negligent upon the unfortunate occasion in question. We hope that Mr. Sydney Smith will accept this as a full apology, and we shall be happy, if he desires it, to insert any further statement on the matter.

CORDINGLEY & Co.

ALCOHOL TESTS.

TO THE EDITOR OF *The Motor-Car Journal*.

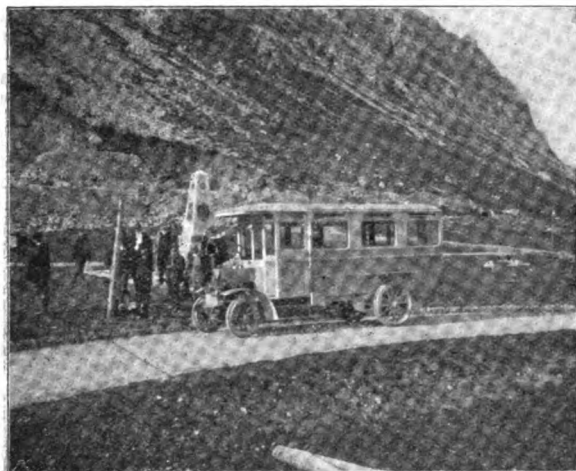
SIR,—Again we have Mr. Edge experimenting for the benefit of motorists in general by carrying out tests, the results of which he gives in his letter published in a recent issue.

manufacturing centre. For instance, suppose the manufacture were conducted at Silvertown, the price would be about 4d. per gallon less than the present price of petrol to the retailers in the London district. Surely such a state of things is worth a very big effort on the part of motorists. And the other advantages of such an indigenous supply of fuel, are they not written in the report of the Fuels Committee?

Going back to Mr. Edge's experiments, I should like to know whether he adjusted the float to compensate for the increased specific gravity of the fuel, otherwise, of course, his jet level would be so low that starting would be weary work.

Personally, I think the success of alcohol-benzole fuel, at a reasonable price, will depend upon whether it can be substituted for petrol on existing engines without any permanent or drastic alteration to carburettor or compression, so that if you run out of alcohol-benzole in the country, and you cannot get a further supply, you simply put petrol into your tank and *vice versa*.

With a little ingenuity surely some mechanism could be arranged, so that if alcohol-benzole were substituted for petrol, a small calibrated weight could be dropped on the float to increase its specific gravity. And as to compression, some mechanical device could, I think, be introduced to vary this in the manner that I do it at present, but, of course, more expeditiously, viz., in my valve pockets I have cups screwed in with about $\frac{1}{2}$ in. depth of thread. If I wish to reduce my compression, for the one copper and asbestos washer I substitute two, having between them a faced iron ring of the required depth, thus the cups are raised out of the valve pockets, and the compression reduced. The compression



Some Trials with a Saurer 30-h.p. Single-deck Motor-Bus Have lately been made in the mountainous districts of the Southern Tyrol. The above illustrations depict the vehicle near the summit of the Pordoljoch, 7,380 ft. above sea level, and on the Rolle Pass, 6,500 ft. [*Allgemeine Automobil Zeitung*].

After the publishing of the Fuels Committee Report, I had hoped to see some official body conduct tests on a mixture of alcohol and benzole, and in my evidence before that committee I strongly advocated the trial of such a combination. However, as no steps had apparently been taken in this direction, I determined to commence the work myself, and had already fixed a separate calibrated full tank, with gauge glass, on my dash for this purpose, when, as so frequently happens, Mr. Edge "got there first."

Until we can put before the authorities some practical results, we cannot expect them to seriously consider the amendment of the Excise duty to the end that we may have cheap alcohol as a fuel, and, therefore, Mr. Edge deserves our thanks for his initiative. Suppose there was no Excise duty on alcohol for fuel purposes, at once the manufacture of this spirit from peat, sawdust, &c., would become a great industry in this country, and 90 per cent. alcohol could be sold wholesale in bulk, with a good margin of profit, at 3d. per gallon. (I am taking here the figures of Sir William Ramsay and Mr. Thomas Tyrer.) At the same time an impetus would be given to the installation of plant for the recovery of benzol from coke ovens, and I think, having in view the evidence that Mr. Ledoux gave before the Fuels Committee, that 8d. per gallon would be a fair price at which to put the benzole in wholesale quantities, with a fair margin of profit. Now I have reason to believe that if the carburettor level be adjusted to suit the specific gravity of the mixture, two parts of alcohol and one part of benzole can be used with satisfactory results. The wholesale cost of such mixture would be under 5d. per gallon, and allowing 2d. for expenses connected with the packing in two gallon tins, and delivery within twenty miles, it brings us to 7d. per gallon as the wholesale price to the retailer within that radius of the

can be increased above its normal by using a somewhat deeper cup, but, of course, care has to be taken to give the valve clearance.—Yours truly,

A. DUCKHAM.

THE HORSE-POWER OF PETROL MOTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—For the last few years I have called attention, shortly after the Show, to the curious want of uniformity in the horse-powers applied to various sized engines by their respective makers. Some few years back I wrote an article for one of the motoring papers, dealing with an attempt to obtain a unit upon which to base a rating of horse powers of engines. I failed, but in the course of the argument contained in that article I was instrumental, I believe, in doing away with the formula which accepted revolutions per minute as one of the necessities for rating horse-powers. Shortly after that article, practically every club in Europe did away with the old formula which included "revolutions per minute." I trust my perseverance, I might call it my annual perseverance, may one day result in the unit being established by which the public may compare what they are purchasing.

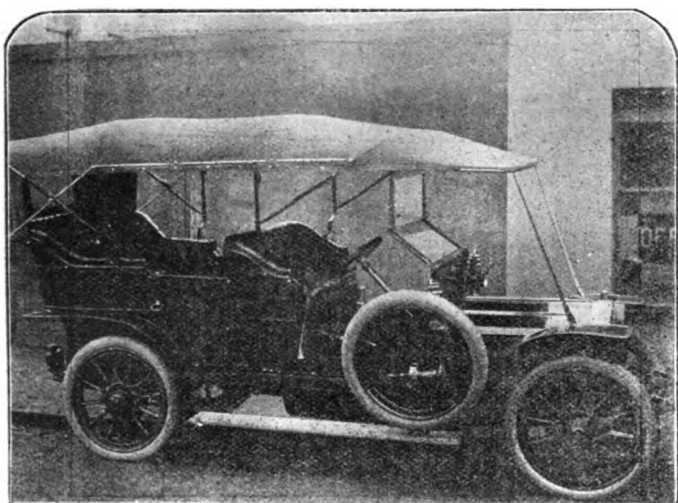
The Royal Automobile Club have a formula which is not a bad one, and yet is not a good one. The French have a formula of litre measurement, of which I personally approve, but I should like to repeat the same remarks that I have often applied before, "the unit that may be used for rating an engine is immaterial so long as it is kept within reasonable limits, subject to every manufacturer being forced to use the same unit." If the Royal Automobile Club were to think fit, it might impose upon all those firms a stringent rule to catalogue the horse-

powers of the engines under the club rating, under the penalty of refusing to permit any car to enter races when the manufacturers did not apply the denomination given according to the club rating. I do not wish it to be thrown at me that I am not practising what I am preaching. I admit it; but, so long as everyone is permitted to do as he or they think fit, then those who are desirous of accepting a standard must not be blamed for following the bad example.

To impress upon your readers the peculiar state of the present position, I will, with your permission, cite a few extraordinary cases, showing how the catalogues of the various makers are apt to deceive purchasers into misunderstandings which in all probability the manufacturers do not desire, but which, notwithstanding, exist. The Nordenfelt, De Dietrich, Itala, Weigel and Spa of 130 mm. bore are all termed in their respective catalogues 40-h.p. The Renault with, exactly the same bore, is called 35-h.p. The Mercedes, with 10 mm. less bore, is called 5-h.p. more, or it is called 10-h.p. more than the Renault, notwithstanding that it is 10 mm. less bore than any of them. Exactly the same thing applies to the 40-h.p. Benz car. This is 10 mm. less bore than the first mentioned cars, but it is denominated 40-h.p., or exactly the same. The 40-h.p. Westinghouse is 10 mm. less bore than the Itala, Weigel, Spa, &c., but it is denominated the same. It is exactly the same bore as the 45-h.p. Mercedes, but it is denominated 5-h.p. less.

Taking the reverse side of the picture, we find that the Rochet-Schneider is 10 mm. more than the Weigel, Itala, Spa, &c., but it is called the same. It is 15 mm. more than the Mercedes, Austin, Benz, &c., but it is called 5-h.p. less than the first named, and the same as the cars following.

I will now deal with smaller cars, where the results are still more extraordinary. A 20-h.p. Charron is 10 mm. bigger in bore than a 28-h.p. Pipe. The Porthos has exactly the same bore as the Charron,



The 20-25-h.p. West-Aster Car, with bodywork by Messrs. A. Meier and Son, Redhill, which has lately been supplied to the Right Hon. Viscount Powerscourt, of Ireland.

but is called 4-h.p. more, and the Weigel 25-h.p. car has exactly the same bore as both the Porthos and the Charron, and is called 1-h.p. more than one, and 5-h.p. more than the other. The 25-h.p. Weigel with 110 mm. bore is denominated 1-h.p. less than the Metallurgique which is denominated 26-h.p. with 4 mm. less bore. The 25-h.p. Gladiator is 5 mm. less than the 20-h.p. Spyker, or the 25-h.p. Weigel, the 20-h.p. De Dietrich, or the 25-h.p. Straker-Squire. The 26-h.p. Talbot is 5 mm. less than cars denominated by the same h.p., such as the Straker-Squire, Swift, &c., but the 25-h.p. Brown is 10 mm. less than cars mentioned above.

It will be impossible to give a proper set of examples in any letter, but there is sufficient written above to make one wonder how the uninitiated buying public, the greater part of whom do not profess to have any technical knowledge, is able to discriminate between one car and the other. He buys a vehicle with, let us say, 100 mm. bore, and believes, according to the catalogue that he has, let us say, a 25-h.p. car. He meets a friend who has also purchased a new car, and his friend with envy says "How lucky you are. I could not have invested in so high a h.p. car as yours. Mine is only 15-h.p." On examination it is found that the gentleman who could not afford to buy the alleged higher-powered car has an engine with perhaps 10 mm. more bore. His envy is turned to scorn and he thinks his friend has been swindled. I do not wish to suggest that he is swindled, or that the bigger the bore, the bigger results. There is much that depends upon the knowledge of the manufacturer. But all this is unknown to the purchaser, he judges by the size of the engine in the day of his initiation into the mysteries of motoring, the same as he judges his purchase by the pure £ s. d. There is not the slightest doubt that the honour of the motor industry is often called into question by the curious want of uniformity in the

description of the goods sold by different firms, and I think it would be adding materially to the confidence the public place in the trade generally, if means were obtained by which, in defining the h.p., a method of comparison existed. It would certainly add to the life of the salesman who is bombarded by questions as to why a small engine denominated by a higher h.p. is more powerful than a bigger engine denominated by a smaller h.p. It would equally save him the necessity of entering into many false explanations which are made, firstly to sell his goods, and secondly because as a rule the salesman knows as little about the matter as the purchaser.

I am equally convinced that every firm of note and standing in this country would be happy to see some method adopted to bring to an end the present state of things, and I have very little doubt that if either the Royal Automobile Club or the Society of Motor Manufacturers were to take the matter up with their foreign correspondents, some means could be obtained for universal rating, which should be enforced upon manufacturers under some penalty which one of these bodies may have at their command.—Yours truly,

D. M. WEIGEL.

THE WORLD'S RECORD FOR RELIABILITY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I agree with Captain Corbet that it is unfortunate that there should have been differences between Rolls-Royce, Ltd., and the London and Parisian Motor Company, Ltd., concerning the results of the trials of 15,000 miles of the Hotchkiss and Rolls-Royce cars. I ventured to state that I thought there had been a clerical error in the pronouncement by the Royal Automobile Club that the "reliability" of a car relates to the amount of time spent in adjustments and replacements to keep it running on the road. Captain Corbet and your readers may be interested to know that this extraordinary definition has now been withdrawn by the R.A.C.

So long as the R.A.C. permits it, Captain Corbet, as a business man, is perfectly within his rights in claiming as a merit for the Hotchkiss car the fact that only 6 min. 40 sec. per day were spent in its adjustment in the motor-house as compared with 28½ min. per day spent in adjustment to the Rolls-Royce car. But since this claim would appear to be made in order to persuade people that the Hotchkiss car should therefore be bought in preference to the Rolls-Royce car, I must, so long as the claim is repeated, remind the public that economy in time spent on adjustments can only be justified provided that other records show that no further adjustment was necessary, or could be of benefit. If the R.A.C. were not to permit partial statements to be made, we should, I think, find that Captain Corbet would quickly cease to claim economy in adjustment as a merit, since comparative figures would show that whereas the additional time spent in the adjustment of the Rolls-Royce as compared with the Hotchkiss was of a value of only £3 6s. 1d., the value of the fuel required to propel the Hotchkiss over 15,000 miles was £127 5s. 2d. as against the Rolls-Royce £62 10s., or a difference of £64 15s. 2d.

In thanking you for the courtesy you have extended to us in allowing us to make these statements in your correspondence columns, I would like to assure you that we do not propose to encroach upon your valuable space any further in connection with this matter.—Yours truly,

C. JOHNSON.

[This correspondence is now closed.]

ADJUSTING VALVE GEARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In re-assembling a motor which has been taken apart how should one proceed to adjust the valve cam gearing so that the exhaust valve will be lifted at the correct point in the stroke of the piston? Any information you or any readers of the *M.C.J.* can give me on the point will be esteemed by—Yours truly,

R. APPLETON.

[Replying to our correspondent, in the first instance it is necessary to determine the direction the engine has to run (as this depends entirely on the valve setting), after which it will be necessary to ascertain the position of the piston in the cylinder. This can usually be done by putting a small rod through the compression tap, or still better by removing the same. Now to set the exhaust valve: turn the engine slowly round in the direction it has to run, until the piston is about an inch from the bottom of the downward stroke, the exhaust valve should then be set to commence to lift; after putting the cam in this position slowly turn the engine round until the piston has completed its upward stroke, when the valve should be fully closed. If this is not so, but it still remains open, the cam should be shifted back a tooth and again tried. If this is carefully followed our correspondent will have no difficulty in getting his engine to run satisfactorily.]

THE VALUE OF THE DRIVER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Reading many references to the Industrial Vehicle Trial, I have been struck with the several references to drivers, the critical notes of correspondents being somewhat pronounced. In perusing the articles I have wondered whether the drivers of the motor-van sent out in delivery work are always as well equipped for their business

as they should be. Often firms take up the motor-van, and, while considering its points and advantages, entirely overlook the part played by the driver in securing its efficient running under varying conditions. The driver, too, should have attention, so that habits of carelessness are checked and every encouragement given to him to run the vehicle with as little wear and tear as possible. It has occurred to me that in this particular way the columns of the Journal may be useful in giving hints and suggestions that owners of motor vehicles, whether used for business or pleasure, can place before the men who drive these vans.

Fortunately in the development of the commercial vehicle we shall be spared one of the drawbacks that occur in connection with the pleasure car, and there will be no room for the man to drive a car, do odd jobs, and a bit of gardening. Drivers of mechanically-propelled vehicles for business purposes will be able to keep to their vehicles, with the result, it is to be hoped, that they will quickly begin to realise their peculiarities and requirements.—Yours truly,

A RIDER.

ARE TWO IGNITIONS NECESSARY?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I noticed at the recent exhibition that many of the cars are now fitted with two systems of ignition, usually a high tension magneto and coil and accumulator. In view of the high degree of reliability now attained by the former the question naturally arises as to whether the advantage gained is sufficient to pay the added cost of equipment, and whether the so-called double ignition really proves in practice to provide the actual duplicate system it promises.

On this point there is reason for grave doubts. For where two sets of sparking plugs are used, the idle set, being constantly exposed to the

has to be in good pulling order to go up on the first. I thought of taking out the engine and putting in a 9-h.p. or 12-h.p. Daimler engine. Would the fly-wheel come in line with my present clutch, and would these engines fit into the present inside frame, or would I require to put in a new gear-box? I want no more speed on the level, but I want to get up this hill faster.—Yours truly,

SLOW COACH.

[The best thing that "Slow Coach" can do to get more power, without going to the expense of an entirely new engine, is to obtain a larger pair of cylinders and pistons from Mr. Frank Morris, of King's Lynn, who has made a speciality of old Daimler rejuvenating for some years. He also has a method of renewing the gear sleeves economically. The fitting of an entirely new engine of 12-h.p. to this old car would probably cost "Slow Coach" as much as he could pick up a complete second-hand vehicle of that power for, and we think he would, on the whole, regret the outlay.]

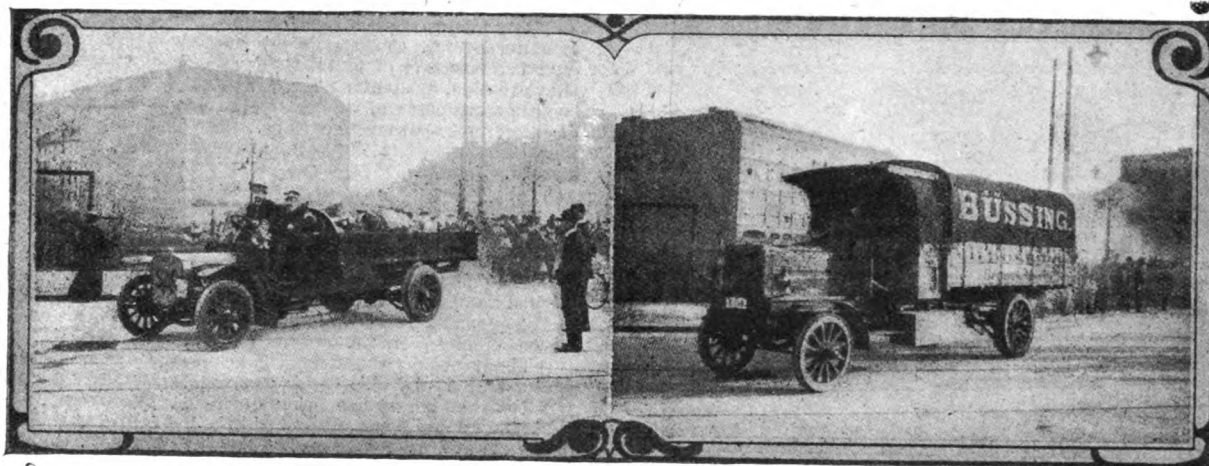
AN OPTICAL ILLUSION?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Watching the wheels of motor-cars when passing by we often observe the spokes hesitate, or apparently stop, for the fraction of a second, and then spin on again. This is clearest, of course, when the wheels are painted a light colour. I presume it is an ocular illusion, but should be greatly obliged to be furnished with a reference where an explanation may be found.—Yours truly,

J 77.

[A wheel may be considered as a series of levers of the second order, which radiate from a common centre. The ground is the fulcrum, and as each spoke is brought vertical with the ground under the hub it actually



Two of the Competing Lorries—a Suddutsche Fabrik and a Bussing—in the recent German Industrial Vehicle Trials.

[Allgemeine Automobil Zeitung, Berlin.]

play of oil and soot in the cylinders without the clarifying influence of the spark, is liable to foul, and in road service generally is found to be out of order when its services are required. This being the case, the process of changing from one set of ignition to the other involves more than the simple movement of the switch. In fact, it usually involves the removal and cleaning of one or more of the plugs which have been standing idle. Where a single set of plugs is used with two possible sources of primary current, on the other hand, no such difficulty exists. Plug trouble is discernable at once, since the same sort of failure developed with one source holds good when the other is tried. A brief test at the terminal connections on the engine, or on the coil, is then sufficient to locate the seat of any trouble which may arise. Hence, all things considered, the double plug system may be considered as not being altogether advantageous, and indeed superfluous.

As to the question of reliability, several years' use of the high tension magneto has given ample assurance of the suitability of the arrangement for continuous and rigorous service. Its suitability may no longer be questioned. The additional security of the double system, while considerable, would hardly seem to be sufficient to compensate for the cost of equipment, except in such cases, as already mentioned, where economy is not a material consideration.—Yours truly,

J. WORTHINGTON.

A DAIMLER CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be glad if you or any reader of the *M.C.J.* could give me the following information. I have a 6-h.p. Daimler car in public service which carries eight passengers, and runs at twelve miles per hour. I find that when the roads are heavy I cannot get the car to take the fourth speed. There is a very stiff hill on the road, and the car

(as well as apparently) does stop for the fraction of a second. The spoke which is travelling the fastest is that at the top of the wheel, and the others vary proportionately to their relative positions in the series as to their speed at any given moment. Therefore we think that what "J 77" notices can hardly be classed as a delusion. The hesitating effect he describes may possibly be due to the various impressions received by the retina of the eye, in much the same manner that "living pictures" are obtained by rapidly following photographs. Doubtless light-coloured spokes would augment the effect, and perhaps also, in certain positions of the observer in relation to the vehicle (as, for instance, when it is turning a corner, and he can see the wheel remote from him through the spokes of that near him), the illusion may be intensified. For here, owing to the differential coming into play, one wheel over-runs the other in proportion to the obliquity of the turning movement. There is a book entitled "Paradoxes of Nature," which we believe has a reference to optical delusions. This is written in a popular style, and is very interesting generally; but if "J 77" requires a thoroughly scientific explanation, he will probably find it in any standard work on optics.]

C. S. would like to hear of an opportunity for acquiring a knowledge of the motor industry in the North of England.

ONE of the soundest pieces of advice that can be given to a motorist is "Keep your brakes in order." However, this is often very much more easily said than done. On the British and Colonial Daimler-Mercedes the braking system has had special attention paid to it, while the question of adjustment has been carefully thought out. With the idea of being able to take up any wear, however slight, instantly, a thumb-screw is fitted, by means of which the ends of the bands are drawn together.

CLUBS AND ASSOCIATIONS.

ROYAL.

New members of the Royal A.C. include Lord Newborough, Sir Alexander Baird, Bt., Sir Arthur Herbert, K.C.V.O., Lieut.-Col. C. D. Radcliffe, Capt. F. C. L. Symonds, J.P., and Mr. A. H. Leather-Culley, J.P.

Mr. J. M. Gorham having resigned from the committee of the club, Mr. Philip Dawson has been co-opted thereon.

The name "Committee of Public Safety" has been given to the committee which deals with warning signs and kindred matters.

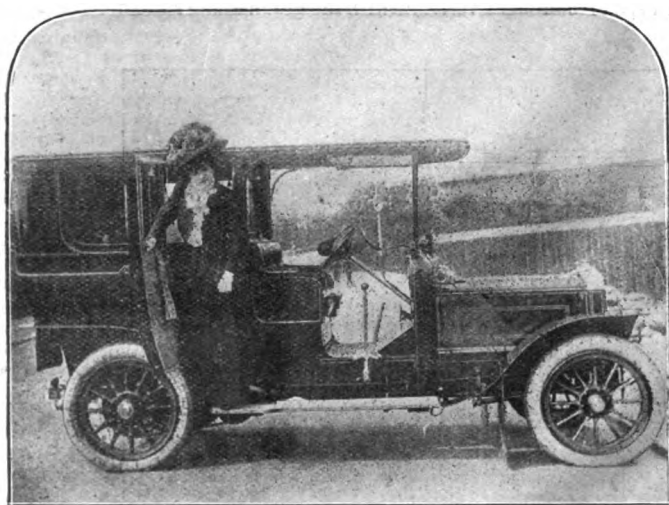
It has been discovered that, when the current retail price of petrol was 1s. 2d. per gall., one of the hotels holding the R.A.C. appointment was charging 1s. 6d. per gall. The name of the hotel has therefore been removed by the Touring Committee from the official list.

THE MOTOR CLUB.

THE committee of the Motor Club have made a reciprocal arrangement with the Crystal Palace Club, by which members of the former club can avail themselves of all the privileges enjoyed by the members of the Palace Club, including free admission to the Palace and grounds. Facilities will be afforded for Motor Club gymkhanas, &c. There is garage accommodation at the Palace.

SOUTHERN.

At the annual dinner of the Southern Motor Club at the Trocadero Restaurant, London, Alderman G. Howlett presided, and, after the



Miss Kitty Gordon in the new 28-h.p. Daimler Car she has lately acquired. The vehicle is painted blue with blue mouldings and fine white lines.

loyal toasts had been honoured, Mr. Allen Vickers made interesting reference to the club events during the past year.

Dr. Hopkins Walters, of Reading, proposed the toast of "The Motor Union," referring to the meeting of the provincial clubs he had convened at Reading in 1903 and which led to the formation of the national organisation. The Union began with only ten clubs and a small membership and now they had nearly 20,000 motorists within their ranks. In reply Mr. Rees Jeffreys spoke of the good work done by the delegates of the affiliated clubs, and claimed that there was plenty of work to be done by each of the motoring societies without clashing with other interests.

Mr. J. W. Orde responded for the visitors, making the interesting announcement that the international congress would probably adopt the R.A.C. formula for future races. Other speakers included Mr. T. W. Staplee Firth and Mr. F. W. Worthy, the Mayor of Battersea.

KENSINGTON.

THE club met at dinner on the 6th inst. at the South Kensington Hotel, the guests of the evening being Mr. and Mrs. C. Molesworth Tuke, of Chiswick House. Covers were laid for fifty-five members and their guests. After dinner, the chairman, Dr. L. C. Dobson, welcomed the club's guests, alluding particularly to their hospitality on the occasion of the gymkhana held last June at Chiswick House. In replying, Mr. Tuke expressed the hope that he would see the club again next year on a similar occasion.

SIR NEVILLE GUNTER is the president of the Society of Automobile Mechanic Drivers, and Mr. G. O. Clarke the acting secretary.

ON Saturday Dr. Ozanne presided at the annual dinner of the Harrogate and District A.C.

CHESHIRE.

THE first annual general meeting of the Cheshire A.C. was held at the Grosvenor Hotel, Chester, on the 2nd inst., Mr. T. H. Jackson, J.P., being in the chair, and amongst those present being Messrs. A. G. Jeans, J.P., G. S. Bonnalie, W. H. S. Oulton, D. Thornthwaite Brown, J. Royston, Col. F. W. Blood, Dr. S. H. Brien, Alfred Tyrer, Dr. Wilkinson, E. Mansfield, Alfred Mansfield, J. H. Burroughs, Col. Mainwaring, Dr. James Taylor, J.P., Jerome Smith, Wm. Jackson and J. Alfred S. Hassall (hon. secretary). The report of the committee on the work of the club during the past season was read and adopted, and the hon. treasurer's statement of accounts was approved.

The Duke of Westminster was re-elected as patron. Mr. T. H. Jackson was re-elected as president. The following vice-presidents were elected:—Lord Mostyn, Hon. Cecil Parker, Sir Watkin W. Wynne, Bart., Messrs. J. S. Harwood Banner, M.P., W. H. Lever, M.P., Harry Barnston, Trevor Boscowen, T. Gibbons Frost, Col. Hamersley, H. W. Hind, J.P., James Moon, J.P., Alder, T. W. Oakshott, J.P., G. H. Robertson, J.P., F. Sellars, J.P., Charles Threfall, J.P., Sir W. B. Forwood, Bart., Mr. J. J. Evans, J.P., Col. Mainwaring and Mr. Fred Harrison, J.P. Mr. A. G. Jeans, J.P., was re-elected chairman.

The following were elected to form the General Executive Committee:—Sir Percy E. Bates, Bart., Messrs. E. L. Billson, Col. F. W. Blood, V.D., D. Thornthwaite Brown, Dr. H. Dawson, J. Arnitt Dear, J.P., W. S. McDowell, Charles McIver, T. D. Oakshott, Dr. H. Laird Pearson, J.P., J. Royston, Jerome L. Smith, J. A. Stephens, Edgar Stevenson, M.D., Alfred Tyrer, Dr. S. Wilkinson, A. G. Wood. Mr. Wm. Jackson was re-elected hon. treasurer, and Mr. J. Alfred S. Hassall was re-elected hon. secretary. Messrs. F. W. Heape and W. K. Poulson were re-elected hon. auditors.

CUMBERLAND MOTOR UNION.

THE Cumberland Motor Union, of which Mr. H. A. P. Mawson, 66, Lowther Street, Carlisle, is the secretary, is keeping a general watch over the interests of motorists as a body in Cumberland, and, so far as they are able, are getting the various local authorities to pay attention to dangerous corners, unrolled metal, &c., as well as to see to the erection of danger posts where necessary. The membership is necessarily very much scattered, but the value of organisation has been amply demonstrated.

LINCOLNSHIRE.

OWING to the large area covered by this club it has been found difficult to arrange for social events to take place during the winter.

The committee is, however, actively taking up the question of the alleged damage to roads by motor traffic, and is instituting enquiries as to the expenditure per mile on the main roads both now and before the advent of motor traffic.

The position created by the severance of the Royal A.C. and the Motor Union will also receive careful consideration, though no action will be taken before the receipt of statements from both bodies of the causes of the split and of their policy for the future. The membership of the club has increased during the present year from 179 to 225.

SHEFFIELD AND HALLAMSHIRE MOTOR CYCLE CLUB.

THE third annual dinner and prize distribution of the Sheffield and Hallamshire Motor Cycle Club was held on the 5th inst. at the Palace Restaurant, Sheffield. There were about 130 ladies and gentlemen present. Mr. J. H. Hall, the president of the club, was in the chair, and among those present were Mr. F. O. Langton, secretary of the Leeds Motor Cycle Club, Leeds; Mr. F. B. Cawood, Sheffield Automobile Club; and Mr. A. Lister, the secretary of the Sheffield Central Cycle and Motor Cycle Club. Apologies were received from Mr. S. W. Carty, Newcastle, and District Club, and Mr. Wilkinson, Lincoln County Club.

After the loyal and other toasts had been honoured, the prizes won by members during the year were distributed, among the recipients being Mrs. J. Haslam, Messrs. R. Penny, W. W. Evers, J. A. Lloyd, J. W. Arden, R. Key, J. H. Hall, W. Watts, S. Sawyer, T. Durant, J. W. Gould, J. Haslam, H. Bisby, W. Hill, H. Mallinder, A. Tarr, A. Charles, O. H. Dudley, T. F. Turner, and W. A. Lister.

During the evening an interesting address was given by the president, Mr. J. H. Hall, who said that motor-cyclists, in common with all other sportsmen, had reason to complain of the weather during the past season. Notwithstanding this, however, the ranks of motor-cyclists in the country had increased from 54,000 to 70,000. He referred at length to the controversy between the Auto-Cycle Club and the Royal A.C., and urged the necessity of a strong motor-cycle union to take a line independent to both bodies referred to. One of the things such a union could usefully look to was the question of the taxation of motors. The car clubs would be too busy looking after their own case to give much attention to motor-cyclists, and if there was any apathy among motor-cyclists in this matter they would have to pay dearly for it. The motor-cycle was already unfairly taxed as compared with the car, and they would do well to have a strong union to look after their interests.

The members of the club have presented their president with a handsome French ormolu clock and ornaments inscribed as follows:—Presented

by members of the Sheffield and Hallamshire M.C.C. to J. H. Hall, Esq., their esteemed president, December 5th, 1907.

YORKSHIRE.

THE Yorkshire A.C., which, together with its branches, boasts of a membership of over 800, has opened its winter session with a successful smoking concert at the Great Northern Victoria Hotel, Bradford. The chair was taken by Mr. E. H. Hepper, of Leeds, who was supported by Mr. G. H. Kent, of Bradford, and a numerous company. An attractive and interesting programme, arranged by Mr. E. E. Faiers, of Bradford, and the club's hon. secretary (Mr. Charles P. Wilson, of Leeds), was contributed to by Messrs. Ernest Eagle, A. G. Hird, F. Samuels, E. Swaine, Bert Boothroyd, H. Haskell, and A. Pearce.

SCOTTISH.

AT the meeting of the General Committee of the Scottish A.C., held at Edinburgh last week, it was reported that applications for speed limits had been lodged by thirteen authorities, and that the Secretary for Scotland had during the year granted permits to reduce the speed of motor-cars at such places as Aberfeldy, Kilmarnock, Forbes, Granton-on-Spey, &c.

It was resolved that no action should be taken with regard to the difficulties arising between the Royal Automobile Club and the Motor Union until the Scottish A.C. is in possession of the proposals from both.

With regard to the trial for 1908, a scheme for co-operation with the R.A.C. was adopted with certain conditions securing the supremacy of the organisation of the club north of the Tweed.

TASMANIA.

A MEETING of those interested in forming a motor-car club has been held at the Tourist Bureau, Hobart. Mr. C. E. Webster was voted to the chair, and the secretary *pro tem.* (Mr. A. Wertheimer) read the minutes of the preliminary meeting held at Messrs. A. G. Webster and Son's offices. The sub-committee to draw up the rules and bye-laws handed in draft of same, and they were adopted. A resolution was carried to the effect that the secretary be instructed to have rules and bye-laws forwarded, with a circular, to persons interested in the movement. Some discussion concerning the election of officers, and also the proposed motor-car traffic regulation Bill, took place.

THE first annual dinner of the Bradford Motor-cycle Club has been held at the head-quarters, the Imperial Hotel, Bradford.

THE Dundee and District Cycle Club have inaugurated their winter session with a smoking concert at the Royal Hotel, Dundee.

THE Hertfordshire County A.C. and the Essex County A.C. held annual dinners on Saturday last. At the former Mr. J. W. Orde announced that the dissolution of partnership between the A.C. and M.U. would be carried out at the end of the year.

UNROLLED STONES ON THE HIGHWAY.

HUBERT M. HARTIGAN, of Calcot Park, Reading, was summoned at Wokingham Court for driving a motor-car on the footpath at Wargrave, on November 20th. P.C. Holloway spoke to seeing Mr. Hartigan drive his motor-car on the footpath in the London Road, Wargrave, for 150 yards. There was a steam-roller at work on the road and there was also a cart there, and the defendant said he could not pass, but witness denied this. Fined 40s. and 5s. 6d. costs.

Motorists have often protested against the dangerous and destructive practice of certain local authorities in leaving unrolled stones extending from kerb to kerb upon the highway, particularly during week-ends. In order to emphasize this protest the Motor Union has taken up a case of the driver of Mr. O'Donnell, M.P., who was summoned for driving on the footpath by the side of the highway on the main road from London to Southampton, near Blackwater, in order to avoid a stretch of broken and loose granite, which, it appeared from the evidence, was left unrolled on the main Southampton road for several days. The summons was heard on the 5th inst. before the Aldershot magistrates. The defendant, Frederick Darby, driver in the employ of Mr. O'Donnell, M.P., was summoned for a breach of Section 72 of the Highway Act, 1835. A policeman proved that a part of the main road from London to Southampton, near Blackwater, was being repaired, and that the steam roller had gone away from the spot for some considerable time. There was a quantity of large rough granite all over the road, and on either side of the road were two footpaths with a small grass edging between the paths and the roadway. The car, in order to avoid the stretch of broken and loose stones, went very slowly along the footpath for a short distance. No foot passenger nor vehicle was anywhere near at the time, and there was no damage done to the path. Mr. Moresby White (instructed by Messrs. Campbell, Hooper and Todd, on behalf of the Motor Union), for the defence, argued that the object of this Section in the Act was to protect the footpath from being damaged and to safeguard foot passengers. When the carriage way was temporarily obstructed, thereby rendering it difficult or dangerous for a vehicle, the traveller had a right in law to utilise any part of the highway, including such portion as might be usually set aside for foot passengers. When a fallen tree totally obstructs the

carriage way, clearly a vehicle had a right to make temporary use of the whole highway, including the foot-path. In any case the alleged offence was so trivial that the Bench ought to exercise their power under the Summary Jurisdiction Act by dealing with the matter without proceeding to a conviction which involved the endorsement of the driver's licence. The magistrates decided to convict, fined the driver 21s. and endorsed his licence. Counsel asked the Bench to state a case for the opinion of the High Court whether this section of the Highway Act was ever intended to include a case such as this, and the application was acceded to.

COMPANY NEWS.

PALMER TYRES.—During the year ended September 30th, 1907, the business of the Palmer Tyre, Limited, expanded in a satisfactory manner. The net profits amounted to £7,700, which compares with only £4,800 for the preceding year. The dividend is maintained at 5 per cent., to which rate it was reduced from 6 per cent. in 1904-5. The extra profits have been utilised in building up the reserve, which receives £3,500, as against £1,500 a year ago. Better results have not been recorded since 1904, when a dividend of 10 per cent. was paid.

THE DUNLOP TYRE COMPANY.—The report of the Dunlop Pneumatic Tyre Company (Limited) shows a net profit of £200,478, making, with the amount brought forward, £216,517 available for distribution. The directors recommend payment of the balance of dividend on the preference and 8 per cent. ordinary shares, and 10 per cent. on the deferred, making 7½ per cent. for the year; writing off £60,000 from goodwill, and carrying forward £19,000.

SINGER AND COMPANY.—The report to be presented at the annual meeting in Coventry, on Monday next, is for the year ending August 31st, 1907. The board have decided to write down the entire remnant of 1906 motor-car stock of the discarded horizontal type which remains the property of this company—this not having been taken over by the Singer Motor Company (Limited)—to its value as scrap material, being of opinion that it is in the best interests of the company not to attempt to place these cars on the market. They have also written off a large sum against the item of patents, due provision against bad and doubtful debts has been provided, and the usual depreciations on plant, machinery, trade marks, and freehold property have been made. The result, after payment of debenture interest (amounting to £8,000), is a net loss of £17,910 3s. 8d. The Singer Motor Company, Ltd., have made a net profit on the eight months' trading sufficient to pay a dividend of 5 per cent. on their capital, which the directors of the Motor Company, Ltd., propose to carry forward to the 1908 account. The item which appeared in last year's balance-sheet as preliminary outlay on motor department is now represented by 20,000 shares in the Singer Motor Company, Ltd. The retiring directors are Messrs. J. C. Stringer and W. Hewitt. Mr. Stringer, being eligible, offers himself for re-election. Mr. Hewitt, having resigned the office of managing director, does not seek re-election. The auditors, Messrs. Caldicott, Hill, and Caldicott, also retire, and offer themselves for re-election.—The profit and loss account includes the item "to loss on obsolete motor stock £13,154." The deficiency account (including this year's loss) amounts to £21,250.

NEW COMPANIES REGISTERED.

ROSSI.—November 28th. £1,000. Constructors, furnishers, and suppliers on hire or sale of motor-car houses.

MOTOR CABS.—£11,000. To adopt an agreement with Argyll Motors, Limited. As title. 4, Clarence Street, Manchester.

CITY CYCLE AND MOTOR DEPOT.—December 3, £500. As title. 2, Church Street, Sheffield.

MOTORISTS.—December 4. £100. Motor dealers.

BIRMINGHAM MOTOR CAR COMPANY.—December 4. £2,000. As title. Premier Motor Works, Aston Road, Birmingham.

POLICE TRAPS.

A POLICE trap has been established at Crook Log, Bexley Heath. The police are again watchful of motorists exceeding the regulation ten miles an hour in Richmond Park. The Morden road at Wimbledon has now its daily police trap.

THE London and Paris Exchange, Ltd., motor agency, 55, 57 and 59, Shaftesbury Avenue, Piccadilly, W., held an auction sale on Thursday, when a number of cars by leading makers were offered for sale.

OVER a hundred and fifty members and friends attended the annual staff dinner of the Wolseley Tool and Motor Car Company, Ltd., at the Cafe Monico, London, on Wednesday of last week. Mr. J. D. Siddeley presided, and in responding to the toast of "The Firm" stated that the company had delivery orders in hand for cars to the value of over £400,000, and it had on the pay roll at its Birmingham and Crayford Works close on 3,200 hands. He claimed that it was the largest firm of motor manufacturers in Great Britain, if not in the world, and that no other concern produced so wide and good a range of cars and engines for all purposes as is to be found in the Siddeley models for 1908. He referred also to the great reputation for reliability which their products had gained, and urged all concerned to do their utmost to preserve that reputation. A feature of the evening's entertainment was the excellent playing of the Crayford Works Orchestra.

THE CAUSES OF SPRING TROUBLES.

At a recent meeting of the American Society of Automobile Engineers, Mr. J. G. Rumney read an interesting paper on the subject of Motor Vehicle Springs, which contains much useful information regarding these very necessary components. The following abstract will consequently be of interest, especially to those motorists who have suffered from spring troubles.

The laws which govern the construction of springs to obtain the best results, not only in durability but in other respects also, have long been known, but are seldom made use of in the proper way. Many manufacturers furnish and guarantee the life of springs which are constructed not upon well-prepared specifications, based upon the properties of steel and upon a full knowledge of the service in which the springs are to be used, but upon the crudest data and without the least enquiry as to the service. When springs of this kind break the makers are held responsible, and a replacement is requested, and unless they succeed in proving rough usage it is generally complied with; whereas, if conditions or actual requirements were thoroughly understood, the cause of the trouble would be removed, and the manufacturers would not be blamed. The cause of all trouble with springs, aside from poor material and workmanship, is found in an excessive deflection—i.e., a deflection which produces stresses in the material beyond its endurance. The deflection of a given size of steel is limited to an amount corresponding to the strain the material is able to endure without rupture, and consequently if this is exceeded failures will result. The deflection is therefore the paramount issue in the construction of springs. There are, however, three kinds of deflection, which may be termed: desirable, permissible and possible deflection.

The desirable deflection is the amount a spring should be able to deflect in order to avoid shocks and produce good riding over a rough

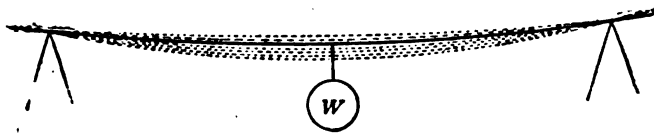


FIG. 1.—Showing quick vibratory action under light load.

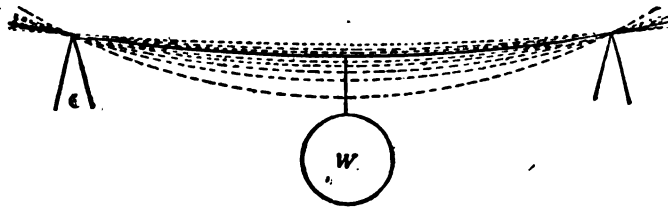


FIG. 2.—Showing slow vibratory movement under increased load.

road, and must be provided for in the construction of motor vehicles so that a sufficient amount of material of proper dimensions may be used. The permissible deflection is the amount a spring may be deflected repeatedly without breaking or without changes in its original shape. The ability of a spring to deflect within safe limits depends entirely upon the proportion of the plates. The possible deflection is the total distance a spring may have the opportunity to deflect if allowed to do so, and which is generally not provided for in the construction of springs. In full elliptical springs, the possible deflection is the distance between the centre when free. The distance can be so proportioned to the dimensions of plates that when the centres meet the material has not been overstrained. In semi-elliptical springs the distance may be much greater than the permissible deflection, and if the spring is permitted to deflect the entire distance it is apt to break or take a permanent set, either of which is equally objectionable. Construction should, therefore, be so made that the possible deflection does not exceed the permissible deflection, and if this is impracticable in the ordinary construction of frames, &c., some means should be introduced which will accomplish the same results.

The object of this paper is, therefore, to call attention to the methods which should be followed in the calculations of elliptical and semi-elliptical springs so as to guard against an excessive deflection, which is the principal cause of broken springs, and thus bring about a better understanding between the makers and users of such springs. It is well known that if a piece of steel or other material in the shape of a bar is supported upon its two ends and a load is applied in the middle of the bar, the material will be subjected to strains, and if the load is great enough the strains will go beyond the endurance of the material, and the piece will break or its original shape will be changed. It is also well known that all material will deflect more or less when supporting a load in this or similar ways, and, further, that the amount a given piece will deflect depends entirely upon the magnitude of the load or its momentum, and that therefore the greater the load the greater the deflection. It is equally as well known, but generally lost sight of, especially in spring construction, that the strain in the material increases directly as the load, and consequently as the deflection. Therefore the strain in the material is twice as great if deflected 2 in. as it is if deflected 1 in.

only, and three times as great if deflected 3 in.; from which may be seen that if there is no limit to the deflection, the material will be overstrained, from which it naturally follows that, while springs are made use of for the purpose of obtaining deflection, and to gradually check and bring to rest a suddenly applied force, it is evident that the deflection must be limited within certain boundaries.

The extent to which a given spring may be deflected—the permissible deflection—depends upon several things, among which may be mentioned the nature of the material, the length and proportionate arch, the width and thickness of the plates. Of these the first mentioned is perhaps the most important, for without proper material the most careful calculations will not produce the desired results. The importance of the other two items is found by calculations based on formula and experience. These formulae show that the deflection is governed entirely by the length and thickness of the plates, and that the relative proportions between these two dimensions cannot be changed without a change in the deflection. A plate of a fixed length and thickness, or a spring of fixed length and thickness, no matter how wide the plate may be or how many plates the spring may be composed of, has a well defined—permissible—deflection which cannot be exceeded without straining the material. The relations between the deflection, thickness, and length of plates must, therefore, be maintained within figures corresponding to the strength of the material, in order that the best results may be obtained. These relations are often overlooked in the construction of springs.

Springs are used on account of their ability to absorb through sudden deflection increases of loads and to regain their original shape when the excess load has been removed, thus avoiding violent shocks. The greater the distance through which a spring can deflect, the longer is the time in which the load is fully applied, and consequently the less severe is the shock. The more sensitive it is to any variations in the load the easier the vehicle will ride. The nearer the spring is loaded to the elastic limit of the material the slower, longer, easier, and more uniform are the vibrations. This statement may not be understood, but may be verified in a simple manner by placing a piece of wood or other material on two supports and load it in the middle with a suitable weight. If the relation of the weight to the material and section of the piece is such that the stress in the material will be comparatively low, the action of the piece, if set in motion, will be in the nature of a number of small, very quick vibrations, as shown in Fig. 1.

The full line is intended to represent the position at rest and the dotted lines the number and magnitude of the vibrations. If the load is increased so as to approach nearer to the elastic limit, the vibrations will be as shown in Fig. 2—a few long, slow movements. There can hardly be any question as to which one of the two methods should be followed in order to produce smooth riding. When deciding, however, as to how near the stress under the static load may approach the elastic limit, it must be borne in mind that if it is too near the limit very little additional deflection can be obtained before the elastic limit is reached and the usefulness of the springs is destroyed. Practical tests have demonstrated, however, that a strain under a static load of 60 per cent. of the ultimate resistance of the material is permissible and will leave sufficient margin, in the majority of cases, for the absorption of ordinary shocks.

I have tried to discover the reasons why springs break, and looking into the matter in various ways the conclusion arrived at is that there is, as it may be called, no safety valve placed upon the springs, that is, at least upon the semi-elliptical springs. The full-elliptical springs have a safety valve, and if properly designed the springs cannot be overstrained, for when the centres meet the strain is at its limit. With the semi-elliptical springs the situation is different; there is nothing to prevent the springs being deflected beyond their elastic limit. The method of calculating springs has been laid down by Reuleaux in his formulae, and if they are properly understood there is no reason at all why manufacturers should not make proper springs. Many manufacturers do not look into the conditions under which the springs have to work; they look on the load and the material, not on the deflection at all, and springs are placed in service in positions where they are not suitable. The breakage of a spring is due to an excess of deflection; that is to say, if the road is rough and with fast speed, the result is that either springs take a permanent set or the plates will break. The deflection is determined entirely by the length of the springs and the thickness of the material. Any spring that is properly designed should last until the material has become fatigued through constant use.

The question as to what should be a proper deflection for springs has been argued in many ways, but I think it will be agreed that the greater the deflection can be made the better the vehicle will ride, and after it has been determined what the deflection should be the remaining requirements may be readily calculated. The riding of the vehicle depends largely upon how high the strain in the material is allowed to be under the static load. The nearer the strain comes to the elastic limit the easier the springs will act; the farther away from the elastic limit, the rougher will be the riding.

MESSRS. WEIGEL MOTORS, LTD., have secured an order for a 40-h.p. chassis from Mr. G. J. Churchward, the head of the Great Western works at Swindon. Mr. Allan, of the Allan line of steamships, has also placed an order through the Glasgow Automobile Company for a 40-h.p. Weigel; and, again, another authority on engineering, Mr. Collard, of the Houston line of steamships, has ordered a 40-h.p. car.

CASES UNDER THE MOTOR CAR ACT.

STATIONARY MOTOR-CARS.

In the Greenock Sheriff Court, Mr. Arthur Reid has been charged with having left a motor-car standing in Westburn Street without taking precautions against it being started in his absence. In the witness-box the defendant said that before he left the car he took the starting handle out, switched off the electric current, turned off the supply of petrol, and put the levers in such a position that they could not be used without being adjusted. He also put on the brake, and left the car out of gear, so that it was impossible for anyone without knowledge of its construction to start it. Sheriff Neish found the charge not proven.

EXCEEDING LEGAL LIMIT.

At Retford Borough Police Court, on the 4th inst., Harry Passmore was charged with exceeding the speed limit of twenty miles an hour. Defendant did not appear, but sent a letter asking for an adjournment. Mr. A. P. Williamson, who prosecuted, opposed the adjournment, and the Bench ordered the case to be proceeded with. Mr. T. Beacoby said

motorists were fined £5 each for exceeding the limit at Kingston and Thames Ditton respectively.

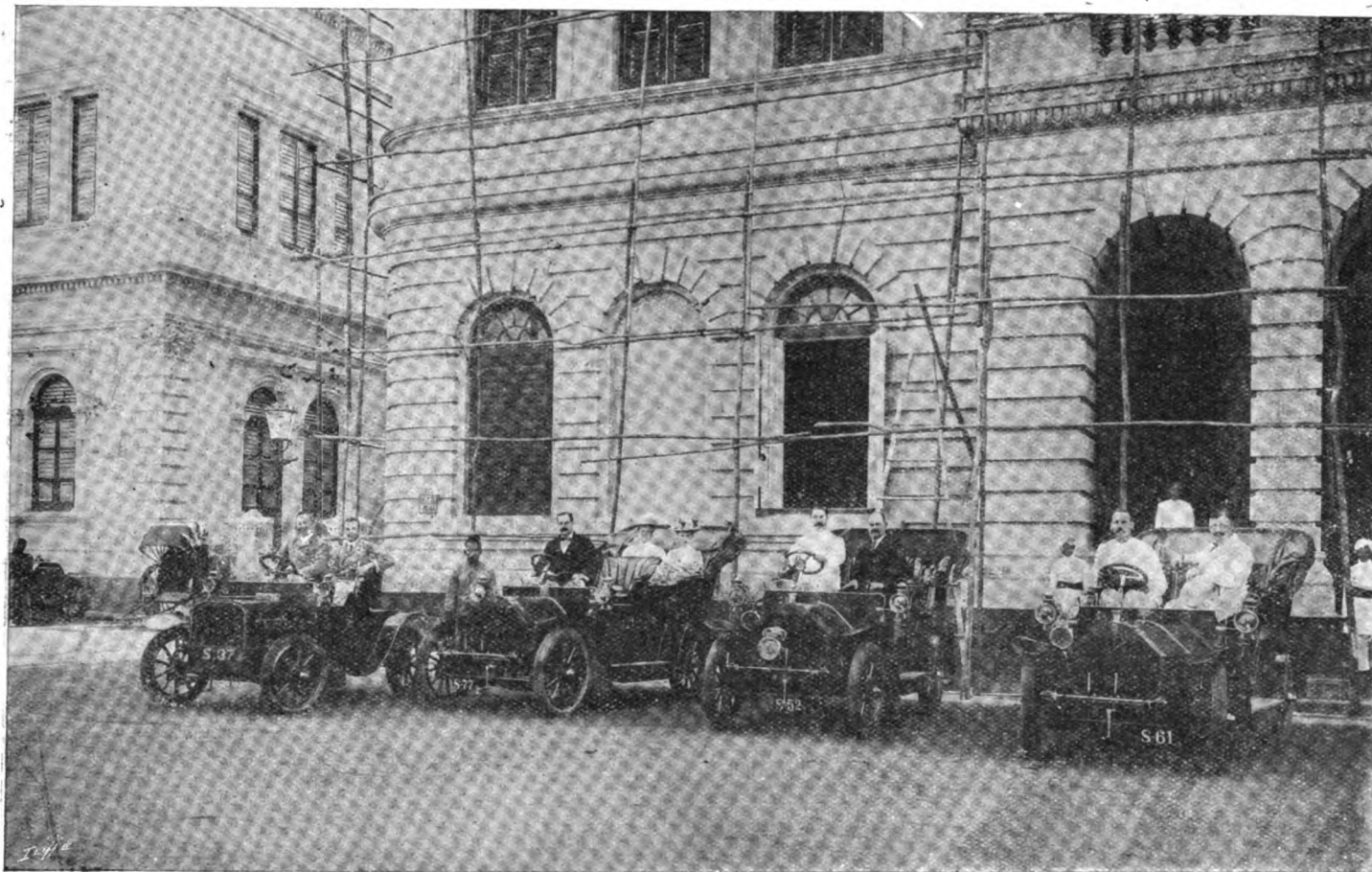
A HEAVY CAR POINT.

At the Kingston County Court, the Berna Motor Works, Ltd., 14, Queen Victoria Street, E.C., have been summoned for using a heavy motor-car in Portsmouth Road, Esher, contrary to the regulations.—It appeared that the motor was drawing a brewer's dray without the weight of the load being painted thereon.—A fine of £1 and costs was imposed.—Henry Walter, the driver, was fined 10s. for driving the car without a light; but a second summons against him for driving the car while unregistered was withdrawn.

ROAD REPORTS.

HILLINGDON.—Application having been made by the Middlesex County Council for the reduction of the speed limit to ten miles per hour through a portion of the parish of Hillingdon East, notices of objection have been given on behalf of the Royal Automobile Club, the Motor Union and various local motorists.

DORSET.—There are nearly 500 miles of rural main roads in the



The above illustration shows the four Humber Cars which took part in the first meeting of the Singapore Automobile Club on June 16th last. The photo from which the picture is reproduced was taken in front of the Clubhouse at Singapore.

on the 24th of last month he was walking along the road at Whitehouses when he saw a car coming from the direction of the town at a tremendous pace. Defendant passed the caution at the end of Upton road without slackening his speed. He thought it to be his duty to report the matter, and he telephoned at once to Supt. Thomas. P.C. Cooper, of the Newark Police, acting on the instructions of the superintendent, went to the Midland crossing at 12.30, and saw the car coming in the direction of the town. He stood in the middle of the road and put up both his arms for defendant to stop. The driver slowed up somewhat, and just before he got to witness he shouted to him to stop. Police-sergeant Walker, of the Grantham Police, went into North Parade with a constable, and presently saw a car coming from the direction of Newark. He put up his hands, and the driver slowed down to about eight miles an hour. He swerved to try and get past, but witness caught hold of the car and ran alongside until defendant was forced to stop the car to avoid colliding with a lamp post. Witness asked him if he had come through Retford, and he said "Yes." A fine of £10 and costs was imposed.

On Saturday several motorists were fined for exceeding the legal limit. At Croydon, two penalties of £7 and costs were inflicted; at Huntingdon, a fine of £15 and costs was imposed, and one of £10 at Grantham on a driver trapped at Great Gonerby; at Kingston two

county of Dorset, and the County Surveyor is calling attention of owners and occupiers of lands where high hedges exist thereon, asking them to cut down the hedges and keep them trimmed, or let the County Council undertake this work for them.

LEEDS.—Very little road covering work will be done in Leeds during the rest of the year by Mr. T. A. Prince, the Surveyor of the Highways.

MONMOUTHSHIRE.—Mr. William Tanner, the County Surveyor for Monmouthshire, is recommending landowners in his district to fix iron open fences in place of the usual hedgerows at dangerous corners of their estates. In some cases his advice is being accepted, but in many instances farmers object, as they consider the "quick" fence a shelter and protection for their cattle and sheep.

COLNE.—The following roads will be under repair at Colne during the next few weeks:—Barrowford Road, Skipton Old Road, Waterside Road, Emmott Lane.

SCARBOROUGH.—The Seamer (Scarborough) Parish Council is urging that a danger post should be fixed near the Walker Lane, in the centre of the village.

MASSACHUSETTS.—Great success has attended the sprinkling of the surface of the roads in that part of Massachusetts, U.S.A., known as the North Shore with a solution of calcium chloride.

FORTHCOMING EVENTS.

— 0 —
DECEMBER.

- 14th (Sat.).—Assembly of wagons, lorries, and tractors near the Thames Conservancy Office, east of Waterloo Bridge, Victoria Embankment, London, in connection with the motor drivers' prize scheme of the Commercial Motor Users' Association, at 3 p.m.
Motor Cycling Club Annual Dinner.
Walthamstow M.C. Annual Dinner.
18th (W.).—General Committee of the Motor Union.
The Tenth Annual Dinner of the Founder Members of the Royal A.C. will be held at the club-house.
19th (Th.).—Auto Cycle Club Discussion on Variable Gears.
21st (S.).—Opening of the Brussels Exhibition.

JANUARY, 1908.

- 1st (W.).—The Lights on Vehicles Act comes into operation in England, Wales, and Ireland.
4th-11th.—Dublin Motor Show.
8th (W.).—Incorporated Institution of Automobile Engineers—Dr. H. S. Hele-Shaw on the Fuel Question.
9th (Th.).—Dinner of the West Essex A.C. at Seven Kings.
17th (F.).—Annual Dinner of the Nottinghamshire A.C. at the Victoria Station Hotel, Nottingham.
18th-Feb. 2nd.—Automobile Exhibition at Turin.
24th (F.).—Annual Dinner of the Scottish A.C. at Edinburgh.

FEBRUARY.

- 1st (Sat.).—Annual meeting of the Lincolnshire A.C.
2nd (Sun.).—Reliability Trial of the Motor Union of Western India.
7th 15th.—Manchester Motor Show at Belle Vue.
12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
15th (Sat.).—Auto-Cycle Union Annual Dinner.
20th (Th.).—Meeting of the Essex M.C.
24th (M.).—Motor Show at Bcmabay.

MARCH.

- 21st-23rd.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

APRIL.

- Autc-Cycle Union's Tourist Trophy Race and Quarterly Trial.

LIGHTING-UP TIMES—LONDON.

Dec. 14th—4.49	...	16th—4.49	...	18th—4.49	...	20th—4.50
" 15th—4.49	...	17th—4.49	...	19th—4.50	...	21st—4.51

AUTOMOBILE ACCIDENTS.

ON Saturday a mishap occurred to the motor-car driven by Ald. G. H. Strutt, J.P., D.L., the chairman of the Derbyshire County Council. He was proceeding to the Alderwasley estate for shooting. When near the railway bridge on the Matlock road the car skidded and collided with the kerbstone. The hind wheel was broken, but fortunately no one was hurt.

A MOTOR-CAR, owned and driven by Mr. David Bentley, of Kingston, has collided with a trap on the Portsmouth road, at Esher Common. The occupants of the latter vehicle—Mr. T. Cooper, also of Kingston, and his sister—were thrown violently to the ground, the former sustaining concussion, from which he has died at Esher Cottage Hospital.

A SERIOUS motor-car accident has occurred near Alnwick. A car, driven by Mr. Inglebeck, was approaching Alnwick from the south. The roads were covered with a coating of ice, and, meeting two carts, Mr. Inglebeck, to avert a collision, steered the car to the soft ground at the side of the road, with the result that it was overturned. The vehicle turned two somersaults and passed over a hedge into a plantation some twenty feet away. The chauffeur, who was also in the car, was thrown out, and Mr. Inglebeck was badly crushed on the chest.

THE motor mail van bound from Brighton to London broke down on Sunday morning when passing through Cuckfield. On making an examination the driver, Charles Burch, found that the cardan shaft had broken off. A telephone message was sent to London for another motor-van, which arrived at seven o'clock and took the mails to their destination. The damaged van remained by the roadside pending the arrival of a lorry to take it to London.

As a party of motorists were passing Greenford they ran into a large sheet of water caused by the overflowing of the Brent. They shouted for assistance for half an hour in vain, and eventually the chauffeur paddled to a farm, where a horse and chain were obtained, and the car was drawn to the shore.

THE skidding of a motor-bus scattered many of the street hawkers who have recently migrated from Ludgate Hill to Holborn Viaduct, London, on Saturday night. The vehicle was proceeding in the direction of the Bank when it skidded on the greasy surface, knocking down three of the hawkers, two of whom were taken to St. Bartholomew's Hospital and detained.

BUSINESS NEWS.

MESSRS. HUET AND CO., of South Ann Street, Dublin, are handling the Stepany spare wheel in Ireland.

MESSRS. MUTEL ET CIE, of Paris, have opened a depot for their chassis, engines, carburettors, &c., at 19, Nassau Street, London, W.

THE success of the Aster engine is naturally inducing imitations, and we are requested by the company to draw attention to the fact that all genuine Asters bear the name-plate of the makers.

MR. J. S. NUTTALL, of Hertford Cottage, Werneth, Oldham, writes that he has just completed 14,000 miles on his Coventry Humber, "with only one involuntary stop, due to a choked petrol pipe."

THE Motor Manufacturing Company, of Manor Street, Clapham, S.W., are closing their works from Christmas Eve until the following Monday.

MESSRS. RUSH AND ALOOF, 199, Piccadilly, W., have been appointed West End agents for the Davis paraffin carburettor.

THE Vita plugs brought out by Mr. J. A. Ryley, 23, Martineau Street, Birmingham, have had a phenomenal sale during 1907, and the magneto pattern appears to be quite as successful as the ordinary model.

PRICE'S PATENT CANDLE COMPANY LTD. have issued a batch of distinctive literature with regard to the lubrication of petrol engines which will be of considerable service as well as of interest to motorists.

MESSRS. JAMESON, STUART AND COMPANY have removed their offices from 7, Harrington Road, S.W., to 55, Sussex Place, S.W., and are enlarging their workshops and private lock-up garages. They have secured the London agency for "S.C.A.T." cars, and are continuing their agencies for "Isotta Fraschini" and "S.P.A." cars.

MESSRS. GIBBONS BROS., LTD., send a useful blotting pad and calendar for 1908, which serves to draw attention to their manufactures of fireclay goods, as well as their work as general engineering contractors, makers of tip-wagons, &c., at Dudley.

MESSRS. KATZ BROS., LTD., of London, Singapore and Penang, have been appointed sole agents for Messrs. A. Darracq and Company, Ltd., for the Straits Settlements and Federated Malay States. Messrs. Katz Bros. will keep a large stock of Darracq cars, spare parts, petrol and pneumatic tyres in their various branches in the East.

THE sale of the motor-cars and stock in trade of the Academy of Motoring Limited will take place on Wednesday next at Chester Street, Grosvenor Place, London, S.W., Messrs. Fuller, Rogers and Ruddock being the auctioneers. The lease of the garage will also be offered, by order of the liquidator, Mr. P. B. Adams, from whom catalogues of the sale can be obtained.

THE ROTAX MOTOR AND CYCLE COMPANY, 43 and 45, Great Eastern Street, and 60, Curtain Road, London, E.C., whose specialities for motorists were recently described in our report of the Motor Exhibition, forward a copy of their catalogue of accessories, which is most comprehensive and should prove useful to all engaged in the motor trade. Several specialities are illustrated, the Rotax headlamps being of particularly pleasing design.

THE B.S.A. car is the product of a factory equipped with the very latest machinery and organised specially for the manufacture of automobiles by the Birmingham Small Arms Company, Ltd. The experience gained in the manufacture of rifles and bicycle parts is now expended in putting upon the market a car the materials of which are all carefully selected and tested; the design of the car is conventional, there being no radical departure, unless it be, as the makers claim, that the materials are far better than any hitherto put into a motor-car. The chief features of the B.S.A. car are its simplicity, solidity of construction, and easy accessibility to all the parts, absolutely automatic lubrication and great strength of the steering gear.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which they are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, other wise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, DECEMBER 21, 1907.

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NOTICE.

Owing to the Xmas Holidays THE MOTOR CAR JOURNAL will go to Press on Monday next.

Contributors and Correspondents are requested to send their communications by first post on the morning of the 23rd inst.

All advertisements should reach the office not later than the first post on Monday next; alterations in the "copy" of displayed advertisements should be to hand during Saturday morning.

COMMENTS.



RIGHT heartily do we wish our readers a Merry Motoring Christmas and a New Year of Prosperity and Plenty. 1907 has brought disappointments as well as pleasant things. We shall not soon forget the weather that hindered business in the early part of the year, nor will it be early forgotten that November was a month of treacherous climate and foggy days. Despite the absence of anything approaching a boom, a steady flow of business has been observable through the year, and although many makers would like to see better prospects of reducing stocks, there has been an absence of those dire distresses which were foreshadowed before the exhibition as likely to darken the last days of the year. The public, too, can be congratulated on the spirit of invention which is being encouraged in motor-car matters, and which is combining with the highest engineering skill to place Great Britain in a proud position in the international motor-car world. In connection with the holidays we would remind motorists likely to be on tour during Christmas that they can do something to earn the goodwill of those engaged in the industry by making known beforehand their probable requirements for the season. It will save possible worry and loss of time if all who go travelling by car will previously make known their likely wants at very distant places with the local firms, so that supplies of spares and accessories, tyres, oil, &c., can be replenished in readiness for the demand that is likely to arise, in the event of there being a season of good weather.

Costs against the Police.

NOT often do we hear of motorists obtaining costs against the police, but such an instance has just occurred at the Daresbury Petty Sessions, at the instance of Mr. T. W. Grace, the well-known motoring solicitor of Manchester. Mr. R. H. Pesnett, of Runcorn, was summoned for driving a motor-car in a manner dangerous to the public. The police superintendent, in his evidence, described the collision that had taken place between the motor-car and a pony drawn trap. Subsequent witnesses who were in the latter vehicle admitted that the accident had happened owing to the carelessness of the driver,

and that it was owing to the presence of mind of the motorist that the mishap was less serious than it might have been. Thereupon the magistrates, without hearing any evidence from the defence, dismissed the case and allowed three guineas as costs. Where the police are unable to fully establish their case against motorists it seems only reasonable that such results as these should follow; but the fact that it is so exceptional suggests a reason for thus prominently drawing attention to the instance.

Postprandial Points.

SEVERAL of the leading automobile clubs have been holding their annual dinners, which in some cases have been attended by representatives of the local authorities, who have testified to the growing goodwill between motorists and the public. At the dinner of the Sheffield Club, to which reference is made in our Club news on another page, Mr. Fearnley, of the Municipal Tramways Department, alluded to the universal Lights on Vehicles Act which will come into operation at the beginning of 1908, and which in his view will tend to secure greater safety to all users of the highways, whether in towns or villages. At the Harrogate meeting, on Saturday, Dr. Holroyd, in responding to the toast of the local club, made reference to the action they had had with the Corporation of Harrogate as to the attempted imposition by the latter of a rate of £1 per year on motorists using water for washing cars. The case was taken to appeal and decided against the authority, constituting a test case, which will doubtless stand for a good many years. It is gratifying to learn that the club and the Corporation have since become good friends and that amity now prevails between the motorists and the corporation of the famous Yorkshire town.

The 1908 Trial.

THE first meeting of the Joint Committee of the Royal A.C. and the Society of Motor Manufacturers and Traders has been held, and after the preliminaries of the trial had been settled a small sub-committee was appointed to draft the regulations. Both organisations have had in mind the "1,000 Miles Trial" of 1900, which passed through all the principal towns in the country. In 1901 a 500 miles reliability trial was organised by the Royal A.C. with the co-operation of the Scottish A.C., and started from Glasgow. Then a 650 miles trial was held, with the Crystal Palace as the centre of operations. In 1903 a 1,000 miles trial was arranged, and again the Crystal Palace was made the centre of the radiating routes. In 1904 small car trials were held with Hereford as the centre. The 1908 trial will probably cover a distance of something more than 2,000 miles, with twenty miles of hill-climbs and a 200 miles race on the Brooklands Track to provide a sporting finish. The trial will start from London and proceed to Glasgow, when the Scottish Trial will commence, and at the conclusion of the Scottish Trial the cars will continue their 2,000 miles journey. Entries can be made for the whole 2,000 miles trial or for the Scottish Trial only, or for both. The distance run in Scotland will be roughly about 750 miles, and on the arrival at Glasgow the whole of the cars will be under the management of the Scottish A.C., until the conclusion of the Scottish Trial, when

the Royal A.C., will again take over the direction of affairs. The Scottish Trial will be run on the lines as heretofore and its distinctive character will be preserved. There will be ten classes, based on R.A.C. rating, while in the Scottish Trial the basis of classification will be price, as in former years. The suggestion of the Scottish Club that the cars should arrive in Glasgow at the end of the second week in June has been adopted. It would probably have been impossible to find sufficient hotel and other accommodation in Scotland prior to that date.

The Future of the Motor Union.

competition between the Motor Union and the Royal Automobile Club and that there should be, at any rate, certain well defined

CAREFUL consideration has been given to the future policy of the Motor Union by the Emergency Sub-Committee recently appointed. In the view of the sub-committee it is most undesirable that there shall be any unnecessary conflict or

R.A.C., and that the M.U. shall uphold the authority of the Club in these directions. On the other hand, they suggest that the R.A.C. shall recognise in the like manner and to the same degree that general legal and legislative questions are specially within the province of the Motor Union, and that the R.A.C. shall uphold the authority of the Motor Union to deal with these questions on behalf of the automobile community. The views of the R.A.C. on this proposition are now awaited. In order to give Provincial clubs full opportunity of expressing their views respecting the present position a conference of the affiliated clubs will be held early in January next.

Our English Landscape.

THE article which we publish this week on Kentish highways and byways recalls some interesting reflections which Mr. Hilaire Belloc, M.P., recently made on the landscape of our country. England is traversed by remarkable and sudden ranges; hills with a sharp escarpment overlooking great undulating plains. This is not true, he points out, of any other one country of Europe, but it is true of England, and a man who professes to understand and to love this country must know the Pennines, the Cotswolds, the North and the South Downs, the Chilterns, the Mendips, and the Malverns; he must know Delamere Forest, and he must know the Hill of Beeston, from which all Cheshire may be perceived. If he knows these heights and has long considered the prospects which each affords, he can claim to have seen the face of England. In the olden days men knew the features of their native country. The roads for carriages went over the hills; nowadays the tunnelled path of the railroad saves that trouble, and loses the view. But with the coming of the car all that will change and again the traveller may know something of the landscape and learn to appreciate its ever varying beauties.

The Royal A.C.

EXACTLY ten years have passed since the Royal Automobile Club was formed under the title of the Automobile Club of Great Britain and Ireland, with room at 4, Whitehall Court, Westminster, S.W.—just behind the new buildings of the War Office. In the early months periodical discussions during the winter and holiday tours during the summer were leading features in its campaign for the recognition of the automobile. With Mr. Roger Wallace as the chairman, it brought the motor-car well to the front, and steadily grew in influence and extent until, in 1902, a migration further west was undertaken, and it became housed at 119, Piccadilly, W. The advance has continued, and other buildings in the vicinity have been rented from time to time, occasioned by the increasing activities of the organisation. Latterly the need for larger headquarters has again become pronounced, and at length it has been definitely decided to secure the building lately used as the War Office in Pall Mall, W., for the purposes of the club. Thus the Royal A.C. will take a premier place in clubland, representing a movement which must be accounted among the most characteristic of the century in which we live.

Impatience to be Deplored.

AT the Manchester County Court, on Monday, Judge Parry gave a little homily on the unwisdom of selfishness on the road, and enjoined a lesson of patience to a motorist who was mulcted in damages. A cyclist was on the road, his view being obstructed by a tramcar passing into the thoroughfare. As soon as he emerged beyond the tramcar he was knocked down by a motor-car. In giving judgment his Honour said that nowadays not only did tramcars go at a great pace through the streets, but motor-cars rushed about with every evidence of their drivers wishing to get as quickly as possible from one place to another. In this instance there seemed no reason why the occupants of the car should have been in a great hurry, yet they were unable to



Touring in Spain.—A Daimler Car on the Toledo Bridge, Madrid.

spheres of action of the two bodies. The work that still has to be done for the automobile movement is so great that there is plenty of room for the activities of both bodies without undue overlapping. They have, therefore, thought it desirable to ascertain whether the Royal A.C. accept this view, and are willing to act upon this principle. Accordingly Mr. C. H. Dodd, chairman of the committee, has written to Mr. C. D. Rose, M.P., pointing out that it has hitherto been generally recognised that matters connected with the sport of automobilism, trials, and competitions, are particularly within the province of the R.A.C., and that the M.U. is the body which is particularly concerned with legal and legislative matters, and the protection of the rights and privileges of motorists upon the road. As regards the future he suggests there should be an understanding between the two bodies, whereby all matters connected with sport, trials, and competitions shall be within the province of the

wait a few seconds while the tramcar passed and left clear what was beyond. There is no doubt that where tramcars are occupying a considerable portion of the roadway motorists should exercise the greatest care and patience.

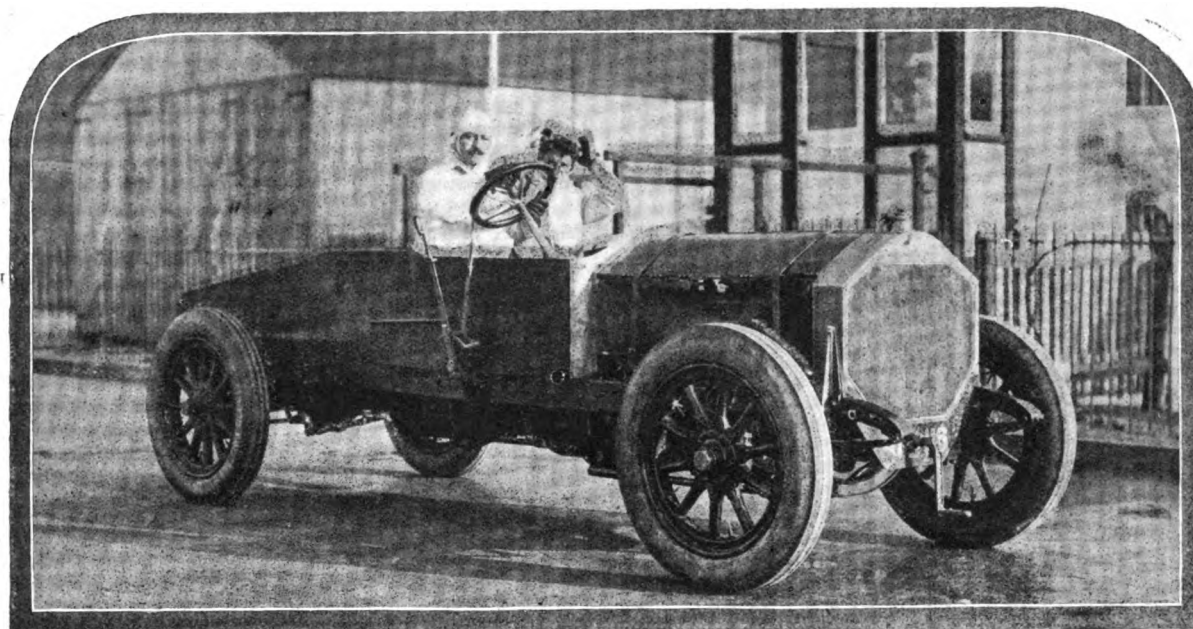
Encouraging Drivers.

THE Judges' Committee of the Commercial Vehicle Users' Association met on Saturday to adjudicate in connection with the prize scheme for drivers inaugurated by that Association. The importance of the driver as a factor in the success of the motor vehicle on the road will be readily recognised, and anything which tends to raise his standard of excellence is to be commended. Therefore, we welcome the plan proposed for the encouragement of drivers in the way of keeping their machines in the best possible condition, and to run them with the minimum of accident as well as of expense. At present the Committee have wisely restricted the operation of the scheme to the London area, but as the motor-van grows in favour the idea will doubtless be taken up in the provinces, to the advantage of the motor movement generally. It is interesting to note that twenty-six drivers for sixteen firms entered for the first competition of

papers, which had motor notes before the more staid journals saw the advantage of the car; the route of the 1,000 miles trial, the official visit of the Chinese Ambassador to Coventry motor works; a meeting of the Motor Trades Association, presided over by Mr. H. J. Lawson, and the report of the Daimler Motor Company, altogether an interesting reminiscence of the days when "news" was less plentiful than now.

Personal Appearance Saves Money.

THE magistrates of the Steyning Petty Sessions, who regularly sit to hear cases against motorists, had a somewhat poor day recently. General R. T. Goodman was presiding over a full bench of magistrates, and three victims of a trap laid on the Ashington Common were expected. None put in an appearance, two writing letters, and one having apparently forgotten the appointment. Of the first couple, one admitted the offence, and was fined £5 to encourage him in candour; the other was somewhat argumentative, and expressed the opinion that he had not exceeded the legal limit. That, however, availed him nothing, and the case was adjourned until a more convenient time for his attendance. A similar adjournment in



Mr. W. T. Clifford-Barp on the 60-h.p. Thames Car on which he last week set up new world's records on the Brooklands Track.

this kind, seven different types of vehicles being represented on the Thames Embankment on Saturday. A gratifying feature of the contest, too, was the presence of a representative of one of the London municipal authorities, and the Commercial Vehicle Users' Association might well draw the attention of the authorities in places where motor-vans are in corporation service, to this competition as a means of inciting their drivers to give proper attention to the property of the ratepayers. Many of the vehicles that were paraded have travelled 20,000 miles during the present year. On another page we give the names of the prize-winners.

Eight Years Ago.

TAKING a glance at the pages of the M.C.J.—suggested by the reference in Mr. Filson-Young's "Complete Motorist" to ourselves as among the pioneers of the movement—we stopped at the issue for December 15th, 1899. Then we were advising motorists to keep away from Brighton, which was displaying venom towards motorists, and chronicling such interesting doings as a projected trial of electrical vehicles; the recognition of the automobile by the halfpenny morning

the third case was made, a warrant being issued by way of reminder of the fact that Justice must be obeyed. So, on the next occasion the magistrates meet at Steyning, they will ensure having two motor cases before them, plus any fresh captures on Ashington Common.

The Forage Merchant.

WHILE the leather industries are not so seriously alarmed at the diversion of business, forage merchants and the like are almost despairing of prosperity in London, where electric trams have combined with motor-cabs and motor-buses in sending horses out of employment. These are seriously hit by the advance of means of mechanical travel, and "for us there is no hope" was the lament of one of their number to the writer the other day.

THE British Consul at Buenos Ayres, Argentine Republic, reports the formation in that city of a company with the title La Camionera, and a capital of about £132,000, for the purpose of establishing a goods and parcel transport service by means of motor vehicles.

MOTORING IN MEXICO.

A STRANGER descending into the Valley of Mexico from the high mountains which surround it on all sides, and looking through the eyes of an automobile enthusiast, would think it a paradise. But, after being there a short time, he would be compelled to change his mind. The streets in the City of Mexico are being gradually paved with asphalt. Of course that is good as far as it goes, but one does not want to be always riding about the city, through crowded streets. The views in Mexico Valley are magnificent. To the east the snow-clad peaks of Ixtaccihuatle and Popocatepetl rear their giant heads some 10,000 ft., each covered with a cap of perpetual snow. The peaks are about fifty-five miles away, and on clear days seem near enough to reach on foot in an hour or two. To the south-west is the old volcano of Ajusco, which at one time threw all the lava into the valley. The lava beds near San Angel and Tlalpam prevent making any direct road between the two towns, and one is compelled to go around them three times the distance. Still looking toward the south-west one gets a glimpse of Chapultepec (the hill of the grasshoppers), on which are the Castle of Chapultepec, which is the presidential residence, and the National Military Academy. To the west is the mountain range separating Mexico Valley from the Valley of Toluca. To the north-east one can see the Church of Guadalupe, where is the miraculous painting of the



Motoring in Mexico.—Cars outside the Military School at Chapultepec.

Virgin of Guadalupe, and if one is on high ground he can see on a clear day, some forty miles away, the Pyramids of the Sun and the Moon, built centuries ago, by whom and for what purpose nobody can tell.

But, with all these beautiful views, clear skies and the fine, clear winter days, and the cool, pleasant mornings of summer, much cannot be said for the roads. Though the Mexico Valley is about thirty miles wide and sixty miles long, there are no good roads to take a car to the mountain. The Government is now at work, remarks Mr. A. W. Evans in an American contemporary, building a road so that it will be fit for a motor-car to climb over the ridge which separates the valley from the outside world. This road, which is very steep, runs up the mountains, toward the south-west of the city, and after reaching the top it winds down into the Valley of Toluca, and to Toluca, the principal city and capital of the State of Mexico, Mexico City being the capital of the republic.

The ride up to Toluca can be made by good cars, and it is an excellent test of the climbing capabilities of a machine. Part of the way up one can turn to one side and go to El Desierto, which is one of the most beautiful spots near Mexico City. In the midst of a forest of tall pines one will find the ruins of an old Carmelite monastery, with its small chapels and hermitages in ruins and moss-covered, all scattered through this forest of sweet-scented pines, and old aqueducts which the monks built to carry water to their hermitages, also more modern aqueducts built by the city govern-

ment to carry the clear pure water into the city, sixteen miles distant. The road to the monastery is not a good one, the greatest drawback being the steep grades, some of which run 27 per cent. at least, which, together with the fact that the altitude is fully 11,000 feet above sea level, make it hard for motor-cars. Only three machines have so far succeeded in getting to the monastery. After leaving the forest there is a fine view of the valley, with the city almost at one's feet, and the lakes of Texcoco and Chalco just beyond, with the mountains rising up almost from the shores of the lakes.

The road to Toluca is the only highway of any length that has received attention from the Government of the Federal District, which will take one any distance from the city, as the monastery is only about ten miles therefrom, and Toluca forty miles. It is steep and winding, but the grandeur of the scenery repays the climb. The Federal Government has finished a macadam road from the City of Mexico to Mixcoac, about seven miles, and they intend to extend it as far as San Angel, which will give a drive of about thirteen miles. They are building a road more to the east and parallel to the one just mentioned, which will lead to Tlalpam. It is now finished as far as Churubusco, so that the lovers of golf who own cars can run out to the magnificent club house the Mexico Country Club is erecting there. The road to Tlalpam when completed will make possible a run of some nineteen miles, and as there is a good cobble road through Coyoacan to San Angel it will make a loop of nearly thirty-five miles. The Coyoacan road from San Angel passes by the palace of Cortez in Coyoacan, and joins the Tlalpam road at Churubusco.

Besides these roads, which are now being reconstructed, there are the shorter ones, such as Paseo, or the famous drive of the City of Mexico, which is very wide, with double rows of shade trees on each side, outside which on each side are roads exclusively reserved for automobiles and cycles. This drive, which starts at the bronze equestrian statue of Charles IV., ends at Chapultepec, about two and a-half miles distant. The central avenue for carriages is very smooth, but one cannot go at very great speed, for at every quarter mile is a "gloriated," or widening of the drive into a circle, having a statue or a large flower bed in the centre, where one has necessarily to slow down.

To the north of the city there is a short drive of about three miles to Guadalupe, with a good, hard macadam roadbed, and to the north-west a short macadam road leading to Popotla, or place of the brooms, a small town, where the tree still stands under which Cortez rested when he was driven out of the city by Aztecs in 1520. The motorist can follow this road as far as the little town of Atzacapotzalco, making a ride of about four miles in that direction. One can go beyond, but over narrow, winding roads, sometimes full of ruts and bumps, and with creeks, unbridged, and on both sides deep ditches, each having its row of high maguey plants.

Motoring in other parts of the republic is much the same as in the district surrounding the City of Mexico. The hills and the altitude are the greatest hindrance. Then, again, outside the cities, where there are some good country roads, cars can only be used one half the year on account of the rainy season, when it rains every afternoon for at least four months. For two months the weather is doubtful, and for the remaining six months, or winter, it is ideal.

THE Dominion Motor Car Company, of Montreal, is devoting considerable attention to the industrial motor vehicle branch, and have lately sold an Argyll three-ton petrol motor lorry to the Dominion Bridge Company, of Lachine, Quebec, and a similar vehicle to the Riordan Paper Mills, of Merriton, Ontario.

THOSE who travel with the Letts's diaries published by Messrs. Cassell and Company, Ltd., upon them are insured against accidents while travelling as passengers in motor-cars, cabs or 'buses as well as the older forms of locomotion. Letts's diaries for 1908 are now issued in various forms and bindings—all durable, neat, and useful for the particular purpose for which each is designed. Professional, scribbling, office and commercial diaries are included in the excellent series.

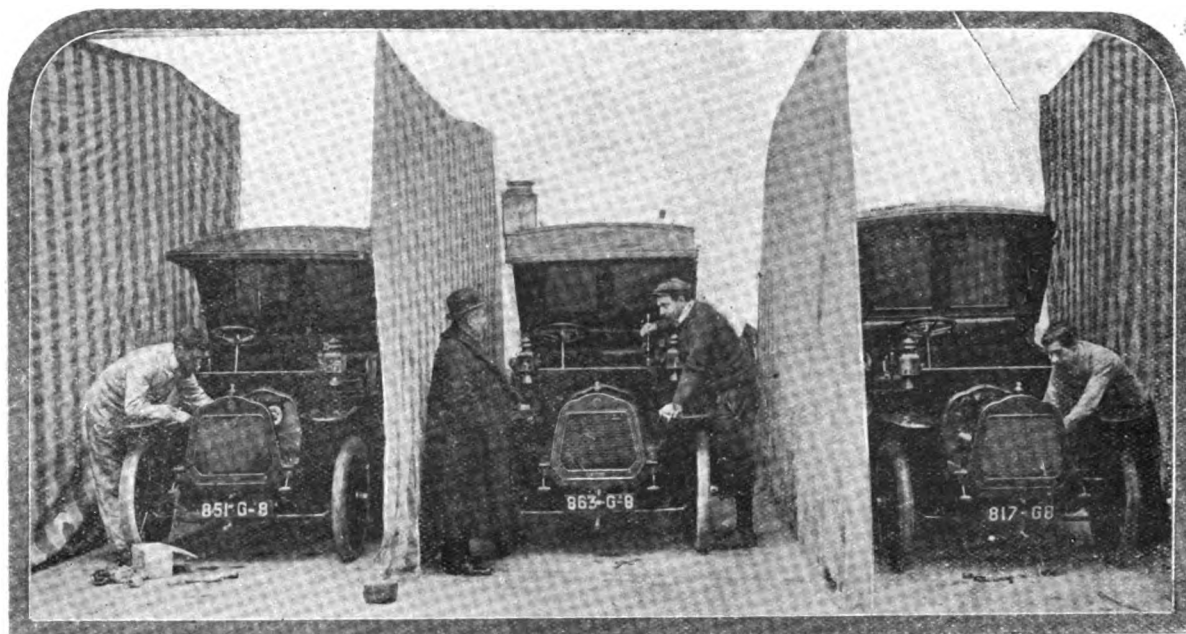
THE CONCOURS DES PANNES.

THE novel "Concours des Pannes," or breakdown competition, organised by the "Auto," took place in Paris on Sunday last, at the Clichy depot of the Meteor Taxi-Motor Company. A number of small bays had been established in each of which a Unic motor-cab was placed. The vehicle for some cause or another was not in running order, the *panne* or breakdown, being, however, such that could be repaired by the tools, &c., found on the vehicle. At a given signal the competitors had to set about discovering the cause of the trouble, and when found and put right, to drive the car a short distance to show that it was in running order. A maximum of twenty-five minutes was allowed to each competitor. In order to prove the all-round capabilities of the drivers they were afterwards required to take off one of the back tyres of their cab and replace it, the usual tyre tools and jack being provided and a maximum of twenty minutes allowed. Forty-six drivers entered for the event, thirty-two of whom actually took part, and in view of this large number it was resolved to divide the competition into heats with a final. In the first series, ten competed and three qualified, the cause of

respectively 20, 15, 12, 8, 6, 5, 4, 3, and 2 per cent. of the entry fees. Altogether the competition proved most interesting and instructive.

INDUSTRIAL VEHICLE TRIALS IN FRANCE.

THE Competitions Committee of the French Automobile Club has issued the rules and regulations with regard to the reliability trial of industrial motor vehicles which is to be held from the 25th April to the 25th May next. The machines will be divided into the following eight classes:—1, For loads from 50 to 200 kilogs., entry fee £12; 2, ditto from 200 to 900 kilogs., £20; 3, ditto from 900 to 1,500 kilogs., £30; 4, ditto from 1,500 to 2,000 kilogs., £40; 5, ditto from 2,000 to 3,000 kilogs., £60; 6, ditto over 3,000 kilogs., £60; 7, public service vehicles, carrying from six to ten passengers, £40; and ditto for more than ten passengers, £60. As regards repairs, it is intended to divide the components of the chassis into three groups—1, those which may be changed at will; 2, those which will be



The Concours des Pannes, or Breakdown Contest.—Some of the Competitors at work.

the trouble—a small piece of lead sheet causing a short circuit—being discovered by P. Miltgen in 1 min. 28 sec. Eight drivers were in the second series, but only one succeeded in getting his car going within the time limit—the cause of the trouble in this case being a stoppage in the inlet pipe. For the third series there were ten competitors, of whom four succeeded in locating the difficulty—a blocked petrol jet—while four competed in the last series, two of them discovering that the petrol cock was closed, and that the ignition contacts had been inverted. There were ten competitors in the final, in which Miltgen again proved the victor, he finding out that the make-and-break contact of the magneto was deranged, and putting the same in order in 11 min. 18 sec. As he was the only one to do this within the time allowed, he was awarded the first prize of 25 per cent. of the entry fees and the silver medal offered by the Cab Company, and it was decided that the object of the tyre-fitting trial should be confined to awarding the remaining prizes to the nine competitors who while getting through their series had failed in the final. This was fortunate for Miltgen, for while expert as regards engine troubles, he failed to change the tyre in twenty minutes; the second and subsequent prize-winners were Bonnet, Aubry, Hellio, Danlion, Lallemand, Roumagere, Reichmath, Battais, and Dube, who took

marked, which can only be replaced by marked spare parts, of which only a limited number will be permitted by the regulations; and 3, all parts not comprised in the two previous sections may not under any pretext be changed. Pneumatic tyres will not be allowed; while no change of tyres, nor of parts of spring wheels, will be permitted. The classification will be made according to categories, and the consumption awards will be based on the formula $\frac{TC}{PD}$, where T = the length of the trial in hours, C the value of the fuel consumed in francs, D the distance covered in kilometres, and P the useful load carried, plus the tare weight of the vehicle. Any form of liquid or solid fuel may be employed, but all cars fitted with internal combustion engines will be required to run on alcohol during a certain number of days.

THE Hove Town Council have been informed that the Watch Committee have had an interview with the directors of the Brighton, Hove, and Preston United Omnibus Company, who assure the Committee that they are endeavouring, and will continue to endeavour, to do their best to meet the wishes of the Council with regard to the running of their motor-buses.

THE UNTERBERG-HELMLE HIGH-TENSION MAGNETO.

AMONG the many high-tension magnetos on view at the recent Paris *Salon* one of the most interesting was that displayed by Messrs. Unterberg and Helmle, of Carlsruhe, Germany. It is of the true high-tension type, having both a coarse wire primary winding and a fine wire secondary winding on the armature, so that no coil is required. The field consists of three double permanent magnets secured to a bronze base. The make and break device is operated by the armature; the latter is provided with a fibre ring with two flats on its inner circumference, these acting as cam surfaces and actuate the make and break device, which consists of a stationary adjustable contact screw and a substantial double-armed lever carrying the free contact point. The entire mechanism of the interrupter, together with the condenser, is carried in a hollow metal cylinder or cap, which is held in position by a spring clip, and can therefore easily be removed. This is of particular advantage when it becomes necessary to adjust the interrupter; in such a case the driver need not try to reach the affected parts located in a confined space near the hot and greasy engine, but can take the whole mechanism out and inspect and adjust it in plain daylight. A gauge is furnished with the machine for accurately adjusting the interrupter contacts. The condenser is also located in this cap, this arrangement being claimed to be an improvement over the practice of incorporating it in the revolving armature, as the mechanical strains on the insulation are absent in the stationary device.

The high-tension distributor is located directly over the interrupter, and is driven from the armature through spur gearing. The distributor has a base of red vulcanite, and the revolving member is of black hard rubber. Combined with the high tension distributor is a safety spark gap, which is located at the forward end of the distributor shaft, and any sparks passing through this gap can be observed through mica windows fitted into the cover over the distributor, which is held in place by a spring clip, the same as the interrupter.

For setting the magneto with relation to the motor, a machine screw in the cover plate over the armature is removed and a pin furnished with the machine is inserted in the opening for the screw. The armature is then turned by hand in the reverse direction to that indicated upon the frame as the proper

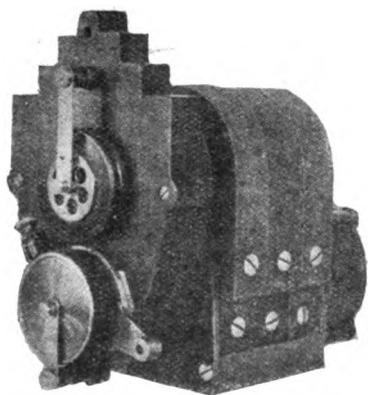


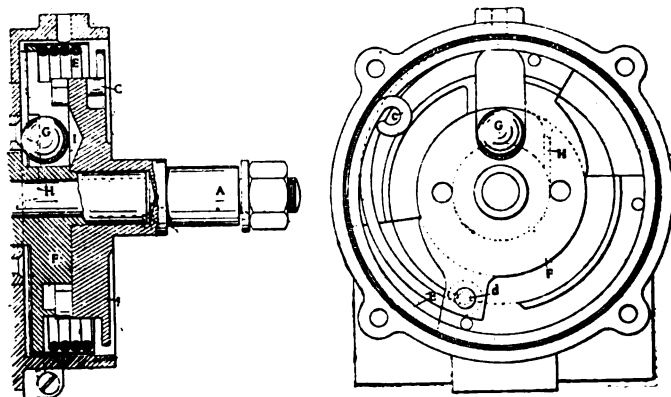
Fig. 1.—General View of Unterberg-Helmle Magneto.

direction for running, and at the same time pressure is exerted on the above mentioned pin, by the other hand, until it drops into a depression in the armature provided for this purpose. The proper position of the armature for the dead centre position of the engine is thus obtained.

An original feature of the magneto is an automatic arrangement whereby the armature is moved through the magnetic field when starting the engine at a much higher speed than that corresponding to the speed possible with the starting handle. This arrangement secures several advantages. A hot spark is produced even though the engine be turned slowly, consequently

the driver need not exert so much effort in starting up the motor; moreover, the spark at starting being strong, it is not necessary to relieve the compression of the engine, as the pressure generated by the magneto is sufficient to jump across the gap of the plugs under full compression.

Two views of this "snap-start" device are shown in Figs. 2 and 3. A is the shaft to which the driving gear is keyed; formed integral with this shaft is the steel disc B. This disc at one point of its circumference carries a pin C, over which passes the loop of a spring E made with large diameter spires of heavy steel wire. It will be understood that if the shaft A is turned in a right-handed direction the spring E will be wound up. The other



Figs. 2. and 3.—Sectional and Front View of "Snap-Start" Device on Unterberg-Helmle Magneto.

end of the spring is secured by a pin *d* to a brass disc F, which is fast to the armature. The disc F is of rather irregular shape, and is provided with a radial slot in which is located a steel ball G. When the disc F moves in a right handed direction the steel ball G abuts against a projection H of the stationary armature casing, and thereby prevents the disc F and the armature from rotating. The result of this is that when the shaft A is rotated the spring E is wound up; this continues until a conical depression I in the disc B comes opposite the steel ball G. Then, the ball dropping into this depression, the armature is suddenly released, the spring distends and gives the armature a considerable speed of rotation, whereby a hot spark is produced. The projection or cam H is, of course, so arranged on the circumference of the field pole circle that the unwinding of the spring begins when the armature comes into the zone of greatest inductive activity. When the engine has started and has attained its normal speed, the steel ball is carried to the outer limit of the slot in the disc F by centrifugal force and does not strike the projection H in its rotation.

The magneto is made for engines of any number of cylinders, the one illustrated in Fig. 1 being designed for a six-cylinder motor.

MOTORLAND, LTD., is the name of a new concern which has lately been established at 314, Vauxhall Bridge Road, London, S.W., where the needs of all classes of motorists will be catered for. The company is introducing three types of cars ranging from a little two-seater at an extremely moderate price to a 30-h.p. six-cylinder vehicle. The Motorland Midget, as the first-mentioned car has been named, is fitted with a 7-8-h.p. single-cylinder engine and cardan shaft transmission. The six-cylinder car is known as the Autocrat; it comprises a number of special features, to which we hope to make further reference in a later issue. Both the cars referred to above are, it may be mentioned, entirely of British manufacture. Motorland, Ltd., have also secured the British concession for the French-built cars known as the Demeeester. Three sizes of these are being made, viz., 10-h.p., 14-h.p., and 18-h.p., all fitted with four-cylinder engines, the details throughout being on modern lines. The company is also keeping a large stock of accessories, and is making a speciality of a new non-skid tread known as the "Pasco."

CONTINENTAL NOTES.

The 1908 A.C.F. Grand Prix Race.

The Automobile Club of France announces that the entry list for next year's Grand Prix has been opened, and will close at ordinary fees at 6 p.m. on February 15th, 1908. Entries at double fees will, however, be received up to June 1st. The race is to take place on a date, to be selected, during the first two weeks of July. The distance will be from about 437 to 500 miles. The entry fees have been fixed as follows:—One car, £200; two cars, £360; three cars, £480. The rules will be those adopted at the Ostend Conference, by which the motors must have a maximum bore of 155 millimetres for four cylinders, and the minimum weight, without passengers, petrol, water, or spare parts, must be 1,100 kilogrammes. The route on which the races will be run has not yet been decided upon, but it is considered that the Dieppe circuit will most probably be again chosen. The first entries for the race are three German cars, which will be driven respectively by Messrs. Degrais, Roch-Brault, jun., and Perpère.

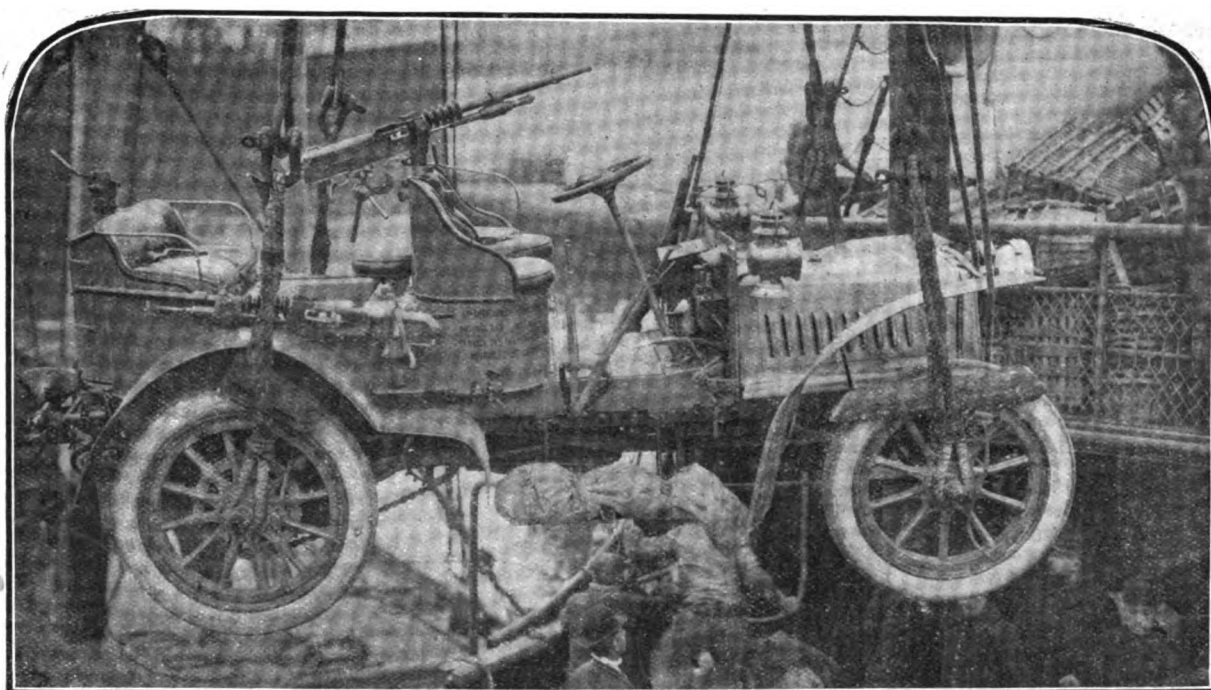
likely that they will shortly be adopting them in various departments, as they have just invited French manufacturers to submit prices of motor street sweeping machines, water carts, and fire engines, &c.

An International Congress on Roads.

The first step has just been taken by the French Minister of Public Works in connection with the International Congress on Roads, which is to be held towards the end of next year, by the formation of an Organising Commission, with M. Lethier, Inspecteur-Général des Ponts et Chaussées, Baron de Zuylen, of the A.C.F., and M. Baillif, of the T.C.F., as presidents. Several sub-committees have also been formed to deal respectively with matters of finance, receptions and excursions, technical details, and an exhibition.

Motor Boat Races at Monaco.

The programme has just been issued of the annual motor-boat exhibition and race meeting to be held at Monaco, from the 1st to the 13th April next. In addition to a two-days' show, there will be a race for cruisers having single-cylinder



The Motor-Car in War.

The above illustration depicts a Panhard Car, equipped with a Hotchkiss quick-firing gun, being loaded on to a steamer at Marseilles en route for Morocco, where it is to be used by the French military authorities in the troubles that have arisen on the frontier.

The Motor-Car Industry in Germany.

A meeting was held at the Ministry of the Interior in Berlin last week, at which representatives of the Government, of leading German automobile clubs, and of motor-car makers attended. The delegate of the Government stated that the stagnation in the development of the motor-car industry, which was admitted on nearly all hands, had induced the Government to institute inquiries with a view to ascertaining whether anything could be done on the part of the Imperial authorities to support the industry, and what means could be employed in order to find new markets for manufacturers. With this object the Imperial Office for Internal Affairs has drafted a series of questions which it is proposed to put to manufacturers of motor-cars and their components and accessories. The questions for each of these groups will relate to the years 1901 (when the industry may be regarded as at its commencement), 1903, and 1906.

Municipal Motors for Toulouse.

The municipal authorities of Toulouse are showing great interest in the subject of municipal motor vehicles, and it is

engines up to 100 mm. bore; one over the same distance for 6½ metre cruisers having four-cylinder engines up to 90 mm. bore; one for cruisers up to 8 metres, and with engines with four cylinders up to 106 mm. bore; one for cruisers 8 to 12 metres in length and with four-cylinder motors up to 130 mm. bore; one for cruisers up to 18 metres and 155 mm. cylinder bore. All the above will be over a distance of 50 kilometres. The championship of the sea will be open to all classes of vessels, and will be over a distance of 200 kilometres. In addition, there will be several handicap events for cruisers and racers.

An Electrical Motor Street Washing Machine.

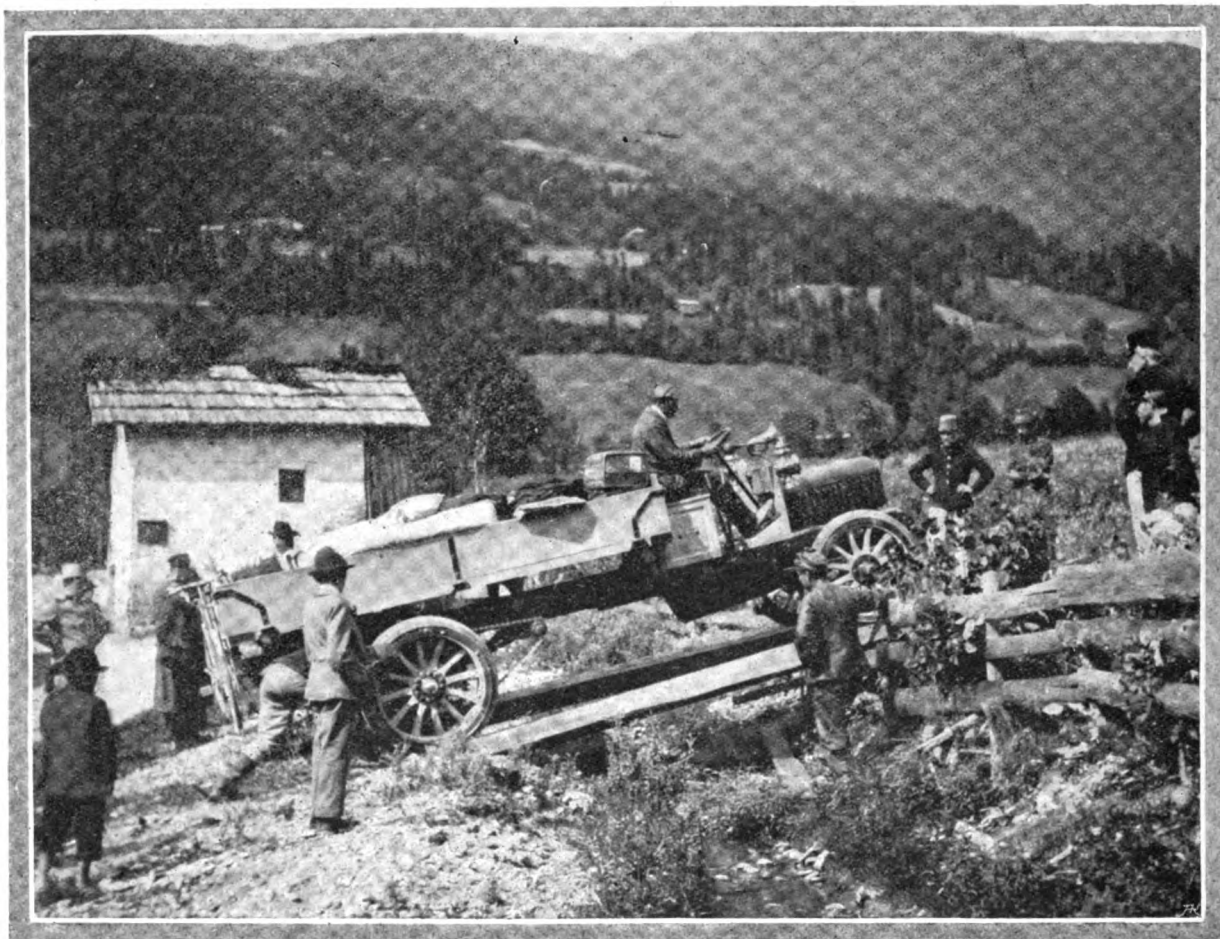
The first electrical motor machine for the washing of the carriageways of streets and roads has lately been placed in service in Berlin by the street cleansing department of that city. The machine, which was built by Messrs. Henschel and Co. in conjunction with Messrs. Gottfried Hagen, of Kalk, Cologne—the latter firm supplying the electrical part—is equipped with two 4-h.p. motors, which drive the front road wheels through gearing. The necessary current is supplied by a battery of forty cells, carried in a receptacle in the front part of the vehicle. The

controller is adapted to give five forward and two reverse speeds. The machine does not collect street refuse; it simply washes the roads, a tank having a capacity of 2,500 litres of water being provided. The water is forced out under hydraulic pressure through a sprayer at the front, the mud and slush being swept to the side of the road by a chain-driven rotating brush at the rear of the machine.

An Automobile Photographer's Outfit.

An automobile photography saloon, is the latest development in motorism. It is the production of a Frankfort-am-Main inventor, who, on a petrol motor chassis, has mounted a special body in which a dark-room, studio, arrangements for printing, and other accessories are provided. The studio is electrically lighted by current generated by the motor of the vehicle.

motor-boat exhibition is to be held in Antwerp from January 18th to February 10th next.—Under the name the Düsseldorf Electromobile Betriebs-Gesellschaft "Debag," a company has just been formed in Düsseldorf to establish a service of electric motor-cabs in that city.—The police in Paris have struck out on a new line, they having commenced to issue summonses against all chauffeurs who allow their engines to run, however slowly, when the car is at a standstill.—It is announced that a company has been formed in Athens to inaugurate a public motor-car service between that city, Marathon, and Thebes.—The Paris-Lyons Mediterranean Railway Company has just put in service in Paris a number of small motor omnibuses which are at the disposal of passengers.—The motor-car manufacturers in Austria have decided not to hold a show next year, while it is announced that the German Society of Motor



An Incident in the recent Austrian Manœuvres. — A Motor Lorry being driven over two planks thrown across a stream to form a temporary bridge. *[Allgemeine Automobil Zeitung.]*

Increasing Traffic in Paris.

In view of the increasing traffic in Paris, and especially on the Avenue des Champs Elysées, the Municipal Council has approved the construction of an underground passage across the Avenue at the crossing of the Rue Marbeuf, at an estimated cost of £2,680.

Miscellaneous Items.

According to a statement issued by the Automobile Club de la Sarthe the number of accidents in that department of France which took place during November last were:—Horse-drawn carriages, 18 accidents, 3 deaths, 16 badly hurt, automobiles, 2 accidents, 2 injured; cycles, 6 accidents, 6 injured.—The Dutch annual motor-car exhibition is to be held in Amsterdam from the 17th to the 26th January.—Arrangements are in hand in Brussels for the formation of a Belgian motor volunteer corps, to include both owners of cars and motor-cycles.—A

Car Builders have decided not to support another exhibition before September, 1909.—A parade of industrial vehicles is to be held in Brussels at the close of the Belgian motor-car exhibition.

In addition to building complete cars, the Star Engineering Co., Ltd., Wolverhampton, are now devoting considerable attention to the supply of motor-car components to enable small firms to build up their own vehicles. The new departure has been rendered possible by the policy adopted by the Star Company of standardising the various parts—engines, pumps, carburettors, gear-boxes, axles, steering gears, &c.—and having the means to cope with a large output, prompt deliveries can be made. The models at present being turned out comprise 9-h.p. two-cylinder, 13-h.p., 16-h.p., and 20-h.p. four-cylinder, and 30-h.p. six-cylinder. Any of the parts of these or the complete chassis can be supplied.

MESSRS. A. W. PATTERSON AND SON are making considerable alterations to their motor establishment in the Market Place, Baldock.

FOR placing broken bottles in the roadway to puncture the tyres of motor-cars and bicycles, five boys were fined 5s. each at Berks Petty Sessions, Windsor, on Saturday.

THE Bradford City Council have adopted a resolution prohibiting the use of the motor-cars owned by the municipality by their officials going to and from their homes.

MR. ROBERT COLVER, of the firm of Messrs. Jonas and Colver, Ltd., Continental Steel Works, Sheffield, has placed an order with the Daimler Company for a 42-h.p. chassis.

THE records made on the Brooklands track last week are to be attacked within the next few days, the success of Mr. Clifford-Earp having apparently whetted the appetite of many leading motorists for even greater speed.

BY courtesy of the directors of the Automobile Co-operative Association, Ltd., Mr. J. B. King has been permitted to use their offices and staff to facilitate the honorary work he is doing for the Motor Union of Western India.

WITHIN a few minutes' motor run from the Marble Arch Messrs. Crowe and Deerevel have an excellent garage and repair works. This is located at 36-38, Willesden Lane, Kilburn, N.W., and a special floor is being devoted to the careful storage of cars for the winter.

WE learn that since Mr. W. M. Letts's visit to Paris with the English Lorraine-Dietrich the French Company have taken orders for fourteen of these cars, and, in addition to this, Mr. Sangster, at Birmingham, has received direct orders from two French agents for nine vehicles.

THE year book and diary for 1908 of the Auctioneers' Institute of the United Kingdom comes to hand in its usual complete form, giving a topographical list of members of the institute, the usual diary pages with an alphabetical index for memoranda, and other matters, ample space for which is provided.

IN connection with the world's records which were announced in our last issue as having been made by Mr. Clifford-Earp, it is of interest to hear that the six-cylinder 60-h.p. Thames car was fitted with 6-inch Palmer cord tyres, which stood up well under the severe strain to which they were subjected. It is interesting to note that Mr. Earp adopted the larger size after first trying the car with 5 in. tyres.

AN examination was held at the Naval Motor School, Portsmouth, on Friday, the 20th inst., the candidates being principally petty officers and seamen of the Royal Navy who wish to become motor drivers after leaving the service. The names of successful candidates may be obtained from the secretary of the Royal A.C., 119, Piccadilly, W., or from the manager, Naval Employment Agency, 16, Craven Street, Strand, W.C.

MR. W. G. JAMES, of 14, Mortimer Street, W., has been appointed the sole London and district agent for the Rothwell cars made by the Eclipse Machine Company, Ltd., of Oldham. Three models are being made—15-h.p., 20-h.p., and 25-h.p.—all fitted with four-cylinder engines, the first being of the Aster type, while the latter are of the Eclipse Company's own construction. Throughout the vehicles are on up-to-date lines, every part being made in the works, including the bodies, except when customers desire special coach-work.

THE diary blotting pads of Messrs. Hudson and Kearns have proved their durability during many years, and having stood the test of editorial service may be regarded as likely to stand the wear and tear of any commercial office. These are issued in several forms, the most notable being the Bankers' edition, with leather corners, a pad diary and a date remembrancer, as well as a good thickness of blotting paper of real quality. No. 8a is another good style, this having white writing paper on one side as well as engagement and date slips and a full size pad. Maintaining the excellence of previous years these pad diaries of Messrs. Hudson and Kearns may be confidently recommended.

HERE AND THERE.

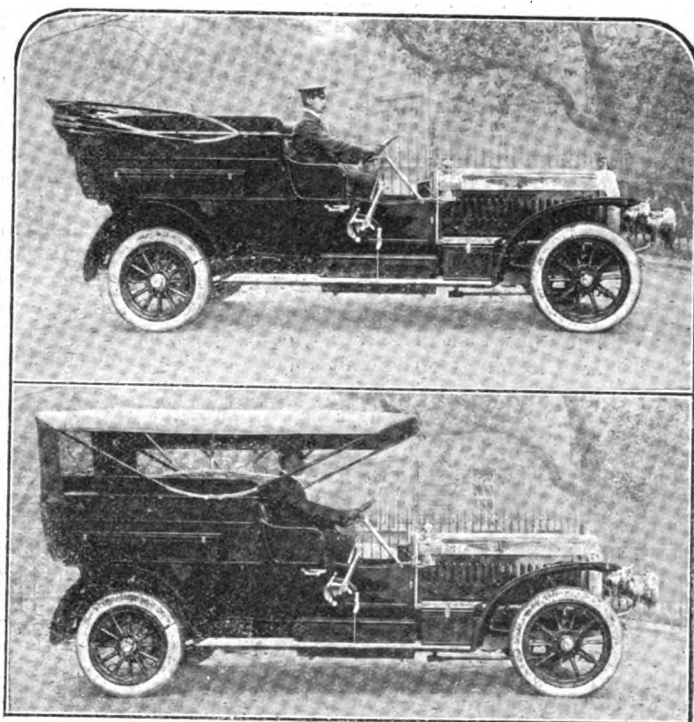
THE Aron Electricity Meter, Ltd., have brought out a taximeter which has been approved by the Commissioner of Police for the Metropolis.

THE gold medal of the Society of Engineers has been awarded to Mr. R. W. A. Brewer, for his paper on Liquid Fuels for Internal Combustion Engines.

THE Electromobile Company, Ltd., is providing motor carriages for ladies engaged in Christmas shopping, the charge being one guinea for the car and driver for four hours.

THE Maudslay Motor Company, Ltd., have received an order from the War Office for a duplicate of the vehicle which obtained a gold medal in the recent commercial vehicle trials.

NEW members of the Scottish Automobile Club include the Marquess of Tullibardine, the Earl of Kinnoull, the Earl of Northesk, Sir Basil T. G. Montgomery, Bart., Mr. A. J. Balfour, M.P., Lady James Douglas, Major Algernon R. Trotter, Captain John Gilmour, and the Hon. Lieut. J. Craik Taylor.



The 60-h.p. Napier Shooting Brake, built for Sir John Miller, of Heywood, Westbury, Wilts.

The brake holds from six to eight persons in the interior and two in front, is protected by a Cape cart hood and folding glass windscreen. Special arrangements are provided for carrying guns, luncheon baskets, carriage magazines, &c.

MR. ILES, a summer visitor to Nethybridge last July, who had his car upset near Dulnan Bridge, three miles from Nethybridge, but over the borders of Inverness-shire, is suing the Elgin County Council for £550 damages alleging road neglect.

A BURGLARY was committed during the week-end at the residence of Lord Lonsdale, Barleythorpe Hall, near Oakham. The thieves are believed to have been a London gang, who used a motor-car in getting away from the place.

No more convenient or enjoyable method of "seeing Japan" can be conceived than that of motoring through it at leisure in a good car. Distances are not too great, the tourist traffic has brought about a very good system of foreign-style hotels, some of which compare very favourably with the first-class hosteleries of Europe, and, though often difficult of access, practically all the famous beauty spots can be reached by motor-car in far more comfort than can be supplied by the narrow gauge railways or the jolting ricksha.

THE Isle of Wight Express Motor Syndicate, Ltd., is being voluntarily wound up.

MR. A. K. STOTHERT, head of the engineering firm of that name at Bath, has ordered a 30-h.p. six-cylinder Napier.

FIVE motor-vans are now in use for the delivery of books to the sub-stations of the public library of Chicago, U.S.A.

SIR FREDERICK TREVES, BART., has been through a course of motor instruction at the Motor Schools in Heddon Street, W.

MESSRS. R. J. MCCRERY AND J. C. PERCY will hold a concert in connection with the Dublin Motor-car Exhibition on the 8th prox.

MESSRS. D. BRADBURY JONES AND Co., of the West Wales Motor Garage, Carmarthen, have hiring-out motor-cars in charge of experienced chauffeurs.

A GARAGE LAMP, on the miners' lamp principle, has been placed upon the market by Messrs. George Polkey, Ltd., of the Hockey Lamp Works, Birmingham, who are also introducing a smart set of five lamps for the car at a very reasonable figure. In our advertisement pages last week the Projector was illustrated, as well as the square pattern side lamp. By an inadvertence the illustration of the tail lamp was incorrectly given, this being of similar style to the side lamp.

AN unusual sight was witnessed on Broadway, New York, recently. Three large electric wagons were paraded down the chief thoroughfare of the city, each bearing as its burden of triumph two large dray horses, and hauling in the rear the old-fashioned vehicles which the motor-wagons have supplanted.

WE understand that Argyls, London, whose headquarters at 17, Newman Street, W., are known to most Metropolitan motorists, intend to develop a touring department next season.

THE municipal authorities of Cincinnati, U.S.A., have contracted for the purchase of four 5-ton motor-wagons for the use of the Street Cleaning Department for the collection of dust and street refuse.

A REPEAT order for two traveller's broughams has been placed with the Albion Company, Ltd., by Messrs. Anderson and Thomson, of Aberdeen, through Messrs. R. and J. Shinnie, their agents in that city.

A SCHEME for the construction of a special motor track from South Shore, Blackpool, to St. Anne's has been suggested locally. It is estimated that to construct such a track, $3\frac{1}{2}$ miles in length, a cost of £24,000 would be incurred.

THE VICTORIA CARRIAGE WORKS, LTD., sole concessionaires for the Leon Bollee cars, have just supplied two of these well-known cars to Mr. Phillip Saillard, of Buchan Hill, Crawley, the successful exhibitor at agricultural shows. The vehicles will be fitted with handsome limousine and a Roi-des-Belges touring car bodies respectively.

AT the rear of the Pulteney Hotel at Bath is the Pulteney Motor Garage, with which Messrs. Whiting's motor works have been incorporated. The building has a bold frontage overlooking Henrietta Park, and has a private entrance from the hotel. There is accommodation for about thirty cars, and in Milk Street the proprietors have a repair department well equipped for dealing with all classes of motor mishaps.

THE diaries and tablet calendars for 1908 issued by Messrs. Thomas de la Rue and Co., of 110, Bunhill Row, E.C., are of the usual excellence and variety. The "Index Diaries" have a novel cut index, by means of which any month can be turned to immediately; the "Traveller's Diary" also has an index as above, and contains, in addition, matter of interest to English travellers. "Portable Diaries," specially intended for gentlemen's coat pockets, being of ample size, yet very limp and thin, are also included among the selection, in which several miniature purse calendars are noticed. The publishers also issue a series of diary engagement blocks of good design and execution. For many years Messrs. Thomas de la Rue and Co., Ltd., have been concerned with the issue of annual publications of a high grade, and the books for 1908 are well up to the standard of previous editions.

MR. C. JARROTT has offered the Motor Cycling Club a new trophy for next season.

REPAIRS to motor-car machinery are now being carried out by Messrs. S. and H. Brown in Lincoln Road, Peterborough.

THE fire authorities of Montreal, Canada, have decided to purchase two motor chemical wagons for use in outlying districts.

SIGHT-SEEING motor-vehicles have proved a financial success in the cities of New York, Philadelphia, Boston, Washington, and Denver.

THE Valvoline Oil Company is using a motor-lorry for long-distance delivery work in New Jersey, U.S.A., and states that it has replaced three two-horse teams.

THE Royal A.C. has decided to refuse sanction to any competition on a public highway or foreshore where the approval of the local authorities has not been previously obtained.

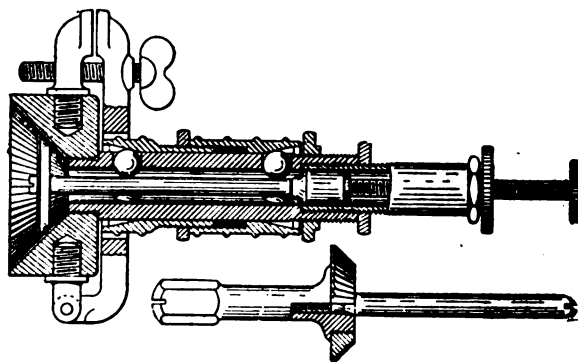
MESSRS. P. BARRETT AND Co., Carrick-on-Shannon, have a good stock of motor accessories, spirit, and oils, and are also undertaking the conversion of ordinary boats to motor-boats.

A FACTORY for making Dunlop tyres is about to be established in Japan, the Dunlop Pneumatic Tyre Company having made alliance with influential people in that country for the purpose.

NEARLY 600 drivers employed by the General Motor-Cab Company, Limited, were entertained to dinner at the Holborn Restaurant, London, on Tuesday. The chairman, Mr. Davison Dalziel, impressed upon the men the importance of being polite to their "fares" and the public generally.

A 12-14-H.P. KRIEGER petrol-electric car has been undergoing a six days' trial under Royal A.C. observation. A start was made on Monday from the Club's Motor House, and the journey was for 100 miles in the country—fifty miles out and back, on the Oxford road. Tuesday's was for a similar distance on the Coventry road. Five days are being devoted to the running of the car in the country, and one day will be told off for a test in London traffic. The car, which under R.A.C. rating is 17.49-h.p., is entered by Mr. F. Combemale.

WE illustrate herewith a valve dressing tool which has lately been put on the market by Mr. F. G. Crone, of 49, E. Utica Street, Buffalo, U.S.A. It is designed for the redressing of warped valves and their stems and the avoidance of the necessity for grinding too great an amount from the valve seats when they are found to be warped. It is made in one size and will accommodate valves of $1\frac{1}{4}$ to $2\frac{1}{2}$ in. diameter of the head and stem sizes between $\frac{1}{4}$ and $\frac{1}{2}$ in. As will be seen from the drawing, the adjustment for the valve stem diameter is made through conical sleeves and balls. An adjusting screw at the lower end



of the device limits the amount which can be removed from the valve face. The head in which the cutting edges are provided is detachable from the part carrying the stem of the valve, and is secured thereto by a quickly-detachable hinged clamp. The conical surface cutter may be had in any angle desired. As a complement to this tool a cutter is also provided for redressing the valve seats in the cylinders. This cannot, of course, be made to redress any great number of sizes of valve seats, and is made specially for the size to be redressed. A set of stems for the guidance of this tool in the valve stem guides is furnished, they being attached to the cutter proper by a screw joint drawing upon a taper.

THE HIGHWAYS OF KENT.

"To invite anyone to a saunter through Kentish byways, or even to a motor-scurch along Kentish highways, is to invite them into a country that has beauty, and varied beauty, to offer to the eye at all seasons of the year; but it is to invite them also to a country rich in matters that appeal to the imagination, a country in which the making of history has been carried on for close upon twenty centuries, and one rich even in those relics which tell of earlier unrecorded times 'when wild in woods the naked savage ran.'"

THUS Mr. Walter Jerrold introduces his pleasant gossip guide* to the ancient and variegated orchard of England—a county with an area of 1,624 square miles of fertile surface, fragrant hedgerows, apple orchards, and hop fields. Kent is justly esteemed in our island story. It



The Village of Biddenden.

began almost with the beginning—certainly it was the first corner of the country to entertain Romans, at first, unawares. Historic associations lurk in many an ancient hall and noble mansion of Kent; and they are all made accessible to the dweller in other shires who has the motor-car at command. Not only are the towns and villages of historic interest, but the roads have their memories too. Here the Romans tramped on their way to the little settlement on the Thames, now grown into the capital of an empire; there Chaucer's pilgrims might be met on their jaunt from Southwark to Canterbury. Canterbury itself is full of associations with the past, and although Mr. Jerrold writes lovingly of the city which sheltered the Walloons and protected the Huguenots, his pages cannot supplant Dean Stanley's Memorials of Canterbury, with their wealth of antiquarian lore and graphic descriptive power.

Canterbury is quiet and quaint, many of its old houses "bulging" out, to quote the description by Dickens, who immortalised most of these parts of Kent. Many of its citizens have little sympathy with the modern world, and, according to our "Highways and Byways in Kent," a zealous antiquarian suggests that motors, which he regards as "throbbing, noisy, evil-smelling machines," should be kept outside the city, their presence being a "vulgar and irreverent anachronism." Such view would not be shared by any of the Bishops who use automobiles in the course of their diocesan visitations, and would probably be controverted by those who, like Canon Hicks, of Lincoln, often drive their cars around the cathedral Close. No, good antiquarian! progress will invade even the most musty and crusty areas, and is no respecter of the ancient order of things, in which fact the modern man considers himself fortunate.

But Kent is not all highway; there are quiet lanes with high hedges such as are depicted in Mr. Hugh Thomson's sketch of a Kentish byway—one of those well-made roads that are under the

control of Mr. H. P. Maybury, but with hedges that obstruct the view ahead and offer risks of disaster should speed be attempted.

In the course of a score of chapters Mr. Jerrold tells his story. That on Lympne to the "Dens" is one of the most interesting, where all are good, and the following quotation characteristic of his style:—

"If Romney Marsh has charms that grow upon us, there is perhaps even more that is attractive—greater variety of immediate surroundings and the added views—from the hills that lie close inland from the neighbourhood of Hythe to near Appledore, at the further end of the demi-lune. It is a district of open fields, of flowery hedges, of woodland hollows, and strips of shaws along the fields, of dipping and rising lanes and small but pleasant villages, with occasional magnificent views over the wide extent of Romney Marsh. Leaving the narrow main street of Hythe by a broad and rapidly rising highroad trending inland, we may come to this district, or following the low road by the canal we may reach West Hythe, the earliest successor as port, it is believed, to its once important neighbour Lympne, now but a small village. The hills rise somewhat sharply along this part of our journey, and before visiting the Richborough ruins it is well to see them from below and to recall that this was in Roman times a port, either a bay or, as some suppose, the estuary of the Rother, which, it is thought, may have flowed out here before it took to erratic ways. Archaeologists have discussed the matter with various theories, and readers who would learn further details of these Roman remains—Reculver, Richborough and Lympne—should read the book on the subject, published in 1850 by Charles Roach Smith, referring for later researches to the rich volumes of the *Archæologia Cantiana*. Here we must be satisfied with a glimpse at the ruins, greatly changed, it must be remembered, by landslips during the many centuries that have elapsed since the last of the Romans left this outpost of their empire. Now high and dry some miles inland it is difficult to realise that Lympne was one of the great keys of Britain, equal in importance to Dover and Richborough. It is curious that a corruption of the Roman "Portus Lemanis" should remain in Lympne on the heights above, but that the cast-ruin itself should have taken on the new name of Stutfall or Studfall."



A Typical Byway.

And then by the way of Lympne Castle the motorist—for only he can properly see and know Kent—is taken a couple of miles to Westenhangar, where we are on the Stone Street that runs straightly, through Stanford, about a mile beyond, north to Canterbury. Roman settlements abounded in that part of the county, as ample remains now prove. Legends of old-time worthies are equally plentiful, while at Aldington are memories of Erasmus, who held the living for a few months. Several ad-

*Highways and Byways in Kent, by Walter Jerrold, with illustrations by Hugh Thomson. London, Macmillan and Co., Ltd., 1907.

adjacent places bear the name of Hurst, indicating the well-wooded nature of the scenery, and it is a capital little run to Bilsington. "From Bilsington," says the author, "pleasant wooded roads go north past small retired hamlets and farmhouses to the valley of the East Stour and Ashford, but, keeping roughly parallel with the canal, we pass where we come nearest to that waterway, through Ruckinge, and a couple of miles beyond reach the railway (Ashford and Hastings Branch of the S.E.R.), at Ham Street. From here our road loops in again past Warehorne and Kenardington—both showing picturesquely grouped in trees—on by-roads towards the Marsh. Warehorne was at one time the scene of a fair of some importance in the district. At Kenardington, which is now a small village, but when the Rother came nearer may well have been of greater importance, the Saxons are said to have raised earthworks against the Danish invaders. The journey from Ham Street to Appledore may be made almost entirely by foot-paths, giving more intimate knowledge of this country, where the wealden woodlands are merging into the marsh levels."

Then come Tenterden, Newenden, Rolvenden, Bevenden, Biddenden, Halden and a dozen other hamlets that once stood boldly to the world but now rest on their former greatness. Legends link them with the past. Tenterden steeple and the Goodwin Sands are indissolubly associated, and then there is Biddenden and the tradition of the two maids who lived together in the twelfth century much after the manner of the "Siamese twins," the "two-headed nightingale" and other misfortunate monstrosities of later years. Another chapter of attractive reminiscence is that concerning Otford and "the



H. Johnson.

Quintain on the Green at Offham.

"hams"—Warham, Ightham, Wrotham, Offham and half-a-dozen more hamlets of similar termination.

The splendid palace of Warham was visited by Henry VIII., and was duly handed over to him by Cranmer with various other archiepiscopal properties. All that now is to be seen is a group of picturesque ruins near the church overlooking the Darent, where the old-time Pilgrims' Way crossed the stream, and backed by the rapidly rising, tree-topped downs. Approaching the railway station from the south the nearer spur of those downs looks not unlike Box Hill as seen from the Dorking road. Along the Pilgrims' Road, keeping, as usual, to the hillside, roughly midway between the higher ground and the valley, we may pass into comparative solitude for some miles, meeting but few people, and seeing but few cottages, for, as usual, the inhabited road passes parallel with the old way at a short distance—here sometimes less than a quarter of a mile—to the south. Shortly after leaving Otford, however, the spire of Kemsing Church is seen, and here we are at a very attractive little village lying half a mile or so from the railway station. . . . From Seal to Ightham a beautiful four mile walk may be taken nearly all through the fine woods, either directly following the road over the hill, or turning to the left half-a-mile beyond Seal a lower way may be taken by Styants' Bottom. For a cyclist I would recommend the main road, for I can recall on one occasion having to push my machine along rutty, stony ways for a considerable distance only then to have to turn back and rejoin the open road. Either way takes us to Oldbury Hill, a famous spot owing to the extensive pre-Roman camp here, the entrenchments enclosing more than one hundred and twenty acres. Part of Oldbury Hill has been extensively quarried for stone for "metalling" roads, and especially was this done when much of the stone was taken in 1844 for macadamising the Edgware road."

Just beyond Wrotham the Pilgrims' Road takes a northward bend—seemingly for the purpose of keeping at its usual middle distance between the hills and valley; but following the road above it up Wrotham Hill we get magnificent views to the southwards over the Hurst and Mereworth Woods to the left, and the woods and parks on the hills about Sevenoaks, while between we have the break of the Shode valley. Here we are on the chalk, with roads running north to the Thames by Gravesend and Dartford, the nearest villages being the small Stansted with its thousand-years-old yew, Ridley, and Kingsdown, with its plain little church in the woods. Returning to Wrotham we have within three or four miles to the east—near to our Maidstone district at the Mallings—Trotterscliff, Birling, Ryarah, Addington, and Offham, a small group of places particularly attractive to those interested in megaliths, or rude stone monuments of pre-historic people."

These are delightful rambling grounds, where the car can be left while byways should be traversed afoot for the new impressions that come upon the vision with every turn. If the impressions are new, the actualities are ancient, for on the hill to the north of Trotterscliff is the Coldrum cromlech and many Romano-British remains. To the east, on the other side of the Medway, is Kits Coty House and the Countess Stones once thought to have association with the Coldrum cromlech. In fact, the whole district is one of hallowed sites which should quicken the blood in the way that Dr. Johnson declared it should rise at Iona. These strange survivals of a savage past seem curiously impressive in the rich scenery of diversified woodlands, pastures, cornfields, and hop gardens of the present. Some of the relics of our ancestors are associated with their sports as well as with their religious rites and funeral ceremonies, and

"On the green at Offham is a curious survival of one of their games in the shape of a quintain, which has been maintained for centuries at the cost of the estate on which it stands: this is a tall post with a cross-piece pivoted at the top, broad at one end, and pierced with holes. At the further end of the cross-piece hung a bag of sand, and the agile youth of the neighbourhood up to the end of Tudor times used to exercise themselves and their horses in tilting at the broad piece of wood, 'he that by chance hit it not at all was treated with loud peals of derision; and he who did hit it made the best use of his swiftness, lest he should have a sound blow on his neck from the bag of sand, which instantly swung round from the other end of the quintain. The great design of this sport was to try the agility of the horse and man, and to break the board, which whoever did he was accounted chief of the day's sport.'"

And thus across more than 400 pages Mr. Walter Jerrold discourses of the ancient lore and modern semblance of one of our best known counties, the roads of which are a delight to motorists, with a fine firm surface and generally ending in good inns for man and convenient garage for motor-car. For Kent is up-to-date despite its long lineage and ancient renown. To the graphic pen of Mr. Jerrold the facile pencil of Mr. Hugh Thomson has been added, a literary and artistic combination that has resulted in one of the most delightful of this series of travel books published by Messrs. Macmillan and Co., Ltd., by whose courtesy our readers get a glimpse of the pictures with which it is embellished.

MR. NORMAN CROSSLAND, 54, Deansgate, Manchester, is making an attractive offer to reduce the expenses of motoring for those who purchase cars from him.

MR. W. O. DANCKWERTS, K.C., has placed an order for a 40-h.p. Piccard-Pictet six-cylinder landaulet with Messrs. Donne and Willans, the exclusive agents for this vehicle for the United Kingdom.

MR. EDWARD MANVILLE, the chairman of the Daimler Motor Company, has been included in the series of articles on Midland Captains of Industry now appearing in the "Birmingham Daily Gazette."

A MOTION that the Law and Parliamentary Committee should consider the question of the damage that is done by the G.E.R. motor-buses has been rejected by the Eastern Highways Committee of the Norfolk County Council.

A MOTOR delivery van specially designed for carrying pianos has lately been put in commission by the Mason and Hamlin Company, of Boston, U.S.A. It is of 16-h.p., and can carry two grand pianos. It is said that with this vehicle a delivery that formerly took half a day can be completed in two hours.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

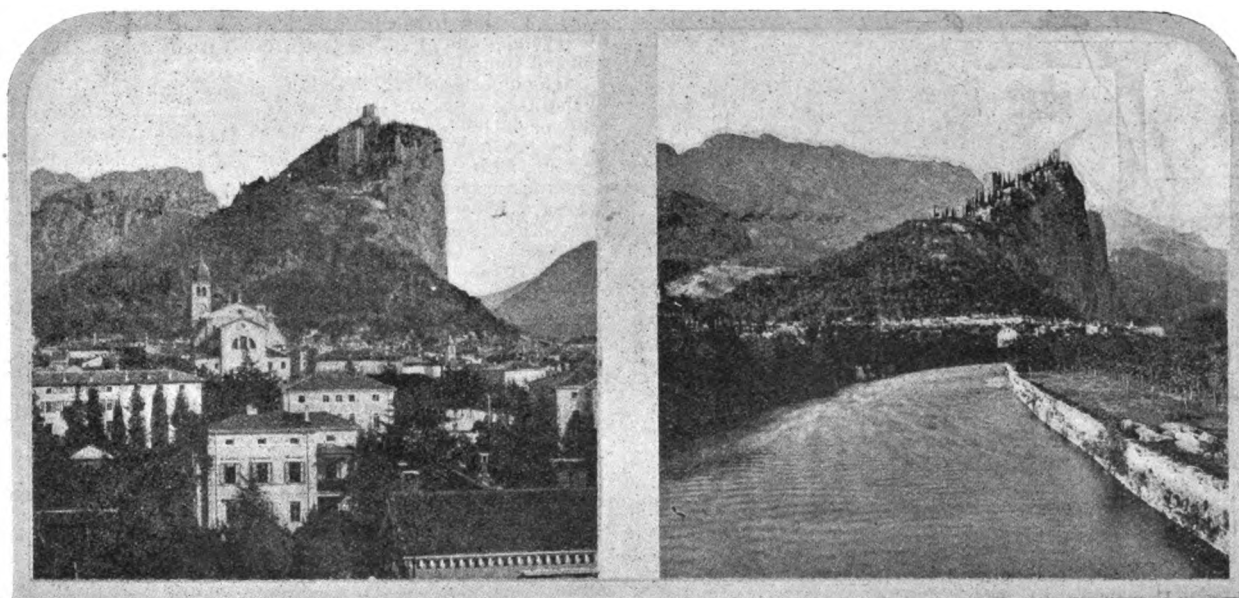
SUBSTITUTES FOR THE DIFFERENTIAL GEAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the article on "Substitutes for the Differential Gear" in the *M.C.J.* of the 7th inst., which alludes to the Hedgeland equaliser, will you allow us to supplement what you write by the following? Without departing from the underlying principle contained in the axle, which was submitted for trial by the Royal Automobile Club in 1906, Mr. Hedgeland has re-designed the device to enable it to be substituted for the differential gear, both in the floating type of cardan-driven axle and in the chain-driven type, so as to enable manufacturers to satisfy themselves, after trial, of the soundness of his principles. One of the modified designs is shown in your article on p. 897, but in Figs. 2 and 3 the diagrammatic sketches have been inverted; that shown in Fig. 2 should be described as "driving ahead" in place of "turning," and that in Fig. 3 as "turning" in place of "going straight ahead." It will interest many of your readers to learn that we hear this week of one of the original equalisers completing 35,000 miles to the satisfaction and delight of its owner.

After a long series of trials on many types of cars, the fact that the power of the engine is transmitted through the wheel which has the greater adhesion to the ground, and not, as in the case of the differential, through that which has the lesser adhesion, has proved the superiority of the device over the differential. On a six-cylinder

the winter season. The warming of either a closed or open car ought to be an easy matter, yet little seems to have been done to make use of the waste heat of the engine to enhance the comfort of the passengers. More than two-thirds of the heat generated in a petrol engine cylinder goes to waste, about half of this amount passing through the cylinder walls to the cooling water, the other half being carried away by the exhaust gases. A good heating effect could undoubtedly be secured by placing the radiator in the position of the dashboard. If a fan was placed in front of the radiator, practically all the heat from the latter would have to be carried through the body of the car, and a very considerable heating effect would be assured. Also, if there were regular openings near the top of the vehicle the circulation would be sufficiently active, so that no inconvenience from engine fumes need be feared. Most cars, however, have their radiators at the front of the engine bonnet, and to put the radiator in the place of the dashboard would be next to impossible. What could possibly be done in many instances would be to remove a section of the dashboard and close in the engine space all around by suitable leather aprons, so that the air drawn through the radiator would have to pass out of the engine space through the opening in the dashboard. Another scheme, which has been applied to some extent, is to provide the silencer with a jacket and locate it directly underneath the footboard. The air in the jacket becomes heated and passes up through a grating in the footboard. In this way also a tolerable heating effect ought to be obtained. The principles involved



The Church at Arco.

The Castle of Arco.

TOURING IN ITALY.—TWO VIEWS OF LAKE GARDA.

car which was capable of being waltzed end for end by its driver on greasy sets, the application of the Hedgeland equaliser rendered that manoeuvre impossible; and in a report from the makers of the car it was stated "it was much in advance of the usual axle fitted with the differential. I particularly noticed this on roads that were greasy, and I am certainly of the opinion that side skids are greatly prevented by its use." The report adds that when the engine is pulling the drive appears to be more even on both back wheels. There is no doubt that the substitution for the differential of a device which is as reliable, and which abolishes the well-known disadvantages and dangers due to the differential, will be a great step towards increased simplification and safety in the motor-car. An equaliser which at the same time will enable a solid axle, driven centrally by worm, chain, or gear, to be adopted, will conduce to the lessening of troubles, cost of upkeep and transmission losses. Another point which cannot be disputed is that, since one wheel cannot be driven faster than the other, and yet is capable of revolving freely faster than the other, it reduces to a great extent the destruction of tyres by the overdriving of one wheel through the differential.—Yours truly,

HEDGELAND AND CO., LTD.

WINTER MOTORING AND THE HEATING OF CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that motor-cars are no longer summer playthings, but are used all the year round, I am surprised that more attention is not paid by manufacturers to the provision of means of heating vehicles during

in heating a car by means of the engine waste heat are simple enough, but their application in a workmanlike manner requires considerable skill, and if any motorists have had a heating arrangement fitted on their cars, perhaps they would kindly send you particulars for publication in the correspondence columns.—Yours truly,

R. J. J.

LOW TENSION MAGNETO TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you will advise me in regard to a Richard-Brasier car with a four-cylinder engine of presumably 16-h.p. There is only one ignition fitted, viz., Siemens-Bosch low tension magneto, and the trouble is, it will only fire on two cylinders. I have only just taken the car over, but believe that for the last few months it has been working so. I have taken the magneto to pieces, cleaned and replaced it, and the engine will run on each cylinder separately, but when they are all connected will only fire on the front two. I believe the magnets are magnetised, but it does not appear to spark well. I have renewed the tappets and plugs, and ascertained that they work correctly.—Yours truly,

FRANK.

[Has our correspondent tested the timing by the marks on the rim of the flywheel? We believe that all Richard-Brasier cars have the proper setting of not only the valves, but also the ignition, clearly marked on the periphery of the flywheel. If each cylinder will fire all right when run separately it is really difficult to say with-

out examination why there should be trouble with the rear pair when all are coupled up. Is the armature geared to "break" at the point when the magnetic field is most intense? Is "Frank" sure that, in spite of each tappet working correctly, there are not two which overlap in timing? A badly-adjusted carburettor will sometimes give most extraordinarily erratic results in firing, and, by firing on two cylinders only, lead one to assume that it is the ignition which is to blame.]

A CARBURETTOR QUERY.

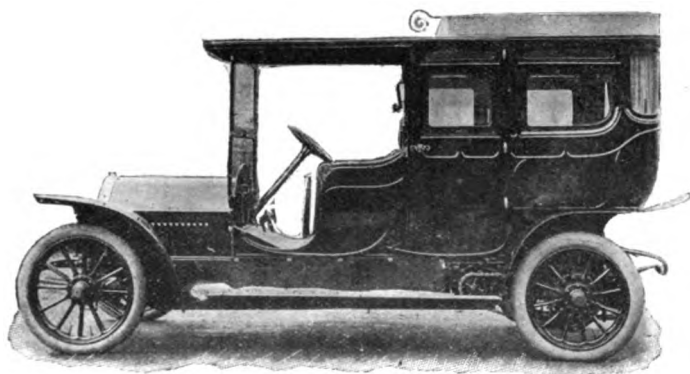
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have just purchased an 8-h.p. single cylinder M.M.C. car and there appears to be something wrong with the carburettor, which is a Longuemare. Owing to the engine using a very great quantity of petrol to the mile I began to look for the cause, and find that when the car is standing and the engine throttled down, a quantity of petrol spits out through the holes in the bottom of the chamber next the float chamber. I should be very glad if you or any of your readers could tell me how to remedy this.—Yours truly,

NOVICE.

[Our correspondent's carburettor is evidently not suited to the engine, and the most probable reason is that the air cone over the jet is too small. All Longuemare carburettors have a series of jets and air cones adapted to each size, and unless the correct pair are used in conjunction a satisfactory mixture is impossible.

We advise "Novice" to secure the next number larger air cone, and also at the same time the next smaller number jet. Various combinations can then be tried, and we have no doubt he will thus be able with a little patience to hit on the correct sizes of each best suited to his engine. It is also, of course, possible that the weight on the needle in the float chamber may require shifting, as to height, if the level of the spirit is



A Vinot Car with special Limousine Body by Messrs. Coles and Sons Kensington, exhibited at Olympia.

too high; but we recommend him trying the other alternative first, as being the most likely reason for the abnormal fuel consumption, and the flooding at the mixing chamber when throttled down.]

ENDORSEMENT OF LICENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I recently forgot to renew my driving licence and was fined 2s. 6d., and costs (the magistrate accepting my explanation) and my licence was endorsed.

May I ask through your columns:—Is such a course usual, and is it legal? Also is it worth while or of any good to take any steps to get this altered?—Yours truly,

J. S.

[This is one of the cases where the magistrates have no option in the matter. They "shall cause particulars of the conviction to be endorsed upon any licence held by him." So that when a person neglects to renew the licence, which, by the way, lasts for a year from the date on which it is granted, the offence must be entered when conviction takes place. This is one of the technicalities as to which magistrates might be granted some discretionary powers instead of being forced to perform what they often regard as an injustice.]

VALVE SETTING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have noticed that there is a great deal of doubt as regards the setting of inlet and exhaust valves, and that the instructions usually given are very loose, e.g., when the piston is about an inch from the bottom, &c. Now surely the correct setting of valves should be a matter of extreme accuracy, in which guess-work should be entirely eliminated? I think it would be most interesting and instructive if some of the leading manufacturers, such as Iris, Napier, Humber, Daimler, Darracq, &c., were to join in a little discussion on this subject, to see if any rule could be laid down. At present hardly any two makers set their valves alike: a cursory inspection at the recent show revealed the fact that in high-speed engines the tendency was to open

the exhaust valve early and close it early, about $\frac{1}{4}$ in. from the top of the stroke, the inlet valve opening $\frac{1}{4}$ in. on the down stroke and closing $\frac{1}{4}$ in. or perhaps a little more on the compression stroke: the slower running engines with long strokes appeared to open their exhaust valves $\frac{1}{2}$ in. down and close either on the dead centre or just over—i.e., a shade late, the inlet valves in this case opening a shade late, about $\frac{1}{4}$ in. or $\frac{1}{2}$ in. on the down stroke, closing on the dead centre exactly. Then, again, I found some engines which opened their inlet valves before the dead centre, and before the exhaust valve was quite closed! I think it would be most interesting to hear the many different views on this subject.—Yours truly,

AN INTERESTED ENQUIRER.

ARE TWO IGNITIONS NECESSARY?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The question raised by your correspondent, Mr. J. Worthington, is surely one of interest to all motorists, and deserves, I think, a little discussion. It is a generally acknowledged fact that a low-tension magneto ignition is the more reliable of the two when pitted against a high-tension magneto. Why? Simply because it has proved itself so—which provides as good a reason as we could desire. Moreover, it is practically only within the last couple of years that the high-tension system has been able to lay any reasonable claim to reliability at all; although I personally know more than one high-tension magneto I should be quite content to have on my car with no other type.

But allowing for the imperfections of one and all systems, I should advise those who can afford it to have two distinct types, unless they have only the ordinary high-tension ignition, when, by carrying a couple of charged accumulators and a few necessary spares, they are perhaps better off than if they had both a low and a high tension magneto. Certainly it is false economy to have two ignition systems which are not totally distinct from each other. If one coil and distributor is used for two systems and anything goes wrong with it, where does your duplicate ignition come in?

The objections Mr. Worthington puts forward against a double set of sparking plugs are easily got over. No driver having two ignition systems on his car should leave one type idle for any lengthy period. If he has high-tension magneto and a separate coil and accumulator system, for example, not only is it easier for him to start on the accumulator system, but he should make a point of *always* doing so, for it ensures it being in working order and guards against his forgetting to charge the accumulators when necessary.

Again, if the magnetic plug could prove its reliability I think it looks as if the low-tension magneto will attain a new lease of life and entirely put the high-tension model in the shade. Anyhow, it all goes to show that the whole interesting question of "Which Ignition?" is still unsettled.—Yours truly,

J. MORSE SCOTT.

ACCUMULATOR CHARGING FROM PRIMARY BATTERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you assist me with any hints on the charging of accumulators? I have a four-cell charging battery fitted with an adjustable wire coil resistance, but when newly charged, as per directions, I find that with the full resistance interposed there is still a current of about eight amperes, which is more than double the charging rate of my cells. What I wish to know is whether I can connect two cells in series, and let the full eight amperes through, so allowing four to each, which is full charging rate; or if not, how can I reduce the current?—Yours truly,

S. H.

[When a good primary battery is made up with fresh solutions, it gives its maximum voltage, and therefore offers a low opposing electromotive force to the primary battery, an excessive rush of current being the result. To overcome this difficulty, it is best to connect up three instead of four cells of the primary battery to the accumulator. This can easily be done, as the battery mentioned by our correspondent is provided with separate terminals to each cell. After some little time the voltage of the cells will fall, and the voltage of the accumulator will rise, causing a fall in the strength of the current, in which case the fourth cell can be put in and the accumulator left until it is charged. In his query "S. H." asks if he can connect two cells in series, but evidently two cells in parallel is meant, as it is only by connecting them thus that the current can be divided between them. This, however, would not help, as by so doing the opposing voltage is reduced. Connecting three cells up is the best method, and the resistance can be used to obtain exact regulation of the current.]

MAKER OF INDUCTION COILS.—A correspondent writes asking for the name of the makers or agents of induction coils bearing the mark

Repteur
R. V.
Déposé

MICA WIND SCREEN.—We have an inquiry for the name and address of the maker of a mica wind screen, and shall be pleased to forward any information on the subject to our correspondent.

GEARS AND GEARING.*

BY F. HUMPHRIS.

THE title of my lecture should have been "Toothed Gears and Gearing." It is with the efficiency and durability of toothed wheels as used in automobile constructional work that I am to deal. Gear wheels must be defined as devices for transmitting continuous motion from one fixed axis to another by means of engaging teeth. Thus confined, gear wheels may be conveniently divided into three general classes: skew bevel gears, transmitting motion between axes not in the same plane; bevelled gears transmitting motion between intersecting axes; spur gears transmitting motion between parallel axes.

Wheels are constructed upon theoretical principle of discs having no teeth. These discs are imaginary in actual practice, although they are one of the principal elements of the theory, and they are called axoids, or pitch cylinders of the gears. These two cylinders that can roll on each other will transmit a rotary motion from one end of the fixed parallel axes, and to the other if their surfaces are provided with engaging projections. When these projections are so small that they are imperceptible, the motion is said to be transmitted by friction, and it is practically uniform. A microscopic observation of any two apparently highly polished surfaces will reveal the fact that in reality they are not perfectly smooth. But when these projections are of large size and readily observed, the motion, although unchanged in nature, is said to be transmitted by direct pressure, and it is irregular unless the active surfaces of the projections of teeth are carefully shaped to produce an even motion. It is upon this theory of being carefully and correctly shaped that a tooth gearing must be constructed to give good results, and it is also necessary that it must maintain its configuration and correct curves throughout its whole life, or otherwise a tooth gear begins well, not perfect, and rapidly becomes worse and worse.

The important point is as to whether a toothed gear becomes less efficient as it becomes older, and whether it maintains its correct curves in a sufficiently practical form to leave it in the field of mechanics unchallenged as a motion. My own views are that the tooth gear is the most imperfect motion employed in automobile construction when it is constructed upon the orthodox lines.

The basis upon which ordinary tooth gear is constructed is that of two circles or cylinders rolling upon one another, thus obviously giving the smallest contact surfaces or area that can be contained. This system gives results entirely dependent upon the perfection of the true tooth curve, and can only give its theoretical result when the wheels are new, the reason being that there is only a line of contact to take up the greater part of the sliding motion. These curves represent two convexes rubbing upon one another, and it is necessary that these curves should remain as they were first designed, or otherwise the velocity ratio between them will keep getting worse and worse. In practice, it is not possible to maintain this theoretical curve. There is no wheel that ever has been made, or that ever can be made, which has for its basis curves engaging and sliding in opposition one on the other.

If the motion of two wheels' teeth engaging were entirely confined to that of a rolling character their life would be practically everlasting. Therefore, to be able to improve upon the system of ordinary tooth engagement and retain all its advantages without any of its disadvantages, should be the aim of all engineers who are interested in transmitting power by these means; but to do this would necessitate making a gear the teeth of which have less sliding upon one another, with an area or surface in contact of greater dimensions than teeth of the ordinary kind, also with a greater strength, a less amount of weight, a reduction in the number of engagements for the same amount of work done, and teeth which, with all these qualifications, will not change in form when worn and destroy the curves necessary to their perfect working and engagement. This can only be done by making the true tooth curves in sympathy with the mating member upon which they engage instead of in opposition, as in the ordinary form of tooth engagements. I have designed a toothed wheel of this description, and have put it to the most severe tests. The tooth to which I refer is circular in cross section with a hemispherical or ball-end addenda, the said tooth wheel engaging in a plate having circular holes, and being driven at right angles from the propelling shaft. The results of this test show a very small amount of loss in transmission, and an almost imperceptible amount of wear. A lesser angle of obliquity (or power absorbed as thrust) can be obtained than when the ordinary formula and shape of tooth is employed. This lesser angle of obliquity carries with it some very remarkable values, as the power delivered from one wheel to the other is more in the direction of the driven wheel, with a corresponding increase in efficiency. A smaller diameter pinion can be used with larger and stronger teeth. And in proportion to the lesser angle of obliquity so is the amount of slip, or the sliding of one tooth upon the other, which slip occurs over an abnormally large area, and, therefore, ensures less wear and less friction. This result is obtained by establishing an entirely new formula and shape of tooth. The underlying principle of tooth formation is that the action of the teeth shall, as nearly as possible and practicable, approximate to the smooth motion that the peripheries of friction wheels would give if working perfectly when engaged in mutual contact. Though this may seem easy of attainment, it is not at all easily or readily accomplished in fact. For, apart from the question of mere engagement of teeth, there is this result, that the forces which

act normally to the tooth curves operate in oblique directions and only for an instant perpendicularly to the line of action. The amount of diagonal thrust will depend upon the form given to the teeth, and it is desirable for obvious reasons to keep this angle of obliquity as small as practicable, as the less it is the more efficient becomes the transmission. Intimately related to this is the breadth of the teeth at the roots, increase in which conduces to strength. With the circular tooth having a somewhat bell or helmet shape, and an addenda hemispherical and engaging in a round hole, all these necessary conditions can be not only conformed to, but improved upon, when the teeth and holes are constructed upon a formula giving sympathetic curves. The tooth action, instead of being curved in opposition, as in the formula for ordinary tooth gears, is curved in sympathy.

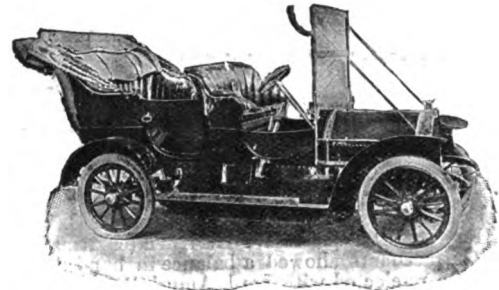
"ELECTROMOBILE" AS A NAME.

IN the Court of Appeal, on Monday, the appeal of the plaintiffs was heard in *Electromobile Company, Ltd., v. British Electromobile Company, Ltd.*, from a refusal of Mr. Justice Warrington to grant an injunction restraining the defendants from using their present style, on the ground that it was calculated to induce customers to believe they were dealing with the plaintiff company.

The contention of counsel for the appellants was that confusion was inevitable from the use of the word "Electromobile" by the respondents. Lord Justice Vaughan Williams pointed out that confusion was a question of degree. The risk was great when a fancy word was used but not so great when a word was used which was neither fancy nor geographical, but merely of a character descriptive of the machinery.

Without calling upon counsel for the respondents, the Court dismissed the appeal.

Lord Halsbury said the question raised was simply one of fact and not of law. In his view there was no reasonable probability of confusion



The 15-h.p. Coventry-Humber recently supplied to the Duke of Atholl.

between these two names. The appellants had adopted two words—"mobile" a good classical French word, and "electro," which was pretty well appreciable all over the world to electricity, and those words purely signified the qualities of the carriage. He did not believe that a word which was, as was admitted, a generic word describing a car run by electricity in 1902 had since then become specifically appropriated to one particular company, so that it might lead to the public being deceived if used by another company. If the name sought to be restrained was one which simply conveyed the qualities of the thing, it became extremely difficult to say, and required very strong evidence to establish, that it would deceive. He did not deny that a person might even be restrained from using his own name in certain circumstances, but those circumstances did not arise here.

The Lord Justice and Mr. Justice Bigham agreed, and the appeal was accordingly dismissed.

CONTINENTAL tyres were again top scorers at the Berlin International Exhibition by an overwhelming majority.

ON the 13th inst. a joint dinner of Messrs. S. F. Edge (1907), Ltd., and Messrs. D. Napier and Son was held at the Trocadero Restaurant, London, when, in reply to the toast of his firm, Mr. M. S. Napier reviewed its history over the last century, recalling some intricate pieces of mechanism which they had made before they took up motor-cars ten years ago. He described his meeting with Mr. S. F. Edge when that gentleman was driving a car of the early type which to Mr. Napier's eye looked like a "racing cottage." At the call of the chairman, Mr. S. F. Edge, the staffs of the two firms present at the dinner joined in drinking the toast of "The Napier car right ahead in 1908."

A DEPARTMENT of the business of Messrs. Smith, Parfrey and Co., Ltd., that promises to be kept busy throughout the cold weather is that for the repair of cracked water-jackets, cylinder-heads, water-connections, &c. By dint of considerable experiment during the summer they have discovered how to treat such damages in the minimum time, with the utmost efficacy, and at the lowest possible cost. They have also been kept busy lately converting the pillar change-speed levers of Rovers and Darracqs to change devices of the ordinary side-lever pattern. There have been yet further extensions at the Pimlico Wheel and Motor Works, and it is certain that London now contains the largest and best equipped repair establishment in the kingdom.

* Abstract of paper read to the members of the Royal A.C., on Thursday December 12th, 1907.

CLUBS AND ASSOCIATIONS.

MOTOR CLUB.

MR. R. E. EDMONDSON, the secretary of the Crystal Palace Club and polo manager, has been appointed secretary of the Motor Club.

THE AUTO-CYCLE UNION.

THE annual six-days' trial will next year again take the form of a reliability run from Land's End to John o' Groat's. Last year's trial was certainly one of the most successful of any promoted by the club, and it will be extremely interesting to see to what extent machines have now been improved, and what will be the proportion of starters who succeed in getting through from "end to end." The question of awards has not yet been considered by the committee, but we are informed that the rules and conditions will be out in good time.

LADIES.

AT the last meeting of the Committee of the Ladies' Automobile Club, the following were elected members of the club:—Mrs. William Bradshaw, Miss Vera Davison, the Hon. Mrs. Hanbury-Tracy, Mrs. Hartmann and Mrs. Jamieson.

The committee have arranged with Mr. R. S. Currie, the club engineer, for another course of his technical lessons to be given at the club. These will be given weekly, from January 29th to March 4th. They will be free to members, and each member may bring with her one friend, but for each friend a charge of 5s. per lesson will be made.

SOCIETY OF MOTOR MANUFACTURERS.

AT the meeting of the Council of the Society of Motor Manufacturers and Traders, held on the 12th inst., it was resolved to take the opinion of the trade with regard to the proposed Isle of Man race next year. Applications for the formation of local agents' sections were received from what was formerly known as the Midland Motor Traders' Association, of which Mr. W. J. Burton, Nottingham, was the secretary; from the Manchester Association, with Mr. C. E. Taylor as the secretary; and one from the county of York, received through Mr. H. J. Lloyd, of York city.

BEDFORDSHIRE.

THE first annual meeting of the Bedfordshire A.C. has been held at the Swan Hotel, Bedford, Mr. W. H. Allen (chairman of committee) presiding. The accounts showed a balance in hand of over £50. All the officials were re-elected with Lord Amphil still as president, and Mr. G. J. M. Whyley as hon. sec. A dinner followed, at which several ladies were present, and several complimentary toasts were observed.

SHEFFIELD.

ON Tuesday the second annual dinner of the Sheffield and District A.C. was held at the King's Head Hotel, Sheffield, about ninety gentlemen sitting down under the presidency of Mr. Harvey Foster. Amongst those present were Dr. G. H. Lodge (Mayor of Rotherham), Dr. Pearson, Superintendent Bielby, Messrs. H. J. Wells (Barnsley), J. H. Pickford (Rotherham), F. B. Cawood (hon. secretary), Ben Hind, E. F. Coupe, P. Richardson, W. Browne, H. C. Else, T. H. Firth, J. Barber, and others. The toast of "The Public Authorities" was given by Dr. Pearson, who made reference to the kindly relations which subsist between motorists and the police, and to the efforts which are being made to secure improvements in the roads. In replying, the Mayor of Rotherham expressed a firm belief that during the next few years great progress must be made. Mr. Fearnley, of the Sheffield Tramways Department, also responded, alluding to the coming of the Universal Lights on Vehicles Act at the opening of the year, and to the greater justice and safety which would thereby be secured by all users of our highways.

Mr. W. Robinson proposed "The Motor Union of Great Britain and Ireland," and Mr. Rees Jeffreys responded. He spoke very warmly of the services of Sheffield's representatives to the Union, enumerating Mr. Cawood, Mr. Firth and Mr. Barber. The Union had done what it could to weld together all the automobile clubs of the kingdom, the consequence being that that body has now become the Common Council of automobilism, and able to control the common politics of the industry. He thought that there was no fear of internal dissension or of a retrogressive step, and a small and unrepresentative body in the Metropolis being left as the authority. The future was a very difficult one, for there was the new Bill to be faced, and the likelihood of increased taxation was one of the chief subjects to be considered. He still thought that increase in taxation would not be objected to so long as the produce was paid into a central fund to be applied as grants in aid towards improvement in our main roads. The Motor Union was always watching the legislative battle, and no private Bill was introduced into the House of Commons without the most careful scrutiny by the Union, so that the rights of motorists should be safeguarded in every possible way.

Other toasts were "The Visitors," proposed by Mr. T. H. Firth, and responded to by Mr. H. J. Wells (of the Barnsley and District A.C.) and "The Sheffield and District Automobile Club," proposed by Mr. H. C. Else and responded to from the chair.

HARROGATE AND DISTRICT.

DR. OZANNE (president of the Harrogate and District A.C.) occupied the chair at the second annual dinner, held at the Prince of Wales Hotel, on Saturday. The President was supported by the Mayor (Alderman N. Williams, M.D.), Dr. A. F. Dimmock, Mr. G. C. Veale, Dr. Holroyd (hon. sec.), Mr. H. Gaskell (Blackburn), Mr. H. S. Birtwistle (hon. treasurer), Superintendent C. Keel, Mr. J. A. Titley (hon. solicitor), and others.

The Chairman gave the usual loyal toasts, which were duly honoured, and Mr. T. E. King proposed "The Motor Union," remarking that the Harrogate and District Club had been affiliated with the Motor Union for some time past, and they had every reason to be satisfied with their relationship. Mr. W. Rees Jeffreys, in response, referred to the assistance Mr. King, who was the representative of the Harrogate A.C., had been to the general committee with the views of the Harrogate Club upon important questions of policy from time to time decided by that committee. The Harrogate Club was very fortunate in its officers.

Mr. E. H. Hepper proposed "The Harrogate and District Automobile Club," and remarked that it was always a pleasure to come to the beautiful town of Harrogate. The beginnings of the Harrogate Club were likely to lead to greater things. Referring to the application some time ago, he did not think the Harrogate Club was well advised to go in for a ten mile limit in all the streets. Dealing with needed reforms, he alluded to the injustice of motorists being compelled to have a light in front and at the rear of their cars, whilst other vehicles were allowed to go along the roads without a rear light. With regard to the taxation of motor-cars, any tax that might be put on, and money received from licences of motor-cars, and all moneys derivable from that form of taxation should be placed to the upkeep of the roads. In course of conversation with Superintendent Keel, he gathered that he was not in favour of police traps on open roads. He quite agreed with the superintendent on the other side of the question, that dangerous driving through villages should be stopped.

Dr. Holroyd, in response, referring to the formation of the club, said that about the end of 1904 the Harrogate Corporation wished to impose a speed limit of eight miles an hour in the whole of the borough of Harrogate, which was ridiculous. A few motorists in the district met and decided to oppose the scheme. Shortly afterwards it was thought advisable to form a club, and eighteen motorists who, he was pleased to say, were still members, formed the Harrogate and District A.C. After a reference to the part taken in the recent speed limit inquiry by the club and the Corporation, he remarked that the result was extremely satisfactory to the club, because in the streets that were scheduled it would be absolutely dangerous to drive at times over ten miles an hour. They had now a membership of ninety, and they had taken their place in the country as one of the best working clubs.

Dr. Solly proposed the toast of "The Mayor and Corporation." The Mayor, in response, after a humorous reference or two, speaking on the speed limit, said that he agreed with Dr. Holroyd. He certainly thought on some country roads twenty miles an hour was rather slow, but along many roads and in villages and towns twenty miles an hour was much too fast. Had it not been for "road hogs" he was sure motorists would not have been worried or annoyed by the police traps. Mr. J. E. Titley gave the toast of "The President." It struck him that the Harrogate and District A.C. were particularly fortunate in their president, who had helped them from the very beginning. They could not have a better president. Dr. Ozanne was heart and soul in the welfare of the club. The toast was given with musical honours.

Dr. Ozanne, in response, thanked them for the hearty manner in which they had drunk his health. With regard to the office he held in the club, it gave him much interest and pleasure; he was in at its birth and had watched its progress. He expressed his strong disapproval of the disgraceful habit of going much beyond the speed limit in towns and villages, and considered the Act was very fair to motorists.

THE Bradford M.C.C. is nearing a membership of 100. Mr. G. E. Vint is the president.

THE Perak (Federated Malay States) Motor Union, formerly known as the Ipoh A.C., has affiliated to the Motor Union.

MR. J. R. BEDFORD, who founded the Birmingham Motor-Cycle Club five years ago and who has been the hon. secretary since then, has just resigned owing to his removal to Reading.

THE Motor Accessories Company, 58, Great Marlborough Street, W., are special selling agents for the G.L. controller, and agents for the G.L. carburettor.

THE West End Tyre and Accessories Company have opened a show room at 2B, Piccadilly Circus Mansions, 67A, Shaftesbury Avenue, W.C., where the "West End" non-skid and all kinds of tyres and accessories can be seen.

THE result of the Limerick competition of Messrs. W. Searle and Co., the speed indicator specialists, is as follows:—First, the line, "And most Searle-y they looked when home striding," sent by Mr. C. Rayner Booth, of Tudor House, Mickleton, Gloucestershire; and second, "From the 'copse' where they were abiding," sent by Mr. S. Batchelot, of Blackstock Road, Finsbury Park, N.

CARBURETTING AS DETERMINED BY EXHAUST GAS ANALYSIS.*

BY DUGALD CLERK.

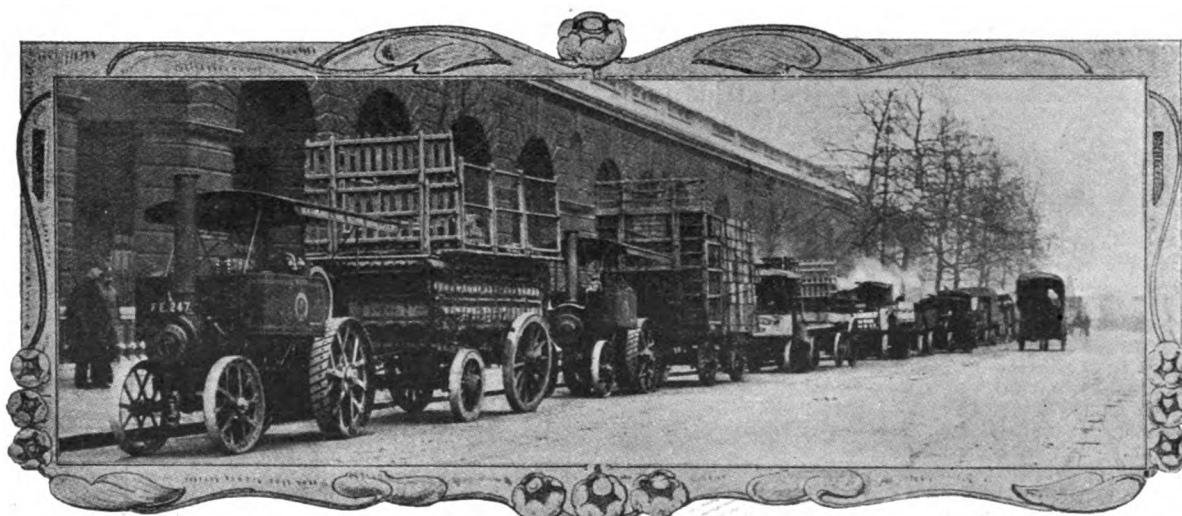
WHEN IN an internal combustion engine, whether petrol or gas, there is a best mixture of inflammable material and air, which gives for that engine the highest power consistent with the highest thermal efficiency. The object of the carburettor is to supply the air charge drawn into the petrol engine with a sufficiency of petrol to produce this proportion of charge, notwithstanding all necessary variations in the volume of the total charge drawn into the engine. A perfect carburettor should produce this best charge throughout the whole range of speed of the petrol engines considered, and throughout the whole range of variation in volume of charge per stroke required by the engine for control under the different circumstances of running. It is not a difficult task to design a carburettor which will give a practically perfect charge for one particular speed of rotation, and for one particular charge volume drawn in per stroke. It is, however, a most difficult task to design a carburettor which will automatically meet the varying demands for charge by the engine, both as to speed and volume fed per stroke. The jet carburettor, as originally designed by Maybach, assumed, and assumed correctly, that for certain variations of speed and charge volume the jet would respond to pressure changes in the inlet pipe to such an extent as to proportion the charge correctly within these limits. The wide range of speed and charge volume required to meet the conditions of a modern petrol motor, when actuating a car, necessitates, however, changes in conditions other than those obtainable by means of a petrol jet and a supply port or passage of

The author assisted at these experiments, and has also since made some experiments on his own car, an 18-h.p. Siddeley landaulet, having a four-cylinder engine, cylinders 4 in., stroke 4 in. The best results—parity of exhaust and maximum thermal efficiency—are obtained in adjusting the carburettor so that the engine gives the most economical petrol consumption for a given power. This power is somewhat under the maximum power possible, but not greatly under it. The conditions of innocuous exhaust and maximum efficiency are to be found together. The most important point apparent from these analyses is this: that complete combustion by no means follows because of excess of oxygen. That is, we may adjust a carburettor in such a way as to give a substantial excess of oxygen throughout its whole range and yet we may not succeed in suppressing carbonic oxide or completing combustion.

THE SKIDDING OF MOTOR-BUSES.

THE question as to whether a bus company or a borough authority were liable through a motor-omnibus skidding on a greasy, watered road, has been discussed at Shoreditch before his Honour Judge Smyly, K.C., and a jury.

The plaintiff was Lewis Archer, a labourer, who claimed £40 damages from the London General Omnibus Company (Limited). Plaintiff's case was that on July 3rd he was walking along Oxford Street, one foot from the kerb, when a motor-omnibus skidded, swept round sideways on the kerb, picked him up, and carried him about eight yards, and as it righted itself dropped him into the roadway. He had been unable to work for twelve weeks owing to a strained back, losing £2 a week. For the defence evidence was submitted to show that the road-



The Parade of Industrial Motor Vehicles on the Thames Embankment. (See page 952.)

uniform area. Accordingly, many methods have been proposed, and are in use, purporting to so vary the suction pressure within the pipe as to cause the jet to respond in the manner desired. All these automatic devices act by varying the pressure due to suction, either by operating a throttle valve or by opening an auxiliary valve. A usual method of determining the degree of success of the regulating device is to watch the flame coming from the exhaust valve under the various changes of condition intended to be made, and the attempt is made to ensure combustion as complete as possible and to proportion the petrol by seeing that the flame leaving the exhaust valve is not a luminous one, but a blue, non-luminous flame. This blue, non-luminous flame is supposed to indicate fairly complete combustion within the cylinder. This method of testing, however, is very crude, and gives but little real knowledge of what the carburettor is doing throughout the whole range, as to supply of the perfect mixture of inflammable vapour and air which is desired. On March 19th and 20th of this year a valuable investigation was made by the Royal Automobile Club on the nature of the gases and vapours emitted by twelve motor-cars under some of the conditions of ordinary running. It was shown that carbonic oxide gas was present in the exhaust from all the cars, and that while four cars discharged an exhaust containing under 2 per cent. of the gas, eight cars discharged more than this quantity. That is, the experiment proved that in all these cars the combustion within the cylinder was to some extent incomplete. In each case tested the gases were discharged into a copper drum by means of a flexible metallic tube coupled to the exhaust pipe at a point between the engine and the silencer. The copper drums were each of about 800 cubic inches capacity, and the portions of exhaust gases supplied were discharged during ten minutes, so as to ensure that the contents of the drum to be examined were average samples of the gases passing in that time from the engine. Two samples of exhaust gases were taken from each car.

*From a paper read before the Institute of Automobile Engineers on December 11th, 1907.

way had been only partially watered by the Borough Council that morning, causing it to be very greasy and the bus to skid, which would not have been the case had the road been well finished. Mr. Charles said that the borough authorities were liable for these skidding accidents. All the bus company were asked to do and paid their licence to do was to put a well-conducted vehicle on the road, which they did. It was the badly-watered thoroughfares which caused the mischief, and the borough councils were liable under those circumstances. The time had come when the burden of the liability should be put on to the proper shoulders. The company's buses were as safe as they could be made, and would not skid except for badly-watered roads. Judge Smyly said the bus companies had two duties with reference to motor-buses, to provide a competent and skilful driver and a vehicle reasonably fit to run about the streets. If the contention of the learned counsel was to hold good, it left it open that whenever there was a slight splash of rain a bus company with a skidding motor could sweep a person, quietly walking on the pavement, into the roadway. That was a very serious thing to contend. The jury found for the plaintiff for £40 damages and costs, and judgment was entered accordingly.

MESSRS. BROWN BROS. have published a souvenir giving particulars of the "Brown" cars used by the Royal Commission on Congestion in Ireland. When it is remembered that the "Brown" cars did over 21,000 miles on some of the worst roads in Ireland without an involuntary stop for mechanical troubles of any kind, their reliability seems fully assured.

MESSRS. LEO RIPAULT AND Co., 64A, Poland Street, London, W., send a copy of a new catalogue giving particulars of the K.D. motor-bicycle for 1908, the Oleo lubricating oils, a mouth siren fitted with a leather band for the wrist, and the Oleo plugs in porcelain, mica and steatite, as well as igniters, terminals, voltmeters, &c. The firm find that these specialities are coming well into favour with motorists.

COMPANY NEWS.

SINGER AND CO., LTD.—The annual meeting of this company was held at Coventry on Monday. Mr. G. Singer presided, and in moving the adoption of the report, a summary of which has already appeared in our columns—said that as to the obsolete stock, the directors considered it wiser to face the matter, and having now cleared the air by the amount written off, he believed the company would be able to show its own profits without further drawbacks, and that the motor company, which belonged to this company, would contribute largely. Mr. A. E. Jagger seconded. The report was adopted and a proposal for an Advisory Committee was defeated by one vote.

GENERAL MOTOR-CAB COMPANY, LTD.—The first annual general meeting of this company was held on Monday, Mr. Davison Dalziel presiding. The chairman, in moving the adoption of the report and accounts, said the period under review was one of preliminary organization entirely. Although on May 13th last there were only eighty-six cabs in work, the company finished the period of the six months on November 13th with no less than 467, and the average number of cabs working per day was 306. The average takings per cab per day during the whole of that period were £2 3s. 6d., thus exceeding the estimate set out in the original prospectus by 8s. 6d. per day. Five hundred cabs have been delivered, and the company were now beginning to receive deliveries of the second order of 500 Renault cabs, which, together with the other vehicles ordered, would all, no doubt, soon be running and earning revenue. The balance-sheet for the six months from May 13th to November 13th showed a net profit, with an average of only 306 cabs at work per day, of £41,887. Those profits were arrived at after every possible proper charge had been debited against the accounts, and the directors decided to declare an interim dividend at the rate of 7 per cent. per annum on the Preferred Ordinary shares for the six months ending November 13th. After writing off the debit amount of last year, amounting to £9,682, and the amount necessary for the payment of the interim dividend, there remained about £20,000, which would allow of the payment of the very substantial additional bonus to the preferred shares and a very substantial dividend to the deferred shareholders. The directors had considered it wiser, however, to defer these distributions until the end of the year, when they would no doubt be able to do even better in the way of distribution to all classes of shareholders. The report was adopted unanimously.

DUNLOP TYRES.—The annual meeting of the shareholders of the Dunlop Pneumatic Tyre Company was held on Monday, Mr. Harvey Du Cros, M.P., presiding. In moving the adoption of the report, the chairman said in 1905 the patents under which the company was originally formed expired, and the company became merely a trading concern. In that year their earnings were £114,878, in 1906 they were £165,786, and in 1907 their earnings, under competitive conditions, were £200,478. In the last twelve months they had paid out in dividends and to the debenture holders the sum of £252,323. The meaning of that was that the company had distributed as nearly as possible £20,000 each month. The present year showed an increase of £25,000, and, of course, that was followed by an improved distribution, and the whole of that improvement went naturally to the deferred shareholders, who now received 10 per cent. They had developed an invention in relation to detachable rims, and they would embark in the business of the manufacture of motor rims, the same as they had done in the flatter of rims for cycles. Mr. C. W. Healy seconded the adoption of the report, which was agreed to.

CAR AND GENERAL INSURANCE CORPORATION, LTD.—The fourth annual and general meeting of the Car and General Insurance Corporation (Limited), was held on Monday. Mr. E. Manville presided, and, in moving the adoption of the report, said the net result of the year's operations was, inclusive of the premiums on the issue of the new shares, a disposable balance of £16,273. The premium income during the first year amounted to £26,828; the second year it amounted to £64,475; in the third year, during which the results were based on ten months' working, calculated pro rata for twelve months, to £98,948; in the fourth year, just finished, to £171,336. During the four years of their existence they had received as net premiums a total of £345,099, and during the same period they had paid as claims a total of £201,155, or an amount equal to 58.3 per cent., which must be considered entirely satisfactory. With regard to expenses, these in 1904 amounted to 51.4 per cent.; in 1905, to 40.4 per cent.; in 1906, to 41 per cent.; and in 1907 to 39.8 per cent. It was, however, extremely likely that competition might force them to open a department to undertake a non-tariff fire insurance. The directors proposed to dispose of the balance of £16,273 by adding to the reserve fund the sum of £3,500, writing off the special agency charge the sum of £9,000, to declare a dividend of 5 per cent. per annum, together with a bonus of 3d. per share, free of income-tax, amounting to £2,180, and to carry forward £1,592. Mr. J. Gorham seconded the motion, which was carried unanimously.

FIAT MOTORS, LTD.—The annual meeting of this company is being held to-day (Saturday), when the directors will submit accounts showing a net profit of £8,041, from which a further dividend at the rate of 5 per cent. will be paid, bringing the total dividend of the year to 10 per cent. Since September 30th stocks have been reduced by sales by some £40,000, and the company have now on hand orders amounting to over £130,000. The company has acquired a large interest in the deferred shares of the F.I.A.T. Cab Company, and anticipate good results from the opening of the new works at Wembley.

THE DARRACQ-SERPOLLET OMNIBUS COMPANY, LTD.—At the first annual general meeting of this company, to be held on Monday next, the directors will report on the period from the May, 1906, to the end of September, 1907, when there was a debit on the profit and loss account of £7,294. Mention is made of the lamented death of M. Leon Serpollet, and the equipment of the new factory under the direction of M. A. Darracq.

NEW COMPANIES REGISTERED.

LANCASHIRE STEAM MOTOR COMPANY.—£100. As title. North-cote Street, Leyland.

PITTLER UNIVERSAL ROTARY MACHINE SYNDICATE.—£50,000. To acquire an option or group of options for dealing with the Pittler Universal Rotary Machines patents throughout the British Empire. The directors are Messrs. T. Parker, jun., Chaddlesley, Beechwood Avenue, Kew; C. Lorenzen, Roselea, Spencer Road, Wealdstone; A. H. Lang, 36, Whellock Road, Bedford Park, Chiswick; and T. M. Davies, Queen Anne's Mansions, St. James's Park, S.W. 80-81, High Holborn, W.C.

VALWIN TYRE AND RIM COMPANY.—£1,000. Agreement with Mr. H. W. Gladwin for acquisition of certain secrets, patents, rights and property in London.

PRIZES FOR DRIVERS.

ON Saturday, under the auspices of the Commercial Vehicle Users' Association, a parade of drivers of motor vehicles engaged in industrial service was held outside the offices of the Thames Conservancy on the Embankment, London, when prizes were awarded to drivers who had travelled a distance of not less than 4,800 miles on their vehicles during the past twelve months, or longer period. Each of the drivers underwent a verbal examination as to his knowledge and experience of his machine, and his skill in driving under traffic conditions. After a careful examination of the twenty-six steam motor-wagons and tractors, the prizes were awarded as under:—

£5 EACH EQUAL FIRST.

Patrick Driscoll (Thornycroft), employer the Westminster City Council, 63,000 miles.

Fred Gunn (Foden), employers Seabrooke and Sons, Ltd., 24,300 miles.

£2 EACH EQUAL SECOND.

John Troughon (Straker), employer Franch Asphalte Co., Ltd., 28,200 miles.

Albert Smith (Foden), employer Chislehurst Mineral Waters Co., 26,000 miles.

£1 EACH EQUAL THIRD.

William Winn (Thornycroft), Allen and Hanburys, Ltd., 39,200 miles.

A. Brown (Coulthard), Baker Bros., 18,400 miles.

H. Simpson (Lancashire), Ely Bros., Ltd., 29,900 miles.

Thos. Lewis (Foster tractor), W. J. Lobjoit and Son, 12,000 miles.

John Norman (Straker), Mann and Sons, 33,700 miles.

J. Ward (Thornycroft), Mark Mayhew, Ltd., 42,900 miles.

D. Woodhams (Foden), Mark Mayhew, Ltd., 46,500 miles.

M. Geraghty (Lancashire), Mark Mayhew, Ltd., 30,600 miles.

C. Hills (Straker), J. and M. Patrick, 22,000 miles.

THE DISCHARGE OF PETROL INTO SEWERS.

AT the Thames (London) Police Court, Robert Watson, giving an address at Arddarrock, Garelochhead, Dumbartonshire, was summoned on the 12th inst. for allowing a quantity of petrol to run from a light locomotive into a gully leading to a sewer. Mr. Carter prosecuted for the London County Council, and Mr. J. Harris defended. Joseph Townsend stated on July 16, between eleven and twelve o'clock in the day, he saw a motor-car outside the Clyde Shipping Company in Nightingale Lane, and the chauffeur was letting his petrol down a sewer. John Hunter said that he saw the defendant turn the tap and let the petrol out. The witness said to the defendant, "If a policeman sees you doing that you will get summoned." The defendant replied that he wanted to get away. Mr. Carter said that damage had been done to the extent of £35, and had men been working in the sewer with lights, serious consequences would have followed. Counsel for the defence said that the defendant took a motor-car from Seymour Place to the Clyde Shipping Company, and was informed by an inspector of the police that the car could not be allowed into the dock before the petrol was got rid of. The inspector told defendant that he could let the petrol go down the gully, and he did so in the presence of the inspector and a constable. The defendant went into the box, and bore out his counsel's statement. The Magistrate: Have you brought the inspector here? It is a very serious aspersion on the police. Counsel: We did not think it was necessary. The defendant's employer has paid £35, the cost of the damage. Mr. Dickinson fined the defendant £5 and £2 2s. costs.

MESSRS. JARROTT AND LETTS, LTD., announce that their offices will be closed from Christmas Eve until the morning of Monday, December 30th.

CASE UNDER THE MOTOR CAR ACT.

A DISMISSAL.

At the Beaconsfield (Bucks) Sessions, on Tuesday, Thomas Barry, driver to Sir John Dickson-Poynder, M.P., was proceeded against for driving a motor-car in a negligent manner on the highway at Taplow, on November 26th. Frederick Martin, of Slough, said that on November 26th, as he was returning from Maidenhead, he saw a motor-car approaching from behind. At the time witness was on the left side of the road, going towards Slough. He took the lamp (produced) out of the socket, and waved it at the back of his pony chaise. A moment later he was "smashed up," the motor-car striking him from behind, the vehicle being doubled up like a saucer. His wife was thrown to the road, and the pony galloped back to Maidenhead. The chauffeur told him that he was on the wrong side of the road, and witness replied that that was impossible, and had he been looking he must have seen his vehicle. In cross-examination he said he had asked Sir John Dickson-Poynder for £10, but had he thought it was his (witness's) fault he should not have asked for a penny. He would have been content with the result of any civil action, but the police, unknown to him, took the present proceedings. When he received a letter from Sir John he also got £5 paid to him without prejudice. In all, he had received £6. Mr. Eames submitted that it was not a case for a criminal prosecution, and that there was no evidence to show that defendant was driving negligently. Defendant gave evidence to the effect that when fifty yards off the chaise his lights showed up the vehicle, but when within about eight yards he saw a light waving about, and he then thought it was a cyclist talking to the driver. He made preparations to pass the vehicle, but failed to do so, and struck the hind wheel of the chaise. After consultation in private the chairman said the magistrates would dismiss the case.

MOTOR SCOUT AND POLICE "TRAP."

A CASE, which may be carried to the High Courts, was heard by the Kingston-on-Thames County Justices on the 12th inst. Edward Collyer, a cyclist patrol in the employ of the Automobile Association, living at Addlestone, was summoned for having wilfully obstructed police officers of the Surrey Constabulary, whilst in the execution of their duty, at Walton, on November 10th. Defendant was further summoned for aiding and abetting the driver of a motor-car, whose name was unknown, to exceed the twenty miles an hour speed limit at the same time and place. Mr. A. H. Bodkin, who appeared to prosecute, said defendant was a patrol in the employ of the Automobile Association. He found the measured furlong of the police, and interfered with the policemen on duty by dogging their footsteps and by standing in such a position that, having a thoroughly good view of the approaching cars, he was able to give the drivers a signal to enable them to escape from the consequences of travelling at an excessive speed. Police evidence having been given in support of counsel, Earl Russell, for the defence, submitted that there was no proof of obstruction by the defendant. All that he did was to give a signal to an approaching car causing it to obey the law. If they had chosen officers could have proceeded against the drivers of the cars, but unfortunately the police did not see their way to stop the cars. To say that defendant went to the road to stop the car and prevent the police from obtaining a conviction was a very different thing to obstructing the police in the execution of their duty. Scouts were really peripatetic notice-boards to warn motorists of dangerous driving. The Bench found that the speed limit had been exceeded, and that defendant had been guilty of obstructing the police in the execution of their duty. Defendant was fined £2, with £55s. costs, and the second summons, which was not gone into, was withdrawn by the prosecution. Notice of appeal to the High Courts was given.

ALLEGED THEFT OF A MOTOR-CAR.

At Coventry, Percy Goddard, alias William Thompson, has been committed for trial charged with obtaining a motor-car by false pretences. He was said to have deserted from the Border Regiment, and entered the service of Mr. George Walker, J.P., as chauffeur. He was sent to the Daimler works with a car for repairs, and forwarded a telegram purporting to come from his employer, negotiating for a car worth £750, his employer having been in negotiation for a new car. Goddard selected one worth £678, and went to Nottingham with a young woman, leaving the car at a hotel there. He borrowed six shillings from the landlord and rejoined his regiment, and was sent to York military prison for desertion, and arrested there on the present charge.

It is announced that the manufacturers of the Delannay-Belleville cars obtained at the recent exhibition of motor-cars in Paris the only gold medal, constituting the highest award of the show for elegance in cars.

THE latest catalogue to hand is an advance copy of that of the Swift Motor Company, Ltd., of Coventry. The text and illustrations of this production make evident the fact that the 1908 Swift cars would have great claims on buyers' attention even had they not Swift reputation in their favour. Some of the coachwork of the new models is particularly noteworthy. Of the various chassis from 10-12-h.p. to 25-30-h.p., it need merely be said that they worthily maintain the company's reputation.

ROAD REPORTS.

CAMBERWELL.—During the past summer the engineer's department of the Camberwell Borough Council had some of the principal thoroughfares tar-sprayed with a view to coping with the dust nuisance. The experiments having proved very satisfactory, the Works and Purposes Committee have decided that it will be advisable next year to treat an increased number of the roads with this preparation. Towards that end a sum not exceeding £200 is to be provided in the estimates.

DURING the next few weeks Mr. J. A. Heap, the Todmorden Borough Engineer and Surveyor, will be carrying out repairs to the Burnley road between Todmorden and Portsmouth, which he hopes will give little or no inconvenience to the motor traffic along the road, for which consideration motorists will be appreciative.

LINLITHGOW.—The Town Council of Linlithgow is seeking to secure a speed limit of ten m.p.h. for motor-cars.

BASINGSTOKE.—The main road to Winchester about a mile out of the town has been repaired with granite during the past week. This will complete the repairs on this road. During the next fortnight the main Salisbury road will be similarly repaired. The steam roller is in immediate attendance, so that Mr. F. R. Phipps, the borough surveyor, anticipates that no inconvenience to motor-cars will arise. This completes the work on main roads this season.

NEWHAVEN.—The Newhaven Rural Council intends to lower the gradient of the two "mounds" on the Newhaven-Seaford road near the railway bridge. In the meantime a notice-board warning motorists and others to drive slowly is to be erected on the Seaford side.

CARNARVONSHIRE.—Before the Royal Commission on Coast Erosion, Mr. J. E. Greaves has said that at Avonwen during the last hundred years 36 acres of land had been washed away by the sea, and erosion was still going on there and in other parts of the county. At Penmaenmawr



The Argyll 16-20-h.p. two-ton delivery van recently completed for Messrs. John Angus and Son, of the Vale of Leven Bread Factory, Alexandria, N.B.

The vehicle is interesting, as the Argyll Company only supplied the chassis, the body being an adapted one, having been previously used as a horse-drawn van.

the cliff was being eroded by land-water, atmospheric influences, and the sea. The main road, which ran close to this place, had already been moved twice, and it was now considered in danger of collapsing.

BELFAST.—The Belfast City Council have applied to the L. G. B. for a ten mile limit for motor-cars in the borough. Objection has been lodged by the Motor-Cycle Union of Ireland (Ulster branch).

MOTOR-BUS v. CAB.

JUDGE RENTOUL, K.C., has been engaged a considerable time at the Central Criminal Court investigating a charge against Richard Sansom, aged thirty-four, a driver of a "Vanguard" motor-omnibus, who was indicted for causing grievous bodily harm to John Dove, of Kensal Rise. Dove was proceeding slowly up Park Lane at night with a four-wheeled cab towards the Marble Arch when he was overtaken by a motor-omnibus driven by Sansom. This struck the box of the back wheel of the cab and smashed it to pieces, threw the driver Dove into the middle of the roadway, where he was picked up seriously injured, mounted the pavement, and knocked down twelve feet of the Hyde Park railings. The horse had two legs broken and had to be destroyed. The jury found the driver guilty of wanton driving. Sansom was bound over in the sum of £10 to come up for judgment if called upon.

AMONGST recent purchasers of the 40-h.p. Weigel chassis are Mr. Norris Hepworth, of Leeds; Mr. Fred Horne, of the well-known firm of Horne Bros.; and Mr. Geo. Monro.

FORTHCOMING EVENTS.

DECEMBER.

21st (S.).—Opening of the Brussels Exhibition.

JANUARY, 1908.

1st (W.).—The Lights on Vehicles Act comes into operation in England, Wales, and Ireland.

New Public Health Act comes into operation.

4th-11th.—Dublin Motor Show.

8th (W.).—Incorporated Institution of Automobile Engineers—Dr. H. S. Hele-Shaw on the Fuel Question.

Special meeting of the Royal A.C.

9th (Th.).—Dinner of the West Essex A.C. at Seven Kings.

11th (S.).—Annual meeting of the Lincolnshire M.C.C.

17th (F.).—Annual Dinner of the Nottinghamshire A.C. at the Victoria Station Hotel, Nottingham.

18th-Feb. 2nd.—Automobile Exhibition at Turin.

24th (F.).—Annual Dinner of the Scottish A.C. at Edinburgh.

25th (S.)-Feb. 1st.—Scottish Motor Exhibition in the Waverley Market, Edinburgh.

26th (Sun.).—Criterium de Voitures and Coupe de l'Exposition Trial for motor-cycles organised by the Turin A.C. and the Motor Club of Italy.

29th (W.).—First lesson of the course to be given by Mr. R. S. Currie to the Ladies' A.C.

31st (F.).—Annual meeting of the Blackheath A.C.

FEBRUARY.

1st (Sat.).—Annual meeting of the Lincolnshire A.C.

2nd (Sun.).—Reliability Trial of the Motor Union of Western India.

7th-15th.—Manchester Motor Show at Belle Vue.

12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.

15th (Sat.).—Auto-Cycle Union Annual Dinner.

20th (Th.).—Meeting of the Essex M.C.

Mr. H. R. de Salis on the Inland Waterways of England and Wales from the motor-boating point of view.

24th (M.).—Motor Show at Bcmhay.

MARCH.

21st-23th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

APRIL.

Auto-Cycle Union's Tourist Trophy Race and Quarterly Trial.

25th-May 25th.—Industrial Vehicle Competition of the A.C. de France.

MAY.

10th (Sun.).—Targo Florio.

JUNE.

Royal A.C. Reliability Trial for Touring Cars.

15th-19th.—Scottish Reliability Trial.

LIGHTING-UP TIMES—LONDON.

Dec. 21st—4.51	...	23rd—4.52	...	25th—4.53	...	27th—4.54
" 22nd—4.51	...	24th—4.52	...	26th—4.53	...	28th—4.55

AUTOMOBILE ACCIDENTS.

Two serious motor-car accidents occurred in Manchester on Sunday. A woman was knocked down and removed to the Royal Infirmary, and in another case a car which collided with an electric pole was considerably damaged, and one of the occupants was conveyed to the infirmary in an unconscious state.

A VERDICT of culpable negligence has been returned at Surbiton at the inquest on Mr. Thomas Cooper, of Kingston. On Sunday week Mr. Cooper and his sister were driving in a governess cart at Long Arch, Thames Ditton, when Mr. David Bentley, engineer, Kingston, who was driving his own motor-car, ran into the governess cart from behind. The governess cart was capsized and Mr. Cooper was thrown out. He was removed to the Surbiton Hospital, where he died the same night from his injuries. The evidence was of a somewhat contradictory character. The coroner said the jury's verdict amounted to one of manslaughter, and he committed Bentley for trial, accepting bail.

CLAIM AGAINST MOTORIST.

In the Greenwich County Court, William Page, managing clerk to a city firm of solicitors, sued the Associated Newspapers Company, Ltd., for £24 for personal injuries to his six-year-old boy, who was knocked down and seriously injured by the defendants' motor-car owing, it was alleged, to reckless and rapid driving of the chauffeur. The judge, in addressing the jury, pointed out that foot-passengers were as much entitled to use the roads as vehicles, and it was for motor-car drivers to exercise special care and to remember that there were children on the footpaths who were likely to run in the road. The jury awarded plaintiff £20 and costs.

POLICE TRAPS.

A TRAP has been established at Great Gonarby on the Great North Road; another is also in frequent operation at Alconbury, on the same highway.

MAIDSTONE Road, North Cray, has a measured furlong leading to the Bromley Petty Sessions.

THE Lewisham High Road police trap will probably be working during Christmas.

SEVERAL traps have lately been notified in the neighbourhood of Wimbledon Common.

THE Portsmouth road trap is again leading many motorists before the Kingston Bench.

BUSINESS NEWS.

THE UNITED MOTOR INDUSTRIES, LTD., will close their offices and stores from the evening of the 24th until the morning of 30th inst.

BASELEY'S BRITISH OIL COMPANY, 37, Walbrook, London, E.C., is supplying motor oils for agents who wish them labelled with their own name, with an effective certificate showing they are used by leading motor-car firms.

MESSRS. PERRY, THORNTON AND SCHREIBER, LTD., Long Acre, London, W.C., inform us that their showrooms, workshops and offices, dealing with the Ford Car department, will be closed from Tuesday, the 24th inst., until Monday, the 30th inst.

THE 60-h.p. six-cylinder Thames car on which Mr. Clifford Earp made world's records at Brooklands, as recorded in last week's *M.C.J.* was fitted with the magneto of Messrs. J. C. Fuller and Son, of Old Ford, E.

MESSRS. S. F. EDGE (1907) LTD., are closing their establishment from Christmas Eve until Monday, the 30th inst. Telegrams, however, received before 11 a.m. on the mornings of Friday and Saturday will be dealt with.

MESSRS. ALFRED HERBERT, LTD., of Coventry, send a calendar for 1908, which will not only serve as a daily reminder of the progress of time, but also as a pictorial illustration of the variety of machine tools made by that firm.

MR. J. C. EATON, of Toronto, known as the Whiteley of Canada, has placed an order for an 80-h.p. six-cylinder Napier, while Mr. H. D. Reid, of St. John's, Newfoundland, has ordered a 60-h.p. six-cylinder Napier from Messrs. S. F. Edge, Ltd.

THE MERCEDES-MITTE COMPANY, LTD., of 12A, Saville Row, W., have now purchased the business of the Cannstatt Automobile Supply Association, and are fully installed in their new commodious premises at 11A, Regent Street, Waterloo Place, S.W.

THE PREMIER MOTOR COMPANY, LTD., of Aston Road, Birmingham, have secured from Messrs. Clement-Talbot, Ltd., the sole agency for the sale of Talbot cars in Birmingham, the district covering a radius of twelve miles from the centre of that city, as also the whole of the county of Warwickshire.

MR. U. STRATTON, the London manager of the Daimler Company, has been presented by the German Emperor with a scarf pin, representing the crown and the initial set in diamonds, as a token of his Majesty's appreciation of the pleasure he obtained from the Daimler cars placed at his disposal during his visit to this country. Mr. Stratton also received a signed photograph from H.M. the King of Spain, in which he conveys his appreciation of the Daimler cars used by him and his Consort during their visit to England.

THE German Emperor has placed an order with Messrs. S. Smith and Son, Ltd., for one of their Perfect speed indicators. This is the same type of instrument as was fitted to the Daimler car used by His Majesty during his visit to this country, and is of the Duplex type. By means of this instrument His Majesty was able to see, in the interior of the carriage, the exact speed at which he was travelling. He was also able to communicate with his driver, by means of the electric communicator, any directions he might wish to give.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-28, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notices will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, DECEMBER 28, 1907.

[No. 460.]

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COMMENTS.



WITH the close of the year the various organisations concerned with motoring are setting forth their policies for the future, and in the multiplicity of official circulars which we have received with the customary Christmas greetings there may be excuse for confusion. Recently the frontiers of the A.A. and the M.U. were mutually determined, and it

was agreed that each should have its own sphere of influence and work. Then came the divorce of the R.A.C. and the M.U., with consequent statements of views and polite controversial documents. Again we have the definition of the special work of each, from which it is seen that the Club will continue its engineering side, develop a legal department and endeavour to keep in touch with provincial automobilism by a reduction of the capitation fee. Probably a new badge specially designed for those who are not fully fledged members of the R.A.C. will be offered for the decoration of the car, so that members of all the different organisations will be able to fully embellish their dashboard with many badges "all in a row." With regard to the M.U. a long statement has been issued setting forth its genesis into motorland and its exodus from Piccadilly. With regard to the future it, like the R.A.C., will have a Touring Department and an official organ, as well as give expert advice respecting the purchase and repair of cars. The work of influencing public opinion will be continued, the efforts "to increase the amenities of the highway" will not languish, and an appeal is made to motorists to see that "the organisation which directly represents their interests and their wants and which they themselves control is not maimed or weakened." Meanwhile the majority of the provincial organisations have adopted the policy of "masterly inactivity" until the New Year, when they will doubtless consider the respective programmes of the great central bodies and settle on which side they will stand.

The Spirit of the Age.

At this reason of the year many of the various literary and debating societies throughout the country are giving a little attention to automobilism, some of their members reading papers and delivering addresses on the subject. In this way much information of an accurate as well as a fanciful character is being imparted, and if the evening provided by the Rev. Canon Lambert at the meeting of the Hull Literary Club recently is a criterion these gatherings are distinctly enjoyable. The reverend gentleman began by describing the motor-car as the flower and apotheosis of ten thousand years of human progress in its design and workmanship, embodying a beautiful achievement of science and mechanism. In fact, nothing more approaching a living and sentient being had yet been achieved by human hands. He went a step further, and suggested that a car, with engine and adjuncts, was not a machine but a living thing—a living organism, lacking only a soul and conscience. The "unreasonable prejudices" of people who do not drive motors were treated with delicious satire, and the police were not forgotten. Personally he had not had much experience of them, but he doubted whether it was conducive to good citizen-

ship to brand as common criminals men whose sole fault was that they had attained too great a degree of civilisation. Some people viewed with alarm the threatened displacement of horse traffic. He did not entirely share their view. The horse was a noble animal, and although it was true that about 12,000 aged specimens were annually shipped from the Humber to Belgium to be converted into sausages, there would always be a reason for the preservation of the species, if but for the cultivation of the new serum for the cure of diphtheria. Dr. Lambert gave a glowing account of a motor trip from Hull to Cardigan Bay—a day's trip of 220 miles—describing the fascination of the steering wheel.

The Australian Outlook.

IN the Australian colonies a fair, as distinct from a best, harvest is anticipated, and indications do not favour a repetition of the marvellous returns enjoyed by the agricultural community there during the past five years. So far as South Australia is concerned most of the rich men have become motorists and the demand for expensive motor-cars has been supplied. There is, however, a need for less costly vehicles of small horse-power for short distance work, and our Adelaide correspondent suggests that only in that direction can good business be done for a season or two.

R.I.T.A.

THE quartette of letters has no reference to the popular novelist but is the Australian abbreviation of the title of the Roads Improvement and Touring Association, which has done much to arouse the authorities to recognising their duty in regard to the roads of the colony. The association has a pathway for cyclists on the Frankston road in Victoria and is working to have the question of main road maintenance put on a State basis. During the past year the motor-car has made great strides in the colony of Victoria, and at the Melbourne Cup Meeting at the at the beginning of November there were 200 cars in the carriage paddock, which is said by our correspondent to have been an "eye opener" to many people. The demand for garage accommodation in the city of Melbourne has been rapidly increasing, and it requires only an improvement of the roadways to cause great development in that direction. The Sealed Bonnet Reliability Trials under the auspices of the Automobile Club of Victoria took place on the 5th, 6th, and 7th inst. The runs on the three days were respectively of 151, 141, and 102 miles, and in its incidental features the event was managed on the lines familiar enough to those in the Old Country.

Improving the Brighton Road.

AN interesting combination of private zeal and public spirit is afforded by some correspondence which has passed between the Roads Improvement Association and the Borough Surveyor of Reigate with regard to the proposed improvement on the last ridge of the hill at the bottom of Earlswood Common, on the road between Horley and Redhill. The hill is situated between the twenty-first and twenty-second milestone from Westminster Bridge, and from the point of view of the large car owners there is not, perhaps, much in it except that the ridge intercepts the

view of the road; but from the small power point of view it means a change of speed. A definite proposal has now been made to practically remove the hill and remake the road at a cost of £1,000. Towards this Mr. A. Lloyd, of Croydon, will contribute £200 and the Roads Improvement Association is endeavouring to make this sum up to £350. When this is done the Borough Surveyor will recommend the Council to provide the other amount up to the extent of £1,000. Thus motorists have an opportunity not only to help themselves by securing the improvement of a much used main road but also to generally assist the motor movement by proving the practical sympathy of those who own cars with all who use the roads.

The Advertising Motor Van.

ALTHOUGH tradesmen no longer adopt the motor-van merely in order to find a novel means of keeping themselves before the public, one of the leading railway companies is at present utilising a motor-bus to acquaint the inhabitants of one end of this island of the delightful region at the other extremity. There is certainly a wise method in the new motor campaign of the Great Western Railway Company, which is informing the people in the cold Highlands of Scotland of the less biting winds of the Cornish Riviera. Some days ago the 30-h.p. Milnes Daimler 'bus shown in the accompanying illustration left Slough for the north. It arrived at Carlisle, and from thence travelled



round Scotland, passing through Dumfries, Ayr, Paisley, Glasgow, Crieff, Inverness, Elgin, Banff, Aberdeen, Dundee, St. Andrews, Stirling, and Edinburgh, and covering a distance of 2,500 miles. It had previously run 5,400 miles in public service at Paignton. In this way the attractions of Cornwall and South Devon as a winter resort have been brought before the people, and although Sir Dyce Duckworth may deplore the quicker movements associated with what he terms the "Motorial Age," the enterprise of the G.W.R. is to be commended. Truly the railway managers are recognising that the automobile is not necessarily an enemy.

"There's nothing like Leather."

THE old adage is proving its truthfulness with regard to the automobile industry, and although some saddlers and harness makers have attributed their appearance in the Bankruptcy Court to the advent of the motor-car upon the road, the day is yet far distant when the leather trade will cry "Ichabod." Our contemporary, the "Leather Trade Review," was at the recent motor show and noticed that "practically all the best cars were upholstered with leather, some of the enamelled material being exceedingly well got up and presenting a beautiful appearance. As one leather exhibitor said to us recently, 'There is, after all, a something about a leather upholstery which looks good, and which is not approached by any imitation, however close it may be.' This is so we honestly believe, and the inventor, who is always going to make millions from a leather substitute, has yet a hard task in front of him. In connection with this upholstery business, we think it is one which deserves a greater attention from British manufacturers. Nearly all the best makes of tyre protectors seemed to be in some form of the leather and metal studded band, although one

inventor had gone off the beaten track by inserting the studs in a narrow band of some specially hard leather, which looked very much like a sort of 'raw hide.' As usual, much of the chrome leather appeared to be of Continental origin, although here and there were certain makes in which the domestic article seemed to be favoured. Turning to the other leather articles used in connection with motoring, there was little change compared with last year; the all-leather clothing has become the recognised uniform of the professional chauffeur, although a good many sheep-skins must be also used for the leather linings of the aristocratic owner's coat. Gloves, leggings, caps, and car fittings, in the way of travelling bags, &c., also go a long way toward recompensing the maker of leather for the loss he has sustained in the way of harness. Altogether, we think the industry is to be congratulated on the fact that the all-conquering car has had to admit the fact that for many purposes there is still nothing like leather."

Road Reports.

AMONG the minor features of regular interest in our columns, the provision of road reports is of general utility and convenience. This also includes the applications for speed limits, the main roads where repairs are likely to be made, and similar matters, the knowledge of which is desired among motorists. We also now propose to add to the news contained in that department of editorial activity the doings of local authorities with regard to dealing with awkward corners, overhanging trees, high hedges, and the like. In recording these necessary adjuncts to public safety, the assistance of readers in distant parts of the country is invited, so that the information may relate to as wide an area as possible.

Police Instead of Tolls.

WHEN the automobile was attracting attention on British roads in pre-Victorian days the tolls levied on horseless vehicles were the great force that retarded progress. They were not reduced although the Parliamentary Committee said that such an opportunity should be given to assist the new locomotion. Mr. Gurney has given the following specimens of the oppressive rates of tolls adopted. On the Liverpool and Prescott road his carriage would be charged £2 8s., while a loaded stage-coach would only pay 4s. On the Bathgate road the same carriage would be charged £1 7s. 1d., while a coach drawn by four horses would pay 5s. On the Ashburton and Totnes road Mr. Gurney would have to pay £2, while a coach drawn by four horses would be charged only 3s. On the Teignmouth and Dawlish roads the proportion was 12s. to 2s. Tolls have gone, save in the few cases now being watched by the Motor Union, but the vigilance of the police is really an excellent substitute and is a serious matter for many men. Despite the thoughtless utterances of many persons, it is the fact that motorists are not necessarily millionaires, and the ordinary individual having a car does not like to add the risks of heavy fines to the usual running expenses. In some towns in the south of England the fear of police prosecution is strong in the land and a deterrent to men becoming the owners of even a second-hand automobile. This is an aspect of the restriction of business associated with the present policy of the police that is sufficiently serious to warrant the attention of the motoring organisations south of the Thames.

The Noise of Syrens.

CAPTAIN SERGISON, J.P., who was mainly instrumental in the action taken by the people of Handcross to secure a ten-mile motor-car speed limit through the village, has informed a public meeting of residents that he hoped before long to see steps taken to check the abominable noise made by the syrens of "road hogs" travelling from London to Brighton. The clerk to the East Sussex County Council had told him that, owing to the wording of the Act, he did not think action could

be taken, but he (Captain Sergison) had since communicated with a high Local Government Board official, who suggested that the County Council should take action, and then test the decision in the Court of Appeal. Whether the authorities are likely to act on the hint thus conveyed is extremely problematical in view of the fact that legislation with regard to motor vehicles generally cannot be long delayed.

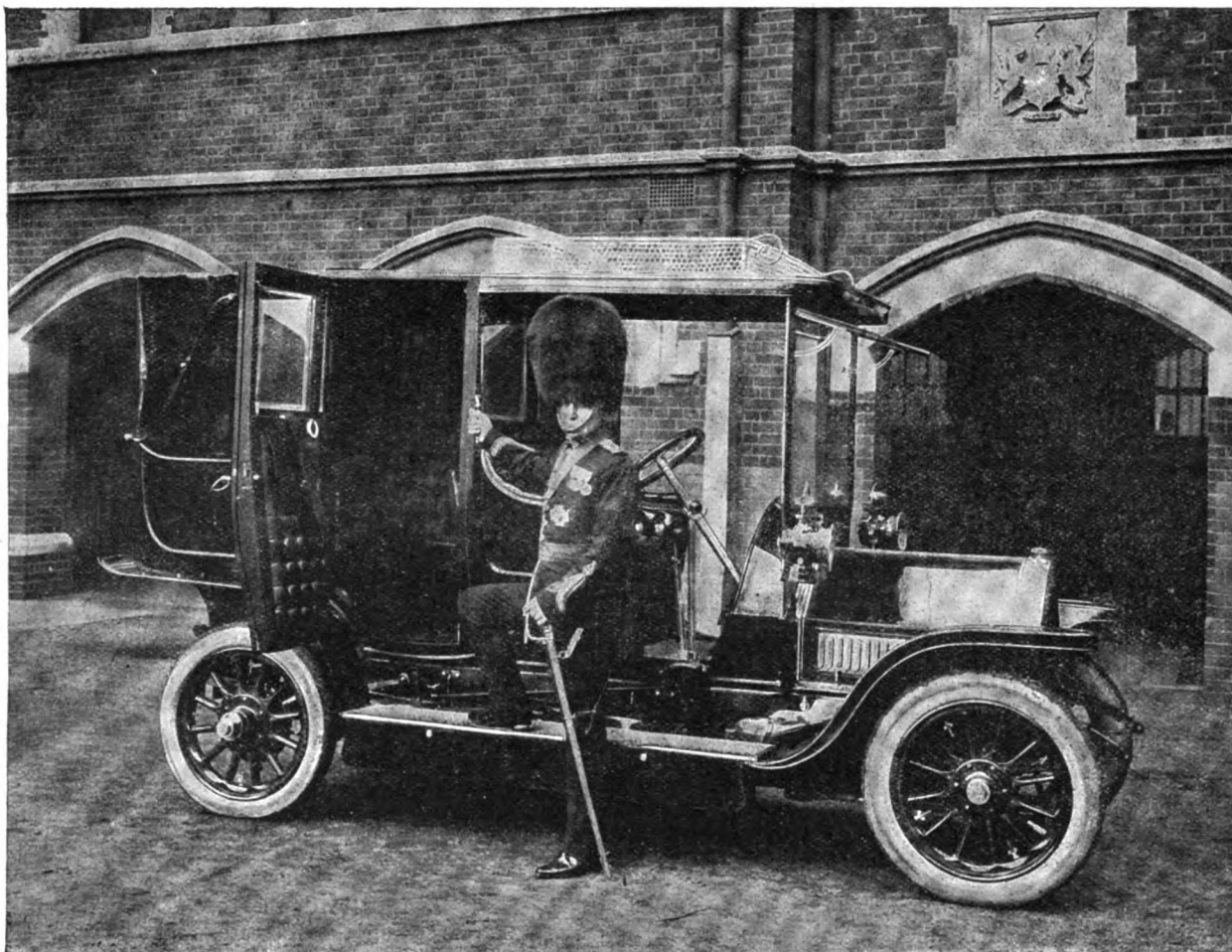
Cars and Hounds.

MOTORISTS and huntsmen will have common cause for agreement over the letter from the Master of the Craven hounds, to which we give publicity on another page. While the natural feelings of Mr. Yorke Scarlett find vent against the offender in his letter, we must say that there is ample excuse, and all who drive will deplore such actions as those described.

seat fixed to the frame of the car over the footstep, on which the passenger or driver could rest his feet. The notion was ingenious, and, like many other useful ideas, quite simple in its execution.

Competition for Motor Body Builders.

PRIZES are being offered by the Company of Coach Makers for competition among those engaged in the trade of motor body making and accessory industries. The competitions are for drawings of a motor phaeton to carry two on the driver's seat and one on a small seat behind, and also for the working drawings of a side entrance motor-car body to seat seven persons. For those of a literary turn of mind essays are invited on the best system of keeping a motor-body builder's accounts of prime cost. Drawings and essays are to be delivered to the hall



Colonel Sir Lorenzo Dundas, K.C.B., Honorary Colonel London Fusiliers, Finsbury Barracks, and his 20-h.p. Beeston-Humber. The illustration is reproduced from a photo taken last week on the Colonel's return from Buckingham Palace, when he was invested with the K.C.B. by the King. The Colonel, who is an old Crimean veteran, having been present at the siege of Sebastopol, is an enthusiastic motorist.

Motorists as a body are as gentlemanly and humane as any other class of the community, but, like other people, they suffer incalculable loss of prestige by such wantonness as that of which the Craven pack has been a victim.

Where shall the Mechanic Sit?

OFTEN does the owner of a car wish that he could secure another seat on his vehicle for any friend he may happen to meet when out motoring. Then it sometimes comes about that the mechanic is invited to a seat on the footboard—a comfortable position, away from the wind and sheltered from the world to a great extent. The other day, outside the premises of the Motor Club in Coventry Street, W., we espied a vehicle the owner of which had overcome the difficulty by having a small

of the company in Noble Street, St. Martin's-le-Grand, London, W.C., before April 30th next, and further particulars can be obtained from Mr. T. H. Gardiner, the clerk of the company, at the address given.

Place aux Dames.

AS already announced in these columns, ladies are not to be admitted as graduates of the Incorporated Institution of Automobile Engineers—a decision which has been come to after little discussion, it being generally felt that although ladies have distinguished themselves as drivers of motor vehicles they have not yet, in any considerable numbers, begun to qualify as practical engineers. At the same time they will recognise how welcome has been their assistance in the various organisations,

of the sport, both the Motor Union and the Automobile Association having a goodly number of the fair sex included in the roll of membership. Success, too, has attended the special organisation for lady motorists, namely, the Ladies' Automobile Club, the membership of which has nearly reached the limit originally agreed upon by those who were energetic and far-seeing enough to found that useful association.

Motorists' Defence Fund.

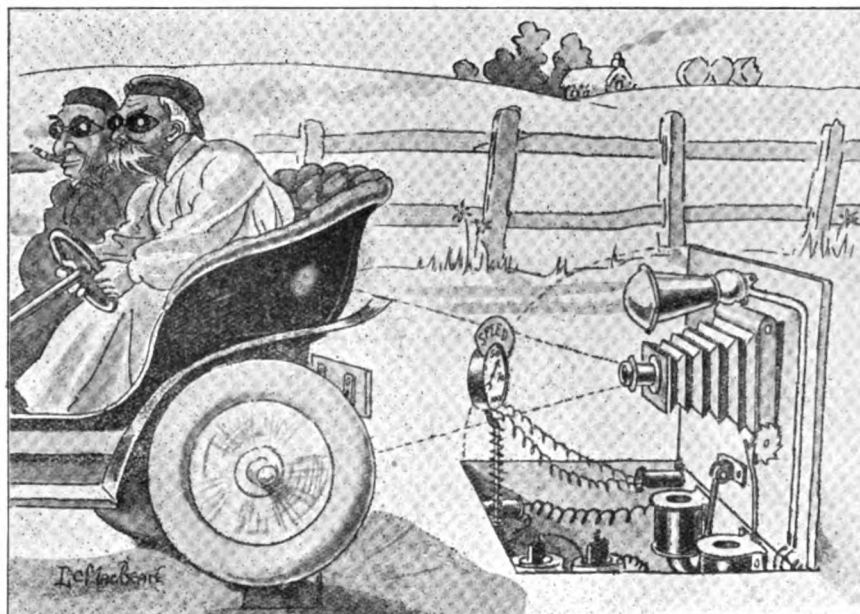
ALL motorists derive benefit from the annual outlay of the Motor Union in connection with its Legal and Legislative Defence Fund. The particular expenditure relates to the fighting of test cases of importance to automobilists generally. Car owners, therefore, will be interested to learn that just now the annual appeal is being made for the Legal and Legislative Defence Fund, the objects of which are as follow:—1. Settling important points of general principle by taking test cases to the High Court. 2. Opposing (a) applications to close roads which are suitable for motor-car traffic, (b) unreasonable applications for a 10-mile limit of speed, and (c) other proposals of public authorities unfairly restrictive of automobilism. 3. Assisting, under

there it is. There is nothing more to be said. Forty shillings." Coming down to plain prose, the only way to disprove the police evidence in such cases is to be provided with a speedometer—and even then there is a doubt as to whether magisterial prejudice will not discount the reliability of such a device.

The Careful Driver.

UNDER the auspices of the Education Committee, a lecture on the motor-car has been given by Mr. George Hawley at the Sutherland Institute, Longton. He remarked that as a rule a person who had been accustomed to driving horses upon

the roads made the most considerate and careful driver of a motor-car. It should be the object of a driver to proceed cautiously, remembering that others besides himself had a right to the highway. It was always advisable to slacken speed and sound a warning when passing a cross road. Nothing was more objectionable than to meet a high powered car on the road when there was a lot of dust about, travelling at a speed which created a cloud of dust it was impossible to see through. From his experience, few motor-car drivers had the slightest consideration in this respect. We are afraid that Mr. Hawley has been unfor-



For the benefit of the Surrey Police.

An apparatus to photograph the number of the car as well as chronicle the speed attained.
[From the "Electrical Times."]

special circumstances, members summoned under the provisions of the Motor Car Act. 4. Assisting members in appeals to Quarter Sessions. 5. Undertaking and supporting the prosecution of persons who have assaulted, obstructed, or thrown stones at motorists.

Magisterial Sympathy with the "trapped."

other day a chauffeur was summoned before him for driving a motor-car in Regent's Park at a speed beyond that allowed by the regulations. After listening to the case at some length the magistrate remarked that this was only one of hundreds of cases of the kind, and they all ended in the same way. There was really no escape unless the plaintiff could show that the timing of the park constables was wrong. "Here are these cold-blooded officials," continued the magistrate, "each with a stop-watch in hand. What possible chance has the chauffeur? My heart bleeds for everything in a trap, whether it is a chauffeur or a weasel. But

fortunate, for there is little doubt that the number of considerate drivers is greatly on the increase, and that with the growing motor traffic on the roads people recognise the need for care and thoughtfulness, not only for the safety of others, but also of the motorists themselves.

THE French Automobile Club proposes to organise a competition for motor tyre inflators during the coming season.

THE ACME RUBBER AND TYRE COMPANY, of 349, St. Vincent Street, Glasgow, are placing on the market a red non-skid band and also undertaking the repair of motor tyres at an inclusive weekly charge.

MESSRS. THOS. SCOTT AND CO., 231-2, Strand, W.C., have issued a diary for 1908 which includes travelling, accident, burglary, fire, and domestic servants' insurance, some notes on new laws, and all the usual features of such annual publications.

THE sport of motoring is progressing apace in the Argentine Republic, the last mail from Buenos Ayres bringing details of a successful gymkhana which had just been held, as also of a race for motor-cycles and light cars organised by the Moto Club Argentine.

ACCESSIBILITY v. PERMANENCY.

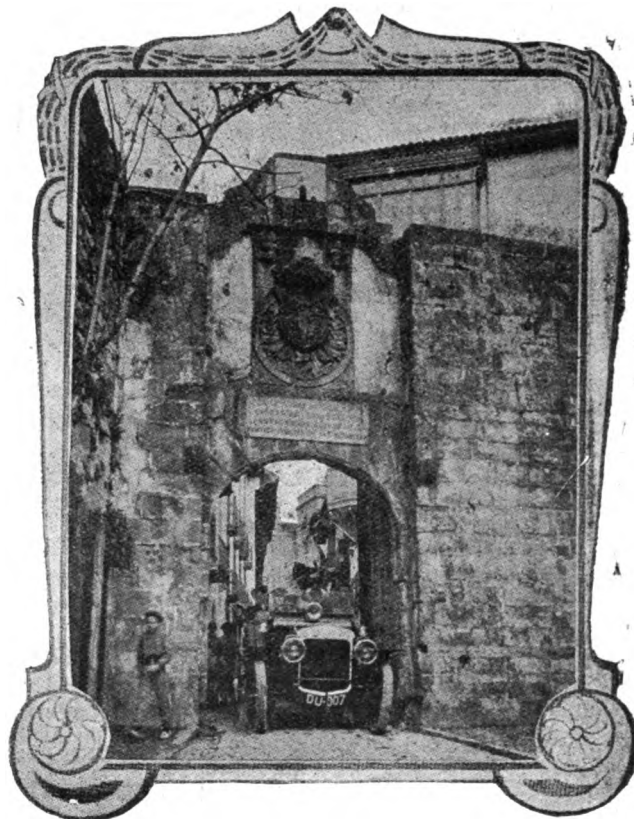
BY CHARLES TAILLEUR.

THE cry for extreme accessibility is heard on every hand, and as a result the descriptive matter relating to the various cars contains the word "accessible" many times repeated. The question here asked is whether or not there is a danger of the factor of accessibility assuming undue importance in the eyes of the public and of designers, to the sacrifice of other equally important factors. There exists a demand for accessibility on the one hand, and for strength with lightness, efficiency, and what I will call "permanency" on the other. By permanency I mean the quality of "staying put," of maintaining the correct relationship between the various parts of the mechanism under prolonged service without constant supervision and adjustment. At the very outset the opposition of the two factors is evident, since in an ideally permanent mechanism, that is, a mechanism which would be absolutely unwearable and unbreakable under the worst conditions of legitimate use, adjustment or repairs would be necessitated solely by external accidental causes, and consequently the value of accessibility would be very slight. Similarly in any actual machine, the value of accessibility may be said to vary inversely as its factor of permanency, so that the greater the latter, the less the former. It would seem that the fact of accessibility being given so prominent a place in the design of a machine is a confession of possible, and more or less expected, weakness.

In those mechanisms the design of which has, through years of development and study, reached a scientific, as opposed to the original empirical basis, we do not find permanency sacrificed to any but manufacturing considerations. In marine engines, locomotives and tramcars, to take examples which operate under conditions similar to those which motor-cars have to contend with, accessibility is certainly not the keynote of design as it seems to be becoming in automobile work. It must not be understood that I fail to appreciate the advantages of "get-at-ableness" in every piece of machinery, and especially in motor vehicles. In my opinion, however, it should be provided with the intention of enabling the user to correct injuries caused by his abuse, rather than to rectify troubles arising from inherent defects in the machine itself. It may at once be objected that so long as accessibility is provided it matters not with what intention. There will be, however, a considerable difference in the means whereby it is obtained and the parts which are to benefit by it. Take, for example, an ideal car having the following characteristics:—Motor: very large bearing surfaces of the best materials; force feed lubrication, positive to each bearing, with filter system to prevent entrance of foreign matter with the oil; very large valves of special alloy, thoroughly water-cooled. Clutch: Multiple hardened steel discs, running in oil. Transmission: Gears of large dimensions; ball-bearings throughout; splash lubrication. Brakes: Metal-to-metal, with very large friction surfaces, enclosed in oil bath and water-cooled. Let us assume that such a car has proved its ability to run 10,000 miles without adjustment when properly operated. (And I maintain that it is perfectly possible and feasible to construct a high-priced car which will be capable of such a record.) The point now is to properly provide for faulty operation, so that those parts only which can be injured by carelessness are made accessible in proportion to the probable frequency of such abuse.

Beginning again with the motor, we find that the circulating pump may be allowed to freeze or may be injured by the entrance of foreign matter with the water supply if the filter screen at the filling plug has been removed. The pump should therefore be readily detachable. The magneto, if properly constructed and large enough for its work, will be perhaps as permanent as any other part of the entire car, though as at present constructed many of these instruments are delicate and subject to frequent derangements, not always attributable to abuse. The lubrication should be provided for by the main oiling system to reduce the liability of its neglect. The carburettor is subject to derangement only in the float chamber and

jet, unless it is of the type in which automatic operation is obtained by moving parts. The only cause of trouble here, apart from definite workmanship, will be impurities in the fuel supply. Both the float chamber and jet should be readily cleaned and inspected without the removal of the entire carburettor from its position. A system of filters and drains between the filling plug and the needle-valve would reduce the importance of accessibility in these two elements. The lubricator should have a most convenient feed adjustment for the cylinder leads, but need not otherwise be accessible, as the several filtering screens, at least one of which should be non-removable, will prevent the entrance of any body sufficiently large to interfere with the feed pump action, and the mechanism is otherwise quite permanent. The high-tension distributor should be placed so that the sparks at the distribution points may be observed through a glass or mica plate, but if it is well



Touring in Spain.—A 35-h.p. Daimler Car about to enter the town of Fuenterrabia, on the borders of France and Spain.

made and dust-proof there is little need of further accessibility. The same may be said of the primary contact-breaker.

Coming now to the motor itself, we find that there are only four forms of abuse which a thoroughly well made motor cannot be expected to endure: Lack of lubrication; excessive lubrication; lack of water; and freezing. With a well-designed and constructed force feed oiling system no adjustment should be provided except for the cylinder leads, consequently there will be no question of improper lubrication of any of the bearings unless the oil reservoir has been allowed to become empty, in which case all bearings will probably be more or less injured and one or more quite ruined, perhaps, before the motor is stopped. The cylinders may be more or less damaged, depending on whether piston or bearing seizing occurred first. In either case a general dismounting of the motor will be necessary for thorough inspection before the car should again be placed in service. Accessibility to the cylinders and bearings when mounted in the car is thus seen to be of minor importance. It must be understood that the lubricating system of which I speak is one in which each bearing is supplied, not by springs or limited pressures, but by positive-acting mechanism without spring valves, and of such construction that possible obstructions

in the system will either be removed by the action of the feeding device itself, or will cause destruction of the latter. Each feed must be wholly independent of every other one, so that the pressure upon an obstructed lead cannot be relieved by an increase in flow through another. Since adjustment must be provided for the cylinder feeds, owing to the exactness of their requirements, they may be either starved or flooded by the unskilled or careless operator, independent of the bearings. Starving will perhaps necessitate the dismantling of one or more cylinders, and this should therefore be possible without removing the motor from the car.

Flooding, a not uncommon evil at present, will require cleaning of the combustion chambers, valves and piston head, and these should be accessible for this purpose, if possible, without dismantling the cylinders—a requirement which is seldom met. In my experience I have found the formation of carbon deposits within the combustion chamber to be the cause of a number of annoying minor disorders which are not uncommon in the best of modern motors, and which are given less attention than they deserve. As a matter of fact, the running of a motor will be very perceptibly "sweetened" by a careful cleansing of the combustion chamber walls once every 2,000 miles or so, unless both carburettor and lubricator adjustments are extremely perfect.

Coming now to the clutch, the wear of the hardened steel plates is practically negligible. Lubrication is thorough and independent of the driver, for, in addition to the oil originally placed in the case, there should be an excess feed from the motor. If, then, the clutch should even be assembled without oil, a little running of the motor will soon provide sufficient to prevent damage occurring. About the only element in such a clutch which might give trouble will be the operating spring, which is therefore the only one for which accessibility need be provided.

The transmission we have assumed to have a large factor of safety and to be made of the best obtainable material. With the small diameter multiple-disc clutch, the rotary moments while clashing are only about one-tenth, those occurring under similar conditions with a cone clutch of equal torque capacity. The chipping of the edges of the gear teeth may thus be entirely eliminated, as is abundantly proven by experience. The actual wear on the teeth faces is negligible, and the oil within the case will not be rapidly charged with chips and grit, as has been usual in the past. Under these conditions of lubrication the best ball bearings will last indefinitely. The permanency of the gear-box is then independent of the operator, and the only troubles which can arise are those due to wilful abuse or accidents involving more or less the whole car, and requiring the dismantling of the case. Accessibility is thus not only unimportant, but in my experience actually dangerous, as it increases the chances of foreign bodies accidentally getting into the case during perfunctory inspections. In both crank-case and gear-box inspection openings greatly weaken the structures, especially reducing their rigidity, by breaking their continuity, thus necessitating additional weight for equal efficiency. Experience has further proved that well-designed brakes of large dimensions running in oil, and perhaps water-cooled for extreme conditions, are permanent mechanisms within ordinary engineering limitations. Whatever adjustment is thought necessary should be provided externally so as to be accessible without disturbing the brake proper.

Of the remaining elements, the steering gear deserves notice from the fact that although not ordinarily sacrificed to accessibility, durability seldom seems to be obtained in the degree which this most important part demands. Friction surfaces are too small, the selection of materials leaves much to be desired and the workmanship usually bears evidences of speed rather than painstaking care. This is true not only of the steering box alone, but throughout the entire steering system. It is true that, once accustomed to the operation of even a high-speed car, backlash in the steering gear does not materially inconvenience the driver under ordinary conditions, but in emergencies it may be fatal. Adjustment to take up wear in the steering gear is, it would seem, unnecessary, and the means whereby it is provided are frequently most insecure and unreli-

able. A thoroughly well-made steering gear should be capable of standing up to its work for 50,000 miles without the appearance of over 15 deg. lost motion at the steering wheel. It should be entirely self-lubricating, and no thought need be given to making it accessible without dismantling it from the car.

The whole matter seems to me to stand thus: The finished design of any machine is a crystallization of the thoughts and purposes of its designer. So long as the "motif" is to construct a car which shall be accessible and easily repaired in all its parts, just so long will the demands of permanency be more or less subordinated to the former, and the finished product will bear evidences of the relative importance attached by the designer to these two frequently antagonistic requirements. To force the designer and manufacturer to do his best, underrate the importance of accessibility in his products instead of, as at present, overrating it. The motor-car will ultimately be developed into a consistent machine in which all the various requirements have been carefully weighed and their relative importance accurately found, after which the design and execution has been harmoniously developed. In my opinion we shall see, in the car of the not so very distant future, the factor of permanency accorded its true position—that of the



A New York firm recently celebrated the supersession of horses by motor-vehicles in the novel way depicted above. The animals were carried round the city on the motor-wagons which had displaced them, the unusual sight naturally attracting considerable attention.

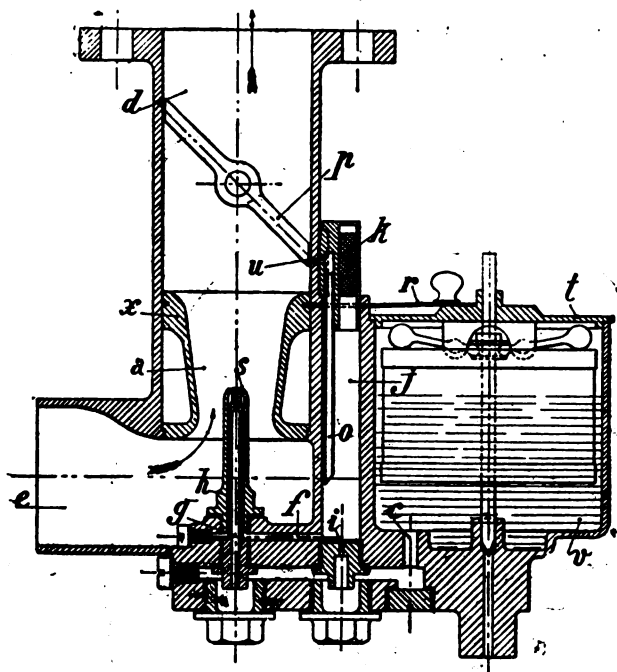
cornerstone upon which the whole structure is built. More judgment will also be used in providing accessibility instead of blindly attempting to give instant access to every part of the mechanism, whether in all likelihood it will ever be required or not. Old motorists, who began their career eight or nine years ago, as I did, may not yet have forgotten the tortures endured in attempts to extract parts from the vitals of one of those dear old cars which have since passed to the scrap heap, but let them stop and think how many times they have been obliged to reach internal parts of their newer machines from unavoidable causes, that is, causes which the factory, either in the drawing-office or machine-shop, could not have prevented had they foreseen them.

MESSRS. SKINNER, of Western Road, St. Leonards, teach the driving of motor-cars, as well as the riding of horses.

FROM the Westinghouse Brake Company, Ltd., we have received a very complete catalogue of the Morse Rucker Joint Chains, which are now being extensively used on motor-omnibuses and commercial vehicles, as well as in many industrial installations, in place of belt and gear transmission. Not only are full particulars given of the chain, but the list includes a large number of illustrations showing the various uses to which it has been applied.

THE ZENITH AUTOMATIC CARBURETTOR.

MANY attempts have been made during the past few years to devise a carburettor which shall give a perfect mixture under all conditions of running; among the latest to come under our notice is the Zenith, devised by M. Beverly and put on the market by Messrs. Boulade Frères, of Lyons. As will be seen from an inspection of the sectional view given herewith, the apparatus is on entirely



Section of the Zenith Carburettor as now fitted to Rochet-Schneider Cars.

new lines, the principle adopted being that of doing away with all supplementary air inlets, and having only one air-admission pipe of a fixed area, but at the same time providing two spraying jets, one working in the usual way and the other known as the compensator. The two jets work simultaneously and in sympathy one with the other, in such a way that it is claimed the carburettor gives a perfect mixture under all conditions.

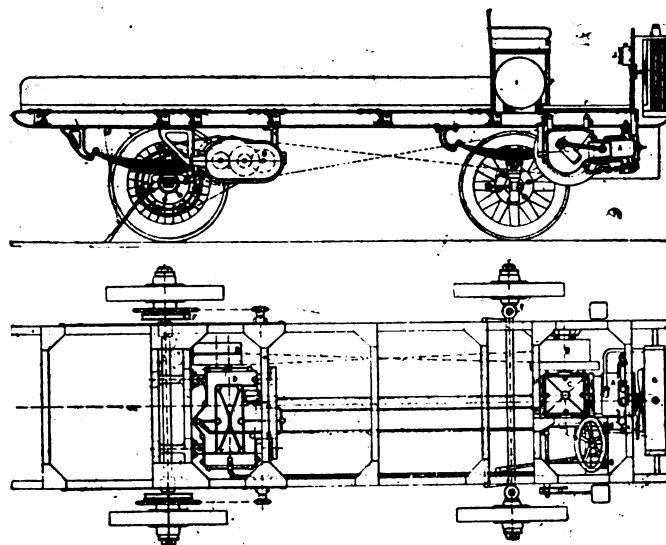
Referring to the drawing, the two jets *gh* are arranged concentrically, the one within the other. The former draws its supply of petrol from the float chamber *v* in the usual way, while *h* is supplied from a tube *j* open to the atmosphere and fed with spirit through the jet *i*. Owing to the fact that the suction of the engine has no effect on the flow of spirit through the opening *i* into the chamber *j*, the supply to the latter is maintained at a constant rate. Within *j* is a small tube *o*, open at the bottom and communicating with the admission pipe through a small hole *u* just at the point covered by the butterfly throttle valve when the latter is closed. Under ordinary conditions the action of the small tube *o* is nil. There are two cases, however, in which it comes into action, viz., (1) when the engine is stopped the chamber *j* becomes filled with petrol, and the starting of the motor is facilitated by reason of the strong suction at the opening *u*, where the reserve supply of petrol is drawn directly into the admission-pipe, enabling the engine to be started at the first turn of the handle without any preliminary flooding of the carburettor. The second use of the auxiliary chamber *j* is when the engine is running light and at a slow speed; the suction on the concentric jet is then very weak, and is insufficient to draw off the petrol in the chamber *j*. The spirit consequently rises in the latter until, meeting the end of the small tube *o*, it is quickly drawn up and sprayed into the inlet pipe, through the

opening *u*, to give a mixture exactly proportioned to the requirements of the engine at the speed at which it is running. A gauze screen is provided at *k* to prevent any dust or foreign matter being drawn into the chamber *j*.

The carburettor has been subjected to very exhaustive tests by the makers, who claim that it furnishes a perfect mixture at all engine speeds from 150 to 1,500 revolutions per minute, and that without the use of any auxiliary spring-controlled air inlets, which frequently need adjustment; furthermore, not only does it permit the engine to respond instantly to any movement of the throttle lever, but an economy is effected in fuel consumption. The carburettor is being taken up by the Rochet-Schneider Company, and by the courtesy of Messrs. Donne and Willans, Ltd., we had an opportunity the other day of inspecting the apparatus in operation on one of the latest Rochet-Schneider cars, when the readiness with which the engine immediately responded to any movement of the throttle lever was particularly noticeable.

A BELT-DRIVEN MOTOR LORRY.

AMONGST the oldest builders of industrial motor vehicles in France is M. Ch. Pantz, of Pont-a-Mousson (M.-et-M.) who is making two sizes of chassis—9-11-h.p. and 12-15-h.p.—for loads of from 1½ to 3½ tons. The feature of the Pantz vehicles is the employment of a long crossed belt to connect the engine with the change-speed gear, from which the transmission to the road wheels is by side chains. A plan and elevation is given herewith. The engine, which comprises two horizontal cylinders, is arranged in the fore part of the frame, under the driver's foot-board. The carburettor is of a special type adapted to work equally well with heavy oil as with petrol. The gear-box gives four speeds, in addition to the reverse. The maker claims that the lorries are easily able to mount gradients of 1 in 10 fully



Elevation and Plan of Pantz Motor Lorry.

- | | | |
|-------------------|------------------|-----------------|
| A. Engine. | D. Gear box. | G. Radiator. |
| B. Belt pulley. | E. Differential. | H. Petrol tank. |
| C. Crank chamber. | F. Rear brakes. | |

loaded, and that on average roads the consumption of fuel is only 2 litre per ton-kilometre. The object of the designers has been to produce an efficient vehicle and one which at the same time shall not only be simple, but in which all the parts are readily accessible.

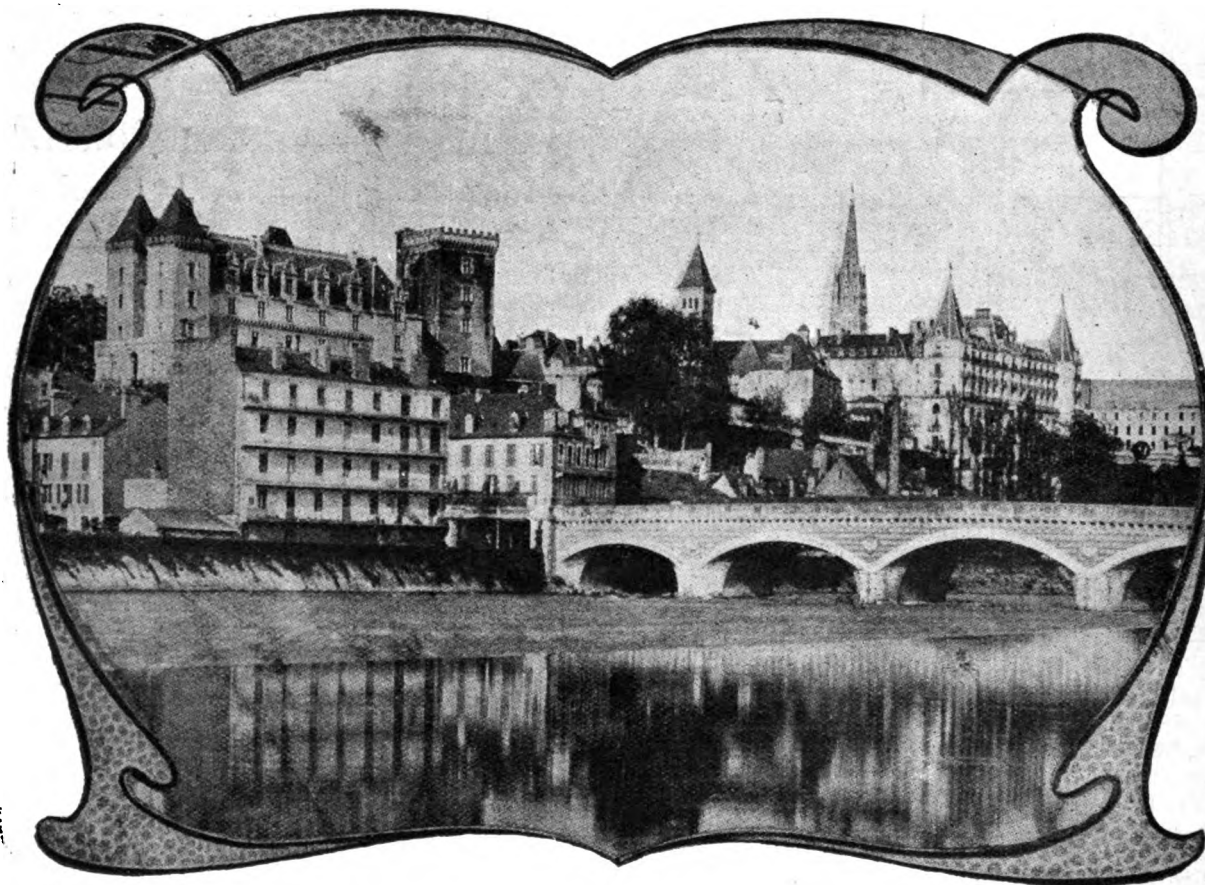
During the recent military manoeuvres in France a Pantz 12-15-h.p. motor-lorry carried a load of 2.8 tons during a period of fifteen days, during which no breakdowns or stoppages for repairs occurred.

CONTINENTAL NOTES.

Industrial Vehicles at the Paris Show.

The importance of the industrial vehicle section of the recent French *Salon* was not over-rated when the organisers designed the construction of the huge temporary building erected on the Esplanade des Invalides. The space available for exposition was as much as that on the ground floor of the Grand Palais, and it was taken up by exhibitors of all kinds of apparatus directly or indirectly affecting the motor-car industry. The "clou" of the commercial show was undoubtedly the attraction offered by the retrospective exhibition of cars. The latter, of course, contained all sorts and conditions of cars, from the earliest to the latest, and had as much to be examined in common with the industrial side of the art as with the pleasure car. For

period with the splendid specimens of industrial motor vehicles which followed closely on the retrospective display. Taken as a whole, the recent show was the most representative collection of commercial cars of all kinds and industrial applications which could well be got together on the Continent. There is scarcely one of the well-known French motor-car firms which does not now advertise its industrial applications. Hitherto many makers allowed the commercial motor to be neglected and gave themselves up entirely to the construction of touring cars. This is entirely ended, and the industrial motor will in future receive as much attention as the pleasure side of motoring. Even more, since there are several firms which construct commercial cars and do not offer any pleasure chassis at all. The motor-cab caused the last stage of this reunion of forces to be bridged, for no constructor however given to the design of



Touring in France.—A View of Pau, showing the Castle.

instance, the first effort—at least, in France—to make a road machine was that of the military genius, Cugnot, in the year 1769. This three-wheel car was undoubtedly destined for transporting heavy weights, since the rear part is not very different in principle to the motor-lorries of to-day. Later on in the history of the road car we find that all the first efforts were directed to commercial application, witness the steam road coaches and omnibuses of the 'seventies. It was only about 1897 to 1898 that the possibilities of the pleasure car appeared to dawn on constructors, and the impetus given by the organised road races caused the pendulum to swing to the glamour of speed trials and sport, rather than to the normal development of the industrial side of the trade, which received a set-back in consequence, lasting for several years. A deal of experimental work was saved to the commercial car makers as a consequence, but exactly how much more the industrial motor owes to the pleasure car on this account is not an easy matter to solve. The struggles which the industrial motor might have gone through during the early days of the present century were, however, apparent from a comparison of the cars of that

purely pleasure cars, could afford to see an order for taxicabs go to a competitor simply because he was not ready with his designs.

The 1908 A.C.F. Grand Prix Race.

According to the "Auto" French motor-car builders are already busily engaged on the construction of their vehicles for the 1908 Grand Prix Race. The rules provide for a maximum bore, in the case of four-cylinder engines, of 155 mm., a dimension which will most probably be generally adopted. Panhard-Levassor's are stated to be building three entirely new live axle cars, the engines of which will have a stroke of 175 mm. The Clement-Bayard Company are designing three types of engines of respectively 155 mm. by 165 mm., 155 mm. by 175 mm., and 155 mm. by 188 mm. bore and stroke. The second of these is the most favoured. The cars, which are expected to develop 130-h.p., will have cardan shaft transmission. The De Dietrich cars are expected to have four-cylinder engines, 155 mm. by 172 mm., high-tension ignition, direct drive on two of the speeds, and side-chain. The Motobloc

engines will have a stroke of 170 mm., as will also the Pipe (Belgian) motors, the valves in both cases opening direct into the explosion chamber. Fiats (Italian) are credited with two sizes of engines, 155 mm. by 160 mm. and 155 mm. by 170 mm.; a selection being made after exhaustive tests of both types. The Benz and Mercedes (German) engines are said to be of a bore and stroke of respectively 155 mm. by 175 mm. and 155 mm. by 170 mm. The transmission on both cars will be by side chains. No details have transpired with regard to the Renault programme. All the foregoing, as well as Brasier, are looked upon as certain starters in the great race; newcomers will be found in the Charron and Breguet firms, the latter's cars being fitted with six-cylinder engines, while the Westinghouse are also expected to be in line. On the other hand there is some doubt as to whether Hotchkiss, Mors, Gobron and Porthos will compete.

Motor Roads for Paris.

Those motorists who are accustomed to tour in France will be interested to learn that the French Automobile Club and the Touring Club de France have been successful in their agitation for new motor roads in the environs of Paris. The Minister of Public Works has definitely decided to commence at once and complete within two years eight new motor roads north, south, east and west of Paris. The roads decided upon are used to some extent at present, but, speaking generally, the surface is of *pavé*; they are, however, to be relaid with small stones well bedded so as to provide a smooth dry surface suitable for motor traffic. The eight roads will be connected at different points by a more or less circular route with a radius varying from eight to about eighteen miles, so that travellers will be able to circle round the city without touching it until they strike the particular main route which they desire to follow.

The French Automobile Industry.

The annual banquet of the French *Chambre Syndicale du Cycle et de l'Automobile* was held in Paris last week, the function being attended by several members of the Government. After the loyal toasts had been duly honoured, M. A. Darraeq, the President, made an interesting and instructive speech, in which he referred at length to the crisis through which the French automobile industry is stated to be passing. He held that the change that was taking place was only that experienced in all revolutionary movements in which it is difficult to at once establish an equilibrium between supply and demand. That a change was going on and that the automobile was no longer to be confined to the rich, but was taking its place in the general means of locomotion, was certain. The well-to-do *cientele* was now of less extent than formerly, and the tendency of the times was to a development in the demand for small cars for individual use and for heavy vehicles for public service and goods transport work.

Miscellaneous Items.

There is stated to be a demand for motor lorries for the transport of cereals in the Konia district of Turkey.—The Parisian police are now summoning motorists and motor-car drivers for allowing their motor lamps to smoke.—An exhibition of industrial motor vehicles was held in Berlin from the 19th to the 22nd inst.—“Nonaera” is the name given to a new motor tyre somewhat on the lines of *Elastes* which has just been introduced by a Dusseldorf company.—Three Fiat cars have already been entered for next year's Targa Florio Race.—An asphalt pavement repairing company in Berlin is now using a petrol motor wagon for the transport of its material about the city.—A number of Krieger petrol-electric taximeter motor-cabs are now in service in Paris.—A company has just been formed in Cologne with the title *The Kölner Automobil-Droschken-Gesellschaft* to introduce a service of electric motor-cabs in that city.—A competition of “elastic” wheels for motor vehicles will be held by the “Auto,” of Paris, from the 7th to the 17th April next.

SOME USEFUL NOTES.

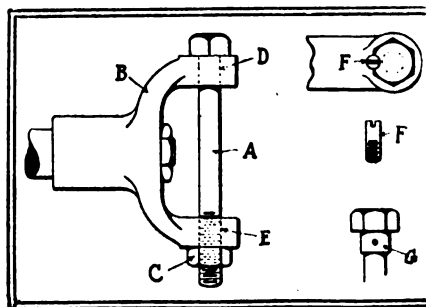
THE rubber mats on a car should be cut to fit exactly; the best way to secure a proper fit is to make a pattern out of brown paper, cutting it so that it sets snugly over the flooring in one piece. Holes should then be made for any pedals, pipes, &c., with a slit to allow the mat to be fixed round the same. Care should be taken to see that the mat fits close up to the dashboard.

ALMOST any cable will safely carry the low tension current, but no cable can be too well insulated or of too good a quality to carry the high tension current from the induction coil or magneto to the sparking plug.

ABSOLUTE certainty in the lubrication of every bearing proportionate to the speed at which it runs means economy in oil—for one drop of oil delivered regularly to exactly the right spot will go further than twenty drops used irregularly.

ONE of the worst places to put ignition wiring is near the silencer or exhaust pipes, or any other place where there is much heat. Even if there is not sufficient heat to burn the insulation, the material will deteriorate and become practically useless in time.

CERTAIN forms of cardan joints—notably those employing the so-called Greek cross—have propeller shafts employing a bolt similar to A in the accompanying sketch. If this bolt is threaded into one jaw of the yoke B, as shown, and is held against turning merely by a locknut C, it will be impossible to keep the bolt tight, as the twisting effort due to the friction of the cross on the bolt, combined with the vibration, will quickly loosen it, and the sole reliance against trouble is then the cotterpin which holds the nut from coming off. Aside from other objections to this feature there is a tendency to transfer the rubbing surfaces to the points D and E. One way to prevent this is to file a slot in the head of the bolt, and after it has been screwed tight to hold it by a screw F, which partly enters the slot in the head. Another method is to strengthen the bolt at D by a shoulder as shown at G in the detail sketch. This makes it possible, remarks the *Motor Age*, to put a cotterpin through the bolt and the jaw in which it is held. If the bolt were not shouldered it would be liable to break where drilled for the cotterpin.



WORN connecting-rod bearings, both at the piston and crank shaft ends, usually cause a loud hammering sound. When first noticed, the defect is pronounced and disagreeable only so long as the motor is operated with the spark retarded. It can then be avoided for the time by using an advanced spark, or high motor speed. If allowed to continue, it soon gets much worse, and is heard with regularity in whatever manner the motor is operated. A slight and unobjectionable hammering sound when the ignition is first advanced is normal for single or double-cylinder motors, but generally indicates faulty manipulation of the levers.

IT should not be forgotten that it is possible, as a last resort, to use the engine as a brake, if the brakes themselves refuse to work; and one should be prepared to act upon this information in an emergency. By running on the low gear, with the engine at lowest speed, the velocity of the car cannot become great, while a powerful brake is obtained by switching off the ignition.

AN AMERICAN PETROL-ELECTRIC ROAD TRAIN.

CONSIDERABLE interest is being taken on the other side of the Atlantic in a new road train which has been introduced by the Alden-Sampson Manufacturing Company, of Pittsfield, Mass., U.S.A.—a concern which it is stated has for the last six years been experimenting with heavy industrial vehicles. The train consists of a tractor and two followers, each provided with six wheels, with spring suspensions so arranged that half of the load of each car is carried by the centre pair of wheels, which are the drivers. The pair of wheels at the front and rear ends of each car are steering wheels, and are connected by linkage in such a way that all six wheels of any one car will travel arcs of concentric circles in turning. The driving wheels are 54 in. in diameter and the steering wheels 42 in., all equipped with steel tyres 5 in. and 3½ in. in width, respectively.

Although, as in the Renard system, the first vehicle is not a tractor in the usual sense of the word, but is an automobile

tion which can be made at either end of the cars, the steering linkage being so designed that the cars will track exactly on the sharpest turns when running in either direction. Drawbars are used between the vehicles, but as each car is self-propelled their only function is to preserve correct distances and equalise traction.

Under ordinary conditions braking is effected electrically through the motors by the controller. This is claimed to give an amount of braking power equal to the capacity of the motors, and is very smooth in operation and easily handled. For emergency use on steep hills a hand wheel directly beneath the steering wheel of the tractor is used to operate powerful expanding shoe brakes within the driven sprocket drums of the tractor's driving wheels. The same brake apparatus is fitted to each car, this being arranged to be operated, in hilly districts, by assistants riding on the vehicles. The car platform is 17 feet long by 4 ft. 2 in. wide, and is supported 4 ft. above the road surface. The wheel track is 6 ft. Each vehicle has a capacity of six to eight tons, and in order that the weight of the tractor with



The Alden-Sampson Petrol Electric Road Train.

power generating plant, the means adopted to drive the following vehicles are electrical instead of mechanical. In fact, the plan adopted—for the first time, we believe—is an extension of the petrol-electric type of motor vehicle, the electrical energy generated being distributed to electric motors on each unit of the train, instead of only to the machine on which the power plant is installed. The latter consists of a 50-h.p. four-cylinder petrol motor, connected by a silent chain to a 35-kilowatt dynamo. The engine and dynamo are separately suspended by springs on the tractor in order that road vibration shall not be communicated to them. The electric current generated is conducted to the motors, of which there are six—two on the tractor and two on each of the followers. In the controller switches are provided which enable the tractor to operate the train or each unit of the train with that unit's own motors. The motors are spring-suspended and drive the central driving wheels through spur gearing and 1½ in. pitch roller chains. Since each driving wheel has its own electric motor no differential or equalising gear is needed. The complete control of the train is electrical, which enables it to be easily handled by one man. The tractor, which it is claimed can turn in a radius of 20 ft., is steered by means of an irreversible gear, and each of the cars is steered from the one preceding it by means of a tongue connec-

the train in operation may be equal to that of each of the cars it is provided with a platform upon which may be carried a load of from three to four tons. The bodies of the trucks are mounted upon four heavy springs, one end of each extending to the axle, to which it is securely fastened, while the inner ends are connected to the central axle, all axles being stationary. The trucks are all linked by coupling rods to the tractor. The train has been designed with a view to supplying the need in many industries of an economical method of transporting merchandise for considerable distances over ordinary roads. On first-class macadam roads the speed of the train is given as six miles per hour. As will be seen, the Alden-Sampson road train forms an entirely new departure, and one the development of which will be watched with more than passing interest.

BLINDLEY HEATH, near Godstone, was flooded the other day for quite half a mile, and in places the water was three or four feet deep. A number of motor-cars proceeding in the direction of Lingfield made attempts to dash through the flood. In each case the chauffeurs were stranded, and the local farmers for several hours were busily employed with teams of horses dragging the cars on to terra firma.

MR. GIBBON BROOKS has been making a display of various non-skidding devices at his motor establishment in Cardiff.

THE Dunlop Pneumatic Tyre Company intends to establish works in London for dealing with tyre repairs.

MESSRS. WYMAN AND SONS, LTD., the well-known printers and official agents for Government publications and Parliamentary papers, have issued neat wall calendars for 1908.

AT Stamford Mr. J. T. Rollings has a large garage in Scotgate. A good stock of spare parts is kept and tyre repairs, as well as "first aid" to motor-cars are carried out by a competent staff.

ACCORDING to a police witness in a case at Kingston, 714 motor-cars passed along the Portsmouth Road at Esher on the occasion of the motor races at the Brooklands track on October 12th last.

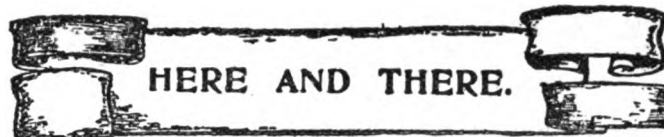
THE erection of road directory boards is becoming a feature on some of the main roads in Cincinnati. On these is printed a variety of information as to distances between various points, on similar lines to many of the route books issued in this country.

MOTORISTS who are troubled with cold feet from contact with the cold metal of the pedals will find that ordinary tyre tape wound around the same will overcome this difficulty and at the same time provide an excellent adhesive surface upon which the feet will not slip.

THE Cambridge Auto-car Company, Ltd., 58, Hills Road, Cambridge, have published "The Shu-ver's Catechism," by Mr. F. W. H. Hutchinson. This contains four pages of questions and answers for drivers, a list of motor-car identification marks, and a ruled account page for a record of mileage, and the cost of running a car for a year.

THE New Engine Motor Co., Ltd., have secured an order for a 40-h.p. limousine with front seats completely closed in, for H.H. the Thakore Sahin of Gondal for use in India. The vehicle will be able to carry nine passengers in all, and we believe the owner intends to have two syces, or native servants, standing on the platform at the back. The top and sides of the car will be removable from end to end, so that the car can be used as a completely open one.

AT the last meeting of the Solihull District Council the Clerk read a letter from the Warwickshire Highway Protection League, urging that the present speed limit for motor-cars should be strictly enforced in the country, with a maximum speed of eight miles in passing through villages and towns; that the tax on motor-vehicles should be increased, and the proceeds devoted to highway repair; that one licence for testing any number of cars should not be issued to manufacturers, and that the highways should not be used for motor testing on Sundays. The league asked that a resolution in these terms should be passed and sent to the County Council and the Local Government Board. Mr. Oscar W. Bowen moved that the Council pass a resolution as suggested. This was seconded, and carried *nem. con.*



THE Union Trust Company, a well-known banking concern of San Francisco, has acquired a motor-car for use in connection with its business.

A GARAGE has been established by Mr. E. E. Parlyby in connection with the Berkeley Arms Hotel, Cranford Bridge, near Hounslow, which he has just taken over.

MESSRS. ARGYLLS, MIDLANDS, LTD., have fitted up a convenient showroom at 24, New Street, Birmingham, from which Mr. Henry Garner will direct operations over the counties of Worcester, Warwick, Hereford, Stafford, and Shropshire. A garage and repair works are also being established in connection with the showroom.

MESSRS. A. WEBSTER AND CO., 43, Dover Street, W., again issue their annual register of sporting and social fixtures and diary known as "The Badminton." Some pages are devoted to motor records at home and abroad, and the Diary seems to be fully comprehensive.

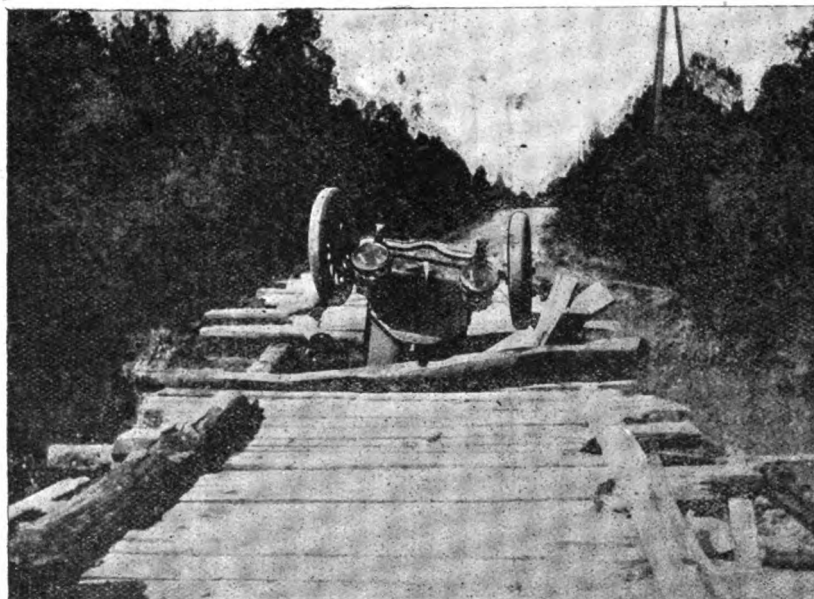
MESSRS. BENSLEY AND DEDMAN, of 720-722, Holloway Road, N., have been appointed sole London agents for the Brewt-nall radiator, which is claimed to have a very high efficiency combined with mechanical strength. A feature of the cooler is the small number of tubes and tube joints.

MESSRS. GOULD BROS., motor engineers, of Exeter, have been causing considerable excitement at their attractive showrooms in Southernhay, by exhibiting a quarter size model aeroplane which has been designed by Mr. Ernest Gould, the managing director of the firm.

ELSEWHERE in the present issue will be found an article from the pen of Mr. Charles TAILLEUR, taken from our American contemporary, "Motor," on the subject of "Accessibility and Permanency." Since Mr. Martineau's paper read before the members of the Institution of Automobile Engineers considerable interest has been shown in the question of accessibility, and, as Mr. TAILLEUR deals with the matter from a somewhat new aspect, his remarks are worthy of careful consideration.

THE Crawfordsville Casket Co., of Crawfordsville, U.S.A., recently purchased a motor-car for the use of one of its travelling representatives, who has a territory extending for 100 miles in each direction. A marked saving in time and expenses has been effected by means of the vehicle. The economy in time is especially noticeable, as the traveller is now able to cover twenty-nine towns in one week, whereas when he formerly had to rely on railway connections he could only visit sixteen.

THE sanction of the Croydon Borough Council has been asked to an arrangement for the borough engineer to have an allowance of £110 a year for a motor-car. Several members objected to any agreement of the kind, which, with the proposed employment of a fireman as chauffeur, would cost £60 a year more than the present supply of horse-drawn vehicles. At the same time the claims of the medical officer and the road surveyor to better travelling facilities were put forward. In the end the proposal was withdrawn in favour of a report on a more comprehensive scheme of motor-car hiring for officials.



Car overturned by fall of a Bridge over the Mishika. (See page 967.)

Photo by]

[Prince Borghese.

THE Royal A.C. is again appealing to motorists not to use the siren. Its use on motor-cars is prohibited in Paris.

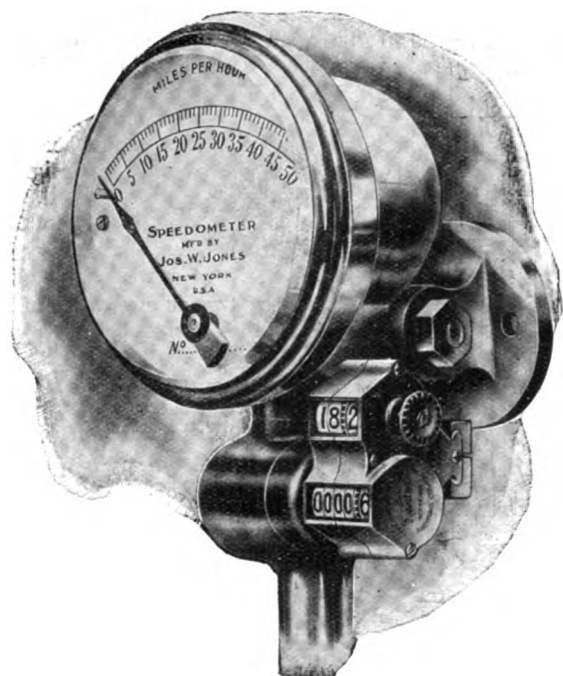
LORD G. DUNDAS, of West Hall, Middleton Tyas, has just acquired a 15-h.p. Coventry Humber car.

THE Belgian annual motor-car show was opened in the Palais du Cinquantenaire, Brussels, on Saturday last by King Leopold. It will continue until January 2nd.

MESSRS. HEIGHTON'S DEPOTS, LTD., have establishments in West Gate, Peterborough, and at Thrapston and Whittlesea, where the requirements of motorists can be attended to at any time of the day.

WHAT the American papers call a "Quaker City Brooklands" is being projected at Philadelphia. This is a two and a half mile motor track in Delaware county, a club having been formed to undertake the work.

AMONG the new Jones devices for the registration of the speed of motor-cars placed upon the British market by Messrs. Markt and Co. is the new combination speedometer illustrated herewith. This is well calculated to supply the demand for a reliable and comprehensive instrument at a moderate price. As will be seen, the instrument registers the speed in miles per hour, the mechanism being the same as in the standard models. In addition there is the odometer or mileage recorder, which is



detached from the body of the device, a Veeder instrument being attached directly under the body of the speedometer by suitable gearing. By this means a triple combination is provided, securing the reading of the miles per hour, the extent of the trip and the mileage for the season up to 10,000. Another adaptation of the idea is given in a further model, which gives the rate of speed and the season's mileage. We understand that delivery of these excellently-designed Jones speedometer-odometers will be made early in the New Year.

ACCORDING to the report just issued the motor-buses in service in Paris covered during the 141 days ending with November 1st last 3,570,000 kilometres, during which time they consumed 22,000 hectolitres of carburetted alcohol.

THE Manufacturers' Association of Great Britain has been officially notified that, in consonance with its representations to the Australian Commonwealth Government, the duty on motor-lorries, wagons, and motor-cars has been altered from 35 per cent. general tariff and 25 per cent. preferential tariff to 5 per cent. general tariff and British productions free. The duty on catalogues, price-lists, showcards or pictures issued by or referring to goods of manufacturers or producers not having an established place of business in Australia has also been entirely removed.

SEVERAL sites are available near the Great Western Railway route for the establishment of motor and other works.

MOTORISTS have been warned as to the excessive speed at which some of their number drive through Sefton Park, Liverpool.

"TOMPKINS is having an awful time with his new car." "In what way?" "Every time he repairs it he has a lot of parts left over that he can't find a place for."

SUCH is the amount of work which Messrs. Argyll Motors, Ltd., have in hand that from the 23rd inst. the whole of the works will be on full time.

WITH the new year a scale of fares for horsed taximeter cabs of 6d. a mile or twelve minutes and 3d. a half mile or six minutes will be adopted in the Metropolis, while the abolition of the cab radius for these vehicles is also contemplated.

ON the afternoon of the 18th Mr. S. F. Edge gave the 90-h.p. Napier a chance of making fresh world's records on the Brooklands track, at Weybridge. Unfortunately, after the car had done eight laps at an average speed of slightly over 100 miles per hour, the two offside tyres flew off, so the attempt to create fresh speed records had to be abandoned.

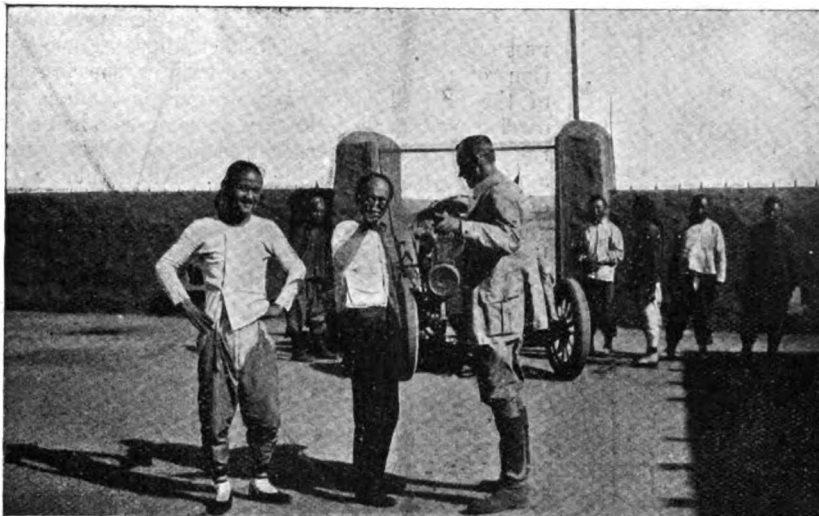
WHITAKER'S ALMANAC for 1908 is again before us in the familiar form and cover in which it has been issued for a good many years. Among the new articles will be found a precis of the amended Patent Law, a digest of the Employers' Liability Act and other chapters which bring the information well up to date in accordance with new legislation. The official section is as complete and authoritative as ever.

THIS is the eighth year of issue of the "Daily Mail" Year Book, which constitutes a good handbook to current questions. In the section devoted to travel we are truly told that the most noticeable feature about the traffic of London at the present time is that mechanical traction is replacing horse traffic. There are articles on the problems of the roads, the progress of aerial navigation, and the advance of the motor-car. The latter is written by the Rev. Arundel Whetton, who, in reviewing the mechanical advance during the year, refers to the principle adopted in the Gillett-Lehmann patents in connection with carburation. Encouragement is also given to the endeavours made to popularise benzol and alcohol as a substitute for petrol and, on the business side, figures show the advance that British firms are making abroad. The chief records on the track and on the road are given up to October 12th, as well as a summary of the law relating to automobiles. Within the compass of nearly 300 pages this annual publication contains a mass of statistics and information which give it a place with Whitaker, Hazell, and other yearly additions to the bookshelf of the man who would be well informed.

A STRIKING proof of the utility of the motor-car for commercial purposes, and especially for newspaper distribution, is given in the "Eastern Daily Press." The proprietors have for some five years been running a motor-car daily, starting from Norwich about 2.30 a.m. to Lynn and back with supplies of their paper, which by these means has been placed on the breakfast tables of readers in more than a hundred towns and villages in West Norfolk. At the start there were a few troubles due partly to inexperience; but these were soon overcome, and the record for the present year is a remarkable one. Between January 3rd to November 30th the Siddeley car which is being used travelled more than 25,000 miles, and out of a possible 284 it made no less than 275 successful journeys. On six out of the nine occasions on which failure or partial failure occurred there was a dense fog, twice there were tyre troubles, and on one occasion a chain failed. From February 13th till October 8th—eight months—the record was absolutely clean. The history of the period may be conveniently summarised as follows:—Maximum number of days, 284; every rail and mail connection made, 275; percentage of successful journeys, 96.83; service wholly failed through fog, 3; partial failure due to fog, 3; partial failure due to tyres, 2; partial failure due to machinery, 1. Such a record, besides speaking well both for the quality of the car and its driver, affords convincing proof of the utility and practicability of the motor for commercial purposes.

PEKIN TO PARIS.*

It is a truism to observe that the telegraph and the telephone have destroyed the journalistic "scoop" as completely as the steamship and the train upset old-time notions of the personal triumphs of ambassadors and diplomatists. Everyone is able to communicate so quickly and readily with other people that the daring and venturesome exploits of the journalists of the early Victorian days are no longer possible, and those who make it a regular, we had almost written weekly, custom to extol their



At the Telegraph Station of Udde: The Prince is shown the way to Tserin.

records of passing events that are accessible to all in common, are almost forgetful of the ordinary conditions of modern life. For awhile the motor-car has revived the opportunities of the past, and there are still unexplored parts of the world yet available for the motorist to traverse. One of these regions was discovered in the Pekin to Paris run of last summer, when a prince and a penman astonished the Mongolian, startled the Siberian, impressed the Russian with awe, and greatly excited the Italian nation. It was a hazardous enterprise, and, apart from the automobile demonstration, has given the world a book that is readable in a greater degree than most books that tell the tale of travel in distant lands. Prince Borghese's journey will remain in the annals of the international motoring movement as an event of some importance, ranking with races and trials in which more have participated but in which the personal hardships have been less. The story as told by his companion on the motor-car, Signor Barzini, is a frank record of their doings, bearing upon it a touch of candour that adds to the zest with which the reader follows the *voyageurs* over desert and prairie alike.

It was early in the year that the author had instructions to meet the Prince at Pekin on June 1st. The car was a 40-h.p. Itala; others to start on the journey were a 6-h.p. Contal tricycle, two 10-h.p. De Dions, and a 15-h.p. Spyker. The departure from the "dim languor" of Pekin was a great event. "A large old Chinese cannon has decked itself out with flags and garlands. The band plays military marches. The great moment has arrived. Drivers and chauffeurs join their cars. The flag descends. A great bursting of petards and squibs; and amid these war sounds we move. We are off! And over the road lined by the Chinese soldiery, between two hedges of silent people, our

five motor-cars alone remain, pursuing each other through the capital of the Chinese Empire at a speed which it has never known before." And then they went forth into the strange land of China; the tricycle was soon in difficulties; the cars got over them. At length they perceived a tremulous line bordering the crests of the mountains far in the distance. It was the Great Wall of China, which is thus described:—

Seen from the distance, the Great Wall, blending and fusing with the outlines of mountains like a prodigious architectural moulding on their crests and sides, does not look like the work of man; it is too vast; and yet what can be seen of it from any given point represents only about one-thousandth part of its extent. The thing seems a fantastic freak on earth, thrown up by some great unknown natural force; the outcome of a cataclysm, not destructive but creative. As we approached, the Great Wall became more and more completely hidden by a crowd of peaks; and we only saw it again at the last turning of the road when we were about to enter under its heavy double gateways, covered by still available bastions. The road near to the top is now no more than a channel in the living rock, and it is increasingly steep and difficult. We had been walking for eight hours under an unbroken sheet of rain. We advanced slowly, painfully, and had to stop every minute to put stones out of the way, to make room for the wheels, to protect the car's flywheel from the projecting upward points on the roadway. All around us was gloomy and barren. We were coasting a deep ravine; suddenly, rising from its depth and resting on their isolators, two telegraph wires came in sight, crossing our road and the Great Wall. It was like the sight of familiar faces; these were friends to us, and would carry our news to the world outside. Poor ancient wall, the labour and pride of three royal dynasties, and of some millions of men; it is not by the cannon alone that thou art rendered useless; a thread of wire suffices. The most distant peoples can quietly commune with one another above thy head, ignoring thy very existence!

Their journey through the villages produced a succession of panics. The natives must have thought the Evil Eye was upon them. Barely clad children fled in terror at their approach; men and women talk about the monster to this day, and wonder if it was the railway. When the car stopped some would go near the car and ask "Where is the beast?" Others showed that "it drinks water through a hole." One curious impression of the travellers was that they did not trouble to know the time along the great valleys of China. "We lived outside of time,



Among the Mongolians: Camel and Car.

and this sensation of endlessness accustoms the heart and makes one grow resigned."

But the road was worse than any so far traversed. We had to fight, not so much against the difficulties of long, steep climbs, like those on the Lian-ya-miao Mountain, as against the obstacles opposed to us by the naked granite. We were advancing over rocks full of holes and bumps, of crevices and sharp points. The flowing of the

* "Pekin to Paris by Motor-car." By L. Barzini. London. L. Grant Richards. 1907.

water, the hoofs of the mules, and the large feet of the camels had barely softened in so many centuries the worst jaggedness of the narrow path. The car, however, cautiously and slowly proceeded, swayed on the unevenness of the ground; it had now one wheel now another caught between the stones, it slipped down with hard jolts from the jutting points of the road, it got the rims of its wheels gripped in deep depressions. And we listened anxiously to the metallic creaking of the chassis strained by the continuous pulling, to the slight wheezing of the wood of the wheels, to countless perceptible sounds coming from we knew not what part of the machine, faint moans of the steel that seemed to come from the work of destructive insects. All the joints



At Kalgan.

The cars in the Courtyard of the Russo-Chinese Bank; to the left the Contal tricycle; in the middle the Spyker, and to the right the two De Dions.

of the motor-car were undergoing a strain for which they were not meant, and those sounds witnessed to infinitesimally small misplacements, tiny deviations which might, however, prove the beginning of some disastrous damage. It was the skeleton of the machine suffering and expressing its fatigue; and the fatigue of a machine is not to be cured by rest. There were moments when every step presented a new problem. Etore (the chauffeur) steered standing, in order the better to see the road near the wheels. His hands were hurt by the strong vibrations of the wheel, which would not answer to the action of his arm."

And thus for many a mile they struggled on until "we found ourselves upon the rounded dunes, following roads traced over the sand by the long-continued passing of the caravan; and from up there we saw spreading before us like an ocean, blue and dim against the limpid horizon, the Mongol tableland. There great prairies and the desert awaited us. There lay flight, freedom, a way to the west." A few years ago none would have risked themselves without a guide over the Mongolian prairies; now there are telegraph poles along the camel road which seem to give an element of security even in the endless solitude of Central Asia. At length there was a break in the quietness.

"We heard a great sound of voices. A cry had rung across the city like a flash of lightning from the bridge over the Ta-ho to the Russo-Chinese Bank, 'They are coming!' It heralded the arrival of our French friends, who were entering at that moment into the city. We went to meet them in a festive spirit. We shook hands; we greeted one another; we told one another our difficulties. They had spent the night encamped at thirty li from Kalgan. Their journey, too, had been difficult, but it had also been pleasantly interrupted by the various occupations of camp life; the improvised cooking of meals in the open air, the fighting against the rain, the awakening in the coolness of the dawn. Under the Lian-ya-miao they had found the Hun not too swollen to be forded, and they had been able to avoid the picturesque and detestable ascent which we had had to make. But they had had no means of avoiding the other climbs, which were still harder and more difficult. In a moment the courtyard of the Bank seemed transformed into a workshop. Everywhere lay cans of oil and of fuel; screw-wrenches, hammers, tyres, spare pieces thrown about in confusion. The cars exposed their shining mechanism to the eye through their open sides, and they gave themselves up meekly to the performance of their toilette. The chauffeurs, their hands covered with grease, disappeared

between the wheels, and spread themselves at full length under the cars. They turned levers, unscrewed nuts, hammered away, cleaned everything. All unnecessary parts were discarded and thrown away in order to lighten the machine. Pons was sawing his mudguards, Bizac was doing away with the silencers; then the motors were tested, listened to tested again, and the courtyard was filled with noise, smoke and fumes. By the evening all the cars were ready. To the luggage had been added some goatskin wraps, which Pietro had bought for us in the marketplace. The farewell banquet, hospitably given to us by our host, M. Dorliac, was a melancholy affair. We were tired, and had nothing to say to one another, because our minds were all filled with the same thought, and our hearts harboured the same impatience. We were about to leave Kalgan, and with it all contact with civilisation.

Camping in Mongolia had its pleasures of uniqueness and its disadvantages in actuality. For considerations of practical concern as well as the propitiation of the natives, many of the provisions that had been carried were early jettisoned to some who helped, while the mudguards were sacrificed for a pail of water and a pickaxe exchanged for eggs. Altogether a system of barter was arranged which delighted the Mongolians and assisted the foreigners. Efforts such as that lightened the car and enabled a speed equivalent to the British legal limit to be obtained as far as Tong-kiong, in the Gobi desert, where a telegraph office was found. It had been established six years, and sent off its first message to the outer world on the day the motorists arrived. The nearest town is at Kalgan, 200 miles away. Urga is 500 miles. Before the telegraph clerk can reach the haunts of men he has to travel for a week from well to well. He merely transmits the messages from St. Petersburg, London and Tokio. For six years no telegram had been sent off from that station, which had been established because the distances were too great and there is need of these intermediate stages. From thence the intrepid motorists went across the Gobi desert; forded a tributary of the Iro with the assistance of Mongolians before reaching the Russian frontier; enjoyed the hospitality of Siberia—the first halt there being at Kiahhta, a village of millionaires living in little timber houses who might have a palace in Moscow or in St. Petersburg if they so wished.

The journey through Siberia is described with a graphic pen and the travellers' impressions of Russia are as interesting as any other portion of the volume of over 600 pages—one of the



Crossing a Bridge over the Hun-Ho.

most exciting books of travel published] this century. Photographs, some of which we are able to reproduce by courtesy of the publisher, Mr. L. Grant Richards, increase the interest of the book. The ending is characteristic of the dramatic note.

Taken all in all, "Pekin to Paris" is one of the best books descriptive of a motor journey we have read—not only for the unique story that is told, but for the delightful way it is related.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

SOME USEFUL SEASONABLE HINTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—During Christmas time there will be an enormous amount of motoring and using of motor-cars. There are one or two points to the credit of the motor-car that are well worth keeping in mind, and the most important of these is the fact that a modern car weighing complete with passengers one ton can transport five people at a cost of a shade under 1½d. for each mile covered. The cost per mile, on the other hand, of a first class railway journey works out at nearly 9d. per mile for five people, and this cost, although being more than four times as much as that of the motor-car journey, does not offer the extraordinary convenience of the latter form of transport, which is, after all, tantamount to employing special trains to go where you wish. One needs to work out these figures to thoroughly appreciate how great the financial advantage is in favour of motor-cars.

Take the original cost of a car as £700, and allow for depreciation at the rate of 25 per cent. per annum for four years, and assuming that the car has been run 10,000 miles in the year, then even when allowing the enormous sum for depreciation such depreciation adds less than 2d. per mile to the cost of running; this then brings up the cost of motor-car

time under altered conditions. The temperature of water standing in the open at the time these tests were made was 37 deg. Fahrenheit, but the comparison given shows very clearly the number of hours during which heat can be retained in the engine and radiator, and freezing obviated if the bonnet and radiator be properly covered up. Trusting these hints may be useful for Christmas.—Yours truly,

S. F. EDGE.

MOTOR-CAR THIEVES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Would you kindly warn all proprietors of motor garages and those dealing in accessories against buying from strangers odd tyres, lamps, &c. I have during the last few weeks heard of four separate thefts which appear to be the work of some gang operating in London. In the first case a Stepney wheel with tyre was cut from a taxicab; in the second case a spare tube was taken out of the back of a car; in the third case a spare cover in a waterproof case was cut from a doctor's car while standing outside his house; and the fourth case, which has the merit of having a humorous side, was the clever theft of a large acetylene head light. A car was standing outside a house at night and



The Navy Employment Agency Motor and Training School at Portsmouth.—Lieut. Dains, R.N., and his staff together with some of the men who have passed through the course of instruction. [Silk, Portsmouth.]

travel to half that of a corresponding number of train journeys, and in the latter case a very considerable further sum must be allowed for conveyances at each end of the railway journey. I think it may safely be said to-day, when calculating on this basis, that the motor-car is the cheapest form of conveyance.

A most important point to bear in mind during the festive season is the number of social gatherings at which many motor-cars are sure to be collected after bringing the guests; there will certainly be a lack of accommodation, and many of these cars will have to be left out in the open, probably in frosty weather. It is well worth remembering that the addition of 20 per cent. of common commercial glycerine to the circulating water will prevent the freezing of this save under most exceptional circumstances. Another point should be remembered if it is desired to keep the engine at a reasonable temperature and to keep the water from freezing when the car is left in an exposed place, and this is to cover the engine bonnet and radiator with a large rug. I have had some tests made with a six-cylinder Napier to ascertain the exact advantage of covering up the radiator and bonnet. The tests were as follows:—The water in the radiator was raised to a temperature of 165 deg. Fahrenheit by running the engine, and then the radiator and bonnet were covered with a rug and the car was left standing three hours, at the end of which time the temperature of the water was again taken and was found to have only lost 8 degrees of heat—that is, the water remained at 157 degrees. During the same period of time when the car had been left uncovered by a rug, the water had already fallen to 112 degrees, showing a loss of 53 degrees of heat in a corresponding

a stranger informed the chauffeur that his tail lamp was out. The chauffeur, cordially thanking the stranger for the information, went to the back of the car, and proceeded to light the tail lamp. While thus engaged the thief calmly took off the large valuable headlight and disappeared. It is reasonable to suppose that these thefts are connected with one another, and no doubt there are dozens of the same sort, of which I have not heard. They would appear to be the work of a gang, presumably using a cab or some other means of conveyance to quickly remove the stolen goods. If all dealers in motor accessories would refuse to buy from unknown people the motive for the robberies would disappear.—Yours truly,

J. E. HUTTON.

MOTOR-CAR AMONG HOUNDS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—On the evening of Wednesday, December 18th, about 6.20, as the Craven Hounds were being brought home to the Walcot Kennels, Hungerford, after hunting, a motor-car dashed through the pack at a point on the Bath road between Benham cross-roads and the Half Way Inn, killing one bound and crippling three others. No hooter was sounded, and no sort of warning was given to those in attendance of the approach of the car, which came up from behind, travelling at a tremendous pace. The driver made no attempt to stop, although he must have known that he had run through the middle of the pack. We had scarcely time to get the hounds to one side of the road before

another car was upon us. I and the second whip rode back towards it, shouted, and held up our arms to signal to the driver to stop, but it was no use. On the fiend tore, and had hounds not been close into the fence he would have been over the top of them as well. I may add that there were four of us in pink coats with hounds. The night was fine, no rain or fog, and the light was quite good enough to distinguish one hound from another, so that this dastardly behaviour cannot for one moment be looked upon as an accident.

I will be grateful if you will find room in your columns for this letter, in hopes that some clue may be forthcoming which will establish the identity of the offenders.—Yours truly,

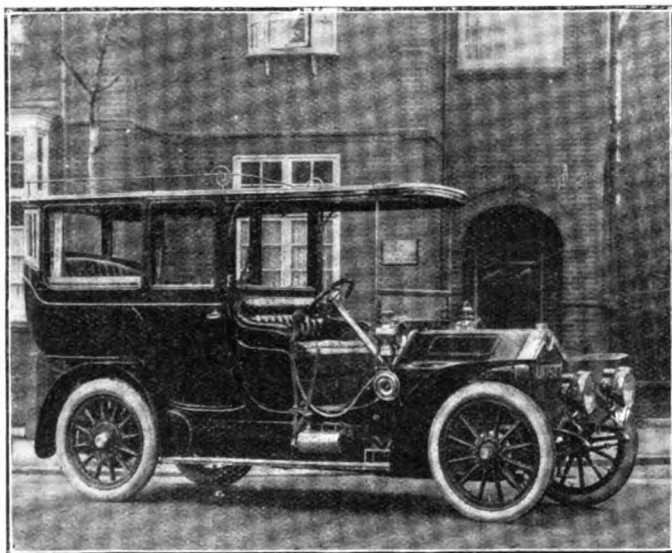
W. J. YORKE SCARLETT.
Master of Craven Hounds.

MOTOR-CAB ACCIDENT.—DRIVER WANTED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It has been reported to the Motor Union that the driver of a motor-cab collided with a cyclist at the corner of Park Street, in Oxford Street, on October 17th last. It is alleged that the driver, instead of stopping to see whether the cyclist was hurt or had suffered damage, put on speed and drove away down Park Street.

The Motor Union, in order to emphasise its condemnation of the driver of any vehicle who fails to stop when involved in an accident (whether he is responsible for such accident or not), is prepared to pay



The 40-h.p. Crossley Limousine supplied by Messrs. Jarrott and Letts to the Marquis of Northampton for the use of H.R.H. the Prince and Princess of Wales during their stay at Castle Ashby.

a reward of £5 to any person who will give such information as will lead to the identification of the driver of the motor-cab in question. Yours

W. REES JEFFREYS (Secretary).

LOW TENSION MAGNETO TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Seeing in the last number of the *M.C.J.* a query by a correspondent who signs himself "Frank" in regard to a magneto trouble on a Richard-Brasier car, I would like, with your kind permission, to offer a probable solution. I had exactly the same trouble myself and it took some time to find the cause. It was No. 1 cylinder in my case that would not fire, and ultimately I found that the trip rod on No. 3 was just making contact when No. 1 should be firing, thereby causing the current to short, which would be the quickest path to earth, and yet we could get each cylinder to fire separately. I could write more on the cause, &c., but think the above will answer the purpose.—Hoping this will prove useful, I remain, yours truly,

E. T. WATTS

THE DESIGN OF INDUCTION PIPES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was much interested in the article on the above subject in a recent issue of the *M.C.J.* At first sight the arrangement of an inlet pipe appears to be a simple problem, but one of the most difficult matters in multi-cylinder motor construction is to supply all the cylinders with a uniform quality and quantity of mixture. The difficulty lies in the desirability if not necessity of using a single carburettor, for a number of cylinders. Air is wonderfully elastic and appears to resent being battered about from pillar to post—from one cylinder to another. Take the T-shaped pipe as used on many four-

cylinder engines. The rule for firing is to start, say, at No. 1, jump to No. 3, next to No. 4, then return to No. 2. Now when the motor is running at, say, 1,200 revolutions and No. 1 draws in a charge the gas reaches a speed approximately of sixty miles an hour towards the front of the motor through the forward branch of the T. No. 3 follows and finds it necessary not only to start the gas at this rate in the opposite direction towards the rear of the motor, but to overcome the impact of the gases going towards No. 1. By the time No. 3 has got the mixture well started in its direction its inlet valve has closed, less than one-fortieth of a second having elapsed. The inlet in cylinder No. 4 opens just in time to receive the gases accelerated by No. 3, and together with its natural suction is well filled. No. 2 then opens and meets with the same resistance from No. 4 that No. 3 met with from No. 1. The result is both No. 2 and No. 3 are partially starved. Their explosions are weaker at high speed than those of the end cylinders. In order to get them to fire at all the carburettor is called upon to furnish a richer mixture than is necessary or advantageous for No. 2 and No. 4. This not only lowers the efficiency of the motor but causes it to consume more fuel than if all cylinders were supplied with a uniform charge. The engine balance is also affected by the lack of uniformity of power developed by the various cylinders. There are a few manufacturers who have endeavoured to overcome this unevenness through various devices and constructions, the description of which is somewhat out of my province. It is satisfactory, however, to find that designers are realising more and more the necessity of uniformity in this direction.—Yours truly,

W. T. DUTTON.

AN OPTICAL ILLUSION?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR—I have often noticed the momentary hesitation in the running of motor-car and bus wheels, but, taking it for granted that everyone knew all about it, I never troubled to comment upon the matter. It, however, is interesting. I cannot imagine the two diametrically opposite spokes of any wheel being a lever of "the second order," as, although the ground is the fulcrum, the power is applied at the centre and not from the top of the wheel, which would make it a lever of second order. I am of opinion that this hesitation in the revolutions of the wheels actually occurs, but not in the manner described in a recent issue, where mention is made that the top spokes are travelling faster than the bottom ones. I have heard this before and I do not agree with it. The top of the tyre travels faster than the bottom owing to the weight deflection of the lower portion.

The effect is due, I believe, to an uneven torque, the contour of the road and the slight lateral swaying of the car contributing to a small but evident action of the differential gear, which is magnified by the spokes of the wheel. It is peculiar that this is not apparent in horse-drawn vehicles, nor even in a car when it is rolling along. But a real optical illusion may be witnessed if you stand well behind some ordinary vertical railings and look through them; it will be observed that when a car is running forward all the wheels will appear to be going backwards in the most uniform manner, and an eerie skidding feeling creeps over you if you happen to see it quickly without looking for it.—Yours truly,

HERBERT J. CHAPMAN.

AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be very pleased if you could tell me the reason why petrol is pumped into the cylinders of my 10-h.p. Brooke car. The spirit is forced to the carburettor by an air pump operated by foot pedal. I find that I get no air to mix with it. Do you think it would be the needle valve which is worn out, as, when I start pumping, the petrol passes the valve if I hold it down tight.—Yours truly,

CHARLES HART.

[This car, which should be described as a 12-h.p. Brooke car, is an old model, not made by the firm since 1904, and has three cylinders. Messrs Brooke and Co., Ltd., have always favoured pressure feed to the petrol, but whereas in the old model possessed by our correspondent the pressure was kept up by an air pump connected to the accelerator pedal, so that each time this pedal was pressed a certain amount of air was pumped to the petrol tank, a safety valve being fitted to prevent excess of pressure, in the present Brooke cars the pressure is kept up from the exhaust in the same manner as adopted by other makers. The air-pump system worked very well, but as the plunger of the pump was over 2 in. diameter, it required occasional attention, which was more than some customers were disposed to give. We think our querist's trouble is due, as he suggests, to some fault in the needle valve, as, of course, petrol should not be able to pass by when it is held down. It is possible, also, that the safety valve is stuck up, or set at too great a pressure. We should also advise having the air-pump itself thoroughly overhauled.]

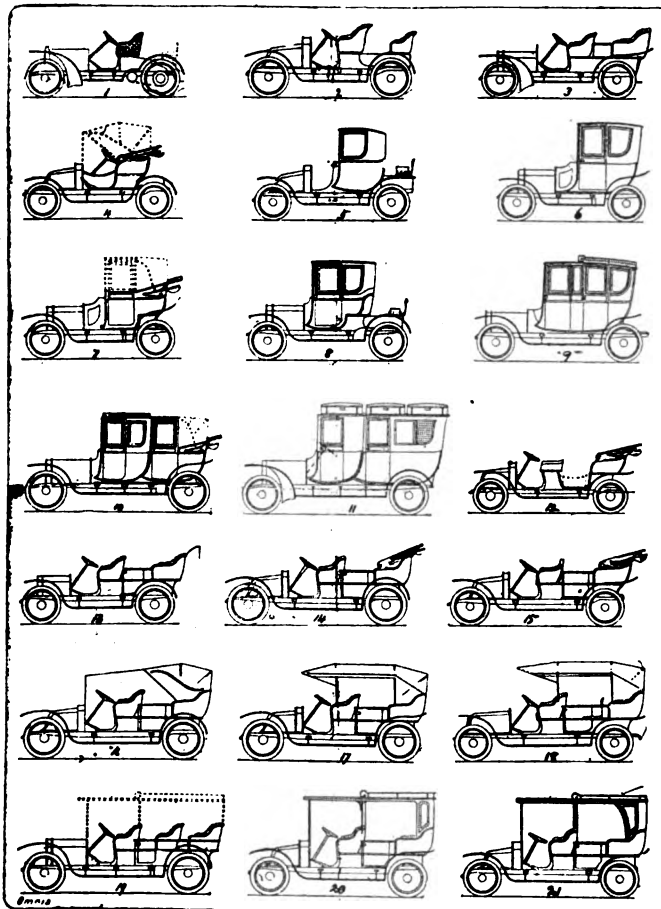
RELIABILITY OF MAGNETOS.—"A. W. R." writes:—"I should be glad if those motorists using magneto ignition, either high or low-tension, would give their experience of the same, and state the longest distance they have run without it being necessary to adjust the machines in any way."

A GUIDE TO MOTOR-CAR BODIES.

THE range of car bodies has been so greatly extended during the last few years that the accompanying illustrations will be of value and interest. The types represented in the sketches are very complete, covering practically the whole range of coach building design for motor-cars. It will be interesting to review these individually, noting the points with regard to each type.

The designs are French, embodying the styles of the most notable Parisian builders.

1. This is a two-seater or racing type, suitable for testing purposes, or is preferred for general use by many motorists who desire to keep their cars exclusively for their own use, and not to entertain their friends. It is built very lightly and is so constructed that the panels of the seats are made with a wire mesh, every point to ensure extreme lightness being considered. A small extra seat for mechanic's use is shown at the back; this is of such a nature that it can be completely collapsed and made to retire into the rear back box or tool and tyre carrying space.



2. This sketch represents a more elaborate and graceful design with the same ends in view; the rear seat in this case is more of a permanent fixture, inasmuch as it does not fold into the locker.

3. An ordinary tonneau with back entrance, or it can be arranged so that the front seat should swing or revolve to allow of ingress to the car.

4. Here is a small Victoria type body to seat two, fitted with a folding hood, either leather or canvas covered, with a glass screen to the front, arranged so that the top of the hood should meet the screen. This is a type very much in favour amongst country doctors, providing as it does a carriage neat and high class in appearance, yet light on tyres, and not necessitating a large horse-power and petrol consumption, thus keeping the cost of upkeep at a price within the limits of the daily use of a country medico.

5. Is an enclosed coupe, which allows for being driven from the inside, and is fitted with an extra seat for mechanic's or personal use. This also is a type very much in favour by doctors.

6. Represents a more elaborate design with the same end in view. It will be seen that the steering wheel and lubricator are entirely cased in; no particular object is achieved here except that of novelty in design and appearance.

7. Represents a single landaulet with the front cased in in the same manner.

8. Is a completely enclosed coupe, which allows of driving from inside.

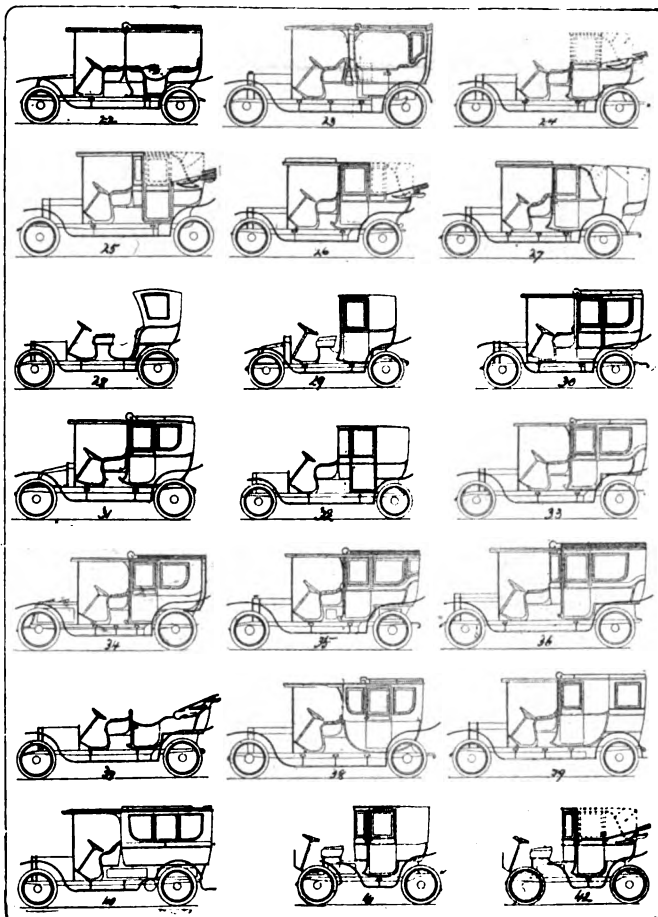
9. Here we have a novel design of a double coupe, with the front completely enclosed. The lines of this are carried out in the style of an old posting coach, which is a design that lends itself to a very graceful appearance, taking away the rigidity of straight lines, which, in a covered body on a similar car, tend to destroy the harmonious appearance of the whole.

It will be seen that other types are similarly protected in the front; this arrangement is more in vogue across the water than here, the *raison d'être* is that it allows the owner of the car to drive or occupy the front seats without loss of dignity, and also to be completely sheltered from the weather.

10. Is a variation on these lines, the rear part being made in landaulet style.

11. This embodies the same idea, the rear of the carriage being expressly designed for long touring purposes in sunny climates.

12. Here we again return to a small park or town type, this being practically a Victoria. The usual objection to a Victoria type body,



namely, that the occupants of the back of the car suffer from an extreme draught blowing in behind the driving seats, has been overcome by the substitution of wind doors as indicated by the dotted lines.

13. We again have a graceful phaeton with side-entrance, otherwise similar design to No. 3.

14. This shows the ever popular Roi des Belges, fitted with a hood to the rear. This type is again shown in No. 16, with the rear hood up, and an extension blind or curtain is carried from the front of the rear hood to the top of the glass screen in front of the driver. This is a very convenient method of protecting the front seat but has a strong objection against it in regard to appearance.

15. This is a Victoria type of side-entrance body.

17. Indicates the Roi des Belges type phaeton fitted with a useful double extension hood.

18. Is an extended type of the same body made to seat two extra persons, a folding or collapsing armchair being placed forward of the rear seats.

19. Is a type that may be aptly described as a "triple phaeton," seating seven persons including driver; the extra inside seats in this case are not of a collapsible or folding form, but are built in as part of the original construction of the body. To obtain this effect a very long chassis is necessary, and the side entrance door has to be limited in size. On the other hand, a very comfortable seating space is arrived at for the extra passengers.

20. Here we have a handsome phaeton of Roi des Belges design, fitted with a canopy. This canopy has a large panel at the rear, brought round the elbow, practically converting the car into a semi-limousine; in fact, this type of body is frequently described in this manner.

21. Is a variation of the same, the rear panel being of cab shape.

22. Is a type that is very rare, and not likely to be in great demand; in fact, probably this design was created to the special requirements or pattern of one particular customer. It will be seen that the occupants of the rear or end part of the car are able to sit vis-a-vis in the same style as a landau. This again requires good length of chassis.

23. Is a limousine with removable sides. This type of body allows great range of possibility in regard to the manner of usage, combining as it does a canopied car, a semi-limousine and a full limousine. It should be very carefully constructed in order to obviate rattling owing to the numerous movable parts involved.

No 24. Is a single landaulet of a standard type, made to entirely fold down to enable the car to be used as a closed town carriage or a country vehicle.

25. Is a double landaulet the front of which is fixed, extra seats being arranged in the space between the driver's seat and the side door.

26. Illustrates a limousine landaulet. This design of carriage came into vogue about three years ago, since when it has gained ever

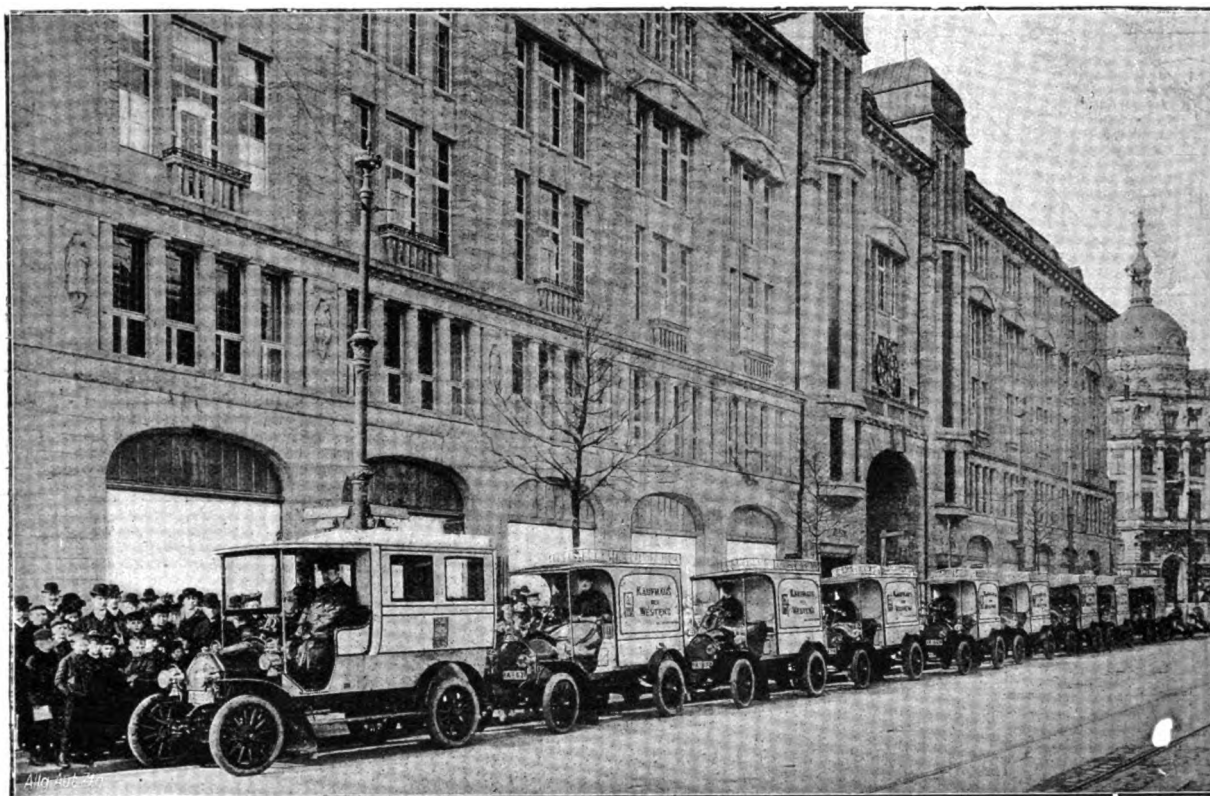
39. Shows an enclosed coupé with an extra continuation to back for luggage and servants, very suitable for long touring where the owner of the car wishes to carry a retinue of personal attendants conveniently.

40. Gives a large station or estate omnibus.

41 and 42. Are respectively coupe and landaulet types for electric vehicles, being purely town carriages.

THE STORAGE OF PETROL.

THE Gainsborough magistrates were occupied on the 17th inst. in hearing a charge against Edwin Baines, motor-car manufacturer, of obstructing Superintendent Wilkinson, the Gainsborough Council's Inspector under the Petroleum Act, in the execution of his duty. It was stated that Superintendent Wilkinson had seized 200 gallons of petrol, which the British Petroleum Company, who had no licence, had deposited upon Mr. Baines's premises. He left it in a motor-shed upon the premises, and Mr. Baines, asking to be allowed to use the shed, was allowed to have the key. When, however, Superintendent Wilkinson went later to fetch the petrol away he was informed by Mr. Baines that it had been sold by him. Mr. Tweed, for the defendant, pleaded a denial of knowledge that the petrol had been seized. The Chairman (Mr



The Fleet of N.A.G. Delivery Vans belonging to the "Kaufhaus des Westens," one of the large general supply stores in Berlin.

increasing popularity amongst motorists, especially in this country, its advantage being that it enables a large and commodious carriage to be built in the limousine style, and yet can be easily equipped and converted to a completely open carriage.

27. Shows a single-landaulet with an arrangement at the back for seating a servant.

No. 28. Is a cab type, carried out on the familiar lines of a London hansom.

29. Shows a smart coupé, a type of carriage which, while not greatly used for motor-car work, yet has many advantages, particularly lending itself to a smart and neat appearance; in fact, it is from this type of body that the limousine has been evolved, the limousine being practically nothing more or less than a large coupé.

30, 31, 33, 34, 35, and 36. We have variations of the limousine. This vehicle is coming more and more into daily use amongst motorists, especially on the Continent. It is one that lends itself admirably to luxurious equipment and fitting, while the occupants are well protected from the weather. It is true that it is always closed, but if made with large windows, which in their turn are made to open, almost the same advantages are gained as with a canopied car, with the advantage of greater comfort and equipment.

32. Is a cab type made to seat four.

37. We have a further variation of the phaeton.

38. Represents a "Berline"—a very unusual type of body, it being carried out on the lines of a stage coach.

Embleton Fox) said the magistrates fined the defendant £10, including costs.

The British Petroleum Company were charged at the instance of the Urban Council with storing fifty gallons of petrol upon Mr. Baines's premises without holding the licence necessary under the Petroleum Act of 1871. The point at issue was whether the licence held by Mr. Baines covered the defendant company. Mr. Dwyer's contention on behalf of the company was that Mr. Baines was not prohibited under the Act from storing for other people, provided the premises were licensed, and the quantity stored was not greater than stipulated. The Chairman (Mr. Embleton Fox) asked if the point had ever been settled, and Mr. Dwyer replied in the negative. The Chairman said the Bench were against Mr. Dwyer, and they should find that the company did occupy the premises without having a licence, and consequently they would have to inflict a fine. They would, however, go into the matter very thoroughly, and would give their judgment in January, and would also state a case if Mr. Dwyer asked for it.

MESSRS. CLEMENT-TALBOT, LTD., have been awarded by the jury of the New Zealand International Exhibition a special diploma in addition to the ordinary gold medal for the excellent collective exhibit of Talbot cars. When it is stated that this is the highest award that can possibly be obtained in any one section, the merits of these popular cars will be readily appreciated.

SOME NOTES ON SKIDDING.

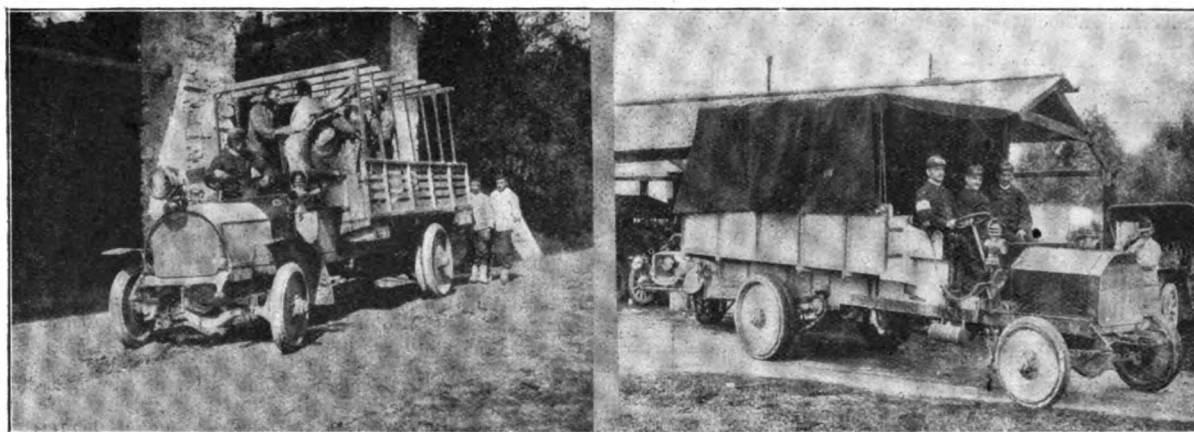
In motor parlance the carburettor has truly been called the heart of the car, but the tyres are in reality the foundation of automobile success and perfection, and play as important a part in the complete machine as the engine itself. It is on the foundation of the tyres that the pleasures and troubles of motoring rest, and on the tyres also depend the safety and the lives of all who drive high-powered cars. Carrying the weight of the vehicle, cushioning all the shocks from rough and uneven roads, bearing the wear and tear incident to travel, and at the same time applying the power transmitted by the motor and giving the car its life—the tyres play a most important part in the successful automobile.

Since the birth of the industry tyre troubles have been the bugbear of motor touring; but even more troublesome and dangerous than these has been the side slip or skidding that has caused no end of collisions and accidents, and has in many cases resulted in injury to the machine and its occupants. When the terrific strains to be met with are considered it is little short of wonderful that the "wind bags" of rubber and canvas can perform the great task imposed upon them. But all these difficulties have been overcome, and tyre manufacturers to-day are bending their thoughts to the question of the prevention of skidding and side slip.

In large cities, particularly where the water-cart turns the dust of the roads into a mass of slippery mud, skidding becomes most dangerous. Every driver of an automobile has experienced the sensation, has felt his car fail to respond to the brakes as the rear wheels locked and slid along over the muddy pavement; has felt the machine swerve to right or left, and oftentimes turn completely around, entirely out of his control, a wild thing for the time being, and he has been helpless to

An interesting form of non-skid and anti-slipping tread consists of a rubber tread, moulded with round rubber studs projecting from it at close intervals. It is claimed for this tyre that the studs render the tread free from side slips under all conditions and increase the tractive power on muddy and slippery roads. It is asserted that the tyre is to a great extent immune from punctures, and that the studs of rubber have a cushioning effect and make the car ride easier. Many experiments have been made with metal plates imbedded in the rubber of the tyres, but these have not met with much success. One of the greatest objections is that they are more destructive to the rubber than the road is, and that the immunity from punctures and skids afforded is more than outweighed by the other disadvantages. Another and rather popular form of non-skid device is that of ordinary chains so arranged as to fasten over the rear tyres at intervals of about 6 in. These give greater tractive force, and also prevent the rear wheels from skidding. In deep mud they are invaluable. They are easily attached and taken off the wheels, and are arranged with the under part of the chain flattened so that they are not destructive to the rubber of the covers. The main objection to these is that they break at times and are likely to be thrown into the driving chains or machinery, revolve and cause trouble there. There are a great many steel and leather coats of mail on the market, both of the detachable and vulcanized tyres. It rests largely with the driver of a car to decide which most nearly meets his needs. Generally speaking, a tyre fitted with a detachable non-skid cover or device is the more desirable for use on long tours, for the reason that it can be conveniently carried and adjusted when occasion demands, and will give correspondingly longer service without depriving the owner of the car of the pleasure of riding on real rubber next the roads.

To the drivers of automobiles generally it is timely to state that the



Two of the Motor-Lorries used in the recent Military Manœuvres in Italy.

stop it. Let the car under good headway begin to skid, either on city streets, country roads, or hills slippery with mud, and there is any amount of trouble ahead. Collisions, overturning, and even death may result, and the driver is powerless to avert the calamity. The machine is in every sense of the word a runaway, and there is nothing to do but sit still and wait, hoping for the best.

It is with a realization of this fact that tyre manufacturers have gone ahead to invent non-skid appliances, and a large number of such devices are now on the market. Pre-eminent among the non-skid devices that have become popular is a leather tyre which is claimed to be non-skidding and puncture-proof. This tyre consists of a heavy leather cover vulcanized on the outside of an ordinary outer cover. Within this there is an intermediate course of leather, and on the top of the whole a heavy leather tread thickly studded with short steel studs. These in slippery weather give an additional traction, and, it is claimed, cut through the light top coating of mud on the roads and get a firm grip, thus preventing side slip or skidding, as well as the consequent loss of power. There are also ordinary leather covers studded with steel non-skid studs, the entire cover being fastened over the rubber tyre with a patent device which makes it easily detachable. The idea is that the non-skid cover may be used in wet weather and removed on fair days, as many claim that the steel tread tyres take more power to drive and also deprive the rubber tyre of its resiliency.

In the use of tyres of this sort the question as to whether it is better to equip both rear wheels with the non-skids, or one rear wheel and one front wheel on opposite sides of the car is a debatable one. Many drivers follow this latter course, claiming that in many cases upon attempting to turn corners on slippery asphalt the front wheels have skidded and the car had become unmanageable, despite the fact that the non-skid tyres on the rear wheels were holding. In this case, however, they simply acted as a brake. Some few cars are equipped with non-skid tyres on all four wheels, but there is, remarks Mr. H. B. Haines, a well-known authority, no particular advantage in this.

question of skidding is one not to be allowed to go unconsidered. Every part of a car may be in good condition, but if the tyres skid when the machine is travelling at high speed the results may be extremely serious. To the driver who finds his car skidding and beyond his control there are very few suggestions to be made. "The best thing to do" in all probability would not be the same in any two cases. The road conditions, the contour of the country, and the conditions of traffic would all alter cases. The ordinary small skid on a slippery road may be overcome by turning the steering wheels in the opposite direction from that which the back wheels are trying to follow, and then, as the car straightens up and starts to skid the other way, to swing them back again, and so continue until the machine steadies. Apart from the skids which sometimes occur in descending a steep hill on muddy roads, those most often met with occur on the city streets after a rain storm of short duration or the passage of a sprinkling cart. The skid is usually met with in attempting to turn a corner or when the brakes are applied. What its results will be cannot be foretold. In most cases it is more advisable to take a close chance in slipping past the various vehicles encountered than to take the risk of applying the brakes hard on slippery roads. A skid may be prevented by applying the brakes quickly and then releasing them and applying them again, overcoming each small skid with the steering wheels. The best method is to go straight ahead as far as possible, gradually slackening the speed of the car and avoiding sharp swerves right or left or turning corners. Ordinarily the car will not skid, even at high speed, on a slippery road as long as a straight course is followed, but the moment a turn is encountered or the brakes are applied the trouble begins.

NAZZARO, the well-known driver of Fiat racing cars, has written to the Coventry Chain Company stating that since 1905 he has always made use of the Coventry chain for racing as well as for touring, and that he has never experienced the slightest inconvenience or mishap.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

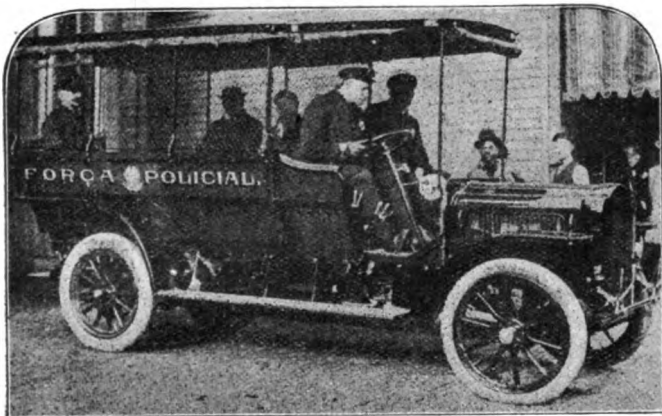
THE agreement between the R.A.C. and the M.U. having been determined the Club has forwarded a scheme of association to the provincial clubs and kindred institutions for their consideration. Suggestions for the improvement of the scheme are invited. All such suggestions will be taken into consideration at the next meeting of the General Committee of the R.A.C., on which committee all the associated bodies will have representation in accordance with their numerical strength.

Should this scheme meet with approval, the intention is, as far as possible, to decentralise, with the object of throwing more responsibility for local work upon the provincial clubs.

THE R.A.C. AND M.U.

LAST week the terms of the separation between the Royal A.C. and the Motor Union were mutually agreed upon. The agreement will now cease on December 31st, the Club paying the Union £850 in respect of financial obligations from which the two organisations mutually release each other. A joint notice is to be issued to the affiliated clubs informing them that they are at liberty to cancel their affiliation any time before January 31st, 1908; but in the case of those clubs which do not cancel their existing affiliation agreement with either body, a joint notice will be issued in February terminating such agreement on the last day of 1908. The Club and Union will continue to discharge their respective duties and obligations to such affiliated clubs which decide not to interfere with their existing agreement during 1908.

The Club has decided upon a scheme for association by which associated clubs or institutions will pay an annual capitation fee of 5s. per member, or individual associates a subscription of one guinea per year.



One of the three Steam Motor Patrol Wagons recently supplied by the White Company to the Police Department of Rio de Janeiro, Brazil. The vehicles are built on the standard 30-h.p. chassis, the bodies, which are built in accordance with specifications furnished by the Brazilian Government, having accommodation for from thirteen to fifteen persons.

MOTOR UNION.

THE expenditure in connection with the legal and legislative fund of the Motor Union since the beginning of the year has been £428.

AFTER consultation with the Liverpool and Cheshire Motor Clubs the Motor Union is endeavouring to secure a Sunday service for the motor-car traffic across the Mersey. The Birkenhead Corporation maintain a seven days' passenger service and the motor traffic seems to demand recognition from the authorities.

AUTOMOBILE ASSOCIATION.

THE patrols of the A.A. were not on duty on Christmas Day, the committee having granted leave of absence to each man. They were, however, out in force on Boxing Day and saved many a victim of police traps.

The Earl of Donoughmore, the Hon. Mrs. Vivian, and Sir W. H. Holland, Bart., were among the ninety-four members elected to the Automobile Association at the last meeting of the committee.

THE INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

At the last meeting of the Council of the Institution the following were elected members of the Institution:—Messrs. J. H. James (London), M. R. Lawrence (Crayford), G. D. Flather (Sheffield), D. H. Simpson (Manchester), F. R. Simms (London), A. C. Instone (London), Claude Crompton (Chelmsford)

THE AUTO-CYCLE UNION.

WITH regard to the Auto-Cycle Union, of which Mr. F. Straight is the secretary, and which has offices at 18, Down Street, Piccadilly, W., the following clubs are already affiliated:—Birmingham Motor Cycle; Black Prince Motor Cycle; Bocardo Motor Cycle; 'Bohemian Motor Cycle'; Brighton Cyclists; Bristol Bicycle and Motor; Cardiff Motor; Chatham and District Motor; Cheltenham and District Motor; Durham and District Motor Cycle; Essex Motor; Great Yarmouth and District Motor; Hartlepool and District Motor Cycle; Hull Auto Cycle; Lancashire Motor Cycle; Lewisham Automobile; Lincolnshire Motor Cycle; Manchester Motor; Motor Cycling; Newcastle and District Motor; North-West London Motor; Richmond and District Motor Cycle; Rotherham Automobile; Royal Albert Motor Cycle; Southend and District Motor; South-West Ham Rovers' Motor and Cycling; St. Helen's and District Motor Cycle; Stratford-on-Avon and District Motor Cycle; Walthamstow Motor; Western District Motor Cycle; West Essex Automobile; Wigan Wednesday Motor; and Woolwich, Plumstead, and District Motor.

BEDFORDSHIRE.

SUPPLEMENTING the report of the Bedfordshire A.C. in our last issue we may mention that it has 102 members out of 812 owners of cars registered in the county. Mr. E. W. Hart, of Luton, has been elected on the committee. At the annual dinner Mr. Percy Barlow, M.P., said he did not believe in the speed limit. Mr. W. H. Leete, the County Surveyor, showed a sample of dustless road taken from the Clapham road and observed the cost of that was not more than ordinary macadam, though it had a much longer life. He further said that the County Council Highways Committee had authorised him, where owners would not cut down hedges that obscured the view, to do so, and he was doing it where necessary.

BRADFORD.

THERE were about forty members of the Bradford A.C. at the Great Northern Victoria Hotel, Bradford, recently, when Professor Charnock, of the Bradford Technical College, gave an interesting lecture on magneto ignition. Mr. G. H. Kent presided.

Commencing with some of the classical experiments in induction due to the celebrated Faraday, the lecturer led up to the principles underlying the construction of the ordinary induction coil, and proceeded to give examples of its application for the purpose of igniting the charge of a motor-car engine. Special reference was made to the new Lodge igniter, a specimen which had been given to the Technical College by Sir Oliver Lodge as a memento of his recent visit being shown by Professor Charnock. Its certainty of action was demonstrated by several experiments, a notable one being the complete immersion of the sparking plugs in water, as was done at the motor show in London. The troubles incidental to the storage of electricity in the ordinary accumulator were alluded to, and it was shown that the magneto machine presented a solution of the difficulty. Several experiments were given to illustrate the principle of the magneto, and a number of recent examples were shown at work. With one of these it was possible to start the machine from the dashboard without first putting the engine in motion, this being effected by a free-wheel device attached to the spindle of the magneto. The lecture was illustrated by a number of working models, blackboard sketches and limelight views, and at the close Professor Charnock was accorded a vote of thanks.

HUDDERSFIELD.

THE annual meeting of the Huddersfield branch of the Yorkshire Automobile Club was held at the George Hotel, Huddersfield, last week. Ald. W. H. Jessop (the president) presided.

Mr. E. Gordon Learoyd (hon. secretary) read the report and balance-sheet, which showed the membership now totalled 157, an increase of forty-two on last year. There was a balance in hand of £45.

The following officials were appointed for the ensuing year:—President, Ald. W. H. Jessop; vice-presidents, Messrs. F. W. Bentley, H. Broadbent, D. Stoner Crowther, A. Dawson, H. Dickinson, E. Hoyle, R. V. Middlemost, Charles Sykes, and W. E. Wimpenny; chairman of committees, Mr. Arthur Dawson; secretary and treasurer, Mr. E. Gordon Learoyd; auditors, Messrs. E. Lawton and J. D. Simpson; and representatives on Yorkshire Automobile Club Committee, Messrs. Fred. Sutcliffe and E. Gordon Learoyd.

MIDLAND.

THE seventh annual report of the Midland Automobile Club records the membership on October 31st at 272, and notes with pleasure that there has been no application during the year in any part of the Midland counties for special speed limits. The report gives a summary of the various club events during 1907, and draws the attention of the members to the fact that the club premises have been very little used during the year. The income from subscriptions shows an increase of £39 and a profit of £34 on the hill climb at Shelsley Walsh.

Mr. W. Ballin Hinde presided at the annual meeting, after which the members adjourned to dinner, at which nearly forty were present. An interesting discussion took place with regard to the fixtures and entertainments for the ensuing season.

WELSH.

The strength of the Welsh A.C. has been considerably increased during the year. The membership is now 137, and in the course of a few days will be still further increased. During 1907 the club was successful in inducing the Glamorganshire County Council to tar the Mumbles road, which work greatly benefited all users of this road, and was much appreciated by them.

The club has been presented with two valuable challenge cups, one by Capt. D. Hughes-Morgan and the other by Mr. F. Cory Yeo. The competitions were well supported by the members of the club.

A club room will be opened at the Tenby Hotel, Swansea, in the early part of the new year, at which refreshments will be obtainable and the various journals may be seen. Members of any affiliated motor clubs who may be touring in this district will be welcome visitors to the room, where they may be able to obtain the latest information as to the condition of the roads in the district. It is anticipated that during the course of the next year the club will open up new divisions in some of the outlying districts.

Competitions will be held, and it is probable that the reliability trial will be increased from one to three days.

The club has been successful in getting a number of crossings relaid and various improvements carried out to the roadways by various authorities.

DR. REID has been elected president of the Blackpool and District M.C.

MR. E. W. BISHOP, 18, St. John's Avenue, Harlesden, is taking steps to form a motor-cycle section of the Harlesden Cycling Club.

THE Burton-on-Trent M.C.C., of which Mr. A. W. Read, 119, Derby Street, Burton, is secretary, are holding a club run to Ashbourne on Boxing Day.

COMPANY NEWS.

AMELIORATED OIL COMPANY.—£50,000. Oil and petrol producers and refiners, dealers in benzol, alcohol, and spirits, &c. Two agreements between R. Wynne and B.W.P. Syndicate, Ltd. 10, Serjeants' Inn, E.C.

WHITE STAR TYRE AND RUBBER COMPANY.—£2,000.—To acquire the business of re-treading tyres recently carried on by J. O'Brien and Mrs. A. G. O'Brien at 26, Stephen Street, London, as Royal Standard Tyre and Rubber Company. 8, Bream's Buildings, E.C.

STOURBRIDGE WHEEL COMPANY.—This company has been registered with a capital of £2,500 to acquire the business of manufacturers of motor-car and other wheels carried on at 2, New Road, Stourbridge, and to carry on the business of manufacturers of and dealers in wheels, rims, and bodies for motor-cars, &c.

GEORGE ACE.—£5,000. Manufacturers, repairers, and vendors of motor-cars, &c. Agreements: (1) D. H. Morgan and (2) G. Ace and Mrs. A. Ace.

A CASE OF MANSLAUGHTER.

BEORE Mr. Justice Darling, at the Central Criminal Court, on the 18th, George Carpenter, a chauffeur, surrendered to his bail to answer an indictment charging him with the manslaughter of John Dear at Chiswick, on November 11th. Carpenter had been on duty at the Olympia Show and had to take the car home at night. He stopped at a public-house on the way, where he met two men named Dear and Barnes, and was persuaded to drive them to Brentford. The night was very foggy, and on the return journey near Gunnersbury Station the car ran into a market cart. Dear's skull was fractured and he died within a few minutes. Barnes was also seriously hurt, but subsequently recovered. Carpenter was practically unhurt. The jury, in finding him guilty, strongly recommended him to mercy. Mr. Justice Darling said in the circumstances he should pass a nominal sentence of eight days' imprisonment, to date from the commencement of the Sessions, which would involve his immediate discharge.

AUTOMOBILE ACCIDENTS.

CHARLES HILL, a Liverpool dentist, has died in the Bootle Hospital from injuries sustained in a motor-car accident. He and several friends were motoring from Liverpool to Southport, when he either fell or jumped from the car. When picked up he was unconscious.

WITHIN an hour on Sunday two motor-omnibus accidents occurred in London. A young woman was crossing the road at Whitehall when she was knocked down by a motor-omnibus and on being taken to the Westminster Hospital it was found she was dead. The other accident took place near the New Cut, where an elderly man was knocked down and taken to the hospital in a critical condition.

A SERIOUS accident occurred on Saturday at Westcliff-on-Sea to Mr. Maurice Natham, of Leigh-on-Sea, and a lady who was driving with him in his motor-car along the Leas. In trying to avoid a dog the car overturned upon its occupants. They were extricated, and Mr. Natham was taken to the hospital suffering from a dislocated shoulder and concussion of the brain. The lady was conveyed to her home in Leigh much bruised and cut about the face.

CASES UNDER THE MOTOR CAR ACT.

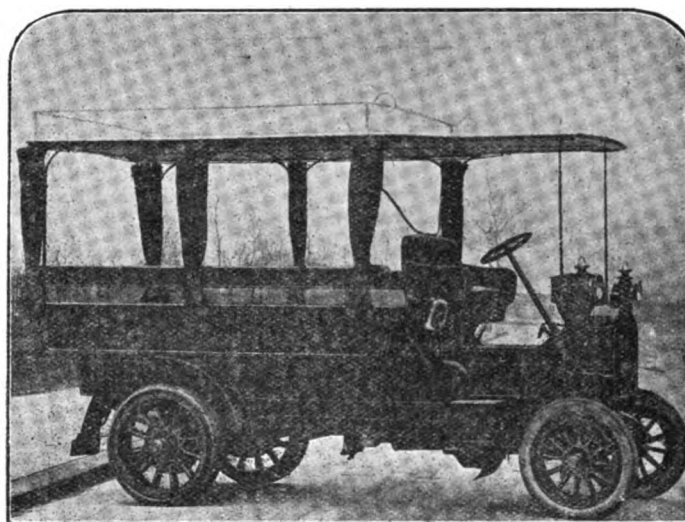
THE PRODUCTION OF LICENCES.

Sidney Mountair, of Buckingham Gate, S.W., has been summoned at Kingston for exceeding the ten-mile speed limit in Kingston and for failing to produce his licence. Mr. C. Piper, who appeared for the defendant, admitted that he had exceeded the limit, but it was under exceptional circumstances. The defendant was sent to London to bring down a doctor to his master at Molesley, who was ill, and he was naturally anxious to be as expeditious as he could. He was a man, however, who had a clean record. The Bench imposed a fine of £3 for exceeding the limit and of £1 for failing to produce the licence. Harry Percy Smith, of Fulham, was convicted of a similar offence at the same court, and as he did not attend the magistrates adjourned the summons for the production of the licence.

Theodore Allison, of Clapham Common, was summoned before the Wimbledon magistrates for driving a motor-car along Morden Road, Merton, on November 13th last, at an excessive speed, with failing to produce his licence, and with driving an unregistered car. Defendant pleaded guilty, saying he did not know the car was not registered. Police-constable Symes stated that the mark on the car was "AEC 12" and defendant was driving it at a speed equivalent to thirty miles an hour over a measured furlong. When stopped and asked to produce his licence, defendant said, "I am very sorry I have left it at home. I was not driving dangerously." Inspector J. Barnard said the mark on the car was a general identification mark of the manufacturers, a London firm. The Bench imposed a fine of £2, including costs.

IDENTITY OF DRIVER.

Messrs. J. E. Hutton (Limited) were summoned at Marlborough Street Police Court on the 20th inst. for that they, being the owners



The vehicle illustrated above is one which has recently been manufactured by the Wolseley Tool and Motor-Car Company, Ltd., and supplied to the India Office for Famine Relief Work in India.

The wagonette, which is fitted with a Siddeley 18-h.p. four-cylinder engine, has seating accommodation for fourteen passengers, the canopy being constructed to carry 10 cwt. of luggage. The Wolseley Company is supplying three motor-ambulances, constructed on similar chassis, to the War Office.

of a motor-car driven, as was alleged, in a dangerous manner at Walton-on-Thames, refused to give information as to the identity of the person driving it. Mr. Muskett prosecuted for the Commissioner of Police, and said the present case was one of public importance. Evidence was called that on October 12th a car belonging to the defendant company was driven at a furious pace along the Queen's Road, Walton-on-Thames, and that as the driver declined to stop only its number could be taken by the members of the Surrey Constabulary on the watch. Inquiries showed that the car belonged to Messrs. Hutton (Limited), but on being asked as to the name and address of the driver Mr. Hutton declined to divulge them. Mr. Mead said he should convict in this matter; but on hearing that there were two previous convictions against the defendant company at Grantham and St. Neots, adjourned the case for strict proof of them with a view to the consideration of penalties.

POLICE TRAPS.

IN consequence of the large amount of traffic on the Great North Road at Whetstone, the Commissioner of Police has given instructions for the speed of motor-cars to be closely watched.

ONE of the Form "B" Veeder Odometers, supplied to the London County Council, and fitted to a Darracq car, shows a record of 40,000 miles travel, and is still going.

FORTHCOMING EVENTS.



JANUARY, 1908.

- 1st (W.).—The Lights on Vehicles Act comes into operation in England, Wales, and Ireland.
 New Public Health Act comes into operation.
 4th-11th.—Dublin Motor Show.
 6th (M.).—Dinner of the Irish A.C. at the Gresham Hotel, Upper Sackville Street, Dublin.
 8th (W.).—Incorporated Institution of Automobile Engineers—Dr. H. S. Hele-Shaw on the Fuel Question.
 Special meeting of the Royal A.C.
 8th (W.).—First R.A.C. drivers' examination for 1908.
 9th (Th.).—Dinner of the West Essex A.C. at Seven Kings.
 11th (S.).—Annual meeting of the Lincolnshire M.C.C.
 15th (W.).—Conference of Automobile Club representatives, convened by the Motor Union, at St. Ermin's Hotel, Westminster, S.W.
 17th (F.).—Annual Dinner of the Nottinghamshire A.C. at the Victoria Station Hotel, Nottingham.
 18th-Feb. 2nd.—Automobile Exhibition at Turin.
 24th (F.).—Annual Dinner of the Scottish A.C. at Edinburgh.
 25th (S.).—Feb. 1st.—Scottish Motor Exhibition in the Waverley Market, Edinburgh.
 26th (Sun.).—Criterium de Voiturettes and Coupe de l'Exposition Trial for motor-cycles organised by the Turin A.C. and the Motor Club of Italy.
 29th (W.).—First lesson of the course to be given by Mr. R. S. Currie to the Ladies' A.C.
 31st (F.).—Annual meeting of the Blackheath A.C.

FEBRUARY.

- 1st (Sat.).—Annual meeting of the Lincolnshire A.C.
 2nd (Sun.).—Reliability Trial of the Motor Union of Western India.
 7th-15th.—Manchester Motor Show at Belle Vue.
 12th (W.).—Mr. F. W. Lancaster on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 15th (Sat.).—Auto-Cycle Union Annual Dinner.
 20th (Th.).—Meeting of the Essex M.C.
 Mr. H. R. de Salis on the Inland Waterways of England and Wales from the motor-boating point of view.
 24th (M.).—Motor Show at Bcmabay.

MARCH.

- 21st-28th.—Cordingley's Motor-Car Show at the Agricultural Hall, London.

APRIL.

Auto-Cycle Union's Tourist Trophy Race and Quarterly Trial.

MAY.

- 10th (Sun.).—Targa Florio.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

- Royal A.C. Reliability Trial for Touring Cars.
 15th-19th.—Scottish Reliability Trial.

LIGHTING-UP TIMES—LONDON.

Dec. 28th—4.54	...	30th—4.57	...	Jan. 1st—4.59	...	3rd—5.1
" 29th—4.56	...	31st—4.58	...	" 2nd—5.0	...	4th—5.2

ROAD REPORTS.

PERTSHIRE.—The Secretary for Scotland has issued orders prohibiting and restricting motor-car traffic on certain roads throughout Perthshire. In the central district traffic is prohibited on certain parts of Madderty School and Inverdunning roads; while in the western districts the prohibition extends to parts of the Glenbuckie, Stronslaney, Auchlyne, Muirlaganmore, and Glenlochay roads. Speed is restricted to ten miles an hour on several portions of the highways.

COVENTRY.—At a meeting of the City Council of Coventry the Watch Committee have recommended the erection of several danger signs in accordance with the Motor Car Act of 1903. In the course of the discussion one speaker urged that the Watch Committee should do something to secure the closing of these roadways which were not sixteen feet wide to motor traffic. Alderman Fowler in reply said that he proposed to confer with the chief constable with regard to the carrying out of the Act.

MESSRS. Etablissements Hutchinson, 13, Meddow Street, W., who are the sole concessionaires of the wood fibre non-skid in this country, have announced their intention of proceeding against anyone manufacturing, selling or using in the United Kingdom any non-skid tyres with any wood fibre device excepting only such as are supplied by them.

BUSINESS NEWS.

WE hear that Mr. Algernon Hollis, secretary to Messrs. Smith, Parfrey and Co., Ltd., has resigned his position on that company's staff. PRATT'S MOTOR SPIRIT was used by Mr. W. T. Clifford-Earp in making his recent record on the Brooklands track.

LLOYD'S are now issuing "Napier" insurance policies at reduced premiums for six-cylinder cars of that type.

THE LIVERPOOL MOTOR HOUSE, LTD., of Peters Lane, Liverpool have secured from Messrs. Clement-Talbot, Ltd., the sole agency for the sale of Talbot cars in Liverpool and district.

THE UNITED MOTOR INDUSTRIES, LTD., have appointed Messrs. Rennie and Prosser, of Mitchell Street, Glasgow, the sole agents for "Castle" accumulators in Glasgow and a radius of twenty-five miles.

THE STEPNEY SPARE MOTOR WHEEL, LTD., have supplied the motor instruction classes at the Clarence Barracks, Portsmouth, with a Stepney wheel for use on their instruction car.

THE C.A.V. ignition specialities of Messrs. C. A. Vandervell and Co. are being introduced into Canada by the Franco-American Automobile Company, of 417, Guy Street, Montreal.

MESSRS. S. MAITLAND AND CO., who are well known to motorists in connection with Lyxavon, have removed to Prospect Place, Barnsbury, N.

WITH the title "Decisions after Testing," the Star Cycle Company, Ltd., have just issued an interesting booklet giving a number of appreciative letters from users of the popular Starling and Stuart cars.

IN connection with the illustration of Miss Kitty Gordon on her Daimler car, which recently appeared in the *M.C.J.*, we are asked to mention that the vehicle was supplied by Sir William Angus, Sanderson, and Co., 63-65, Percy Street, Newcastle-on-Tyne.

AS evidence that Mr. John Stirling, managing director of the Scott-Stirling Motor Company, Ltd., is fully alive to the importance of the export trade, it is interesting to learn that "Stirling" productions are already in use in the following countries:—The Argentine Republic, British Guiana, India, South Africa, Australia, New Zealand, Canada, Norway, Holland, Spain, Italy, and Egypt. The Scott-Stirling Motor Company, Ltd., are, we understand, laying themselves out for further developments in their foreign business in motor wagons using either petrol or paraffin fuel.

MESSRS. SHIPPEY BROTHERS have forwarded us an illustrated list of the Pope-Toledo cars which they are offering for sale to the public at reduced prices for delivery in February and March next. The price according to the list for £675 cars has been fixed by Messrs. Shippey Brothers free in London at the sale price of £450, with special prices for limousine and landaulet types. We have also inspected the comprehensive list of parts as supplied by the Pope-Toledo Company, containing some 450 separate articles, from a steering lever set screw, bolt and nut, to the rear axle complete. Altogether the list is of a most complete character.

THE prospects for the races in March next on the Ormond-Daytona beach, Florida, are assuming satisfactory proportions. Prominent among the events which it has been decided to run is a 250 mile race for strictly racing cars. The 100 mile race, standing start, for all classes, for the Minneapolis International World Championship, will also be held. Cars to qualify for the Sir Thomas Dewar Trophy and the Two-mile-a-minute Trophy must run in either the 250 or the 100 mile event, and average over fifty miles per hour for the whole distance. One of the most interesting events will be the Invitation Race, of 150 miles, for gentlemen drivers.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, JANUARY 4, 1908.

[No. 461]

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COMMENTS.

A Happy New Year.

CONVENTIONAL though the greeting has become by its frequency, we may be excused for thus commencing the first number of another year. For the motor-ing community is scarcely like any other section of the people. There is a good fellowship among those who drive "mechanically-propelled vehicles on common roads," as our ancestor, the *Mechanics' Magazine*, was wont to describe the automobiles of the Thirties and thereabouts. True, it may not seem so universal as in the days when cars were few and breakdowns many. But the helping hand is still within the motor movement, and those who own as well as those who drive cars are generally willing to give others the benefit of their experience and knowledge. Not only is this shown when trouble occurs on the highway, but proof of the feeling is given from week to week in our correspondence columns, the ready willingness of our readers to assist each other when in difficulties being pleasantly conspicuous.

The Value of the Speedometer.

ALTHOUGH the cases in which magistrates are prepared to accept the registration of speed indicators against the word of the police are few, we are glad to notice that they are growing in frequency, and that the instance reported on another column of the present issue is not the *rara avis* it would have been a year ago. Even magistrates have been educated to the value of the speedometer—a fact that careful motorists should duly note. Hence we are glad to notice the tendency towards simplicity in the speed-recording devices now brought to the notice of those who own or drive cars. Of course, the instrument cannot yet be regarded as a certain preventive of a fine, but it at least offers a good defence where motorists are alleged to have exceeded speeds which are exaggerated—to put the expression as euphoniously as possible, in order not to hurt the feelings of Robert in the box or Nupkins on the Bench.

Another 24 Hours Record.

A GREAT motor-car run of twenty-four hours on the road has just been made in Australia, which exceeds anything yet done in that part of the world. Mr. H. L. Stevens, who is identified with the Darracq car in the colonies, and Mr. H. B. James, who is similarly known in connection with the Dunlop tyres, covered 777 miles in the twenty-four hours, which is 171 miles better than the continuous run credited to Americans last year. From the detailed accounts to hand the event shines in the excellence of the achievement, for at least one-fourth of the distance was run in a thick fog, through which the acetylene lamps on the car did not penetrate more than a dozen yards ahead. During the night trouble was narrowly averted owing to the droves of sheep and the horses met with in the rural districts which were traversed. The longest stop during the period of endurance was one of twenty minutes, when the fuel supply and the tyres were attended to. Not a detail of the Darracq car required attention. For five hours during the night the speed only averaged 27 miles per hour owing to the fog, so

that the speed at other portions of the trip must have been pretty good—in fact, the fastest pace attained during a given run of 110 miles during the daytime was 44 miles per hour. We understand from our correspondent that Mr. James next intends to attempt to beat the railway express time between Melbourne and Sydney, which is about eighteen hours for a distance of 570 miles.

The Inconsiderate Driver.

WITH reference to the letter from the Master of the Craven Hounds which appeared in our last issue, Major E. R. Portal, as a motorist and a hunting man, deploras, in language none too severe, the reprehensible conduct of the unknown motorist. In connection with this matter, the Berkshire Automobile Club has offered a reward of £10 for evidence leading to the conviction of the offender, whose conduct has created an outcry among the motorists of the county, and Major Portal, in sending us this information, hopes that such action, supplemented by the assistance of other motorists, may have a good effect, not only in leading to the discovery of the person concerned, but also in demonstrating to the public that motorists themselves condemn anything which savours of disregard for the feelings of others. It is unfortunate that a few instances of this kind should lately have occurred to mar the otherwise good record which the motor movement has had during the year just closed.

A Christmas Joke.

THE Christmas joke of 1907 was that played by some of the visitors to the Duke of Westminster on the lordly occupant of Cholmondeley Castle—an escapade which caused the Cheshire police as well as many officers from Scotland Yard much perturbation until it was discovered that the whole affair was a piece of merrymaking. Of course, the motor-car was dragged into the play, as it was in all the pantomimes a few years ago. The only result, so far as we can see, has been to demonstrate the utility of the automobile in the conveyance of property from one place to another—a fact which we had thought was sufficiently proved in the real robbery from Lord Lonsdale's house in December—and the expense in the police of the county being detailed from their ordinary duties to get upon a clue which only led the way to a set of jokers who scarcely realised the extent of their adventure. We are sorry that the motor-car should have been brought into the affair—that would have been an occasion on which it would have been justified in breaking down.

The Position in Scotland.

WE may trust the Scottish A.C. to be watchful of those county councils north of the Tweed which have lately been entertaining the public with discussions on the dangers of the highway, and the way things would be improved if they had control. Not long ago some of the local authorities in Scotland were discovered to have erected signs of speed restriction without permission of the central body, and their presumption was promptly noted by the motoring organisation. Now other councils are seeking to create an agitation against the reserva-

tion of power in such matters in the hands of the Secretary for Scotland, and having regard to the way in which the Scottish legislators secured the omission of the northern part of the kingdom from the new Lights on Vehicles Act, care must be taken in case an attempt is made to similarly secure exceptional treatment for Scotland in any future legislation with regard to automobiles. Many county councils have never peacefully accepted the present position. They would prefer to believe, with Alexander Selkirk, that "my kingdom there is none to dispute," and have the right of prohibiting altogether or restricting the speed of motor-cars within the area of their influence. Such a course would, however, be stoutly resisted in England, and we look to the Scottish A.C. to bring the necessity of uniformity in administration lucidly before the M.P.'s who represent constituencies where the pertinacity of the Scottish "heckler" is likely to be directed towards this point of local government and control.

A Request for Tolls.

THAT our suggestion should be very seriously regarded by the Scottish Club receives emphasis from the proceedings at the last meeting of the Argyllshire County Council at Inverary, when, on the appointment of a motor-car committee to watch the proceedings of motorists, Lord Breadalbane suggested



The Queen of Portugal entering the Brouhot Car used by Her Majesty during her recent visit to Paris.

(De Auto.

that a toll should be put upon each motor-car on entering the county. The meeting resolved that the suggestion be considered by the committee, and local papers are declaring that it is one that most people will regard as "eminently sensible and practical." We have heard of such "sensible and practical" ideas before. They are generally so described as they happen to fit in with the prejudices of the persons who thus favour them. The notion would not be regarded as sensible or desirable by the hotel-keepers of the country or by those who recognise that the coming of a number of cars with a larger concourse of people into a county may mean a considerable influx of money to be spent by traders of various degrees. To impose a toll in Argyllshire would mean the avoidance of its roads—in just the same way as the roads leading into Brighton were avoided for a season in the early days of motoring, after a vigorous attack of motorphobia by the county police outside the town. Then, again, the suggestion is as impracticable as it is inimical to local interests. If tolls were imposed in every county, the expenses of motoring would be vastly augmented, and would reach a point which would keep many moderately-financed motorists from touring beyond their own county boundaries. An army of officials, resembling those of the *octroi* of France, would be estab-

lished—with this difference, that instead of collecting from many sources, and thus possibly securing enough dues to maintain their upkeep, the county *octroi* established at every main road into the area would only demand *backsheesh* from one section of the community for one particular thing, viz., the right to use the roads that have hitherto been regarded as the public property for the convenience of all who behave themselves with seamliness and decorum. If such a plan were ever adopted we fancy the Scottish ratepayers would, after a month's experience, wish to return to the present path of economy and prudence. Probably Lord Kingsburgh, the Lord Justice Clerk of Scotland, will point out the legal arguments against Lord Breadalbane's proposal when he opens the motor show in Edinburgh at the end of the month.

The Liability of County Courts.

PERHAPS of more immediate utility to many of the Scottish councils would be the advice to set their roads in order, which seems the lesson to be gleaned from a case which has just been settled out of court. This was the action for damages resulting from a motor-car accident which was recently raised in the Court of Session against Elgin County Council by Mr. Basil Isles, of West Malvern, and his wife. The pursuers claimed £300 and £250 respectively, with £50 for expenses, and the County Council's offer to pay a sum of £250 in name of damages, along with the expenses of the action, has just been accepted, the matter thus being settled out of court. The accident occurred on July 8th last on a part of the road near Dulnain Bridge where it had been widened. Pursuer, who was residing at Nethybridge, was returning from Elgin along with his wife and three lady friends when, owing to the car wheels sinking deeply into the surface of the road, the vehicle ran into the covering of the culvert. Mrs. Isles was thrown from her seat, and her head struck the glass window screen with such violence as to completely smash the screen. The car was also seriously damaged by the accident. The case is important as an acknowledgment of the duty of local authorities in securing the safety of their roads so far as the users of the same are concerned.

The Dangers of Level Crossings.

DETAILS have become known of an exciting experience which befel a party of motorists who were travelling in North Staffordshire on Christmas Eve, and which emphasises anew the dangers of level crossings on railway lines. Mr. Ivor Guest, M.P., and his wife were motoring to Chester, and on the way had to pass over a level crossing at Weston Railway Station. The gates were closed to allow the Manchester-to-London express to pass through. There is a sharp curve at the approach to the gates, and before the motorists were aware of any danger they had crashed into the middle of the crossing. The gates were badly smashed and the motor-car was much damaged. The station-master knew that the express was due, and was anxious to avoid jeopardising the train. In great haste he succeeded in lowering the danger signal in time to prevent a terrible accident. The train steamed up and was delayed until the line was cleared. Fortunately none of the occupants of the car were seriously hurt, and assistance was quickly sent from Ingestre by Lord Shrewsbury. Several accidents have previously taken place at the same spot.

From Kingston to Woking.

THE removal of Superintendent Marks from the Kingston district is a matter of rejoicing among the motorists of that Thames-side town; it is a matter of some concern for those in the Woking area, to which he has been promoted. He will take charge of the new petty sessional division there, and doubtless those who motor along the main roads had better remember the zealous endeavours against motorists with which his name has

been associated in the past. We learn that during the four and a-half years he has had charge of the Kingston division about 1,000 summonses have been issued under his authority against owners and drivers of cars—probably a record. His value as an asset to the county is not to be lightly regarded.

The Duty of the Police.

ON Tuesday a motorist raised an interesting point at the Shropshire Quarter Sessions, and, what may seem very remarkable to southern motorists, the Court heard it with consideration and ultimately agreed as to its fairness.

At some cross road near Oswestry Mr. Percy, of Guy's Cliffe, drove under the recognised legal speed without sounding his horn, whereupon he was summoned for driving to the danger of the public, although—as often happens in such cases—there was no one about to be endangered, if we except a policeman who should have warned him of any risk he was running. This was the point of the defence, the motorist assuming that there was no

Not a hint of, or reference to, the testimonial was permitted to appear in the Press until the presentation actually took place.

Mr. Weigel's Case.

MR. D. M. WEIGEL is not to go to prison, and all motorists will join with us in expressing our pleasure at that fact. The Haywards Heath justices have never been friendly disposed towards motorists—to put the matter as leniently as we can—and having regard to the subsequent happenings at Lewes, the suggestion of imprisonment must be regarded as distinctly impertinent. Already the costs have mounted up to a considerable amount, and no motorist has ever found a summons under the Act of 1903 so expensive as the defendant in the case which was concluded at the East Sussex Quarter Sessions on Tuesday. The fact that the police consented, at the October Sessions, to a reduction of the period of suspension of the licence from two to one year seemed an acknowledgment of the too drastic character of the original



Mr. Charles Cordingley on his 40-50-h.p. Florentia at Medea, North Africa—the home of the Spahis, who are fighting so bravely for the French in Morocco.

danger as the policeman did not warn him. The Court allowed the appeal on that plea and quashed the conviction—a common sense ending of a case which ought not to have been taken to court at all.

A Seasonable and Suitable Present.

THE automobile is recognised as a suitable object of presentation to bishop and doctor. Several instances of the former favour have been reported in our columns. Now we hear of a remarkable example of patients' gratitude to a doctor.

This has been furnished at Weaverham, Cheshire, during the Christmas season. Dr. Smith, of that town, was unostentatiously presented with a motor-car, with accessories and motor-house complete, by the inhabitants of Weaverham, Acton, Delamere, Cuddington, Norley, and surrounding districts. The gift was made in recognition of forty years' professional services and eighteen years' service as a Cheshire county councillor. A total of £720 was raised, 1,500 subscribers responding within a month.

judgment; and seeing that the costs have increased so alarmingly, the infliction of the maximum monetary penalty will be regarded by many as an attempt to exact the utmost penny from the unfortunate defendant. Anyhow, the period of suspense is over, and while congratulating Mr. Weigel on escaping the intention of the Haywards Heath magistrates, we would suggest that the procedure in the case forms a strong argument for the motoring organisations giving serious consideration to the machinery of the law before new legislation is instituted.

THE DAIMLER COMPANY have received through the Ross-leigh Co., Ltd., Aberdeen, an order from Mr. James Murray, M.P., for a 30-h.p. Daimler chassis with a 10 ft. 6 in. wheel-base.

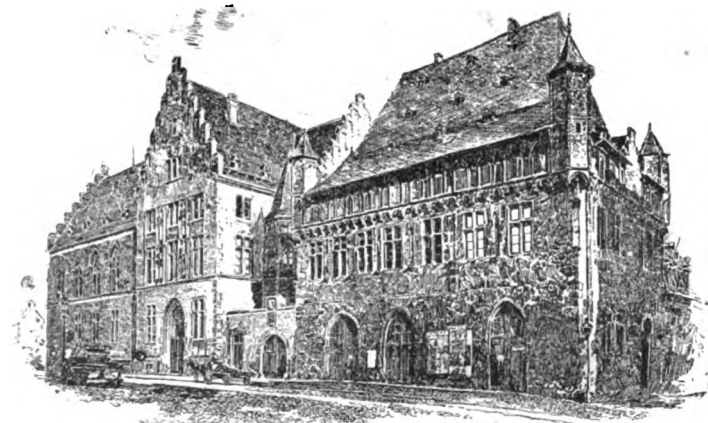
THE exports of motor-cars and parts from the United States during October last attained a value of £63,613 as compared with only £49,418 in the corresponding month of 1906. England heads the list with £23,694 of the total, Mexico being second with £8,954.

SOME USEFUL FACTS FOR BEGINNERS.

BY H. WAYMOUTH PRANCE, A.I.E.E.

THERE are certain facts—small points in themselves, but nevertheless important ones—which do not appear to be common knowledge amongst ordinary amateur motorists, the knowledge of which would in many cases be the means of preventing many “breakdowns” and similar troubles, and whilst these facts may have at some time or other been told to the motorist in his early days of instruction, they do not appear to be remembered in the way that other information of a more important nature does; hence it has been suggested to me by a former pupil that these useful facts should be committed to paper for the enlightenment of amateur motorists. No startling novelties or new methods must be looked for among these hints, and the reader must bear in mind that the information set forth is more intended for the beginner than for the veteran motorist of some seven or eight years’ experience, and that the facts are merely those which everyone should bear in mind if the path of their motoring experience is to be made as smooth as possible.

Perhaps the most frequent point of this nature which is overlooked is in the matter of testing accumulators. The motorist, say, is aware that his accumulators have been standing for some time, and in order to make sure that they are all right before going out for a run he tries them with a voltmeter or a test lamp momentarily applied and satisfies himself that the voltage shown is over 3.8, or that the lamp glows brightly, and



Touring in Germany.—The Hall of Records, Frankfort-on-the-Main.

starts upon his way—only to find that after a few hundred yards the engine misses fire badly and finally stops altogether—the accumulator having “run down.”

The fact to be borne in mind in this connection is that in order to obtain the true voltage of an accumulator the test must be made immediately after a current has been “taken out” (I have purposely used the popular but technically incorrect expression), as the cells recuperate when standing idle and so give an almost normal voltage when tested momentarily. Personally I prefer a test lamp as being the simplest instrument for determining the condition of an accumulator, but it must be remembered in using it that it is no use merely touching the terminals of the cells with those of the lamp, as the latter would be sure to glow brightly for an instant unless the accumulator was absolutely discharged. In order to obtain the true voltage the lamp must be connected up to the cells for one or two minutes and a current thus “taken out” of them and if at the end of this period the lamp still continues to glow brightly, it may be concluded that the accumulator is not in a discharged state.

If the exact voltage is required, it may be obtained by applying the voltmeter immediately upon removal of the lamp, or one of the wires leading to the contact maker may be short-circuited to the engine, one of the coils thus put into operation for half a minute or so, and the voltage then noted. Special voltmeters can be obtained which themselves take an appreciable quantity of current, in which instance it is of course not necessary to use a lamp or one of the coils to allow a current to pass. As

a rough and ready way of seeing if an accumulator is discharged one of the coils may be made to “buzz”—I am speaking, of course, of the trembler type of coil—by short-circuiting the contact maker, and if it continues to do so steadily at the end of half a minute or so it may be taken that the cells are still capable of giving a steady current.

It is, perhaps, hardly necessary to warn the reader that the terminals of an accumulator must never be short-circuited by direct metallic connection, and that the method of “testing”—which I have not infrequently seen performed by garage mechanics—by intermittently shorting the terminals with a knife blade or other piece of metal, and noting the spark produced, is extremely injurious to the plates of the accumulator. Before leaving the subject of accumulators—although the matter can hardly come under the name of knowledge—it may not be out of place to draw attention to the necessity of keeping the terminals clean and well-greased—a precaution which is not infrequently altogether neglected, with consequent corroded terminals, bad contacts, and broken lugs.

The adjusting of the platinum screw of a trembler coil is a matter which is looked upon by many motorists as a difficult operation, possibly because at some time or other, when trying to improve this part of the ignition apparatus, they have only succeeded in putting the coil out of action altogether, but in reality, if the principle of the trembler coil is properly understood, the adjustment is of the simplest nature possible. First of all it must be remembered that the greater the number of times the primary circuit is broken the fiercer the spark produced at the plug, so that the platinum point should be screwed down until the trembler blade is vibrating at its highest possible rate—that is, until it is buzzing at its loudest and highest note when the current passes, any particular coil which is desired to adjust being brought into action by short-circuiting the contact maker wire belonging to it to the engine. The adjustment can, of course, be overdone, as, if the trembler blade is pressed down too close to the central core of the coil it will stick to the core when the current passes instead of vibrating freely, but if the blades be set properly it will be found that the highest and loudest note is produced before the platinum point is screwed down to such close adjustment. It should be observed that when the locking nut of the platinum-pointed screw is tightened the tip of the screw may be slightly raised, and therefore allowance should be made when making the adjustment so that the trembler buzzes at its loudest and highest note when the contact screw is securely held by the lock nut.

The tyres are a detail which is looked upon with some apprehension by the purchaser of a new car, and certainly the depreciation of the tyres does form a very appreciable item in the running expenses of any motor vehicle; but, apart from luck, and I agree that there is a certain amount of luck about the wear of tyres, much can be done to get the utmost out of them, the principal points being immediate attention to small cuts and proper inflation. There seems to be some uncertainty as to what is implied by proper inflation and as to the best method of ascertaining that this detail is in order. Of late pressure gauges have come much to the fore for this purpose, but by far the simplest method of ensuring that the tyres are sufficiently hard is to inflate them until there is no side roll perceptible in them when the wheels are rocked laterally, the full weight being upon the wheel, or, in other words, to maintain them at such a pressure that there is no “bulge” at the point of contact with the ground when the car is fully loaded.

It is notable that the ignition apparatus and the tyres are responsible for over seventy-five per cent. of the troubles of many motorists, and they are details which are well worth studying from every point of view, as knowledge concerning them will in many cases avoid delay or enable an immediate and correct remedy to be effected should they arise, and it is hoped that these few notes may be of assistance to beginners in affording definite instructions in the matter.

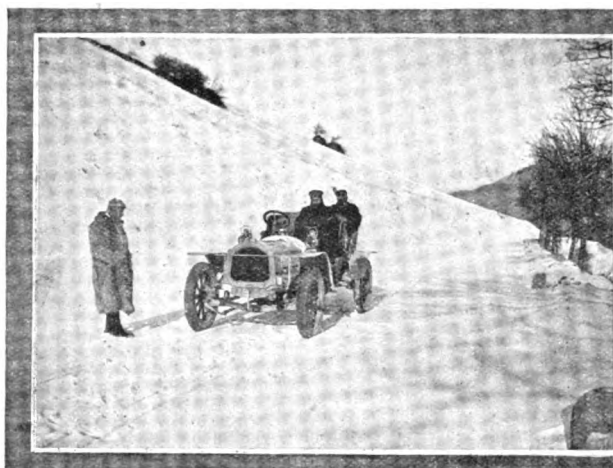
LAST year the failures in the leather and coach trades numbered 163, as compared with 181 in 1906.

THE PRINCE HENRY OF PRUSSIA TOURING COMPETITION.

THE regulations with regard to the Prince Henry of Prussia International Touring Competition, which is to be held in Germany in June next, in the place of the Herkomer event, have just been issued by the German Imperial Automobile Club. It was originally intended to make the contest one solely for amateurs, but it was represented to Prince Henry that, if this was adhered to, German manufacturers would have no event during 1908, and it was finally decided that they should be admitted. Measures have been taken, however, to place amateurs driving their own cars on a comparative equality with expert drivers. The event is open to four and six-cylinder cars with a total piston area of from 227 to 679 sq. centimetres, corresponding to a bore of from 85 to 146.5 mm. for four-cylinder engines, and one of from 69.5 to 120 mm. for six-cylinders. Cars must have been driven at least 2,000 kilometres before the start of the trial, by members of internationally-recognised motor clubs and the affiliated German clubs. The vehicles must have four seats, and be in accordance with the police requirements. The total weight of the car must, in the case of an engine of a total piston area of 227 sq. centimetres, reach at least 860 kilos., exclusive of spare tyres, tubes, and with empty tool boxes. For

factor, and *vice versa*. A competing car with more than twelve bad marks forfeits all claim to the award in the speed trials.

The general conditions under which the contest will be carried through may be summarised as follows:—During the run every car must carry at least three passengers, including the observer. In the speed trials four persons or three adults and a ballast of 70 kilos. must be carried. A driver may temporarily, and at his own responsibility, hand over charge of the car to his chauffeur or any of the passengers, but not in the speed trials. Any repairs necessary during the tour may be effected only by the driver nominated and his chauffeur, or, in default of the latter, by a passenger to be nominated before the beginning of tour. Every repair means a mark, even though the car remains in motion. Every involuntary stoppage of a minute, or fraction thereof, caused by the car itself or any part of it, will be debited with 2-10th mark; also every minute or fraction thereof during which repairs are being effected. Repairs to speed indicators and their gear are to be recorded, but not debited. Any excess of the time allowed for repairs prior to start are to be debited with 2-10th mark for every minute or fraction thereof. Additional filling of cooling and braking water after the start of a day's run will be debited with 5-10th mark for each occasion. During the day's run fuel and oil may be taken in at specified stations only, but not cooling water. Competitors will be allowed to spend one hour daily in making



Near Briançon.



Snowed up at Aiguilles.

WINTER MOTORING IN THE FRENCH ALPS.

fuel (petrol, water, and oil) a minimum of 60 kilos. is allowed. For every extra square centimetre of piston surface the minimum weight increases by 1.4 kilo. No alterations in weight of car may be made during the tour, and no ballast will be allowed. Every car must be provided with a speed indicator. As fuel, only petrol of 680 s.g. and upwards, benzol, alcohol, and their mixtures may be used. Competing cars must be driven by the members of the above-mentioned bodies, and receive no remuneration for driving.

The programme of the tour is briefly as follows: June 7th and 8th, weighing-in of cars; June 9th, Berlin—Dantzic; June 10th, Dantzic—Stettin; June 11th, Stettin—Kiel; June 12th, rest in Kiel; June 13th, Kiel—Hamburg, speed-trial on the level between Rendsburg and Itzehoe; June 14th, exhibition in Hamburg; June 15th, Hamburg—Cologne; June 16th, Cologne—Treves; June 17th, Treves—Frankfurt-on-the-Main, between Treves and Frankfurt a hill-climb will be held.

The awards in the speed trial and the hill-climb will be based on two formulæ giving normal speeds, and the cars credited or debited with 1-100th mark and 1-200th mark for speed on the level and hill-climbing respectively according as it exceeds or falls short of the fixed standard by 1-10th per cent. or fraction thereof. In the event of a tie in marks for the hill-climb, the speed trials results will be taken as the deciding

adjustments, oiling, and filling up the tanks with petrol and water. The order of starting each day will be governed by the horse-power of the cars; the speed of the vehicles will be regulated by official vehicles, which will accompany the competitors on their daily runs. No fewer than six prizes, in addition to Prince Henry's Cup, will be offered. The concluding regulations provide that the trophy can be won outright by the same competitor securing the premier place in the event on two occasions, or by ballot amongst the winners of three years. The entry fee is £20 per car, the list closing on April 1st and at double rates on May 1st. The German Imperial Motor Club undertakes at its own expense accident liability and fire insurance within reasonable limits.

In August last a 24-h.p. De Dietrich car was successfully driven to the summit of the Prarion, in the Alps. The mountain is 1,860 metres high and separates the valley of Chamounix from that of St. Servais-les-Bains. In connection with the event an open challenge for £200 has been instituted for the first car which performs the same feat within 2 h. 50 min., a challenge which has just been accepted by Mr. W. M. Letts, who proposes to make the attempt on an English-built Lorraine-Dietrich car in July next.

ANTICIPATIONS OF 1908.

ALTHOUGH a year of steady advance in Motorism the events of 1907 need not long detain us on the threshold of another year. In this country the opening of the Brooklands Track at Weybridge, the various exhibitions, including the twelfth automobile show at the Agricultural Hall, London, in the spring, the Scottish Reliability Trial and the numerous controversies raging round the organisations associated with the movement constitute the outstanding features of the year. Side slip trials, long distance reliability runs, tar-spreading tests, commercial vehicle trials also played their part in the doings of the twelvemonth, among the pleasurable recollections of which was the formation of the Motor Club and its rapid advance as a social institution in the motoring world.

The tendencies of design as shown by the 1908 models of the leading motor-car builders have so recently been dealt with in these pages that the increasing attention which is being paid to the production of reliable vehicles of somewhat less power than have prevailed during the past year or so need only be alluded to. In France, in particular, the single-cylinder vehicle, far from being dead, seems to be enjoying a larger degree of popularity than ever. On this side of the Channel the increasing use of automobiles in their true sphere—that of substitutes for

bye-laws in Birmingham provide for the exhibition of a light in the direction in which the vehicle is proceeding, not only at night but during the prevalence of foggy weather. Moreover, in the case of vehicles carrying timber, ladders, or other projecting articles, the bye-laws require a red rear light to be displayed irrespective of the limit of projection. The question has arisen whether the new Act has not abrogated the provisions in the bye-laws regarding the lighting of vehicles, and whether the recently revised Hackney Carriage and Stage Coach Bye-laws in so far as they refer to lighting will not have to be re-sanctioned. The Lights on Vehicles Act, while stating that local bye-laws dealing with the same subject shall cease to have effect, leaves power to local authorities to make fresh bye-laws or regulations imposing obligations additional to those imposed by the new Act.

Pleasurable are the anticipations with regard to the "great event" of 1908, a combination of the various features of previous trials that have proved valuable in the development of the industry. It will remind the provincial towns of the historic 1,000 miles trial of 1900, serve to emphasize that the Tourist Trophy events in the Isle of Man are no more—the Rover and Beeston-Humber having made great achievement therein in 1907—and to uphold the prestige of the Scottish trial, concluding with a fine dash of speed on Brooklands track. Thus it will be both educational and attractive



Touring in Bohemia.—A Fiat Car on the Summit of the Heidelberg, near Hohenelbe, 3,400 ft. above sea level.

(Allgemeine Automobil Zeitung.)

horse-drawn vehicles—and the ever advancing vogue of covered cars are prominent features of the situation. Petrol cars still form the large majority of the vehicles in use, but the steam automobiles at present on the market appear to be not only retaining their old admirers but to be steadily gaining a more extended clientele. The many new designs, too, of combination petrol-electrical vehicles that have recently made their appearance give promise of some further practical progress in this direction in the not far distant future.

New legislation affecting motorists which came into operation on Wednesday comprised the Lights on Vehicles Bill, and certain clauses in this Act render compulsory the carrying of lights by vehicles at night in England, Ireland and Wales, Scotland having been omitted from the operation of the new law. It becomes incumbent upon the owner of any vehicle to provide a suitable lamp or lamps in proper working order, and the driver is made responsible for keeping the lamp or lamps properly trimmed, lighted and attached. Section 1 of the Act provides that vehicles shall display to the front a white light visible for a reasonable distance. If the lamps are so constructed as to permit a light to be seen from the rear, that light shall be red. Vehicles used for the purpose of carrying timber, or any load projecting more than six feet to the rear, must display to the rear a red light visible for a reasonable distance. This new legislation is causing some discussion in counties and county boroughs which have special bye-laws on the subject of lights on vehicles. Thus the existing

to manufacturer and the public alike. There is much to be said in favour of the trade concentrating on one important event in the year, and this feeling, combined with the advertisement use to which private club competitions have been put, has resulted in the Royal A.C. ultimatum with regard to hill climbs and similar contests proposed to be held by provincial clubs on county roads. Just now a plebiscite is being taken with regard to the advisability of supplementing the great trial which will be held in June with a race in Manxland in the autumn. Opinion, however, is at present so divided that prophecy is really useless. There is no doubt much to be said for the commercial acumen of those firms who limit their seasonable activities to the exhibition in the spring, the trial in the summer, and the development of their own plans for trial runs by intending purchasers throughout the year.

While the prospective motorist will give great heed to the event just mentioned, the public may be expected to have their curiosity further aroused—if their enthusiasm is not reached—in the possibility of the Brooklands motor track. Already challenges have been definitely accepted and deposits paid, so that sporting events that last year never got beyond the correspondence columns of the papers may really take place in 1908. Beyond that the committee, profiting by the criticisms and the experiences of the past season, have developed a programme of sport that should furnish a plethora of exciting finishes such as were absent, save in isolated instances, last season. The means by which these will be secured are set forth in the reference to the

Brooklands Club in our Clubs and Associations page elsewhere in the present issue. The track certainly bids fair to become historic in the annals of the sport, and motorists in other countries deplore the absence of such enthusiasts as Mr. Locke-King, to whose enterprise and initiative the origin of the track was due. So far the most notable records obtained thereon are the 1,581½ miles traversed by Mr. S. F. Edge on his Napier in the twenty-four hours, and that to the credit of Mr. W. T. Clifford-Earp, who on a 60-h.p. six-cylinder Thames car accomplished the 100 miles in 1 hr. 18 min. 50.43 sec.

Doubtless 1908 will have its racing surprises, especially as several English representatives will be seen on Continental roads, and, on the other hand, Italian record makers have already been nominated to take part in British events. A brief diversion from "anticipations" to "recollections" may be pardoned, as it suggests the cars that will have to be beaten if 1908 is to be a faster year than that just closed. The first surprise came in the Coupe des Voiturettes over the Sicilian course of 188 miles, when the little Sizare-Naudin won in 7 hr. 47 min. 9 sec.; then came the succession of Italian victories—Nazzaro on his Fiat winning the Kaiserpreis and also the Targa Florio, the latter in 8 hr. 17 min. 36 sec., over a ninety-three miles course of frequent corners, which had to be traversed three times. Nazzaro was also successful in winning the Grand Prix, while the Florio cup went to the Isotta-Fraschini and the Coupe de Vitesse to the Itala. The Herkomer Trophy was won by a 45-h.p. Benz, and a Mercedes went up the 6½ miles of the Semmering Hill in 7 min. 29 sec. As an example of endurance mention, too, must be made of the adventure of Prince Borghese in motoring from Pekin to Paris on his Itala, as we illustrated in our last week's issue and described while the journey was in progress.

Makers have latterly shown a tendency to recognise more and more the importance of the driver as a factor in the running costs of their cars, and prizes and certificates have been introduced by several firms with the view of encouraging those in charge of vehicles to take an intelligent interest in their mechanism. This idea has received official sanction in the heavy vehicle section of the industry, as was shown in the recent parade of commercial motor vehicles owned within a radius of twenty miles from Charing Cross, when one of the prize-winners, in the employ of the Westminster City Council, had driven his vehicle over 63,000 miles. The value of the driver will, we anticipate, be even more appreciated in the future, judging from the remarks of those responsible for the motor-cab services now coming into profitable recognition. They plainly see that human intelligence and knowledge must be combined with mechanical reliability and excellence.

It may safely be pointed out that more will be heard of the dust and road questions. 1907 was exceptional in the amount of wet which assisted the laying of the dust. We cannot always expect, nor do we want, such a summer; and consequently motorists and surveyors must again apply themselves to the diminution of the quantity of dust raised by motor-cars on roads which were not constructed for such traffic. The movement in favour of the maintenance of the great highways of the country being made a national charge will also go ahead, and then, possibly, new legislation will loom large on the Parliamentary horizon. That is one reason for a continuance of the consideration to other users of the road, which all will agree is becoming more marked as the number of automobiles increases and as the motorists, who now total nearly a quarter of a million, grow in proficiency as well as in numbers.

THE Bishop of Bath and Wells has had an exciting adventure in the flooded marsh district of Somersetshire. He was motoring from Wells to Taunton, when his car ran into deep water near Othery. The car went so far that it would move neither backward nor forward, but an obliging rustic brought a horse, with which he triumphantly dragged the bishop and his car out. "This is a triumph for the horse," observed his lordship, who reached his destination an hour late.

SOME USEFUL NOTES.

A FREQUENT cause of loss of power, not usually ascertained at once, is due solely to the wearing of either the valve tappets, the ends of the valves, or the wear of both of these parts. Where the tappets are adjustable the remedy is obvious, but where no provision of this sort has been made, it is a very good plan to have the tappets drilled out, so that small fibre buttons can be inserted. This is easily done, and the fibre can be trimmed to the correct thickness. It is also a very effective method of deadening the usual clicking of the tappets.

IF, while on a run, the brakes are found not to hold properly, they should be attended to before anything serious happens from the lack of them. The difficulty may be only one of faulty adjustment, in which case a few moments' work with the wrenches will set the matter right.

IF a car needs re-painting, it is better to have it done now than to wait until the spring, when the factories are crowded with work. By having the painting done at this period of the



Mr. G. Senior on his 40-h.p. Weigel Car which he is continually driving over the moors in Devon.

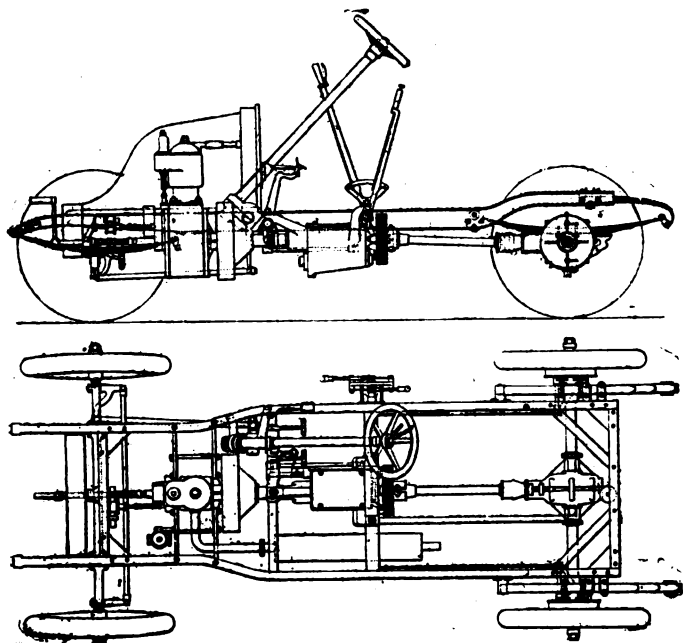
year motorists will not only be assured of a first-class job, but the varnish will have ample time to harden.

NEVER attempt to grind petrol or compression taps with emery—it will generally ruin them. The most suitable compound for this work is the damp sand from the bottom of a grindstone trough.

CARBON deposit in the cylinder and piston heads is one of the most fruitful sources of trouble in petrol engines. If the cylinders get too much oil a portion of it will work up past the pistons; the intense heat will consume or evaporate the oil, leaving a deposit of carbon; this may be augmented by too rich a mixture, which serves to deposit lamp black or carbon in a film on the inside and top of the compression chamber and on the heads of the pistons. The film thus formed will in time commence to scale, and, the projections becoming fused by heat of the explosions, will serve to prematurely ignite the charge. The symptoms are knocking in the cylinders—as if the spark were too far advanced. The remedy is to take off the cylinders and scrape off the carbon deposits, being careful not to scratch the cylinder walls. The preventive is to so regulate the oil feed as to give the cylinder plenty of, but not too much, oil.

THE PASSE PARTOUT TWO-SEATED CAR.

A LITTLE two-seated car which is just now attracting considerable notice across the Channel, by reason of its excellent performance in the recent trials in France, when the full team of three vehicles successfully went through the six daily runs and the final speed contest, is that known as



Figs. 1 and 2.—Elevation and Plan of 8-h.p. Passe Partout Car.

the Passe Partout, made by the Société des Automobiles "Le Passe Partout," of Neuilly, Paris. The vehicle, of which we give illustrations in Figs. 1, 2 and 3, has a frame of pressed steel, narrowed at the front to increase the lock of the steering wheels, and raised at the rear end to clear the differential casing. The motive power is supplied by a De Dion 8-h.p. single-cylinder engine, having coil and accumulator ignition. The advance and retard is actuated by an autoloc lever on the steering wheel; the

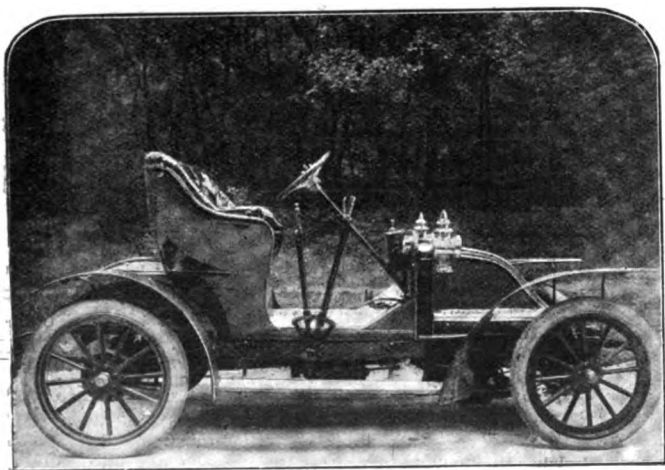


Fig. 3.—General View of 8-h.p. Passe Partout Car.

throttle is similarly controlled, a foot accelerator being also provided. The water circulation is maintained by a pump gear driven off the engine. As will be seen, the radiator and bonnet follow the lines adopted in the C.G.V. vehicles, the former being mounted below the frame, so that when the bonnet is raised all parts of the engine can be easily reached.

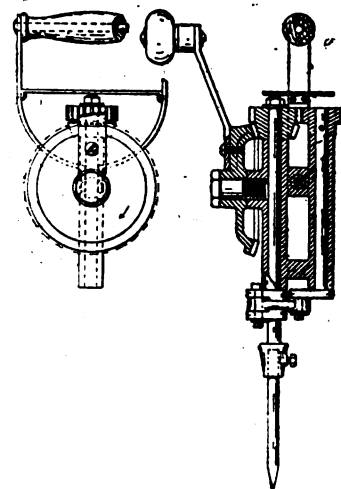
The clutch is of the leather-faced cone type; it is mounted on an extension of the crank shaft and has an external spring.

The shaft which connects the clutch with the gear-box is provided with a joint to allow for any want of alignment between the two parts. The gear-box, which is supported at three points, is adapted to give three speeds forward and a reverse, with direct drive on the top, the control being by a single lever. The gear-box is cast in one piece, and is provided with a large and quickly detachable cover, special care being taken to prevent any annoying leakage of oil. The final drive is by a cardan shaft and bevel gear to a live axle, which is provided with a stout torque rod extending from the differential casing to a cross member of the frame, where it is supported in a spring bracket.

The usual foot and hand brakes are provided; they are all of the metal-to-metal type, the drum of that at the rear of the gear-box being provided with cooling ribs to prevent any overheating. Ball bearings are provided to all parts except the engine; the lubrication of the latter is maintained by the pressure of the exhaust; a useful fitting is seen in a large plug-hole at the rear of the differential casing to enable the latter to be readily filled with oil. Semi-elliptical springs are used at the front and three-quarter elliptic at the rear. The standard two-seated car has a wheel base of 7 ft. 2 in. A long chassis for three and four seated cars is also being made, the wheel base in this case being 8 ft. 6 in. The Motor Supply Company, Ltd., of Piccadilly, W., are the British agents for the Passe Partout cars.

A NEW VALVE-GRINDING TOOL.

WE illustrate herewith an ingenious valve grinding tool which has lately been put on the market by the "Jef" Manufacturing Company, 1,562, Broadway, Denver, U.S.A. Its mechanism is the same as that of a well-known egg-beater, the



tool being held in one hand and operated with the other. The crank handle turned by the operator is connected to a bevel wheel, which meshes with a bevel pinion, a small pinion secured to the latter meshes with another wheel at the top of a vertical shaft which, at its lower end, carries a crank arm pin, from which a link connects to another longer crank rigidly connected with the chuck holding the grinding tool. It will readily be seen that by turning the crank handle the tool is given a rotary reciprocating motion, as required for grinding in valves. It is claimed that by the use of the machine a valve can be ground within less than half the time occupied by hand.

THE 1908 catalogue of Siddeley cars, issued by the Wolseley Tool and Motor Car Company, Ltd., a copy of which is just to hand, is on novel and pleasing lines. Not only are particulars and line drawings given of the different models, but the main component parts are depicted by half-tone blocks; the feature of the production, however, is a series of full-page illustrations, in colours, depicting the different types of bodies which may be fitted to the chassis, interest in the pictures being enhanced by the backgrounds, which are in keeping with the subject.

APPLICATIONS for licences for motor taximeter cabs to run in Glasgow and Edinburgh are now being considered by the authorities of both cities.

ON New Year's Eve the centenary of Cl-ridge's Hotel, in Brook Street, W.—where the Ladies' Automobile Club has headquarters—was celebrated by a ball, at which the dancers were attired in the costumes of 1808.

SOUTH BARRULE, the Manx mountain, which was known in connection with the earlier motor contests, has been devastated by a fire which began on Monday night and raged throughout Tuesday.

MATHIESON'S "Handbook for Investors for 1908" comes to hand in its usual comprehensive form, giving an authoritative record of Stock Exchange prices and dividends for the last ten years. It is published by Mr. Effingham Wilson.

MR. C. C. ALLEN, instructor in motor-car engineering at the Coventry Municipal Technical Institute, has been appointed to a similar post in Auckland, New Zealand. The motor engineering classes at Coventry will now be carried on under the care of Mr. E. Sidwell.

MR. W. O'MEARA, who has been in charge of the touring department of the C.T.C. for ten years, has been appointed head of the new touring department of the M.U.

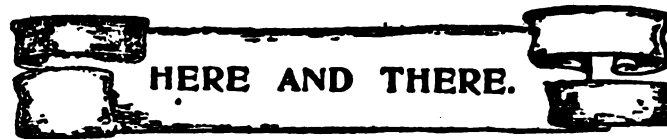
MR. A. G. BELL, of the Victoria Garage, Milford-on-Sea, sends a calendar for 1908, with autograph topical allusions to motorism that give it special interest to all engaged in the business or pastime.

THE Clerk to the Surrey Quarter Sessions at Kingston on Tuesday referred to the recent case in which an A.A. scout was fined for obstructing the police when timing motor-cars, and suggested that in future instances a charge might be preferred against the members of the Association for conspiracy.

MESSRS. BARNETT AND LEWIS, of Red Lion Street, Wolverhampton, have taken the St. Peter's Works in St. Mark Street of that town for the purpose of a private garage. The alterations will include a new entrance to the building from Salop Street, and the fitting of shops for the repair of motor vehicles.

IN view of the extremely cold weather which we are just now experiencing, it may be useful to mention that Messrs. Gamage have lately introduced a safety motor house stove, which will heat the stable all day or all night without attention, and without giving off smoke or fumes; the stove is sold at a relatively low price, and the cost of operation is stated to average 4d. per day.

AT the Bray (Co. Wicklow) Petty Sessions, on Saturday, the resident magistrate stated that motorists offending against the provisions of the Motor Act, which gives summary jurisdiction, might defeat justice in Ireland, because there is no process by which they can be made amendable once they leave Ireland. The circumstances were different in England, he added, for there was full provision for enforcing summary jurisdiction against defendants there.



THE Automobile Club of Egypt lately held a successful motor gymkhana at the foot of the Pyramids.

THE Weigel Company has written to the "Auto" of Paris stating that they are entering

three cars for the A.C.F. 1908 Grand Prix race; they will be fitted with four-cylinder engines, and are expected to be on the road in about six weeks.

MR. E. J. UNDERWOOD has commenced business as a motor-car agent at 35, Carlton Crescent, Southampton, and will deal in the various parts of and accessories for cars.

A COMPANY has been formed to run taximeter cabs in Birmingham. Their headquarters are to be found in the block of buildings belonging to the Premier Motor Agency, Aston-road, Birmingham. The first cab, a Renault, is now running in the city.

THE Dumfries Motor Company, Ltd., who have a showroom at 93, English Street, Dumfries, and a garage and repair shop equally centrally situated, send us a useful desk calendar, which also serves to emphasise the comprehensive character of their establishment.

IN connection with the race meet to be held on the Ormond-Daytona beach, in Florida, next March, it is proposed to lay out a course of from twenty to thirty miles in length, with loops at each end, suitable for long distance contests.

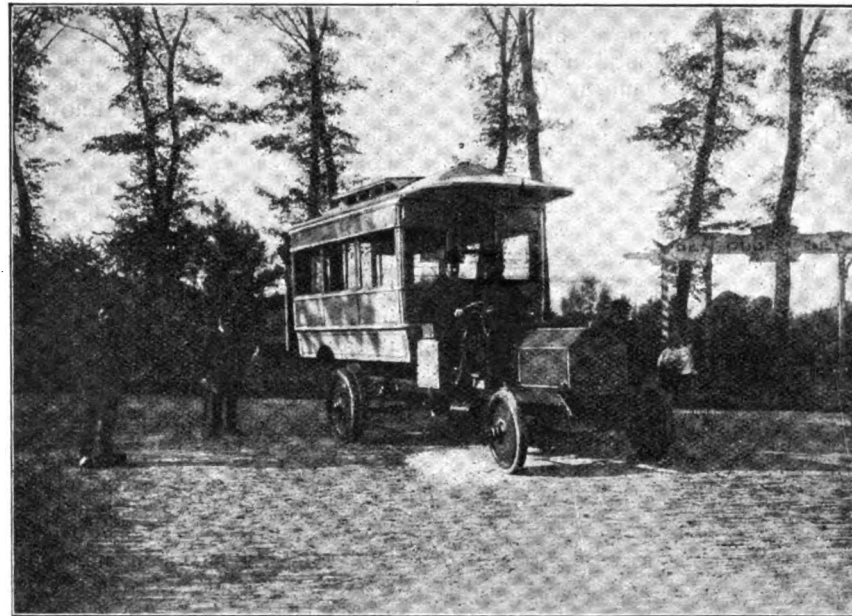
THE report of the Coventry Motor Omnibus Company, Ltd., states that the total number of shares allotted is 1,002, entirely for cash. The particulars of payments show £746 for omnibus and accessories, and preliminary expenses amounting to £120.

WE have received a copy of the 1908 edition of the Agenda-Buvard du Chauffeur, published by Madame J. Lockert, 41,

Rue de Seine, Paris. The feature of this annual diary, which is now in its sixth year, is the amusing caricatures, printed on the blotting sheets, of prominent members of the French and English motor industry.

TWO taximeter motor-cabs are now plying for hire in Manchester. The cabs differ from those which have proved so successful in London, inasmuch that they have a seating capacity up to four persons, whereas the London cab only seats two and the driver. For the present the Manchester Motor-Taximeter Cab Company are testing the requirements of the city with two cabs. The fares are the same as with the horse-driven vehicles; 9d. per mile is the minimum charge.

THE Rotax Motor Company's No. 263 patent head lamp embodies the latest improvements in the art of lamp making. For those who prefer electric lamps, a very smart set of lamps is the Rotax No. 2, which are sold in sets consisting of two side and one tail lamp, and can be worked by any 4-volt accumulator. These are of English production. The firm, whose headquarters are at 43 and 45, Great Eastern Street, E.C., also specialise in horns, and have a large variety for the coming season. Horns with two, three and four notes are amongst the number which are offered to motorists.



The Fiat Motor-Bus which has lately been put into operation in Amsterdam. The chassis, which was supplied by Messrs. Verwey and Lugard, of The Hague, is of the 18-24-h.p. type, while the single-deck body is that of an old tramcar. (De Auto.

MESSRS. WILSON AND STOCKALL, of Bury, are supplying the Salford Corporation with a motor ambulance van.

AN effective circular has been issued by the Birmingham Small Arms Company, Ltd., combining New Year's greetings with a reminder of the extent of the firm's operations.

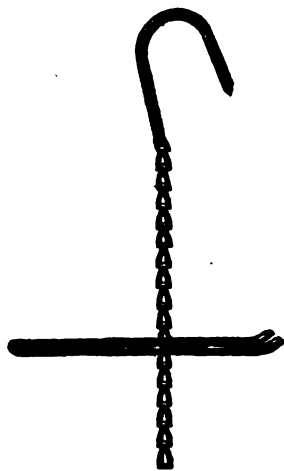
MESSRS. A. R. ATKEY AND CO., LTD., of Nottingham, are demonstrating the advantages of their four-ton wagon to the brewers, millers, engineers, builders and contractors of the county.

FROM Messrs. Heath's garage, 49, John Bright Street, Birmingham, comes an excellent calendar reminding us of their facilities for meeting the requirements of the motorists of the Midlands.

A RESOLUTION asking the Ellesmere Urban District Council to support the regulation of the speed of motor-cars being placed in the hands of urban and rural councils has been ordered to lie on the table.

MR. R. E. ANTHONY is opening the Bromley Electrical and Motor Engineering Works and Garage on the Sevenoaks road, Bromley, Kent, and will give attention to the requirements of motorists passing that way, as well as those resident in the town.

AMONG the novelties at the recent Paris *Salon* was the simple yet ingenious tool to facilitate the removal of valves, illustrated herewith. It is known as the "Partout," and is being introduced by the American Auto Supply Company (Messrs. Schwartz and Albrecht), of 11, Rue Dartois, Paris. As will be seen, it consists of three parts—a hook, a chain, and a lever.



The chain, which is supported by the hook from any suitable part of the engine, passes through specially shaped holes in the lever. Once the latter is adjusted in position, the chain is rendered rigid therewith by moving it into the narrow part of the hole; it then forms a fulcrum for the lever, enabling the valve spring to be raised without difficulty and the cotter pin removed.

A MOTOR-CAR exhibition is to be held in the St. Lawrence Arena, Toronto, Canada, from the 21st to the 28th March next—the same week that the Cordingley Show will be held at the Agricultural Hall, London.

MR. LAWRENCE BELL is the managing director of the Peebles Motor Company, Ltd., of Tweed Green, Peebles. Nearly a dozen cars are maintained for hiring purposes, and the plant is well devised for repair work as well as the ordinary garaging of automobiles.

"KUKLOS" is the *nom de plume* of Mr. Fitzwater Wray, who writes motor notes for the "Daily News," as well as columns of touring gossip for cyclists. Some of the latter articles have been reprinted as "A Vagabond's Note Book," issued from the office of the journal in which they originally appeared. Those on Brittany, Ireland and Lakeland are full of interest, the author's characterisations of persons, as well as of roads, proving the possession of an observant eye. The two hundred pages are enlivening reading, and the only suggestion we would make is that the second edition should contain some reproductions of Mr. Wray's photographs, which would give a "local habitation and a name" to some of the scenes he well describes.

WE understand that Mr. Frank Morris, the well-known eastern counties pioneer of automobilism, and erstwhile automobile engineer to His Majesty King Edward, is severing his connection with the manufacturing branch of the business at King's Lynn, and is shortly identifying himself with a new London undertaking.

THE G. and R. carburettor, which was illustrated and described in the *M.C.J.* of May 18th last, is now known as the Acton. It is made by the Acton Carburettor Company, of Sawclose, Bath, and is claimed to be not only absolutely automatic in its action, but to use any grade of spirit, and to effect an economy in consumption.

AN instance of the rapid strides by which mechanical traction is superseding the horse is afforded by the fact that the Bishop of London has decided to do away with all his horses and carriages and henceforward rely upon motor-cars only. This hard-working bishop only began motoring a few months ago, but, since that time he has travelled thousands of miles by car and has never once been delayed on the road or late for a single appointment. Moreover, he finds it possible to carry out many more engagements than he formerly could. His lordship has just placed with the Motor Supply Company, Ltd., another order for a 14-20-h.p. Renault double landaulet, so made as to be completely open by day and to close at night, when the inside of the car will be electrically illuminated.

MESSRS. J. WILSON BROWNE AND SON, 34, Ludgate Hill, Birmingham, for whom the Motor Accessories Company are London agents, have issued an attractive poster, which should serve the provincial trade in drawing attention to the "Orto" motor lamps made by the firm. These are made for the head, sides, or rear of the car, and are all of high grade quality as well as good design. The head lights are the separate-generator-type of lamp, and are fitted with Messrs. Browne and Son's lens mirror. The "Orto" special side lamp has a patent dioptric lens to the steps on the inside, so that the front of the lens presents a smooth surface to the elements. There is none of the coating of the steps of the lens with mud, rain, &c., that frequently occurs when these are placed on the outside.

THE "Roberts" Non-Skid Motor Tyre Tread Manufacturing Company, Ltd., of the Gripwell Works, St. Mary's Row, Birmingham, have issued a revised price list of their specialities. The firm also undertake repair work and supply studded leather bands, leather detachable non-skid bands, &c. Messrs. Roberts' "Gripwell" studded tyres are well known to motorists. The system adopted to secure the studs prevents their being pulled out in wear, and mention may also be made of the Fixquick detachable bands, made from the finest quality of chrome leather. The clips are made from special steel, coppered to prevent rusting, and fit closely into the rim or bead of tyre. Each band is fitted with a renewable tread, which when worn out can be replaced at a small cost. The list also describes and illustrates a compound high-pressure pump, by which it is claimed a man can obtain from 60 to 100 lbs. pressure with a minimum of effort; an automatic tyre tester, the "Peerless" jack, motor repair outfits, &c.

THE South Western Motor and Rubber Company, of 9, Royal Parade, Kew Gardens, S.W., the makers of "The Grip" non-skid, have purchased the sole British rights in a new emergency motor tyre patch known as the "Marles." It is intended for use with covers in which bursts, more or less large, have developed. The patch, which is interposed between the inner tube and the cover, is made of round or oval shape; it consists of specially prepared canvas in which a large number of short pins have been inserted, the heads of the latter being well protected. By fixing it between the tube and cover, the air pressure causes the patch, through the agency of the pins, to grip the cover and so hold itself in position without any solution or vulcanising being necessary. The patches are made in various sizes, from 2 in. in diameter to 7 in. by 9 in.; they can be supplied singly or in sets of three, and, in view of their utility and the small space they occupy, motorists will find them a useful addition to the spares carried on the car, and so be prepared to meet unexpected tyre troubles.

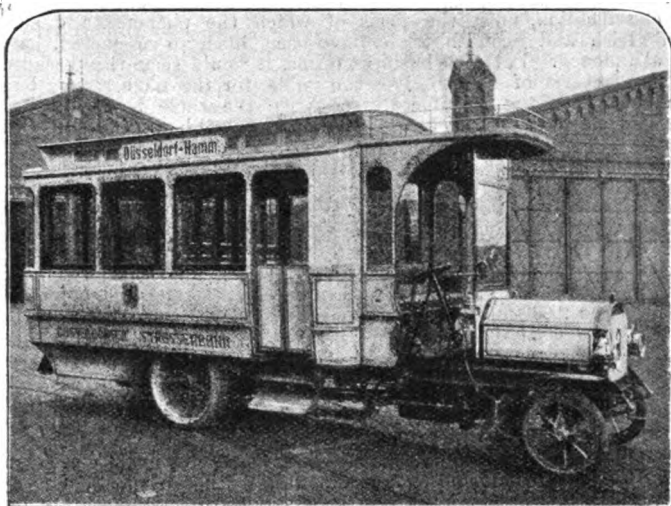
CONTINENTAL NOTES.

A Trial of Light Delivery Vans.

The "Auto" of Paris, in conjunction with "Le Poids Lourd," proposes to organise early this year a reliability trial of delivery vans for loads of from 8 to 24 cwt.

An "Elastic" Wheel Competition.

The "Auto" has issued the rules for the spring and elastic wheel competition it proposes to hold in France from the 7th to the 17th April next. The vehicles to which the wheels are fitted



The novel Motor-Bus in service between Dusseldorf and the suburb of Hamm, Germany.

The chassis is a 28-h.p. German Daimler, and the body, which, as will be seen, resembles that of a tramcar, is divided into two compartments for smokers and non-smokers respectively. The vehicle is lighted internally and externally electrically off a battery of accumulators carried under the driver's seat.

will be divided into five categories as follows:—Class 1, single-cylinder vehicles up to 100 mm. bore; two-cylinder ditto, up to 80 mm. bore, and four-cylinder ditto, up to 65 mm. Class 2, four-cylinder cars up to 85 mm. bore. Class 3, ditto, up to 100 mm., and six-cylinder vehicles up to 85 mm. Class 4, four-cylinder cars up to 125 mm. bore and six-cylinder ditto up to 105 mm. Class 5, four-cylinder vehicles up to 125 mm., and six-cylinder ditto up to 105 mm. The minimum weight of the cars in running order, and including passengers in the different classes, must be respectively 750 kilog., 1,000 kilog., 1,250 kilog., 1,500 kilog., and 1,750 kilog. The rules provide that shock absorbers must not be used in conjunction with the springs. Each class will be divided into two sections:—(a) in which no repairs and replacements of wheels or tyres can be made, and (b) in which they will be permitted in those cases where the reservation has been provided for in the entry form. The trial will consist of a run from Paris to Nice and back, a total of 2,100 kilometres, and will comprise eight daily trips of from 200 to 326 kilometres, two days being devoted to an exhibition at Nice, the final day being similarly spent in Paris. The entry fee is £8 per vehicle, the list closing on the 31st March next.

The Brussels Motor Car Show.

The annual motor-car exhibition in the Palais du Cinquantenaire, Brussels, which opened on the 21st ult., has proved so successful that it is being continued until the 5th inst.—three days longer than at first intended. Belgian motor-car builders are, of course, well to the fore, the vehicles on view comprising the Metallurgique, Auto-Mixte, Bovy-Dheyne, Imperia, Dasse, Fonds, Germain, Royal Star, Linon, Minerva, Nagant, Pipe, U.S.B., Vivinus, and Springuel, the last-named being an entirely new vehicle. The French industry is also well represented by Clement-Bayard, Berliet, De Dietrich, Unic, Brasier, Panhard, De Dion, Delahaye, Delaunay-Belleville, Clesse, Hotchkiss, Peugeot, Charron, and Brillic. From Italy come the Isotta.

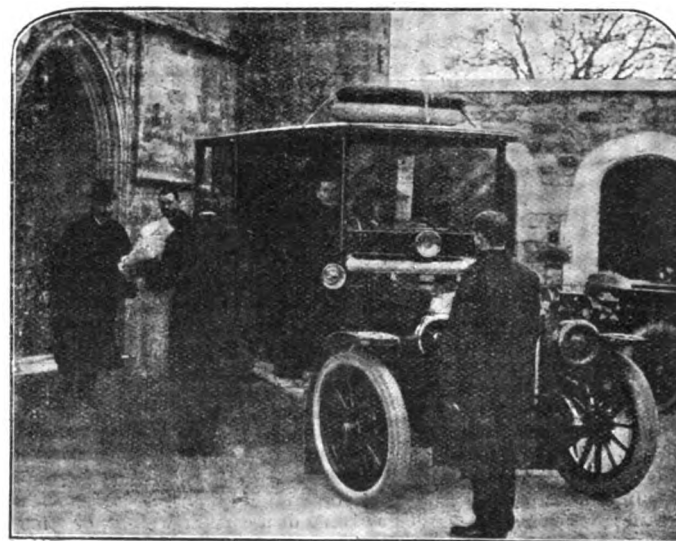
Fraschini, Fiat, Itala, Hisa, and Lancia cars. Germany sends the Mercedes, N.A.G., Stöwer, and Bussing, while American vehicles are represented by the Ford.

The Motor Movement in Bulgaria.

According to a Consular report the roads and bridges throughout Bulgaria are being improved and repaired, and a profitable field for British enterprise presents itself in the development of the motor industry. Motor-omnibus services are being established with native capital in various parts of the country for the conveyance of passengers and goods from railway stations to outlying towns, and the omnibuses hitherto purchased for these services are said to be of German or Austro-Hungarian manufacture. The Government, too, is keenly interested in the development of this departure, and a thoroughly organised motor service conveys the mails to and from the Sofia Railway Station. In this case the vehicles are for the most part of French make. A similar postal service is in contemplation in the chief Bulgarian towns, and also for the transport of Government mails to towns which are not yet connected by rail. A motor lorry—the first of its kind to make its appearance in the streets of the capital—is being used by a large pottery firm, and is said to be giving great satisfaction.

Miscellaneous Items.

... A motor-bus service has lately been started in the town of Burgos, Spain.—The Minerva Company has decided not to take part in the 1908 Grand Prix race.—The Renault motor-cabs in service in Paris are about to be provided with a hood over the driver's seat for use in bad weather.—The Dowager Queen Margherita of Italy has just sold all her horses and carriages and transformed her stables for use by motor-cars only.—The death is announced of Comte Van der Straeten-Ponthoz, one of the founders of the Belgian Automobile Club; the deceased, who was ninety-four years of age, was an enthusiastic motorist.—A company has just been formed in Antwerp with the title La Société Anversoise pour la Camionnage Automobile, to start a new motor-lorry service in that city.—The Auto-



During the German Emperor's recent visit to this country he attended the Priory Church, Christchurch. The photograph reproduced shows His Majesty about to enter his Daimler Car after attending the Church on the 1st ult.

Photo by]

[Stanford, Besenbde.

mobile Club de Nice proposes to once more hold a series of mile and flying kilometre speed trials during the Nice automobile week.—A company has just been formed in Olot, in the Spanish province of Gerona, to establish a public motor-car service in the district.—The Association Generale Automobile, of Paris, has decided to open a branch in London.—A Union of Builders of Voiturettes has just been formed in Paris by nineteen makers of light cars in France.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

DEFINITION OF A TOURING CAR FOR COMPETITIONS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—On examination of the list of touring car standards as fixed by the S.M.M. and T. in conjunction with the expert committee of the R.A.C., we regret to find that, at least as regards the smaller type of car, the standards as at present fixed entirely cut out several well-known standard two-seated cars which have proved their worth in open long distance reliability trials and hill-climbs. As an example, we may cite the 8-h.p. Phoenix two seater. On engine dimensions it is not eligible for Class 1, which is limited to 6.4, and on weight it is not eligible for Class 2. The full weight of the car, including passengers, spares, luggage, &c., is practically 12 cwt., and, therefore, is prohibited from competing in Class 2 for the reason that cars in this class must scale not less than 17 cwt.

When the 8-h.p. Phoenix was designed, weight was kept within reasonable limits, the object in view being a two-seater, light on tyres, and cheap in upkeep, yet of sufficient power to prevent continual recourse to the speed change lever. In actual price forty-eight miles' running can be had out of a gallon of petrol, and an average of twenty miles an hour can be maintained all day, and there is no getting away from the fact that such a small car is desired by many. We are in agreement that standards should be fixed that will prevent



Mr. Charles Jarrott on his new 120-h.p. De Dietrich Racing Car. The photo was taken at Brooklands Track, where Mr. Jarrott had been trying the speed of the vehicle, some very fast circuits being made.

a freak car being built capable of scoring in a particular competition, but if the published standard be adhered to the Phoenix and other well-known light cars will be prevented from taking part in the forthcoming 2,000 miles trial.

It is stated that the definition generally is designed to leave as much latitude as possible to the makers, and at the same time admitting the majority of standard cars without alteration, but in several no alteration less than the adding of many hundreds of pounds of dead weight will allow those cars to come within any class. It was doubtless considered in drawing up the table that a car of a certain power may be regarded as being of a certain weight, but here we can very well profit by the experience taught us by the evolution of the bicycle. A bicycle used to weigh more than four times what a good sound machine now turns the scale at. Experience and research have brought the machine to its present form, strong enough for any work and yet light—a result which would undoubtedly have been delayed for years had a minimum weight been fixed by some authoritative body when the machine was put to the test.

It is to be hoped that the S.M.M. and T. and the R.A.C. will reconsider this matter as applying to light cars. There is certainly every justification for their so doing.—Yours truly,

PHENIX MOTORS, LTD.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have very carefully read and considered a pamphlet containing a résumé of work of sub-committees on the above subject, together with the chart published by the the Society of Motor Manu-

facturers and Traders with reference thereto. We desire to direct your attention to views which we hold upon the 1908 International Motor Contest; they are as follows:—

(1) The sub-committee are reported to have carefully considered the question of classifying the said contest by price, and have come to the conclusion that such classification would be impracticable, because "there might be in one class two cars widely separate so far as horse-power is concerned, e.g., a car (A) 50-h.p.; car (B) 30-h.p., and the chassis price in each case £850."

The above appears to be the only attempt at an explanation why price classification, upon the basis of which the phenomenally successful Irish and Scottish trials have been hitherto conducted, has been abandoned. Put into business terms, it would seem that because the manufacturer of B car gives the public for the same money less horse-power than the manufacturer of A car the whole industry must be handicapped for fear of hurting the feelings of the manufacturer of B car.

We believe that it is granted that all business is conducted and maintained successfully because of competition, or in other words, that the manufacturer of any commodity, whether pins or automobiles, commands the largest market who gives the best value for the lowest price. If it should be contended that the manufacturer of A car, because he gives 20-h.p. more in his vehicle, is giving an inferior vehicle to the public for the same money, then surely it is the first object of the proposed 2,000-mile trials to expose that manufacturer, and if it will not do so, the only reason for organising the trials is immediately negated. Doubtless every entrant in the proposed trials will have as an ulterior motive the desire to prove by public demonstration that his car is the most reliable or speediest, and successful competitors will "use" their success solely for the purpose of attracting purchasers for their cars.

We believe it is an axiom that the governing factor in the purchase of every commodity, including automobiles, is that of price, consequently, if the proposed trials are to be of service to manufacturers, or afford evidence to the probable purchasers of automobiles, they should be subjected to the same governing factor. Moreover, in ignoring price may it not be suggested that the legitimate and laudable competition to produce the best car at the lowest price is being deliberately stifled? We therefore submit that on the question of classification by price the committee's decision is inflicting an improper handicap upon the industry without adequate reason; such handicap being so prohibitive that it amounts to positive exclusion of a number of well-known and popular cars.

(2) Having declined classification by price, the joint committee have substituted classification according to the R.A.C. Rating Formula.

We do not think there is anything which we can say on the subject of this formula which will aid to the general condemnation of the same, which has been published from time to time since the said formula was invented, except that when it was first published its use was merely suggested for purposes of general comparison (*vide* circular letter of the society dated November 9th, 1906), and the said formula has been usually defended on the ground that it was merely a rough and ready method of making comparisons between various engines. That it should now be adopted officially as an exact and reliable basis of rating entails consequences which are disastrous indeed.

(3) Coupled with rating according to the said formula, the committee have laid down an arbitrary rule as to seating capacity, which, briefly put, means that every car having an engine giving more than 12-h.p. R.A.C. rating shall carry four passengers. In other words, this means that any manufacturer who attempts to give the public a standard two-seated car with anything greater than a one or two cylinder engine is to be tabooed and, so far as the club and society can control matters, shut out of the industry.

(4) The committee also include an arbitrary rule as to the weight of vehicles fitted with engines classified as above. We do not understand upon what logical basis these arbitrary weights have been calculated—e.g., Class 1 permits of an engine with maximum horse-power 6.4 and compels such vehicles to weigh complete with passengers 13 cwt.; two passengers averaging 12 st. each absorb 3 cwt., therefore the 6-h.p. vehicle has to weigh or, if it does not weigh, has to carry ballast to make it weigh half a ton. Class 10, which permits of a 60-h.p. engine—that is, an engine ten times as powerful—has to carry only four people instead of, logically, twenty people; it has to weigh exclusive of passengers, on the above-mentioned basis, only 34 cwt. instead of, logically, 5 tons. We recognise that it may be contended that an engine rated at 60 h.p. is fitted for the purposes of speed, which is not expected from the 6-h.p. engine; surely there should be something wrong about such a contention if advanced on behalf of the governing body in the automobile business of Great Britain when the legal speed limit is twenty miles per hour and the said chart has been specifically prepared to apply to "touring cars."

If, in the proposed trial, the 6-h.p. car will not show up an average speed very near to the legal limit it will not stand any chance of success, nor incidentally would it be bought by the public, however successful it was in the competition; consequently when the com-

mittee invent arbitrary handicaps, it is incumbent upon them to handicap pro rata for increasing horse-power, and to make no allowance for potential transgression of the law. We respectfully submit, moreover, that the whole question of fixing an arbitrary minimum weight, except minimum weight of load carried, is theoretically and practically wrong, and contrary to the best evidence of all past experience. There are a large number of gentlemen engaged in the automobile world to-day who were ten years ago leading lights in the cycle business. Moreover, quite a number of our leading motor builders to-day are old cycle manufacturers. Consequently, a reference to the evolution of the present-day bit of perfect mechanism known as the bicycle is surely not out of place, and should help in the evolution of a perfect automobile. Cycle racing and cycle reliability competitions were extremely popular in that state of the cycle industry which may be fairly compared with the existing state of the motor trade. Would it be impertinent to ask what would have been said by such prominent firms of bicycle builders as Humber, Swift, Singer, Rover or Rudge if the N.C.U. had stipulated that all competitors in, say, the Cuca Cup twenty-four hours race were compelled to ride a bicycle weighing, say, 60 lbs. minimum, with a gear not higher than, say, fifty-six inches with wheels of certain limited dimensions, &c.? We would seriously ask whether the modern bicycle has not been evolved, and particularly has been proved a safe vehicle of light weight, owing to the fact that no such restrictions were imposed in the cycle competitions.

It is, of course, admitted that automobiles can be built too light, but the whole object of the proposed 2,000-mile trial is to eliminate badly designed and badly constructed cars, and unless the competition can be relied upon to weed out such vehicles, surely no system of arbitrary handicap will ever effect such a weeding process satisfactorily. Moreover, it is a sign of weakness from the competition point of view that it should be considered necessary to enforce arbitrary rules upon entrants. We submit that the popular demand at the present moment is that the society should organise a competition the result of which will show to the public which automobiles are the best, most reliable, and last, but not least, most economical both as to capital cost and cost of running. In the foregoing remarks we have endeavoured to deal with the subject generally. As you are aware, we are interested in the sale of a specific car, viz., the Ford, and when we state that upwards of 10,000 two-seated 15-h.p. four-cylinder Ford cars have been sold, we believe you will recognise that the car is not only standard, but a popular one. The bore of the engine fitted to the Ford car above mentioned is 3½ in., showing 22½ h.p. R.A.C. rating. The weight of the car complete with two-seated body (standard model) is 10 cwt. The above particulars are absolutely standard and apply to 10,000 Ford cars in use at the present moment. In order to compete in the Scottish trials last year we fitted a four-seated body to the standard two-seated chassis; the weight of the complete car with the four-seated body, lamps, tools, &c., as officially recorded by the S.A.C., was 11 cwt. 1 qr. 13 lbs. If it is assumed that four passengers averaged 12 st. each they would weigh 6 cwt., and allowing a further 1 cwt. for luggage, the total weight of the car would then have been 18 cwt. 1 qr. 13 lb. or more than 9 cwt. lighter than the standard minimum weight now suggested by the committee. Moreover, the above figures are strengthened when we state that the car which competed in Scotland as a four-seater was a standard two-seater, and should have been allowed to have competed as it was sold, i.e. total weight with two passengers and luggage 12½ cwt. That the Ford car is not too light has been proved over and over again until it has now become a recognised fact.

Consideration of the above facts will lead to a realisation of how hardly the proposed classification of "standard touring cars" will handicap the Ford car. We recognise the R.A.C. and the S.M.M.T. as the governing bodies of the sport and business of automobilism in Great Britain, and have no keener desire than to be loyal subjects to these bodies. We submit that if a car is designed to carry a given number of passengers, it should be compelled to carry that number together with any reasonable weight of baggage which may be considered necessary, but we are strongly of the opinion that it is theoretically as well as practically wrong to exclude the popular product of a manufacturer from competitions because the manufacturer has discovered that automobiles have hitherto carried a good deal of surplus and unnecessary weight.

We are content to abide by the result of the competition—that is to say, if a car is badly designed, of bad material or workmanship, or too lightly constructed, that the extraordinary test of a 2,000-mile trial should make public demonstration of such defects. On the contrary, if a car weighing less than one-half of the standard minimum weight can go through the strenuous ordeal of the proposed trial, then surely the committee will have demonstrated that current ideas as to the necessary weight of a chassis are wrong, manufacturers will have gained valuable experience, and the public be saved from having in future to pay for surplus and unnecessary "scrap iron" in their automobiles. That lightness is an essential feature in automobile construction must surely be admitted when it is considered that petrol consumption and tyre upkeep are largely governed by weight.

—Yours truly,
PERRY, THORNTON, AND SCHREIBER, LTD.

THE CHEAPEST MOTOR-CAB.

To the Editor of *The Motor-Car Journal*.

SIR,—We have recently noticed some correspondence and discussion in the motor Press, and the claims of a certain company to the effect

that they produce the cheapest motor-cab on the market. It appears to us that there is no great kudos attached to producing the cheapest article in any trade, unless the manufacturer can at the same time claim and prove equal if not superior qualities to those possessed by the more expensive article. It also does not necessarily follow, because a firm of reputation is producing a satisfactory cab, that another firm of more recent origin cannot and does not produce an equally satisfactory and reliable vehicle at a cheaper figure.

We are living in an age of rapid advancement, and improvements in motor-cars of every description, and have by no means reached that state of perfection and standardization that some firms would have us believe. We have recently visited the Olympia, Paris, Berlin, and Brussels Motor-Car Exhibitions, and have made a study of the various cab chassis and transmissions exhibited. After exhaustive trials of almost every build catering for this particular branch of the industry we have arrived at the conclusion that the great majority are unnecessarily complicated, and therefore equally unnecessarily costly to produce and maintain in good repair. We have, therefore, adopted the simplest of all the systems exhibited, and have placed a large contract for early delivery in 1908 with the Deutsche Motor Fahrzeug Fabrik, of Berlin, whose exclusive selling and manufacturing rights we have obtained for the United Kingdom of Great Britain and Ireland, its colonies and dependencies. These cabs are being specially constructed for us on the "Hornstein" patent friction disc system to our own specification, which has been drawn up to meet all the detail requirements of the Scotland Yard authorities.

The 10-12-h.p. two-cylinder water-cooled engine is fitted with high tension magneto and coil and accumulator ignitions. On the crankshaft is fixed a large metal disc which acts as a flywheel. A leather-faced



The Christmas Card issued by Messrs. J. E. Hutton and Co., Ltd., to their Clients.

As will be seen, it is particularly up-to-date, representing as it does a Berliet car pounding through the floods which have recently been so prevalent.

wheel placed at right angles conveys the drive from the metal disc direct from the propelling shaft to the rear live axle. A hand lever is used to slide the driving wheel over on the propelling shaft to and from the centre to the periphery of the disc, as the speed is required to be changed, and a direct drive is obtained at all speeds, forward and reverse. There is also fitted a foot pedal by means of which the contact between the friction wheels is broken and either the car or engine can be run free. Ball bearings are used throughout, and owing to the simplicity of construction and the entire elimination of gear-box and other unnecessary mechanical parts, great efficiency is obtained, and in consequence the fuel consumption is very low.

At the moment we do not propose to make any definite claims, but we have every confidence in stating that we will prove our cab to be equally satisfactory to any at present in use in this country, and when this has been proved we shall be in a position to supply not only the cheapest, but one of the most efficient and most reliable motor-cabs on the market.—Yours truly,

C. GRAHAME-WHITE AND CO.

LOW TENSION MAGNETO TROUBLES.

To the Editor of *The Motor-Car Journal*.

SIR,—I have the same kind of trouble with a Richard-Brasier car as your correspondents "Frank" and E. J. Watts. Will the latter kindly explain what he means by the "trip rod"? My car is of the 1905 type and has nothing connected with the ignition which corresponds to this name. Does he mean the lifter makes contact with the tappet rod, or that the tappet rod makes contact with the spindle at the wrong time? I would be much obliged if he would more fully explain, and

perhaps give a diagram of what occurs. My car runs at times as well as ever it did, and then suddenly dies away. When the engine runs fast the car goes all right, but will not face a hill as it should, and will not pick up after slowing down. This has gone on for weeks, no matter how I change the tappets and plugs, always turning the engine exactly by the marks on the fly-wheel. I have had the carburettor down several times and tried everything I can think of.—Yours truly,

TALLY-HO.

THE RELIABILITY OF MAGNETOS.

To THE EDITOR OF *The Motor-Car Journal*.

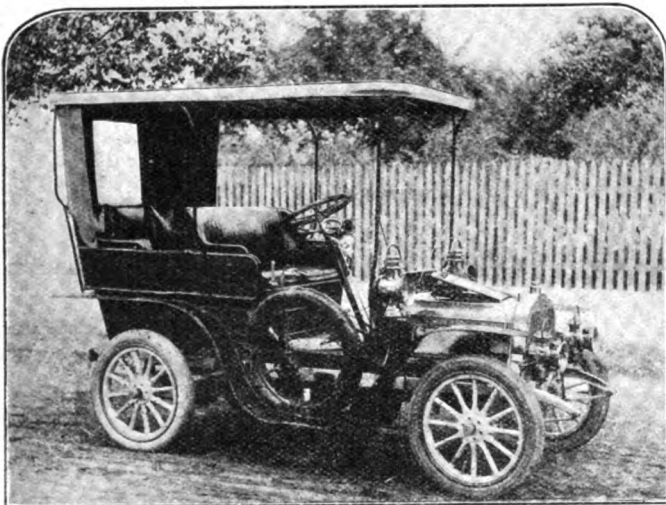
SIR,—Seeing in the last number of the *M.C.J.* a query by a correspondent who signs himself A. W. R. in regard to reliability of magnetos, I should like to state that I have got the Simms-Bosch high-tension ignition fixed to my car, and I have run a little over 8,414 miles without adjustments of any kind.—Yours truly,

D. YOUNG.

WANT OF COURTESY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an instance of how not to behave when motoring I give the following account. My three little children with their nurse had taken a favourite old spaniel for a walk last Bank Holiday. When near the bottom of the Golf Club Hill, Crowborough, a motor-car came down the hill and ran over and killed the old dog. After continuing a short way the vehicle was stopped and the chauffeur descended. My eldest boy, aged 9, ran after the car "to take their name and address," as he



The 8-10-h.p. Talbot Car, belonging to Mr. W. Beere, of Bendigo, Australia, which has been in use for two years and two months and still goes as well as when first purchased.

afterwards told me. When he was seen approaching the gentleman, the only other occupant of the car, and the chauffeur hurriedly drove off. A lady who was passing at the time driving a carriage most kindly conveyed the remains home. I am a motorist myself and have been driving cars since 1896, and know full well the danger of suddenly swerving when travelling fast in order to avoid a dog or other animal. But I think common courtesy demands an apology in a case of this kind. It may be a satisfaction for this particular driver, whose number I send you, to know that he killed the dog outright. A word of advice to him, "Do not always run away unless you are quite sure that there is no one to take your number."—Yours truly,

R. S. K. E.

AN OPTICAL ILLUSION?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In giving his version of this phenomenon, Mr. Herbert J. Chapman criticises the statement made in your issue of December 14th that a (motor-car) wheel may be considered as a series of levers of the second order. Now nothing was said about the power being applied at the top of the wheel, or that the levers in question were constituted by two diametrically-opposite spokes, although Mr. Chapman appears to have so mis-read the reply. He is further in error in stating that the power is applied at the centre of the wheel, as in a motor-car this is not the case, for, no matter whether the drive is by cardan or chain, the force is exerted at a point corresponding with the pitch line of the bevel wheel or sprocket as the case may be.

He next remarks that he has heard before that the top spokes travel faster than the bottom ones, but does not agree with it. This

is on a par with those argumentative people who declare that the earth is flat. Regarding his subsequent remark that the top of the tyre travels faster than the bottom owing to weight deflection, this can only be in relation to that section of the tyre in contact with the ground, and does not in the least affect the truth of the statement that the top spokes travel faster than the lower ones, or the top of the tyre (considered as a whole) travels faster than the bottom, independently of any question of weight deflection. Again as to horse-drawn carriages, in which Mr. Chapman says the phenomenon is not observable, here, although it is true there is no differential, any swaying of the vehicle will allow the wheels to vary their relative speed as required, seeing that each wheel is independent of the other.—Yours truly,

APPRENTICE.

MAGNETO TROUBLES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am pleased to say that the trouble which was causing the misfiring on a Brasier four-cylinder 12-16-h.p. car has been traced to the carburettor, as stated in your useful paper of the 21st ult., also, lack of compression in rear cylinders, due, presumably, to the piston rings being half worn out, owing to inadequate lubrication.—Yours truly,

FRANK.

A "KNOCKING" QUERY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you would explain the possible cause for the knocking trouble outlined below. The car runs perfectly for ten miles, and without any change in the character of the road and without altering the position of the ignition lever suddenly "knocks" furiously. The trouble is relieved by retarding the spark, and the motor runs as usual for another five miles, when it misbehaves in the same way.—Yours truly,

J. ASHHURST.

[The knocking is probably due to pre-ignition from carbon in the cylinder or from over-heating of some internal part. The inside of the cylinder will reach its maximum temperature when the engine has been "pulling" heavily for a considerable period at a time.]

SURREY AND LICENCES.

To THE EDITOR OF *The Motor Car Journal*.

SIR,—The Surrey County Council are once more endeavouring to get residents who pay licences for armorial bearings, carriages, motor-cars, motor-bicycles, dogs, guns, and male servants, to pay their duties in the county of Surrey. May I express the hope that motorists, sportsmen, and all people who are actuated by a sense of fair play be particular and take out their licences in any county but Surrey, as this is undoubtedly the most police trap ridden county in the whole of the kingdom? The traps are not worked to protect the public, but simply to collect the fines, whilst as to the benches of magistrates it is only necessary to point to Kingston, Guildford, Reigate and Epsom to see it is hopeless for any motorist to expect a fair hearing. Therefore I say, pay your licence duties in any county but Surrey.—Yours truly,

J. CROW.

We have an inquiry for the maker of the "Fulminator" two-cylinder coil; also one for the manufacturer of a mica wind screen.

At the moment of going to press we received an important letter from a northern correspondent on the organisation of motorists, which will have publicity in our next issue.

We are asked to state that the Westminster Motor Car Garage, of 174, Kensington Place, Westminster, S.W., the Westminster Bridge Motor Garage, Westminster Bridge Road, S.E., and the Westminster Motor Works, Ltd., 45, Horseferry Road, S.W., have no connection with each other.

THE LONDON AND PARISIAN MOTOR COMPANY, LTD., write:—"On December 23rd our premises at 87, Davies Street, W., were entered between 4 p.m. and 6 p.m. and a silver cup won by a 14-h.p. Vulcan at the Blackpool 1906 race meeting was stolen. The strange part of the theft was that a larger and more valuable cup won by the same car was left behind. Both were standing on a table in the showrooms. We should be obliged if you would give publicity to the above, so that you, through your valuable medium, may help us to recover the trophy, which is inscribed 'First Prize for Standing Mile, won by 14-h.p. Vulcan, Blackpool Races, 1906.'"

MESSRS. SHIPPEY BROS., 13 and 14, King Street, Cheapside, London, E.C., write with reference to their importation of American motor-cars that their object in approaching a financier on the subject was as follows:—(a) The employment of English chauffeurs to run these cars on our behalf; (b) To give English engineers repair work on all cars imported, as we have always done on the large number of American cars hitherto sold by us in this country; (c) To utilise British capital to profitable advantage in a safe paying business for all concerned; (d) And above all to check the flow of many systems of Continental cars to work which the importers also import continental labour to drive and repair them.

THE SCIENTIFIC TIMING OF MOTOR RACES.*

In a motor race having two or more competitors accuracy of timing is not of prime importance, unless a record is established, for the contest is won on place and not on time, and place is easily determined by the eye of the judges without regard to the timing system. There is room for error, however, even in placing the finishers in a close race between half-a-dozen or more contestants. But it is in record breaking attempts and in hill-climbing trials, which are decided solely on time, that scientific accuracy is required. The watches generally used for timing automobile events and horse races cannot indicate any divisions of time shorter than one-fifth of a second. This interval is much too long for the purpose, as a race can be won or lost or a record broken by a smaller period of time. The mile record, established in January, 1906, on the Ormond-Daytona course, is 28 1-5 sec., which represents a speed of more than 187 feet a second. At such tremendous speed a car travels very close to 37½ feet in one-fifth of a second, or fully 2½ car lengths. Now if two cars were coming down the beach together in a competition trial so great a difference as this would be apparent to the judges or timers, and the second car would be timed at 28 2-5, but if the same cars made separate trials against time they might be tied at 28 1-5 sec.

Most watches are not accurate even to one-fifth of a second; the movement has not a continuous, progressive motion, the escapement wheel revolves by a succession of starts and stops, making two stops for each beat of the balance, just as some large tower clocks count off the minutes by the abrupt passage of the minute-hand from one mark to the next. If the stem of the stop-watch were pressed immediately after the escapement wheel had moved the time would be caught correctly, but should the stop not be pressed until the balance had almost completed its swing to release the wheel for the next stop, nearly a fifth of a second would be lost, and a car that had actually covered the mile in, say, 28 19-100 sec. might be "clocked" in 28 sec. dead. Besides this factor of inaccuracy, or mechanical inadequacy, in the stop-watch, there is the human element to be taken into account. This may introduce a serious error, according to conditions. Some men are more adept at operating a stop-watch than others; some are alert and quick of movement, while others are sluggish, so that a measurable time may elapse between the instants that three timers will press the stops on their watches for a given car as it crosses the tape. Unless the men who hold the watches are very expert, there is probability of error in determining the instant that the front wheels actually cross the tape.

Further liability of error exists in the ordinary methods of signalling the start and finish of the event. This is usually done by the firing of a pistol or a similar means. In the case of any manually-operated system some time is consumed in the transmission to the brain of the impression received on the eye. This interval will vary with different persons, just as the period required by the timekeepers to catch the impression of the signal and actuate the stop-watches will differ. If the start and finish are both in sight, and the timers take the time by vision in each case, the error will be nearly constant and the time accurate. It is particularly difficult to time hill-climbing contests by the old method when the starting point is not in sight from the finishing line. When the dropping of handkerchiefs or flags by four or five men stationed at turns is depended upon to signal the instant of start from the base to the top, the element of human error is greatly magnified. It should be evident from the foregoing that far greater accuracy is required in timing motor-car events to obtain indisputable results than has prevailed hitherto.

Next to flight of a projectile, the speed of a racing automobile is the fastest terrestrial movement that we are called upon to measure with precision, yet in one case instruments are used that determine the rate even to the 1-1,000 part of a second, while in the other the only method that is officially recognised in America is the use of stop-watches that cannot measure time to less than the fifth part of a second. The inaccuracies and unsatisfactory nature of the timing of automobile events by the stop-watches manually operated were recognised years ago in France and England. The Automobile Club of France offered a prize of 1,000 francs for the invention of a device that would satisfactorily time motor events automatically. This prize was won by M. Mors, whose instrument was used in some of the earlier trials against time in the United States. It consists in an adaptation of the recording chronometer as used in observatories, with means for automatically registering the passage of a car across the starting and finishing lines. The record is traced by a pen on a strip of paper that is unwound by clockwork. The record can be measured to the hundredth part of a second, and the personal equation is entirely eliminated. It was in the same year that the automatic timing apparatus devised by the author was perfected, patent applications being filed in June, 1904. This complete apparatus has three distinct functions: first, to time the event by starting and stopping split-second watches and moving the pen of a registering chronometer; second, to signal the start and finish by firing a gun; and, third, to provide telephonic communication all along the course. The problems involved are many, as will be understood from the foregoing summary of various timing methods in use and from the following explanation of the McMurtry system.

In order to present the matter more clearly, we will consider the telephone system and timing mechanism separately. The operator at the finish and the man at each intermediate station are in communica-

tion with each other during every instant of a race by means of the wires used also for operating the timing apparatus. Each operator is provided with a transmitter, attached to a metal breastplate strapped around the neck, and a receiver attached to spring-metal straps that fit over the head and hold the receiver to the ear. The transmitter is held in a movable bracket having a cam edge-contact plate, so that when the bell-shaped mouthpiece is pushed down away from the face the circuit is broken and cuts out the sound of the gong, so that the operator can hear anything said by the other men on the line. Spring plug sockets are screwed to the case of the timing apparatus, so that quick connection of the telephones with the wiring system can be made. The use of wire for talking does not interfere with the operation of the timing mechanism on the same wires, as the telephones are provided with condensers which make this dual operation possible simultaneously. In addition to the operator's telephone, there is also a special patrolman's telephone; this is a small, portable affair, hung from a shoulder strap. It consists of a case containing an induction coil, with a trembler and condenser and a combined receiver and transmitter. The trembler is used for calling by giving a loud buzz in the receiver all along the line. With this instrument and a coil of wire, the patrolman can make a quick dash on a motor-cycle along the course to the scene of an accident or of trouble, throw one end of his wire over either line wire, stick the other end in the ground, and at once open communication with the operators at start and finish.

We may now proceed to a consideration of the means employed for closing the electric circuit when a car crosses the starting and finishing line. Various methods have been tried. One of the earliest was employed at the record trials of the Automobile Club of America, on the Coney Island Boulevard, on November 16th, 1901, when Henry Fournier established the world's mile record of 51 4-5 sec. Here the closing of the electric circuit merely rang gongs, by the sound of which the timekeepers started and stopped their watches. A rubber hose was laid across the course and connected with a diaphragm, so that when the air in the hose was compressed the pressure on the diaphragm closed the circuit. This proved unsuccessful, however, as it was found

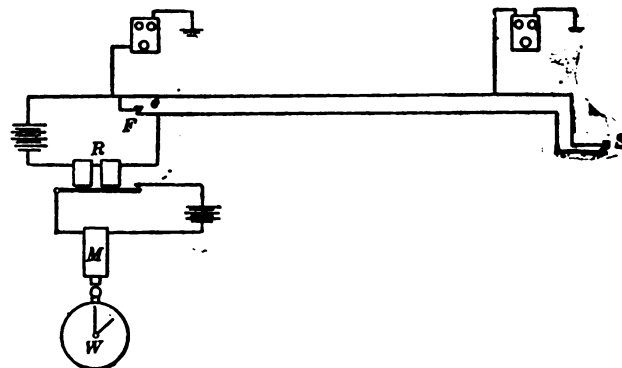


Fig. 1.—Wiring Diagram of Open Circuit.

that the duration of compression as the wheels of a car passed over the hose was so short that the pressure communicated to the diaphragm was insufficient to close the circuit.

Finally, an automatic trap was devised that overcame all these defects. The trap consists of a flat, rectangular box, to the top of which is secured a spring scales registering up to 60 lbs. To one end of the scales is attached a short chain that passes over a metal pulley, having a reduction of one-half, and is connected with a wire strung across the course. The scales are merely intended for the purpose of determining the tension of the wire, which is usually drawn to a tension of fifteen pounds, indicated as thirty on the scale. Mounted on the end of the shaft of the reducing pulley is a trigger arm that can be tightened on the shaft by a set screw after the trigger has been set. Engaging with the lower end of this trigger arm is a spring-actuated lever that, when released, makes contact with a stationary contact post, and so closes the circuit to start the watches of the timing instrument. At the same time another lever is released that opens the circuit, after a given interval, by means of clockwork, so that the watches can be operated again when the first car reaches the first intermediate post or the finish.

We now come to the consideration of the actual time-indicating apparatus. In its complete form, as first used at the Florida beach meet in 1905, this was arranged to operate six split-second watches. A later form, used the following year, was built for only three watches, as the officials did not care for the intermediate times and the racing rules called for only three time-pieces. The original apparatus was also provided with an extra relay for operating a registering chronometer, but this was not used the following year, owing to the expense involved and the fact that, notwithstanding the chronometer would have given more accurate and permanent records of the events, the watches would have to be used any way, as there is no provision in the racing rules that allows timing by any other means than watches.

The six watches were set in a row on the panel and secured rigidly in position with clamp screws, so that the watches could be started and

*Abstract of paper read by Mr. A. L. McMurtry before the American Society of Automobile Engineers.

stopped by a set of plungers called "sweepers," acting on the stems, and the split hands operated by a set of smaller plungers, called "splitters," acting on the escapement knobs. By means of an automatic current-distributor, all six watches were started simultaneously when a car crossed the starting line. Then when it passed an intermediate station three of the splits were stopped to indicate the time for that distance. At the next intermediate point the second three splits were stopped and the first three reset, and so on automatically to the end of the event, when all six watches were stopped. Forward of each watch, below the panel, were magnets which, when energised, actuated the sweeps and splitters. Above the panel were two relays for closing the circuits through the battery and distributor.

Besides the apparatus and attachments already described, the mechanism was provided with a third relay for use in connection with a gun mounted on a standard in the timing stand for automatically signalling the start and finish of the race. The gun was a repeating shotgun, which had the stock and muzzle sawn off. After it had been fired it was merely necessary to move the grip to eject the discharged shell and load a fresh shell into the breech. Magnets were attached so that when energised from the batteries, through the relay on the panel by the closing of the circuit through the automatic trap, the trigger was depressed and the gun discharged at the same instant that the watches were started. A switch was provided for each relay and for the distributor. In addition, a milli-ammeter was secured to the panel, with a key to throw it in circuit, for determining the strength of the current at any time.

The wiring system of the timing apparatus is so arranged that by the movement of a single lever, operating several switches, the system can be changed from the open circuit to the loop system. The open circuit is the simpler and cheaper, requiring batteries at only one point. A diagram of this system is shown in Fig. 1. The arrangement is the

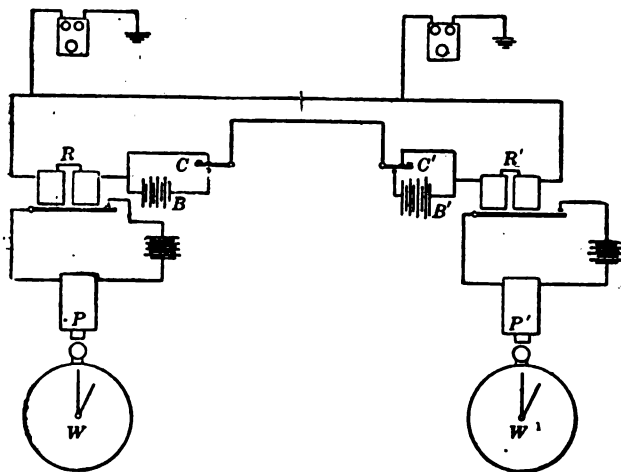


Fig. 2.—Loop System in the McMurtry Apparatus.

same as in an electric bell circuit having two push-buttons, a relay taking the place of the bell. When the circuit is closed at the starting point S, the relay R is also closed and the watch W is started through the action of a magnet M on the plunger. The same operation occurs when the circuit is closed at the finishing point F, when the action of the relay stops the watch. So it is only necessary to close the circuit at any point to operate the watches. Against the simplicity of the open circuit are the manifest disadvantages that timing instruments can be used at only one end of the line, and that a crossing of the wires at any point will close the circuit and perhaps put the entire system out of operation.

In the loop system, shown in Fig. 2, the upper and lower contacts are used so that when both keys C and C' are up the two relays R and R' are in the circuit. Upon pressing the key a line battery B or B' is inserted in the circuit, and this operates the plungers P or P' situated at start and finish, thereby operating the watches W and W'. With this system it is necessary to have a battery at each point where a telephone and timing key are to be placed. This is expensive and troublesome, but it has the advantage that as many instruments as desired can be used, and the line is protected against interference by outsiders or the accidental crossing of the wires, resulting in short-circuiting. By constructing the apparatus with the switch previously mentioned, it is possible to use either system as desired, without entailing any trouble in changing the wiring. There are condensers on the relays to prevent sparking, and external magnetism had to be guarded against to prevent magnetising the watches.

An important feature of the apparatus is its portability. In Florida the instruments at times had to be taken up and transported twenty miles before the tide came up. The traps had to be changed frequently for races at varying distances, as from the kilometre to the mile, in the shortest time. One such change, including a run of 62-100 of a mile, was made in seven minutes. There is, of course, a lag in the mechanical operation of the instruments, but this is a negligible

quantity, since the lag at one end is balanced by that at the other. It has been determined by experimentation, for example, that there is a lag of 1-20 of a second in the series of operations, including the depressing of the wire attached to the trap, releasing the trigger, closing the circuit, the mechanical operation of the relay, closing the local watch circuit, operating the watch plungers and starting or stopping the watches.

The purpose of this paper has been fulfilled by showing that accurate timing of automobile events is necessary, and that it is possible to time them to the precision of the 1-100 part of a second by absolutely automatic electrical and mechanical means whereby the personal equation and the shortcomings of the stop-watch are eliminated.

COMPANY NEWS:

PREMIER ACCUMULATOR COMPANY.—£25,000. To acquire the business carried on by A. Schanschiff and H. Stephens at Northampton as Premier Accumulator Company. Cattle Market Road, Northampton.

OLDHAM MOTOR COMPANY.—£5,000. As title. 36, Manchester Road, Oldham.

WINCHESTER MOTOR AND DEAN'S ENGINEERING COMPANY.—£15,000. To take over business of engineers and motor-car manufacturers and repairers, carried on by Mr. F. J. Dean, at Upper Broad Street, Winchester.

HARRY W. COX AND CO.—£5,000. To acquire business of electricians, engineers, &c., carried on by Harry W. Cox, Ltd., at 1A, Rosebery Avenue, E.C. 47, Gray's Inn Road, W.C.

T. TOWARD AND CO.—£18,000. To take over the business of engineers, boiler and tank builders, and the like, carried on by T. Toward and W. Toward at the St. Lawrence Ironworks, Ouseburn, Newcastle-on-Tyne, as T. Toward and Co.

A. VEDRINE AND CO.—The annual meeting of this company has been held in London. Moving the adoption of the report, the Chairman (Mr. M. Ulcoq) stated that the works at Courbevoie and Rouen had been greatly improved, and at the latter place they had turned out a number of taxi-cabs which had been seen in the streets of London and Paris. There was a net profit for the twelve months under review of £4,963, to which had to be added £6,900 brought forward from last year. Mr. Vedrine, the managing director, said that they had orders in hand for taxi-cabs larger by 500,000 francs than they had last year. On the first 100 cabs they had lost money, but this had been made up by the profit on the next 100, and now the contract price left them a satisfactory profit. They had made the bodies of most of the cabs on the London streets, nine-tenths of those in Paris, and some in New York, Monte Carlo, and Buenos Ayres. The report was adopted.

DARRACQ-SERPOLLET OMNIBUS COMPANY.—Presiding at the first ordinary meeting of the Darracq-Serpellet Omnibus Company, Mr. J. S. Smith-Winby said the report and accounts covered the period of the last sixteen months. It would not be a surprise for the shareholders, therefore, that at the first general meeting they were not able to announce the payment of a dividend, especially when account was taken of the difficult and exceptional circumstances with which they had to contend by the death of M. Serpillet, the inventor of the system. The completion of the new factory had been delayed for two months by bad weather, but it had now been equipped under the supervision of M. Darracq. The two great points upon which it was necessary for a manufacturer of these motor-buses to satisfy his customers were, firstly, reliability and efficiency; and, secondly, that in the hands of a customer they can be made to pay. The reliability and efficiency of the Darracq-Serpellet vehicles were coming to be admitted, as a result of trials during the past twelve months. The Metropolitan Steam Omnibus Company, which was running their vehicles, had proved a highly profitable venture, and the fleet would be increased, while orders had been received for almost all European countries and from India for steam omnibuses.

ENGBERT TYRES.—£10,000. To acquire from Warwick Wright and J. T. C. Moore-Brabazon the sole rights in the United Kingdom for the sale of Engelbert tyres, to lease a portion of the premises of Warwick Wright, Ltd., at 110, High Street, Marylebone. The owners of the tyre (Engelbert, Fils et Cie, of Liege) have stipulated that the company shall dispose of tyres to the value of £8,000 during 1908 and £12,000 during 1909, and in each succeeding year 20 per cent. increase on the stipulated sales for the previous year, up to a maximum of £20,000 per annum. 110, High Street, Marylebone.

N.S.U. MOTOR COMPANY.—£5,000. To adopt an agreement with the Neekarsulmer Fahrzeugwerke, A.G., of Neekarsulm, Wurtemberg, and to carry on the business of manufacturers and letters to hire of cycles, motors, &c. None. 78, Charlotte Street, W.

THE SCOTTISH MOTOR TRACTION COMPANY, LTD.—The annual general meeting of this company has been held at 49, Queen Street, Edinburgh, the Master of Polwarth, chairman of the company, presiding. The chairman moved the adoption of the report and that a dividend of 5 per cent., free of income tax, be paid for year to September 30th, 1907. Mr. Alexander J. Paterson, C.A., seconded. Mr. Jas. A. Hood, Rosewell, and Mr. Robert Craig Cowan, Penicuik, were re-elected directors on the motion of Provost Kerr, Loanhead; and Messrs. Richard Brown and Co., C.A., were re-elected auditors.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

THE old War Office in Pall Mall comes into the possession of the Royal A.C. on the 5th inst., on which date the ninety-nine years' lease will begin. The scheme for the new premises will probably take a couple of years to materialise, and it will be near the end of 1909 before the members will be able to use the house which is to be built upon the excellent site.

With reference to the R.A.C. scheme for the association of clubs, we understand the first provincial club to adopt the same is that of Nottinghamshire.

BROOKLANDS.

THE committee of the Brooklands A.R.C. have decided to hold three principal two-day meetings this year, viz., the Easter meeting, on April 18th and 20th; the Whitsun meeting, on June 6th and 8th; and the August meeting, on August 1st and 3rd. The remaining meetings will be one-day events and will take place on May 9th, July 4th, September 12th and October 3rd. In addition, there will be other events arranged by the Royal Automobile Club and affiliated clubs on the Brooklands motor course.

The Standard Class races will also be continued. Each of these (the 26-h.p., 40-h.p., 60-h.p. and 90-h.p. respectively) will be divided into short and long races, and at every meeting the four Standard Class races will be run, three of them over a short distance, and the fourth over a long distance. To avoid any one car proving a continuous winner in its respective Standard Class, the committee have decided that the winner of such a race shall be debarred from competing in the two subsequent Standard Class races of the same size and over the same distance; after having stood down for two races, such barred car will have the option of competing again in its Standard Class, or, should it waive this right, it will be eligible to compete in a so-called Standard Class Championship race held at the last meeting of the season. By this means it is hoped that new competitors will enter for each Standard Class race—the winners meeting for a final decisive struggle at the championship meeting.

In addition to Standard Class races, every race day will provide handicaps, in which cars will be handicapped by distance, and dimension races, that is to say, races in which the classification will constantly vary from one dimension to another, thus endeavouring to ensure that those cars which are not suited by the Standard Classes will at some time or another find races suitable to their engine dimensions.

SUSSEX COUNTY.

AT the December meeting of the committee of the Sussex County A.C., which was well attended, the controversy between the Royal A.C. and the M.U. formed the chief subject for consideration.

After the matter had been discussed at some length the following resolution was proposed and carried unanimously, viz.:—"That the Sussex County A.C. much regrets the precipitate action of the Royal A.C., and tender to the Motor Union its loyal and continued support."

IRISH.

THE committee of the Irish A.C. are pleased to announce that the Countess of Aberdeen has consented to accompany the Lord Lieutenant on the occasion of the opening of the Dublin Motor Show to-day (Saturday).

THE Welsh A.C. has decided to give continued support to the M.U.

LIABILITY OF LOCAL AUTHORITY AS TO STATE OF ROADS.

THE record has been closed at Elgin in an action at the instance of Basil Iles, electrical engineer, West Malvern, and Mrs. Iles against the County Council of Elgin. Mr. Iles claims £300, and Mrs. Iles £250, with £50 for expenses, for injuries sustained by Mr. Iles and damage to a motor-car, which met with an accident owing to the alleged faulty and negligent manner in which the road in the neighbourhood of Dunain Bridge had been widened. On July 8th he drove his wife and three friends to Elgin. They were returning home by the road leading through Grantown to Nethybridge via Dunain Bridge. On the north side of the road there is a narrow turf verge, and immediately beyond that a ditch terminating where the road curves in a culvert. On approaching this point Mr. Iles steered his car to the right-hand side of the road in order to pass two cyclists travelling in the same direction as himself. He had a view of the road beyond the curve and saw that it was clear. When the car reached a point a few yards short of the culvert, the inside wheels, which were about four feet from the edge of the road, suddenly began to sink into the surface of the road, which had been recently widened. They sank so deeply as to render it impossible for Mr. Iles to steer the car away from the ditch, and it ran into the covering of the culvert. Mrs. Iles, who was sitting beside her husband, was thrown from her seat by the shock, and her head struck the glass wind screen with such violence as to completely smash the screen. She

was severely injured, being much bruised and badly cut about the face and head. The car was also seriously damaged by the accident. The County Council deny liability, and contend that the accident was due to the pursuer's recklessly driving his car at an excessive speed on the side of the road, which was then in a very wet state owing to a severe rainstorm. They also contend that the pursuer had not proper control of the car. The settlement of this case is given in our "Comments" on another page.

RULES AND COURTESIES OF THE ROAD.

THE General Committee of the Motor Union has adopted a series of suggestions with regard to the behaviour of motorists and others on the road, which has been prepared by its Signs and Notices Committee as follows:—

TAKING CORNERS.—A corner should not be cut close on the right or "off" side, but it is especially dangerous to take a corner on the wrong side when it cannot be seen that the road is clear; therefore, in taking blind corners to the right hand, always keep to the extreme left or "near" side, no matter how much slowing down this may involve.

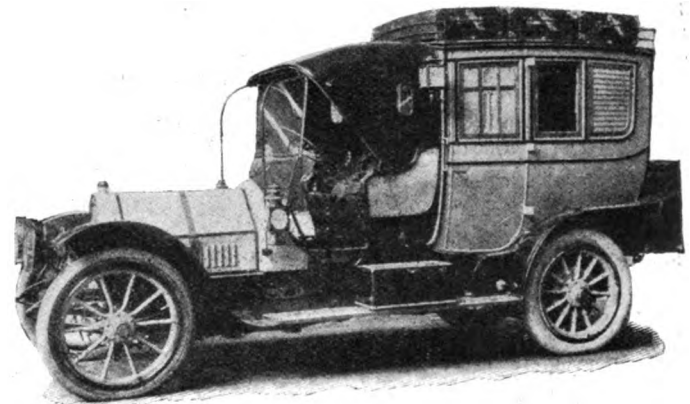
MAIN ROAD TRAFFIC has the priority; therefore when entering a main road from a side road always do so at a slow pace.

SIGNALS.—When about to alter speed or direction the following indications should be given:—

(a) Stopping or slowing down: the driver's right arm extended horizontally from the shoulder, with the fore arm held up vertically.

(b) A turn to the right: his right arm fully extended.

(c) A turn to the left: the left arm similarly extended.



The Pope-Toledo Touring Diligence shown at the recent Exhibition in New York.

On no account should the driver extend his right arm when a turn is to be made to the left; nor should any passenger extend his left arm when a turn is going to be made to the right.

The right hand held downwards by the side of the car and waved forwards gives a useful signal that following traffic may pass.

It is well to make these signals habitually, whether there is traffic or not. It is often quite as important to communicate any change of direction or speed to persons in front of you as to those behind. A signal should also be given at a facing junction of forked roads so as to indicate which road is to be taken.

MEETING OR OVERTAKING.—All traffic should be met or overtaken on its proper side, and as much room as possible should be given to bicycles. Whenever conveniently possible, motor drivers should keep their right-hand or "off" side wheels near to the centre of the road. On approaching a bridge with a sharp rise keep well to the left or "near" side of the road.

Avoid passing another vehicle at any bend of the road, or at a cross road. When about to pass a vehicle going the same way as yourself, if a third vehicle is nearly approaching from the opposite direction, let the latter pass you first, before you overtake the former.

When passing a man riding in charge of two horses, keep, if possible, on the side furthest from the led horse.

When overtaking another vehicle, especially a motor-car, be certain that your presence is recognised before attempting to pass.

IN TRAFFIC, keep a reasonable distance from the vehicle in front. **IN DESCENDING HILLS** give way to ascending traffic.

THE HORN OR BELL should be used with discrimination, each signal having its own special purpose; and sounded not more loudly, nor more frequently, than is quite necessary.

WHEN PULLING-UP OR STOPPING, do so in a suitable and convenient place. Never stop near a corner. Always be prepared for any emergency, and always stop in case of accident.

THE UNITED MOTOR INDUSTRIES, LTD., are supplying the Nonex fire preventive devices to the motor trade.

CASES UNDER THE MOTOR CAR ACT.

A QUESTION OF JURISDICTION.

An interesting point of law was involved in a case which the Bray magistrates struck out for want of jurisdiction, and in which District Inspector Triscott charged Mr. Ebbenstein, of Dublin, with having, by negligence in the management of a motor-car, caused injury to Patrick Kelly at Bray. At a previous hearing of the case, Mr. James O'Connor, who appeared for defendant, argued that, as an administrative county intervened between where the offence occurred and where defendant resided the magistrates had no jurisdiction in the case. Mr. Triscott relied on the point that since defendant was before the Court both personally and by his counsel he could not argue a want of jurisdiction on the part of the magistrates to summon him there; but Mr. O'Connor said that both defendant and himself attended on the last Court day out of respect to the Bench to point out to them their want of jurisdiction, and to inform the Court that they appeared under protest.

Mr. Meldon, R.M., in delivering the judgment of the Court, said that the very important question involved in the case—namely, whether a summons to appear before a petty sessions court could be served outside the county and not in the adjoining county—had been determined in the case of *Leyden v. the G.S. and W. Railway Company* by a court composed of nine judges, restricting the service of summonses to the county and the adjoining county. That seemed somewhat anomalous from the fact that in certain defined cases of road nuisances, offences by owners of carts and cars, and those appertaining to rules of the road, power was expressly given to summon offenders before justices of the petty sessions district in which the offence had been committed. Thus a carriage owner may be summoned to that sessions for furious driving in that district, but a motor owner may not be so summoned under the Motor Acts.

THE MUD ON A CAR.

At Denton, Percy Day, chauffeur to Mr. George Ollerenshaw, of Highfield House, Glossop, was summoned for failing to carry a light at the rear of his motor-car by which the identification marks could be discerned. It was stated that the night was very wet, and the lamp at the rear of the car, although burning perfectly, was covered with mud to such an extent that the light was invisible. Dr. Eastham contended that the defendant had taken every reasonable precaution in order to carry out the Act of Parliament, and was not responsible for the condition of the car. The charge was eventually withdrawn upon the defendant agreeing to pay 5s. for costs.

THE VALUE OF A SPEEDOMETER.

Before the Hon. de Grey, at the South Western Police Court, William Rotheroe, driver to Mr. Fairclough, has been summoned for exceeding the speed limit at Roehampton Lane on December 8th. Mr. Taylor-Parkes (of Messrs. Amery-Parkes, Macklin), appeared on behalf of the defence. The evidence of the constables engaged upon the police trap was to the effect that the defendant covered a measured distance of 220 yards at the rate of twenty-six miles an hour. It was admitted in cross-examination that the defendant, who stopped, pointed out his speedometer, the tell-tale hand of which showed that the maximum speed only reached fourteen miles an hour. The defendant was called and stated that he was only travelling at the rate of fourteen miles an hour according to the speedometer. Mr. Fairclough, who was sitting next to the driver, corroborated. Another occupant of the car stated that he saw the signal which was given by the constable at the beginning of the trap, this being given when the car was some little way over the commencement of the measured distance. The magistrate held that in this case he must accept the evidence of the speedometer, and he dismissed the summons accordingly.

ALLEGED DANGEROUS DRIVING.

At the Lambeth Police Court, Sam Mayo, the comedian, who resides at Brixton Road, was summoned before Mr. Hopkins, at the instance of the police, for driving a motor-car at Brixton on the night of November 30th in a manner which was dangerous to the public. P.C. Soames stated that on the night of November 30th he saw the defendant driving a motor-car in Brighton Terrace. The defendant turned the car directly under the head of a horse attached to a brougham and stopped. The defendant then backed it into Brighton Terrace, a distance of about 25 yards. A number of people who were leaving the music-hall had to run on the footway to escape being knocked down. In giving evidence the defendant said he thought the police might have prejudice against him in consequence of a policeman's song he had been singing. Three witnesses who were with him on the occasion in question agreed that there was nothing in his driving to justify the summons. He was ordered to pay a fine of 40s. and 2s. costs.

LOCAL BYE-LAW OR MOTOR CAR ACT.

At York Police Court, Robert Gale, of Brandesby Hall, Easingwold, was summoned under the York Local Act for driving a motor-car to the public danger in Gillygate, York, on December 5th. Supt. Woolnough asked the Bench to allow the alteration of the summons so that the case might be taken under the Motor Car Act. Mr. Crombie, for defendant, objected to this course, and the case was proceeded with. P.C. Clifford gave evidence of the alleged excessive speed. In reply to Mr. Crombie, the constable said he could not identify anyone in court

as the driver of the car. Mr. Crombie said his client was certainly in court, and if the witness could not recognise him there was no evidence against him. Replying to the Lord Mayor, Mr. Crombie declined to call his client, because, he said, if he did so the witnesses would say he recognised him. The Lord Mayor said the time of the Court could not be wasted in waiting for the defendant to show himself, and he adjourned the case for a week.

A DISMISSAL.

Seeing a motor-wagon in High Street, Tibshelf, on December 4th, P.C. Price guessed the speed at which it was going at ten miles an hour. Then Ernest Wassell, a Sutton-in-Ashfield motor driver, was charged at Clay Cross Court with driving a locomotive at a greater speed than four miles an hour in High Street, Tibshelf, on December 4th. The policeman said he saw the defendant driving a locomotive belonging to a Sutton-in-Ashfield flour firm in the direction of Morton. He estimated the rate at which it was going at about ten miles an hour. Large volumes of smoke and fire were issuing from the funnel, and some of the sparks fell upon some horses. Defendant said that the machine he was in charge of was one of four tons. On the date in question he had five tons on it. He made seven calls in the thoroughfare where the constable alleged the offence took place. He pulled up when he got to the Brampton Brewery Company's dray, and his companion led one of the horses past. The engine was registered to run at five miles an hour. He judged that he was going at the rate of about three or four miles an hour. He had not been warned about the speed by anyone, and was "dumbstruck" when the officer charged him two days after with the offence. It was not a traction engine but a steam motor. Supt. McLarty said he thought he would withdraw the case. He was under the impression that the vehicle was a heavy locomotive.

MR. WEIGEL'S APPEAL.

Many gentlemen well known in motoring circles gathered on Tuesday at East Sussex Quarter Sessions at Lewes, over which Sir William Grantham presided. Mr. D. M. Weigel appealed from the Haywards Heath justices, who had sentenced him to one month's imprisonment and suspended his licence for two years from the date of the expiration of the current licence. The charges were two—dangerous driving and refusing to stop for a constable in uniform in August last. The appeal was before the October Sessions and adjourned, after a suggestion on behalf of the police to reduce the punishment to a fine of £50 and suspension of the licence for one year.

Sir William Grantham said, as the result of a consultation of the Bench, that if wealthy people would drive motor-cars recklessly imprisonment was the only punishment for them. But he and his brother magistrates recognised that, owing to what happened at the October Sessions, Sir Charles Mathews and his client had been placed in the position practically of pleading guilty; and it would now be impossible to try the appeal equitably. Under those circumstances, the court would modify the sentence to the maximum fine of £50 instead of imprisonment, his licence would be suspended for twelve months from the time it expired, and on the second case the fine of £10 and costs would remain, and Mr. Weigel would have to pay the extra costs of the appeal.

A MOTOR-CAR ON A TAR-SPRAYED ROAD.

An interesting case arising out of a motor-car skidding on the dust-preventing tar spray has been heard at the Sheffield County Court, before Judge Benson. Edward Adams, of Dinnington, sued the Corporation of Sheffield for £9 6s. 11d. damages caused through the negligence of the defendants or their servants while repairing Handsworth Hill. The damages to his car amounted to £6 3s. 11d., and the remaining £3 3s. was for a new suit of clothes.

Plaintiff's case was that on July 15th he was driving his motor-car towards Sheffield, and when on the brow of Handsworth Hill he noticed that for some distance the whole breadth of the road, with the exception of a strip, was treated with a tar or creosote preparation. The track left clear was just broad enough for one vehicle. It was, however, blocked by a motor-lorry that had broken down through skidding, it was said, on the tar spray. Plaintiff brought his car to a standstill because he did not like the look of the road that had been treated. At that time a man who appeared to be a Corporation employee waved his hand for him to go across the tar spray. He let the car run at its lowest speed, but as soon as he got on it the wheels skidded violently. The car skidded for 100 yards, and then ran into the wall. Plaintiff was flung on to the tar, his car was damaged, and his clothes ruined by the tar. It was contended that the Corporation had done nothing to denote the peril of the road. The defence was that everything that was reasonable was done to warn the people going along the road. In addition to a red flag, barrier, and trestles, two men were stationed to keep traffic off the tar. There was quite sufficient room for two vehicles to pass on the part of the roadway that had not been treated. Had plaintiff used reasonable care he would not have skidded even on the tar. It was denied that the car was ever stopped, and it was stated that he was beckoned to keep off the tar.

His Honour thought that the plaintiff was decidedly of the impression that he was invited on the tar by the defendant's servants. He gave judgment, for the plaintiff, the amount agreed upon being: £7 16s. 11d.

AUTOMOBILE ACCIDENTS.

AN inquiry was conducted by Mr. Troutbeck, at Westminster, with reference to the death of Mary Sullivan, who was knocked down and killed by a motor-omnibus in Whitehall. Adelaide Wiegold said that she was walking with the deceased woman along Whitehall, and they crossed in the direction of the Horse Guards. They had nearly reached the kerb opposite the Cambridge statue when Sullivan exclaimed "Ad—," and before she could complete witness's Christian name she had been struck by a motor-omnibus. Witness turned, and saw her friend go down. Charles Wood, the conductor of the 'bus, said he was inside at the time, and noticed that the vehicle had pulled up very sharply. He found his driver in a fainting condition, and the deceased woman lay under the staircase. Alfred Pratt, the driver, said he saw the two young ladies crossing the road, and sounded his hooter, but it made only a faint sound. When near the kerb, Miss Sullivan took two steps backwards, and was caught by the mud-guard. Had she gone straight on she would have been all right.

The coroner observed that nobody could have any doubt about the increased danger of the London streets, especially in the central parts. This was owing to the improvement in means of transit demanded by the public. These motor-omnibuses, which were duly authorized after careful consideration, were a public convenience, but the pedestrian had to be considered. The increased street dangers could only be practically met by the very greatest care on the part of the drivers and of the public themselves. The jury returned a verdict of "Accidental death," and exonerated the driver from all blame.

A MOTORING accident happened on Thursday week, on the London and Brighton road, at Bolney. A car containing five persons was proceeding from London to Brighton. It passed the Queen's Head Hotel, and swung down the hill at a good pace. Just before the cross roads are reached there are sharp curves to the main road, and in rounding one of these the chauffeur apparently caught sight of a car coming towards him and steered sharply to the left. The car was suddenly turned completely over. The up car passed the overturned one safely and the driver sped on to warn any cars that might be rounding the bend so as to avoid a further complication of the smash. Several cars came along quickly after the accident, and assistance was obtained. The passengers of the overturned car were extricated from their position, much shaken and suffering from shock. The motor-car was subsequently removed to the Brighton and South Coast Motor Garage for repair.

THE inquest on Mrs. Maria Munday, who died from injuries inflicted by a motor-car in Denbigh Street, Pimlico, concluded on Tuesday in the Westminster Coroner's Court with a verdict of "Manslaughter" against the driver, Crawford Davis. Mrs. Munday's daughter said she and her mother were walking across Denbigh Street to their home when a motor-car came along. They thought they had time to cross, but when they reached the middle of the road the car was going at such a pace that the daughter thought it better to stop. Her mother hurried on, and as she reached the kerb the side of the car caught her and knocked her down. Mr. Charles Mersing said two motor-cars passed him at tremendous speed in Hindon Street; on the box seat of each of the cars were a driver and a girl. At Warwick Street one of the cars rushed round a parcel post van, and a moment later he heard a shout in Denbigh Street. Running there he saw a woman lying under one of the motor-cars apparently dying. The Coroner, in summing up, said, if the woman was rash or careless that was no excuse for the driver not being cautious. After the verdict of manslaughter against Davis he was committed for trial on the coroner's warrant.

LIGHTS ON VEHICLES.

SIR E. R. HENRY, the Chief Commissioner of the Metropolitan Police, has circulated a notice amongst railway companies and City firms drawing their attention to the new provisions of the Lights on Vehicles Act, 1907, which came into force on Wednesday. The new law enacts:—

"That every person who shall cause or permit any vehicle to be in any street, highway, or road, to which the public have access, during the period between one hour after sunset and one hour before sunrise, shall provide such vehicle with lamp or lamps in proper order, and so constructed and capable of being so attached as when lighted to the front to display a white light, visible for a reasonable distance. If only one lamp is provided it shall be placed on the off or right side of the vehicle and if the lamp or lamps are so constructed as to permit a light to be seen from the rear, that light shall be red. He shall also, if the vehicle is used for the purpose of carrying timber, or any load projecting more than 6 ft. to the rear, provide the same with a lamp or lamps in proper working order, and so constructed and capable of being so attached as, when lighted, to display to the rear a red light visible for a reasonable distance."

Offenders are liable on summary conviction for each and every offence to a penalty not exceeding 40s., and in case of a second or subsequent conviction to a penalty not exceeding £5. The provision applies to any machine or implement of any kind drawn by animal traction, and to every sort of vehicle except bicycle, tricycle, velocipede, light locomotive or motor-car, heavy locomotive or wagon drawn thereby, required to carry lamps under other statutory provisions, or any vehicle drawn or propelled by hand.

APPEALS ALLOWED.

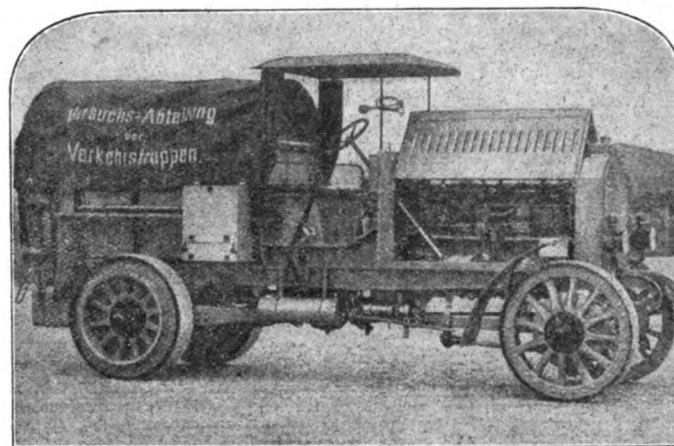
THE Lewes Quarter Sessions on Tuesday unanimously quashed the conviction by the Lewes County Bench of Mr. Cecil Chandless, of Sherington Manor, Selmeaton, Sussex, on a charge of recklessly driving his motor-car, for which he was fined £10. The court also ordered the magistrates to pay the costs of the appeal. In trying to avoid two restive horses Mr. Chandless's car ran into a toll-house. Mr. Humphreys, K.C., appeared for the magistrates; Lord Robert Cecil, K.C., M.P., and Mr. Jenkins (instructed by Mr. Staples Firth) appeared for Mr. Chandless.

A POINT of considerable interest to motorists was decided on Tuesday at Shropshire Quarter Sessions on an appeal by Mr. Algeron Percy, of Guye Cliffe, Warwick, against a conviction by Oswestry County Bench against him of driving to the danger of the public. The appellant admitted passing cross-roads marked by signal at nineteen miles an hour without blowing his horn, but he contended that as a policeman who was on the scene did not warn him he was entitled to assume that there was no danger. He denied that the officer was in concealment or that there were children on the road. The Court allowed the appeal.

HINTS ON FITTING THE STEPNEY SPARE WHEEL.

As we find that difficulty is often experienced in understanding the simplicity of fitting the Stepney spare wheel, the following instructions, issued by the Stepney Spare Motor Wheel, Ltd., may prove useful:—

1. Jack up the car until the deflated tyre is well off the ground.
2. The Stepney wheel is then placed alongside the car wheel, with the fixed clips uppermost and the adjustable clips down.
3. Place the two fixed clips of the wheel inside the uppermost edges of the rim (as far as possible from the security bolts and valve), and



A 60-h.p. German Daimler Lorry built for the German Military Authorities.

The vehicle, which is fitted with a six-cylinder engine, is able to carry a load of two tons and to haul four to six tons on trailers.

place the adjustable clips in position, keeping the spare wheel well pressed against the car wheel, then screw up the fly-nuts tightly with the hands only.

4. After the spare wheel has been fixed on it is well to see that the security fly-nuts of the deflated tyre are well screwed up with the fingers only, to prevent the deflated or damaged tyre from creeping.

5. The four brass bands sent out with the smaller spare wheel are to be fastened permanently to the spokes of the car (one only to each car wheel), to prevent the clip that engages the spoke of the car damaging the latter. These bands should be enamelled the same colour as the car wheels, as they then make a good "landmark" for the best position for fixing.

6. When fixing the brass spoke bands, see that the band is put on the spoke which will give the most clearance; or, if possible, that none of the hooks of the spare wheel will be against any of the security bolts of the car wheel. If the security bolts of the punctured tyre cannot all be cleared, unscrew a few turns the fly-nut of the security bolt which happens to come in the way and push it back, then the hook of the Stepney wheel will fit in over the rim all right.

7. Brass spoke bands are not required with the larger size Stepney wheels, which are fitted with leather straps.

8. If the bead of the punctured tyre is found to be sticking to the bead of the car rim, use a tyre lever to push the punctured tyre inwards, then it will be found that the Stepney can be easily fitted.

FROM Messrs. A. Darracq and Co. comes an interesting booklet devoted to testimonials from users of Darracq cars. It extends to about fifty pages, and the fact that there are on the average three letters to the page is evidence of the popularity of these vehicles.

FORTHCOMING EVENTS.

JANUARY, 1908.

- 4th-11th.—Dublin Motor Show.
 6th (M.).—Dinner of the Irish A.C. at the Gresham Hotel, Upper Sackville Street, Dublin.
 7th (T.).—Speed Limit Inquiry by L.G.B. Inspector at Kendal.
 8th (W.).—Incorporated Institution of Automobile Engineers—Dr. H. S. Hele-Shaw on the Fuel Question.
 Special meeting of the Royal A.C.
 8th (W.).—First R.A.C. drivers' examination for 1908.
 9th (Th.).—Dinner of the West Essex A.C. at Seven Kings.
 11th (S.).—Annual meeting of the Lincolnshire M.C.C.
 15th (W.).—Conference of Automobile Club representatives, convened by the Motor Union, at St. Ermin's Hotel, Westminster, S.W.
 17th (F.).—Annual Dinner of the Nottinghamshire A.C. at the Victoria Station Hotel, Nottingham.
 18th-Feb. 2nd.—Automobile Exhibition at Turin.
 24th (F.).—Annual Dinner of the Scottish A.C. at Edinburgh.
 24th (S.).—Feb. 1st.—Scottish Motor Exhibition in the Waverley Market, Edinburgh, to be opened by Lord Kingaburgh.
 26th (Sun.).—Criterium de Voitures et Coupe de l'Exposition Trial for motor-cycles organised by the Turin A.C. and the Motor Club of Italy.
 27th (M.).—Annual general meeting of the Motor Cycling Club at 8 p.m., at the Tudor Hotel, London, W.
 29th (W.).—First lesson of the course to be given by Mr. R. S. Currie to the Ladies' A.C.
 31st (F.).—Annual meeting of the Blackheath A.C.

FEBRUARY.

- 1st (Sat.).—Annual meeting of the Lincolnshire A.C.
 2nd (Sun.).—Reliability Trial of the Motor Union of Western India.
 7th-15th.—Manchester Motor Show at Pelle Vue.
 12th (W.).—Mr. F. W. Lancaster on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 15th (Sat.).—Auto-Cycle Union Annual Dinner.
 20th (Th.).—Meeting of the Essex M.C.
 Mr. H. R. de Salis on the Inland Waterways of England and Wales from the motor-boating point of view.
 24th (M.).—Motor Show at Bombay.

MARCH.

- 21st (S.).—28th (S.).—Cordingley's Thirteenth International Motor-Car Exhibition at the Royal Agricultural Hall, London.

APRIL.

- Auto-Cycle Union's Tourist Trophy Race and Quarterly Trial.
 18th.—First meeting of the Brooklands A.R.C. for 1908. The full programme for the season appears in our Club News.

MAY.

- 10th (Sun.).—Targa Florio.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

- Royal A.C. Reliability Trial for Touring Cars.
 15th-19th.—Scottish Reliability Trial.

LIGHTING-UP TIME—LONDON.

Jan. 4th—5.2	...	6th—5.4	...	8th—5.8	...	10th—5.10
" 5th—5.3	...	7th—5.6	...	" 9th—5.9	...	11th—5.11

ROAD REPORTS.

TOTTENHAM.—The Tottenham District Council has given its approval to a proposal for the construction of a new roadway across the marshes to connect the lower part of the district with Walthamstow, subject to the Tottenham and Edmonton Gas Company providing all the necessary material for the work, and negotiating and settling with the Great Eastern Railway Company for the erection of a bridge over its main line, and to the road being continued into Walthamstow.

WIGTOWNSHIRE.—At a meeting of the Rhins District Committee of Wigtownshire County Council, held at Stranraer, a report by the Road Surveyor as to restriction posts and danger signals for the regulation of motor-car traffic has been considered, and after much discussion the surveyor's recommendation of the places for the erection of notice boards was adopted. Some of the speakers wanted restriction of speed especially on the narrow roads.

HAMPSHIRE.—Among the roads under repair are the main road between Bishop's Wareham and Upham, the Winchester and Southampton road between Otterbourne and Chandler's Ford, and the Winchester and Andover road between the first and fourth milestones.

POLICE TRAPS.

We would advise motorists passing through Kingston not to exceed the legal limits either in the ten mile or twenty mile section of the town.

In the parish of Allesley (near Coventry) a measured quarter of a mile is frequently operated by the police against motorists.

NOT satisfied with the imposition of a speed limit of ten miles an hour through the village of Handross, the residents now desire the permanent placing of a policeman on that particular mile of highway. Why cannot they apply to the A.A. for a scout?

EXTREME caution should be exercised by all who motor through the streets of Bournemouth.

THE local authorities at Winchester are urging the police to greater activity against motorists.

CLAIM AGAINST MOTORIST DISMISSED.

AT the Wandsworth County Court, before Judge Woodcock, Mr. Davies, of Clapham Rise, was sued for £30 12s. for damages for personal injuries alleged to have been done by his negligent driving of his motor-car. At the close of the case for the plaintiff, Mr. Staples Firth submitted for the defendant that, although it was common ground that an accident had happened, there was not sufficient evidence to support an action in law, as there was no evidence of negligence. After the defendant had been put into the witness-box his Honour dismissed the case with costs.

BUSINESS NEWS.

THE RIGHT HON. THE EARL OF DARTMOUTH, P.C., has ordered a 36-h.p. car of the Padley type from the Daimler Company.

MR. GEORGE DU CROS has now decided definitely to give his whole energies to the affairs of Messrs. Panhard and Levassor, making the works at Acton Vale his headquarters. Mr. Willie du Cros will look after the business of W. and G. du Cros, at 14, Regent Street, S.W.

ANOTHER accessory, in addition to those already mentioned, which contributed to the success of Mr. W. T. Clifford Earp's record on Brooklands track was the coil, which was of the E.I.C. type.

THE North of England depot for the Parsons non-skid is at 237, Deansgate, Manchester.

THE DEASY MOTOR CAR MANUFACTURING COMPANY, LTD., have received a telegram from a gentleman in India, who has a 24-h.p. Deasy car, stating that he has made a splendid record run under six days, between Bombay and Calcutta.

MR. H. WAYMOUTH PRANCE, 39, Westbourne Gardens, W., is, in addition to carrying out expert examinations of second-hand cars, supplying new cars and giving free tuition and assistance to the purchasers.

THE Pegasus detachable non-skid can be seen by City motorists at the London showroom of Messrs. Middlemore and Lamplugh, Ltd., 23, Wool Exchange, Basinghall Street, E.C.

THE marked manner in which the Stepney wheel is growing in popularity was shown on Monday morning last. When the Christmas post was opened at the company's offices at Llanelli it showed orders for no fewer than 350 spare wheels.

THE CIE DES MAGNETOS SIMMS-BOSCH, LTD., of 23, Store Street, London, W.C., has adopted the name of "The Bosch Magneto Company, Ltd." and will describe what has hitherto been known as the Simms-Bosch magneto as the Bosch.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 87-88, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

VOL. IX.]

LONDON, SATURDAY, JANUARY 11, 1908.

[No. 462.]

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COMMENTS.

WE have always regarded motor scouts as ancillary to the police in securing the safety of the road. They perform useful service in preventing the breach of the law, and by warning motorists who are apparently going beyond reasonable limits are performing a public service. This view, however, has heretofore been rejected by the police, who apparently are more anxious to catch people after the commission of an offence than to prevent the alleged misdemeanour. Therefore, we naturally welcome the decision of the Newmarket justices on Tuesday, when they

accepted the plea of Sir Charles Mathews that there is no illegality in an endeavour to prevent a breach of the law, provided, of course, that no physical interference or obstruction takes place. The decision thus going on the lines of the Croydon case of *Constable v. Little* should encourage the Automobile Association to continue their good work. In fact, the police evidence fully proved its value to motorists, for a sergeant was able to testify that the scout, whose assiduity seemed to annoy the officers, had scented traps despite the attempted concealment of the police, and had warned many drivers of their proximity to the ten mile limit zone. The explanation of their system by the police and the demonstration of how it can be legally met by the A.A. organisation is a welcome New Year's greeting to one of the most virile of the motoring societies.

Courtesy on the Road.

THE Signs and Notices Committee of the Motor Union have drawn up some Rules and Courtesies of the road, which will shortly be generally distributed among local authorities as well as those who own and drive motor vehicles. In

our last issue we gave these suggestions in full in the final form in which they have been adopted by the General Committee. It now remains for our readers not only to observe these rules, but also to make them known to all who use the roads, whether for motor traffic or horse-drawn vehicles, for the mutual benefit of everybody.

London's Traffic Muddle.

APART from the question of method of industrial remuneration which is involved in the unfortunate dispute that has kept a couple of hundred motor-buses in their garages while their owners have seen the chance of profit shrinking quickly, the present motor-bus strike in London suggests the necessity for the organisation of traffic in such a way that the public are not likely to be inconvenienced. The patrons of the motor-bus in London have had their patience sorely tried of late. They have a hazy idea that the mechanical vehicle is the cause of the shortening of penny stages; they know it sometimes plays pranks when they are on the way to catch trains that wait not on the street traffic's delay; and now they find that, having driven many horse-drawn buses off the road, the motor-bus is not running. In face of such a triple

set of adverse circumstances the enthusiasm of the motor-bus advocate may well be frozen. In London we have a spectacle of tubes, trams, trains, above and below ground, cabs, buses and other means of locomotion competing with each other in the most unbusinesslike pantomimic mix-up. Surely some advisory statutory body is needed to suggest or compel reason to prevail, so that the public convenience and capital invested shall both be safeguarded. The present position is simply ruinous to the proprietors and too uncertain to be regarded with pleasure by those who travel daily through the great Heart of the Empire.

The Present Strike.

STRIKES which are likely to produce inconvenience to the public cannot be popular, and when, in addition, they are directed against companies with declining profits, the chances of success are further reduced. Hence the surprise

with which many have watched the enforced idleness of the "Union Jack" motor-buses in London during the past few days. The question of the dispute is easily resolvable into words, the gist of the matter being the adoption by the London Road Car Company of the system of payment by the journey, which is adopted by the Vanguard and the London General Omnibus companies, or the continuance of the daily wage plan, under which the men had a guaranteed wage on taking their vehicle out of the garage. Altogether about 1,300 men are involved in the dispute.

Motoring in Ireland.

IRELAND, which this week is enjoying a really excellent motor exhibition in Dublin, has always favoured the motor movement. Fortunately, the Lord Lieutenants appointed by the last two Governments have been equally well dis-

posed towards the automobile, and Sir Horace Plunkett, whose public services are recognised in Ireland, has not allowed his official position to prevent his active presidency of the Irish Automobile Club. The Earl of Dudley did much for motorists in the Gordon Bennett year, and the Earl of Aberdeen, by declaring open both the 1907 and the 1908 motor exhibitions, has indicated an equally keen solicitude for the advance of motorism in the Emerald Isle. Hitherto its main successes have been concerned with the pleasure side of the automobile; but the recent advent of motor lorries into Belfast has convinced many Irishmen of the commercial possibilities as well as the pleasurable side of the motor vehicle.

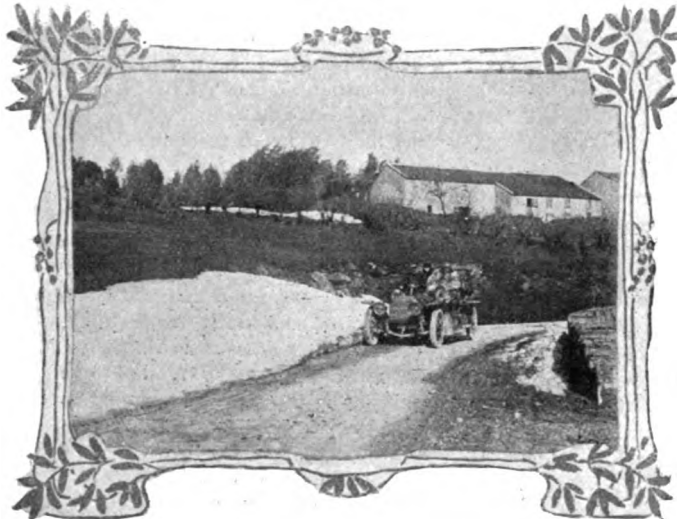
An Appeal from Horsham.

LAST week was a memorable one for Sussex justices, for both at the East and the West Quarter Sessions were decisions adverse to motorists quashed on appeal. This is a satisfactory start for the New Year, and if those owners who are fined without proper cause would be more ready to appeal than has hitherto been the case, much of the persecution that has existed in Sussex would quickly cease. The appeal which was allowed at the West Sussex Sessions, on Thursday of last week, is typical of many similar cases that could be equally well won by motorists so public-spirited as Mr. T. E. Comins, of Clapham.

Park. He was motoring with his wife and two friends, in October, between Ruspur and Horsham, when a dog rushed under the car and was killed. Summoned at Horsham for "dangerous" driving, he was fined £10 and costs. Against such severity he appealed, and Mr. Leonard Costello, on his behalf, clearly established the facts that the car was being driven at only a moderate pace, that the hooter had been sounded, and that there was not the slightest danger to the public. So clear was the case that the chairman of the Bench said the magistrates would decide it without speeches from counsel, and they thereupon allowed the appeal, emphasising the vindication of Mr. Comins by allowing costs against the police.

Benevolence in the Motor Trade.

SEVERAL times has the suggestion been put forward that the benevolent instincts and resources of those engaged in the motor business should be organised in a definite form with a view to assisting those who may, from time to time, be in need of help. Almost every great industry, recognising the mutability of things, has its philanthropic society or organisation to help those who may fall away from prosperity. So that, as the motor business expanded, the concrete expression of a feeling of goodwill towards those in the rear was only in accordance with the practice of other industries. Fortunately, in the



Touring in France.—A snapshot of a Hotchkiss Car taken between Pontaurum and Pontgibaud.

cycle business, from which many of those engaged in motorism have evolved, there was an organisation ready to hand which many believed could be readily extended to embrace those in the motor branch of locomotion. Negotiations with this object have been in progress for some time past, and at the meeting to be held on the 29th inst. these will be brought to a conclusion. Seeing that the members of the executive committee of the Cycle Trade Benevolent Fund, of which Mr. A. J. Wilson is the hon. secretary and treasurer, are unanimously in favour of a change in the name and constitution of the association, to include the motor trade within its scope, there is little doubt that the scheme which is outlined in our "Association News" will be adopted. Its objects are worthy, and should be worthily supported by the whole of the automobile industry.

The Philosophy of Advertisement.

APPARENTLY the splendid way in which the county surveyors are encouraging the movement for the adequate trimming of hedges at dangerous corners, and otherwise reducing the risks to those who use the highways, has moved a member of the Athenæum Club to write to the *Times*. He is alarmed for the rural beauty of the country, and deprecates the reduction of the hedges and also the "advertising vulgarity"

which leads motor firms to "defile the countryside" with their announcements. In the old days of horse traction such publicity was unnecessary. Why, then, should motor firms do what carriage builders, horse dealers and blacksmiths did not? We would console this learned correspondent with the assurance that this is only a transient phase in the development of a great industry. Steadily the motor traders will learn that the expense of such advertisement is greater than any other—proportionately to the results—and that they are paying to proclaim themselves to hundreds of people of whom only half dozens are ever likely to be interested from a business point of view. The wise people are those who realise that the prospective motorist goes to the motor Press for information, and looks to their pages for announcements that are likely to help him in his quest. Therefore the quiet haven of the Athenæum need not be disturbed for long. The force of circumstances will cause the matter to right itself in good time.

In the New Forest.

SOME months since the Court of Verderers of the New Forest called the attention of motorists to the necessity for exercising care when enjoying drives through that delightful part of the country. Now, again, the warning is desirable, a large number of owners of cars having had their interest whetted in that part of Hampshire by the recent visit of the German Emperor. They have lately visited the Forest in increasing numbers, and several cases have occurred of animals belonging to the commoners being run into by motor-cars, particularly at night. It should be remembered that the conditions of the New Forest are peculiar, and that the roads are unfenced, because they form part of the area over which common rights are exercised by a good many of the dwellers in those regions. They have the right to allow their animals to wander at will on the roads as well as in other parts of the Forest, with the result that they are often found thereon. Local motorists drive with care and caution, as Lord Montagu and others who are interested, both in the New Forest and the motor movement, can testify, and it would be well if strangers to the locality were informed, at all points at which they are likely to stop, of the custom of the commoners, so that sympathies with rapid locomotion are not alienated.

Fees Payable.

AT this season of the year the thoughts of motorists rightly turn to thoughts of fees—or the Inland Revenue people will remind them of their obligations to that department of the State. Some uncertainty prevails among the newer order of motorists as to the recurrence of their licensing and registration fees. These may be set out for easy remembrance as follows:—The driving licence has to be renewed annually from the date of being taken out; the original registration of the car lasts as long as the car, unless cancelled owing to change of ownership; and the Inland Revenue fees are due annually at the beginning of the year. Hence the activity of many of the officers during the past few days, of which due notice should be taken by all concerned.

A Tribute to Mr. C. D. Rose, M.P.

THE pioneers of the Royal Automobile Club, to the number of fifty-six, have met at the club-house for the tenth annual dinner of the Founder members. Mr. Roger W. Wallace, K.C., presided, and the health of the Founder members was proposed by Mr. C. D. Rose, M.P., who, with Mr. J. W. Orde, the club secretary, drank to the toast. Mr. Rose, in proposing the same, referred to the good work that had been done by those who ten years ago endured the scoffs of the public and joined together in founding the organisation, which would shortly have one of the finest club houses in the world. Mr. Rose was also at the business meeting of the Motor Union when the dissolution agreement with the R.A.C. was signed. His year of

office in connection with the M.U. has expired, and his name has, by an unanimous vote of the General Committee, been added to the list of vice-presidents of that organisation. Only those who have been behind the scenes with regard to motor policy during 1907 can estimate the value of the service rendered by the member for Newmarket to the automobile world. On many occasions his tact has secured good feeling and made less irksome the difficulties of those concerned in the development of the various societies connected with motoring.

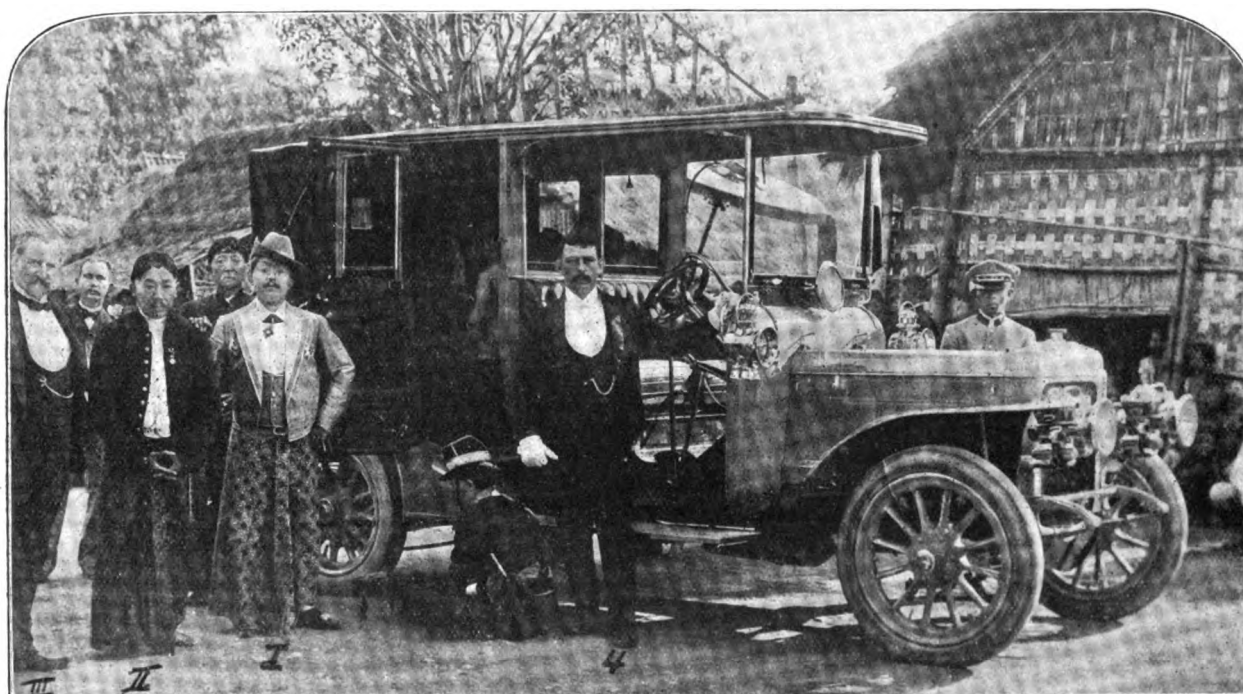
Graduates in Motor Engineering.

CONSIDERABLE activity of a well-directed order has marked the first year's existence of the Incorporated Institution of Automobile Engineers, and further development is now proceeding with regard to the graduates' section, which should have an important bearing on the future of the technical side of the movement. A general meeting of pupils, apprentices and junior draughtsmen employed in the motor industry will be held on the 4th prox., under the auspices of the graduates' section of the Institution, and young engineers who intend to

who had been one of the advisers to the Indian Government with regard to the drafting of a Motor Car Act for the Presidency of Bombay, said that although that was a large city, where traffic was much more congested than in Belfast, he came to the conclusion that speed restrictions such as were now proposed did not constitute the proper way of dealing with the matter, but that each case should be considered according to its merits. We wish well to the new organisation, which starts with such a splendid prospect of doing useful work for the motorists of the north of Ireland. Seeing that there are 700 motorists in Belfast, a strong organisation should easily be founded.

Payment by Mileage.

THE toll bar proposal of Lord Breadalbane, to which we referred last week, has not found much favour north of the Tweed, while it has called forth many opposing controversialists. The scheme of having tolls at the entry to a county is generally held to be impracticable. In all counties there are numerous entries, and this would necessitate a toll at each entry—a great expense. Besides, there might be a considerable hard-



An Interesting Picture from Java.

The Kaiser Soerakarta Pakoe Boewono X. (I.) and his Daimler car, which was supplied through Messrs. Pröttel and Co., of Soerabaya. Other members of the group are the Prime Minister, Raden Adzuti Soerodi Niuwrat (II.), Tonkheer van Holtke (III.), and Werner, the engineer (IV.). The incident of the soldier holding the footstool for the Kaiser to enter his car is extremely interesting.

specialise in motor engineering will also be welcomed to the gathering, which will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W. Following a lecture by Dr. H. S. Hele-Shaw, a graduates' society will be formed and a programme of work considered. All interested in the meeting should apply for tickets of admission to the Secretary of the Institution, at 1, Albemarle Street, W.

Agitation in Belfast.

AN important meeting of motor-car owners and gentlemen interested in automobilism was held at Belfast on Friday of last week, called by way of protest against the proposed speed limit of ten miles for motor-cars within the city boundary, and in order to form a club for mutual defence. The protest was made and the club formed, some useful speeches being made, and a guarantee fund to meet expenses likely to be incurred in opposing the threatened restriction was started with £260. In the course of the discussion Mr. John Tate,

ship in connection with it. Many houses are so situated that motorists cannot travel many miles without being in several counties. One correspondent writes:—"I am out of my own county in four miles, and my market town, six miles away, is in a different county." Another suggests, "What to me seems to be the most reasonable way would be that every motor should carry a motometer, which would register the mileage run, and that each owner should pay on his mileage. Of course this would mean a department for the whole country, which would issue motometers, collect the amounts payable, and allocate the moneys to the different counties in proportion to their mileage of roads suitable for motor traffic." The idea of paying on a mileage scale to use a car after it has been purchased is decidedly entertaining; but why stop at motor vehicles, why not suggest that every pedestrian should also be provided, or fitted with a trip recorder, so that the proportion of each person's wear and tear of the pavement could be ascertained? The notion may sound more foolish than the former idea; but it has as much likelihood of adoption.

MOTORING TOURS IN THE PARIS DISTRICT.

PROBABLY few foreigners, and perhaps not many Parisians, know the delights and charms of all the cities and towns, and the neighbouring countryside, within say a radius of fifty miles from the Place de la Concorde. Within this charmed circle there is a wealth of shrines at which one may worship, and uncounted kilometres of crossing and recrossing historic highways, which most automobilists would like to make acquaintance with if the way were only pointed out. There is, to be sure, a stretch of roadway now and then, even outside what may be called suburban Paris, which is distinctly bad, because of the *pavé*. There is such a stretch through St. Germain-en-Laye, another at St. Denis—*en route* to Chantilly and Compiègne, and at Villeneuve-St. Georges—going out to Fontainebleau; and very bad samples of roadway they are. A great circle drawn around “la ville lumière,” with a circumference of five hundred kilometres, more or less—and often not out of sight of the Tour Eiffel or the Sacré Cœur—will give two or three days—or better a week—of as enjoyable sightseeing touring as can be had in a straightaway run across the better part of France to Aix-les-Bains or Vichy. The following outline is only an approximate possible itinerary, and if it is not desired to cover the entire ground portions of it can be combined with a tour in Normandy, or taken *en route* from Paris to Switzerland, to the Rhine, or into Touraine. It will be time well spent for those who have hitherto thought they already knew France well, and considerably newer ground will be turned over than is to be found in many regions more remote.

Since the touring motorist usually enters France *via* Havre or Dieppe and the valley of the Seine, he ultimately reaches St. Germain just before entering Paris—this point has been taken as the commencement of the itinerary. If one actually is in Paris he can go out by any of the *portes*, or gates, and take up with the itinerary where he will at any point along its periphery. There are very good reasons for entering France with one's car *via* Havre; there are better facilities for unshipping it than elsewhere; there is a garage proprietor there who especially concerns himself with getting you “started right,” and will even



The Arc de Triomphe, Paris.

arrange the preliminaries of your “Certificat de Capacité” and “Recepisé de Déclaration”—if you advise him beforehand—and may perhaps be able to save you twenty-four or forty-eight hours hanging around Havre or Rouen trying to accomplish the thing yourself, with only the vaguest notions as to how to go about it. Once one has finally got free of these “formalities” and his port of entry, one reaches St. Germain *via* the great Route Nationale, familiarly known as the “Route de Quarante Sous.”

The *pavé* of cobble stones through the main streets of St. Germain is about as bad as you will find. There is good garage

accommodation at the Hotel du Pavillon Louis XIV., and the eating and sleeping arrangements are equally good and expensive, the hotel being appointed by the Automobile Club de France and three-starred in the “Guide Michelin.” Still this is the place to stop whilst “doing” St. Germain, its Chateau Neuf of Henri Quatre, the remarkable birdseye view from the Terrasse—built by Le Notre in 1672, and the great alleys of the Fôret. It is all hallowed and historic ground, and the guide books will enumerate the “sights” more fully.

From St. Germain to Versailles is only twelve kilometres, descending to the level of the Seine and then climbing up again.



The Rue des Reservoirs, Versailles.

through Marley. The *pavé* now disappears, in part, but what there is left is bad enough; it can be entirely avoided by leaving St. Germain by the route through the Fôret de Marley, and entering Versailles by the back door, as it were, and the distance is not perceptibly greater. Versailles and its chateau, and its gardens, its fountains, its Trianons, and all its other charms, is the beau idéal of the tourist's chateau. For the sight-seer Versailles is worth at least half a day, it can hardly be done in less. That makes, with St. Germain, practically a day already, but one can readily enough get on to Rambouillet, another thirty kilometres, for the night. The road to Rambouillet from Versailles *via* Trappe through the Fôret de Rambouillet, where were held the royal hunts of other and more picturesque days. Here, too, are still held “Les chasses Nationales,” when visiting royalties are invited to go out and kill something by the present figurehead of republican France. The road is a delightful one through its whole length, and in the forest itself it runs through great alleys of pines in a most romantic and truly delightful fashion. As one comes up with Rambouillet, the town, there is more cobble stone *pavé*, and particularly vile it is. Either the Croix Blanche or the Lion d'Or are good enough hotels, at any time except between Friday and Monday, when they are apt to be filled with week-end trippers out from Paris. The attractions of Rambouillet are its chateau, which since the very earliest times has been a royal hunting lodge. Francois Premier died here, and in Napoleonic days it was a retreat for many of the followers of the “little corporal,” and he himself—at the end of his first day's journey when going to his exile—slept within its walls. Here, too, at the end of monarchical times under the restoration Charles X. signed his abdication.

(To be concluded.)

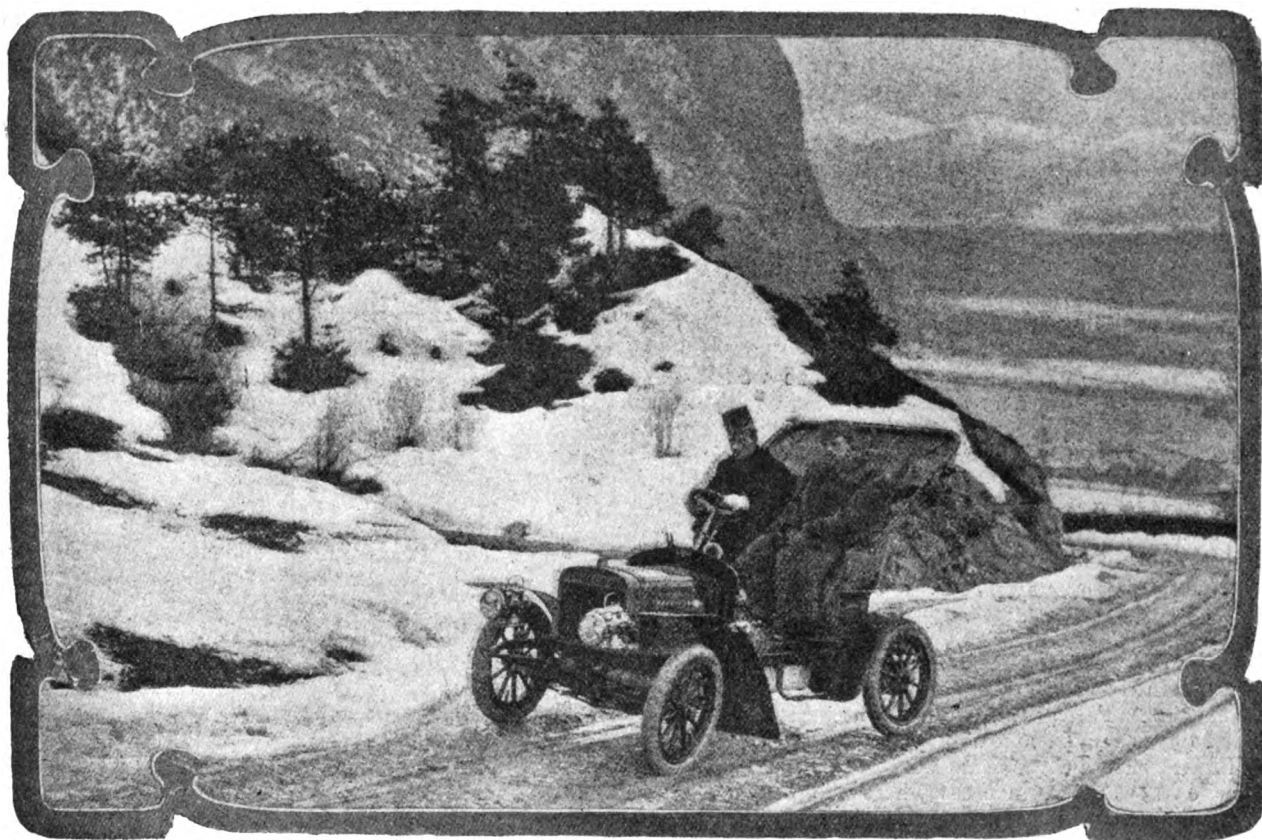
A MOTOR-CAR collision at Grimsby was one of the causes that led to the appearance of a marine engineer at the local bankruptcy court. He told the Official Receiver that he got a motor-car on the hire purchase system, and last May he had a collision with a cyclist. A County Court action was the outcome, and he lost the case, being mulcted in expenses totalling nearly £30. He had to file his petition, and the proprietors had seized the car.

SOME WINTER MOTORING TIPS.

BY A. E. S. CRAIG.

LIKE the answer to the question, "Is life worth living?" "It depends upon the liver," the amount of pleasure or pain that can be extracted from pursuing one's motoring career throughout the months of winter's gloom depends largely on the idiosyncrasy of the people who make a habit of doing so. Imagination is responsible for keeping a lot of motor-cars locked up during the orthodox period that is termed "the winter months," and the same worthy souls who will embark in the teeth of a biting east wind, with accompanying showers of hail, in April, could not be persuaded to climb into a car within a month of either side of Christmas Day, however harmless the temperature and general outlook. But, although imagination is responsible for keeping a lot of people from enjoying the pleasures of motoring, there is a very real side to the matter, the side that in all seriousness affects the possibility of a winter

keep without movement for a long time at a stretch. No clothing is really warm in itself, and it is only its capacity to retain an insulating partition of air (kept warm by the body) between us and the surrounding atmosphere that determines its relative utility as regards keeping us from feeling the cold. Now it is, perhaps, superfluous to point out that a motor-car travelling at legal limit, or over, is equivalent to a pretty strong wind; but one is apt to forget that if running in the face of a breeze as well we are encountering half a gale. Therefore it stands to reason that our clothing must be so made as to prevent the fierce and continual draught to which we are subjected from finding its way down our necks, up our sleeves, as well as whatever covering, according to our sex, guards our nether extremities. For just as a radiator is more or less efficient, according to the area of water it is able to expose to the current of air drawn through its structure, so, *per contra*, is motor clothing ineffectual which affords ingress to the wind and permits our film of body-warmed air to be extracted from us. Let us, therefore, keep the necessity before us of arraying ourselves in attire which is cal-



Motoring in the Snow on the Zirlerberg, near Innsbruck, Tyrol.

jaunt on a car being an agreeable affair to undertake, and it is upon this, the practical side, that I propose to make a few remarks.

In the early days of motoring, howls of delight greeted the appearance of a duly swathed and swaddled chauffeur, who had probably bought his experience, not to mention his clothes, on the Continent, and even to this day the funny (?) papers, and the music halls, revel in the new "property" they have added to their repertoire. Vulgar astonishment finds relief in hilarity, but foolish indeed are they who may be deterred from assuring to themselves ample protection from the elements, if by so doing they run the risk of being laughed at by the ill-bred; the same impolite individuals would find equal amusement at a funeral not conducted on conventional lines. For winter motoring, therefore, let us first assure our bodily comfort, by a sensible and fully adequate selection of clothing. In choosing this equipment the novice is apt to greatly underestimate the penetrating power of the wind, and the stagnation of the circulation by having to

culated to thwart the persistent attentions of the wind in selecting our winter outfit.

What a dread bugbear is conjured up by the possibility of the water freezing in the radiator and water jackets, and so causing untold expense and tribulation! For this reason alone some are foolish enough to empty their circulating apparatus at the first touch of frost, and forego the use of their cars until the flowers begin to bloom. All sorts of anti-freezing concoctions are recommended, and, in case there are any that like to try some, I append a few prescriptions as follows:—Add to the water 10 per cent. of methylated spirit (wood alcohol) to avoid freezing down to 15 deg. Fahr., or 25 per cent. down to zero by the same thermometer. Similarly glycerine added in the proportion of 10 per cent. will protect down to 20 deg. Fahr., and 25 per cent. down to 5 deg. Fahr. Alternatively a mixture of the above two fluids may be used. Hydrated calcium chloride, if added to the circulating water to the extent of 10 per cent., will ensure against Jack Frost down to 15 deg. Fahr., or a

25 per cent. mixture down to zero. I should imagine the last named remedy would be very sure to cause trouble with the pump, and also by forming deposits in the radiator and cylinder jackets, especially if the water at any time reaches boiling point. Personally, I would not be troubled with any mixtures, at any rate in this country. For I believe that in the end ordinary precautions are less worry, and certainly less expensive. The letter of Mr. S. F. Edge which was published in the *M.C.J.* of the 28th ult. pointed out how effectual is the simple expedient of covering the radiator and bonnet with a rug when the car is left exposed, a thermometer showing that only 8 deg. of heat were lost during a period of three hours, whereas by failing to do so a drop of 53 deg. was indicated during a similar period. Now three hours is quite a long time to leave a car exposed outdoors, and yet it is obvious that the motor in question could have been left for a much longer period, if it had been so required.

Then, as regards the garage itself, the same procedure may be adopted, although I am strongly in favour of always keeping the car in a genial atmosphere by means, when necessary, of artificial heat. A very small gas or oil stove will suffice to maintain the requisite temperature, or better, because safer, of course, a hot-water heating apparatus. Once installed the after expense is quite insignificant; in fact, it is in many ways a real economy. First and foremost the water need not be emptied out of the car, nor need one even trouble to tuck a rug round the front of the vehicle. Then the oil in the lubricators will not become too viscous to start feeding properly when the car is first started out on its journey. And last, but not least, the time spent in cleaning and adjustments is less fraught with suffering, and the work in consequence less likely to be scamped; for who can fiddle about in an ice-house with numbed fingers, handling metal at freezing point, and yet do the work as conscientiously and as well as one can if working in bodily comfort?

Of course, when we are motoring away from home we often have to put up with accommodation for our steed that renders it imperative, if we have not an anti-freezing mixture, to empty out the water. And, in view of such eventualities, it is most important that we should first assure ourselves that the water can be emptied out from all parts. For instance, we must make sure that the water can be drained from the cylinder jackets, and the pump, as well as the radiator; and in some cases this is not possible. Therefore, to make sure, it is as well to have a tap fitted to the bottom of each jacket and also under the pump itself. And if the oil tank is in an exposed position on the dash, it is almost worth the trouble to have a large bore tap fitted, so that the oil can be quickly drained off, and replaced in the morning in an uncongealed condition. Failing this, it will be as well to have a felt cover made to fit it snugly, and slip this on when the journey is over. In fact, such a cover could with advantage be kept on during very cold weather, in cases where the oil is not warmed by exhaust gas under pressure.

Talking of exhaust gas brings me to the subject of further utilising this waste heat. This has been proposed over and over again, and although in some cases car owners have had some fittings made at their own expense, I am not aware of any manufacturers in this country making an exhaust car-warmer (which can be cut out at will) as a standard fitting. Such an installation, however, carried out in an efficient manner, is a real luxury, and the added comfort is, I consider, well worth the small additional expense entailed. The addition of side doors between the dash and the front seat undoubtedly keeps away a lot of cold from those sitting in that position; but I think that a waterproof apron, that can be fixed to the dash, and extending well up to the seat, with provision for strapping behind the occupants, is much wanted. It should be wide enough to extend to either side of the car, and have flaps reaching to the floorboards. This allows greater freedom to the legs than is possible when a rug is wrapped round these limbs, and, by being fixed fore and aft, prevents it slipping out of position continually.

Needless to say, the coach-builder plays an important part in the comfort of passengers, and their protection from side draughts, even in open bodies. Soft, springy seats, into which

the body fits snugly, make a ride in a car so fitted a revelation to those who hitherto have only journeyed in nasty skimpy little bodies, or with hard uncompromising cushions. Wind screens are becoming very popular, in spite of the appreciable difference made to the going, when running against the wind, and in spite of the undoubted element of danger introduced; this latter, partly on account of the risk of being cut by broken glass in the case of a smash, and partly owing to the really great difficulty of seeing properly when rain begins to beat on the screen. I think that all wind screens should be capable of easy adjustment, both as regards height and angle at which they are set, and also of being lowered altogether without a lot of trouble. Some wind screens are fitted with glass reinforced by wire netting, so that in the event of breaking, the fragments cannot fly; but, apart from the chicken-run appearance it gives to the car, I find it exceedingly trying to the eyes. Another idea is to cement a sheet of celluloid between two plates of glass, but I have not seen many screens so fitted; perhaps it is found that the celluloid turns yellow.

Now as to skidding; this is indeed the "old man of the sea" of motoring, not only in winter, but at any time in this erratic climate, the solution of which is yet to be achieved. But there are, after all, heaps of dry days in winter, and, equipped with non-skids and a little discretion, which is better than valour, there is no reason why one need fear trouble. I am sure that



Motoring in Chicago.

From a Caricature Sketch]

[Published by the Berliet Company.

all careful and experienced motorists will bear me out in averring that 90 per cent. of accidents through skidding are due to rash and therefore foolish driving. Brakes on the front wheels would certainly enable a car to hold itself from side-slip to a considerable extent, and it is somewhat surprising that they are scarcely ever fitted. So also would some contrivance on the Hedgeland principle be an improvement on the differential, as there is no doubt that the chance of side-slipping would be somewhat reduced thereby.

Finally, like many another thing that is either a success or a failure, according as to whether it is logically pursued or the reverse, winter motoring is merely a case of adequate preparation, backed up by a little common sense and determination to ensure a full measure of the former. Out, then, with our motors, and let us show the world that they are not fair weather toys, and that we can even face a few flakes of snow in them, and yet be merry.

CALCIUM carbide will shortly be manufactured in this country, at works adjoining the Yorkshire Electric Power Company's generating station, near Dewsbury.

MAJOR G. E. SMITH, R.E., recently drove the Right Hon. Mr. Winston Churchill to Fort Hall, British East Africa, and back, a distance of about sixty miles over almost impassable roads, on his Turner-Miesse steam car.

THE SETTING OF VALVES.

In a recent issue a correspondent of the *M.C.J.* drew attention to the lack of definite information as to the exact setting or timing recommended by the different makers for the inlet and exhaust valves of their petrol motors, and also to the considerable variation in the practice adopted by the various

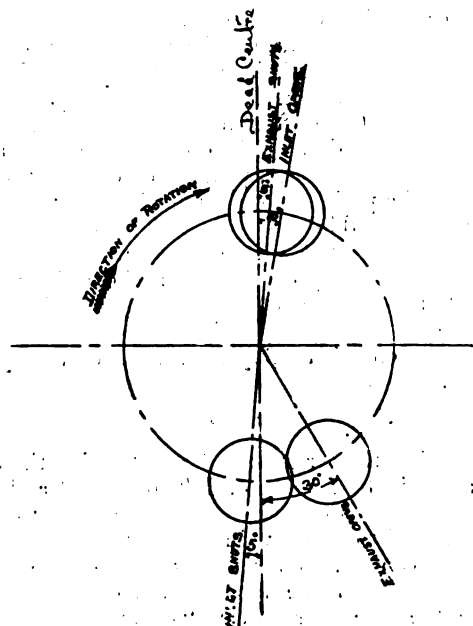


Fig. 1.—Diagram of Valve Setting for Deasy Cars.

firms. As no doubt the particulars will be useful, not only to users of the particular cars mentioned but also to motor-car repairers generally, we have asked a number of well-known concerns to afford us some details of the method they adopt in this particular connection, their responses being given below. It will be seen that our correspondents' opinion as to the great variation in the valve timing of different engines is fully borne out, not one of the seven firms mentioned adopting the same setting. In fact, so varying is the practice that there would appear to be ample scope for the carrying out of a series of tests to determine the most advantageous position, and we commend the suggestion to the consideration of the Institute of Automobile Engineers.

The Deasy Cars.

Mr. E. W. Lewis, of the Deasy Motor-Car Manufacturing Company, Ltd., Coventry, writes:—In your issue of December 21st there is a very interesting question raised in reference to valve setting by various makers. It is obvious that all the various settings as described cannot be correct. I enclose a diagram showing the valve setting used on all Deasy engines. It is quite simple and the dimensions are in degrees, and it should hold good whatever stroke the engine has. It would certainly be interesting if some of the well-known makers would give their experience of the results obtained from different settings. Personally, and from the experience I have gained, the setting, as shown on the diagram, gives the best all-round result. There is no gain by opening the exhaust valve earlier, even for high speeds, provided the exhaust valve is sufficiently large to carry away the products of combustion. It is much more necessary to have a correct timing of the inlet valve than the exhaust valve, and it will be seen from the diagram (Fig. 1) that the inlet valve closes 5 deg. past the dead centre. It also opens 10 deg. past the dead centre, which gives a complete half-revolution, plus 5 deg. of opening period. It will also be noticed that the exhaust valve closes 5 deg. before the inlet valve opens, and opens 30 deg. before arriving at the dead centre.

The Panhard Cars.

Mr. W. A. Turpin, the works manager of Messrs. Panhard and Levassor, Acton Vale, W., sends the following details with

regard to the arrangement adopted in the various sizes of Panhard engines:—

Setting the inlet valves: 8-h.p. and 10-h.p.—Inlet valves are automatic. 15-h.p. and 18-h.p.—The valve opens when the piston is 2 mm. (1-16 in.) down from the top on the suction stroke, and closes when the piston is 10 to 14 mm. ($\frac{3}{8}$ in. to $\frac{1}{2}$ in.) up from the bottom of the compression stroke. 24-h.p.—The valve opens as above, and closes when the piston is 13 to 17 mm. ($\frac{1}{2}$ in. to $\frac{3}{8}$ in.) up from the bottom on the compression stroke.

Setting of exhaust valves: 8-h.p. and 10-h.p.—The valve opens when the piston is 10 to 14 mm. ($\frac{3}{8}$ in. to $\frac{1}{2}$ in.) from the end of the explosion stroke and closes when the piston is 2 mm. (1-16 in.) from the top of the suction stroke. 15-h.p. and 18-h.p.—The valve opens when the piston is 11 to 15 mm. ($\frac{3}{8}$ in. to 9-16 in.) from the end of the explosion stroke and closes as above. 24-h.p.—The valve opens when the piston is 14 to 18 mm. ($\frac{1}{2}$ in. to 11-16 in.) from the end of the explosion stroke and closes as above. Mr. Turpin adds that it is most important to replace the valves in the same cylinders from which they are removed.

The Brasier Cars.

Messrs. Mann and Overtons, Ltd., the sole concessionaires for the Brasier cars in this country, inform us that in these vehicles the exhaust valve opens 16 mm. from the bottom of the explosion stroke of the piston and closes at the top of the exhaust stroke. The inlet opens 1 mm. below the commencement of the suction stroke.

The Star Cars.

Fig. 2 shows diagrammatically the method of timing the valves adopted in the Star cars of the Star Engineering Company. It will be seen that the exhaust valves have an advance of 40 degrees on the crankshaft—that is, they are timed to commence opening 7-16 in. from the bottom of the explosion stroke of the piston. The closing takes place exactly on the dead centre of the completion of the exhaust stroke. The inlet valves are set so as to open and close exactly on the commencement and end of the suction stroke of the piston.

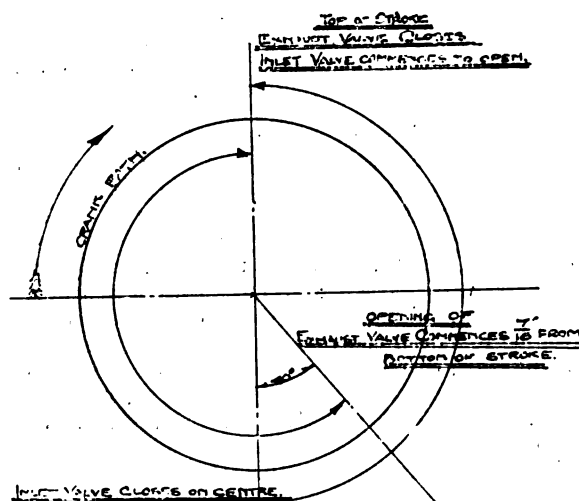


Fig. 2.—Diagram of Valve Setting for Star Cars.

The Aster Engines.

Mr. S. W. Begbie, of the Aster Engineering Company, Ltd., writes:—As regards the timing of Aster engines we adopt a different arrangement for fast-running engines and for slower running motors. For the former we set the valves as follows:—Inlet opens 4 mm. down the suction stroke of the piston, and closes 18 mm. up on the compression stroke. The reason for opening slightly late is that a slight vacuum is formed which induces the vapour into the cylinder, while, by closing late, we get a better charge of gas. This may be explained by the fact that, owing to the inertia of the vapour, the gas will continue to enter the cylinder after the piston has reached the dead centre.

and a slight pressure will be formed by the returning piston before the inlet valve is closed.

With regard to the exhaust valve, this is set to open 15 mm. from the bottom on the explosion stroke, and to close on the dead centre at the top of the exhaust stroke. By

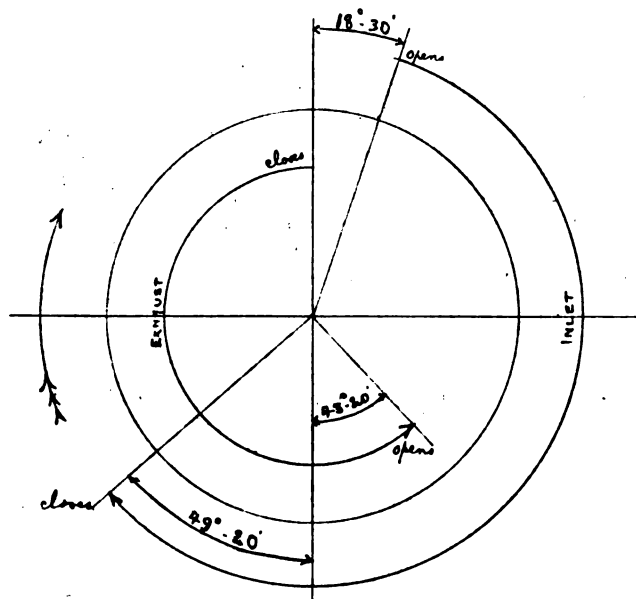


Fig. 3.—Diagram of Valve Timing of Aster 18-22-h.p. Engine.

opening the exhaust valve in this way no loss of power is experienced, and a more thorough discharge of exhaust gas is insured.

For slower speed engines the setting we adopt is as follows:—Inlet valve opens 1 mm. down the suction stroke, and closes 1 mm. up on the compression stroke. The exhaust valve opens 15 mm. from the bottom on the explosion stroke and closes on the dead centre at the top of the exhaust stroke. It will be noticed that the setting of the exhaust valves is identical in both cases, only that relating to the inlet valves differing, so as to give the highest power at all speeds.

The Straker-Squire "C.S.B." Car.

Messrs. Sidney Straker and Squire have furnished us with the following information with regard to the timing of the exhaust and inlet valves on the Straker-Squire "C.S.B." cars:—

The exhaust valves, tappets and cams are designed and made of the dimension, length, and shape to give the following data: Lift of exhaust valves, 8 mm.; exhaust advance, 56 deg. on the crankshaft, corresponding on the stroke of the piston to 24 mm. before the bottom dead centre; retard on closing exhaust, 6 deg. on the crankshaft, corresponding on the piston stroke to $\frac{1}{2}$ mm. after the top dead centre; total exhaust stroke, 242 deg. on the crankshaft. Play between the tappet and the valve when the cam does not act on the tappet, 1 mm.

Adjustment of the admission.—Data relating to the full admission, i.e. when the eccentrics of the inside shaft are at their top dead centre: Lift of the inlet valves, 7 mm.; retard of opening of admission, 20 deg. on the crankshaft after the top dead centre, corresponding to 4.5 mm. of the stroke of the piston after this dead centre; retard on the closing of the admission, 20 deg. on the crankshaft after the bottom dead centre, corresponding to 3.25 mm. on the stroke of the piston after this dead centre; total admission stroke, 180 deg. on the crankshaft. Play between the tappet and the valve when the cam does not act on the tappet, 1 mm. Play between the boss of the cam and the tappet roller, $\frac{1}{2}$ mm. The cam when completely recessed should exceed the boss by $\frac{1}{2}$ mm.

According to these data, to effect the adjustment of the admission, proceed as for the exhaust by placing the piston corresponding to the valve to be adjusted at the top dead centre of the admission stroke, taking as a basis for the same the exhaust

stroke previously adjusted. Then put the camshaft in place so that the teeth of its gear, indicated by a mark, mesh with the teeth of the intermediate gearing bearing the corresponding mark. The admission camshaft having been fitted and giving the maximum lift in this position, then put in the tappet and the valve without the spring, the lift of which is to be adjusted, then turn with the hand the back-bevel pinion of the shaft carrying the eccentrics, until the valve gives a lift of 7 mm. At this moment the eccentrics will be at their top dead centre for the position of full admission: the transverse shaft worked from the handle of the flywheel for the variable admission and compression relief is to be put in place by meshing its bevel pinion with the pinion driving the eccentrics in such a position that at this moment the finger, which should effect the compression relief, is in the position to press on the exhaust shaft. By keeping this shaft fixed in this position the proper adjustment of the valve, previously fitted, will be secured by proceeding in the same manner as previously described for the adjustment of the exhaust; but the advances and the retards of the exhaust marked on the rod will be replaced, in the direction where they should be marked on this rod, by the retards on the opening and closing of the admission.

The Thornycroft Cars.

Fig. 4 depicts the arrangement adopted for the engines of the petrol cars built by Messrs. J. I. Thornycroft and Co. The outer circle represents a disc supposed to be fixed to the end of the crank shaft and to rotate with it; the pointer is supposed to be fixed to any convenient stationary part of the engine. If the disc and crankshaft be now rotated clockwise, when the radial line on the disc representing "exhaust opens" arrives at the pointer the exhaust valve should just be on the point of opening. Continuing and following the closed spiral line, exhaust closes, inlet opens and inlet closes at the respective radial lines. In practice, Messrs. Thornycroft set the valves in this manner, using, however, the edge and not the face of a standard reference disc, which can be bolted to any engine for the purpose

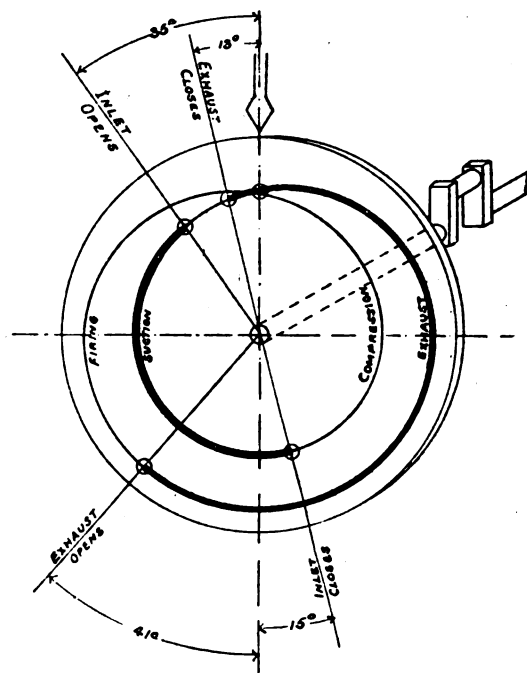


Fig. 4.—The Thornycroft Valve Timing Diagram.

of valve setting. As will be seen, a relatively late opening of the inlet valve—35 deg. down on the suction stroke of the piston—is adopted, while it is timed to close 15 deg. up on the compression stroke. As for the exhaust valve, this is set to open 44 deg. from the bottom of the firing stroke, and to close late—13 deg. down on the suction stroke.

THE "AMPERE" PETROL CAR.

A NOVEL SYSTEM OF CHANGE-SPEED GEAR CONTROL AND TRANSMISSION.

ONE of the most interesting exhibits at the recent Paris Show, and one which seems to have been overlooked by many visitors, was that of the Société Etablissements "Ampere," of Billancourt, near Paris, who are building a petrol car known as the "Ampere," in which a number of exceedingly novel features have been incorporated. So far as the general

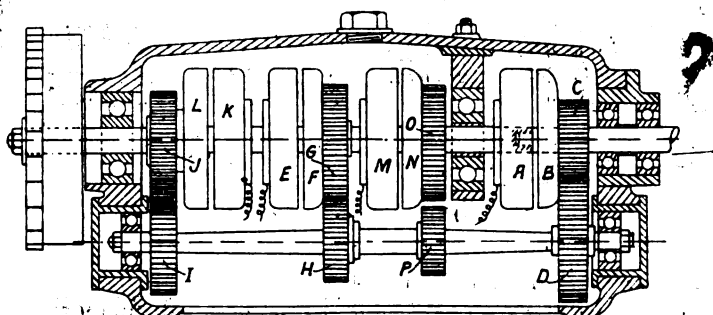


Fig. 1.—Sectional View of "Ampere" Electrically-Controlled Gear-Box.

outline of the vehicle is concerned, this follows what may be termed standard lines, viz., a 10-16-h.p. four-cylinder engine located under a bonnet in the front, a gear-box at about the centre of the frame, and a cardan shaft which drives the rear axle through bevel gearing. There, however, the similarity ends, for the ordinary change-speed lever, the clutch and the differential gear are conspicuous by their absence, their functions being effected electrically by the method described below.

Fig. 1 gives a sectional view of the gear-box—the pinions of which are always in mesh—giving three speeds forward and a reverse with a direct drive on the top speed. Mounted on the main shaft in such a way that while they are free to move laterally while always rotating therewith are four discs, each forming one half of a magnetic clutch, the other of which is connected up with one of the pinions COGJ. The various speeds are brought into action by means of a switch on the steering wheel. The first speed is obtained by passing a

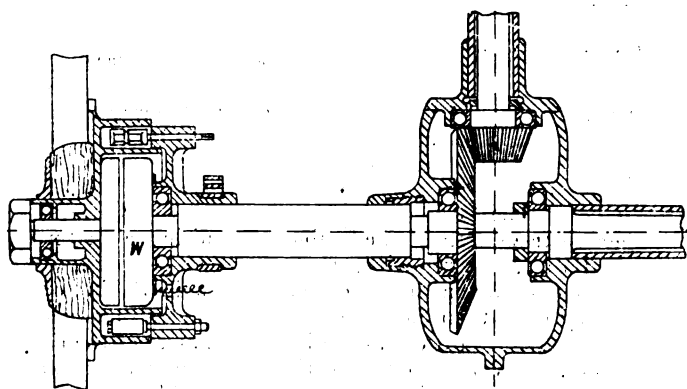


Fig. 2.—Sectional view of Half of Rear Axle of "Ampere" Car.

current through the clutch A, the disc free to slide being then attracted to the other and the power transmitted through the pinions CD and thence through the spur wheels IJ, which convey it to the cardan shaft; similarly the second speed is got by the clutch EF and the pinions GH. The third speed is secured by connecting up the clutch KL, when the drive is direct from the engine to the cardan shaft. For the reverse motion the clutch MN is engaged, the transmission then taking place through the pinion O, an intermediary one not shown, and the gear wheel P.

The feature of the rear live-axle (Fig. 2) is that it is solid throughout, instead of being built up, as usual, of two halves. As

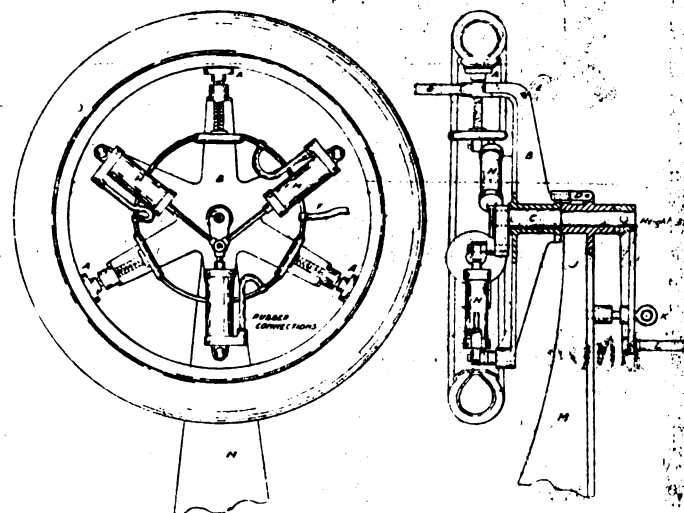
already mentioned, there is no mechanical differential gear, its place being taken by two electro-magnetic clutches W, one at each end. When the car is travelling along a straight road both clutches are engaged and the drive is transmitted to both road wheels. When any turn is made one or other of the clutches is automatically disengaged, so allowing its respective road wheel to run free. Thus on turning the steering wheel to the right the current to the right hand clutch is cut out and *vice versa*, the outer wheel on the curve thus always driving and the other running free, while by a movement of the switch when the brakes are applied the drive to both is interrupted, so rendering the usual clutch unnecessary and reducing the tendency to skid. The makers claim that the two discs of the clutches are instantly connected or disconnected as the switch is moved from one point to the other.

The necessary current is furnished by a special design of magneto driven by the engine adapted to give two low-tension currents of different voltages—one being employed for the ignition of the explosive charge in the engine, and the other for the electrical control of the change-speed gear, for the driving of the rear road wheels and for the lighting of the vehicle.

The arrangement adopted in the Ampere car is undoubtedly novel, and if it gives the results in practice which the makers claim, it will certainly mark a step forward in the direction of simplicity in design and construction.

THE STANLEY TYRE MANIPULATOR.

WHILE the use of detachable rims, Stepney spare wheels, &c., has greatly reduced delays on the road when tyre troubles are encountered, there still remains the necessity, on arriving home, of repairing or replacing the damaged tyre. While this is to the amateur no light task, when dealing with a tyre on the road wheel itself, the work of replacement is even more arduous when it has to be done on a detachable rim or spare wheel, and it is to facilitate the operation in the last-named instances that Mr. F. W. Stanley, of Caxton House, Westminster, S.W., has designed an apparatus which he has named the "Stanley Tyre Manipulator." This consists of an iron stand, on which is mounted a special bracket with clamps, by means of which the rim or spare



wheel can be rigidly held at a convenient height in a vertical position. Combined with the device are three oscillating cylinders which, when the new tube and cover are fixed in place, are brought into action by rotating the bracket and act as pumps, so enabling the tyre to be readily inflated. The manipulator is as ingenious as it is useful, and should find a place in many garages, both private and public.

FATHER VAUGHAN has been comparing many people to a motor-car, and suggesting that it is far more important for a man "to look to his brake gear than to his speed gear."

CONTINENTAL NOTES.

Belgian Motor-car Imports and Exports.

To the end of November last the imports of foreign motor-cars and parts into Belgium had in 1907 attained a value of £153,648, as contrasted with only £140,188 in the first eleven months of 1906. During the same period the exports of motor-cars and parts from Belgium increased from £346,492 to £397,792.

The Lighting of Motor-Cars.

The Automobile Club of Milan is organising a competition, to be held during the coming spring, of the best means of lighting motor-cars. The event is divided into three parts:— (1) The best generator; (2) the best lamp; (3) the best system for lighting motor-cars. The executive committee consists of Messrs. Silvio Crespi (president), Fazio dal Pozzo, Dr. Alberto Pirelli, Luigi Brigatti, and Count Carlo Sormanni.

An International Motor Insurance Society.

It is reported from Vienna that negotiations are in hand for the formation of an international motor insurance society, to comprise the members of all the national automobile clubs in Europe, and the clubs affiliated therewith. The insurance policy is to be extremely wide in its scope and the premium is to be low.

will start on February 8th. In the event of no car finishing the journey, the Coupe du Monde will be awarded to the club to which the most successful car (the vehicle which travels farthest) belongs, and a reduced edition of the cup will be awarded to the winning car. It is stated that already eighteen entries have been received for the race, which in some quarters is being regarded as a somewhat foolhardy and unnecessary event.

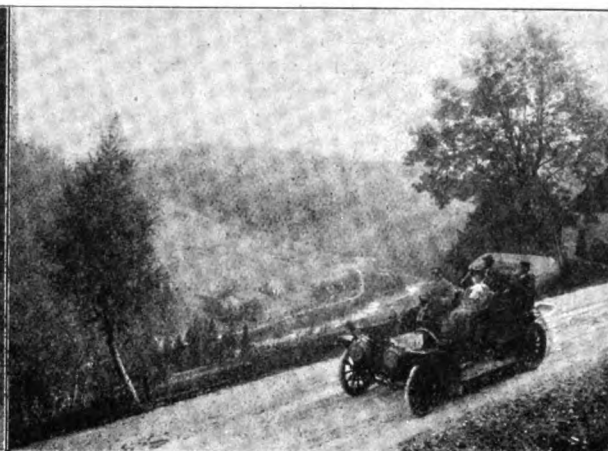
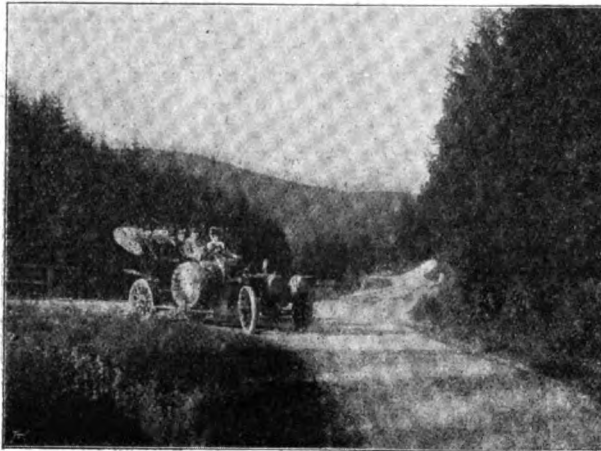
The A.C.F. Grand Prix Race.

The Sporting Committee of the A.C.F. has worked out the sizes of engines which will be eligible for the Grand Prix race, taking as a basis the 155 mm. maximum bore for four-cylinder engines, as follows:—

Single-cylinder engines, maximum bore 310 mm.				
Twin	"	"	"	219 "
Three	"	"	"	179 "
Four	"	"	"	155 "
Six	"	"	"	127 "
Eight	"	"	"	110 "

A Tour of France.

The Autocycle Club de France is organising a tour of France to be held from the 4th to the 9th May next. The event will be open for (1) motor-bicycles of a maximum cylinder capacity of 250 cubic centimetres; (2) ditto up to 210 cubic centimetres; (3) tri-cars up to 500 c.cm.; (4) voiturettes up to



Touring in Bohemia.—A Fiat Car near Pommerndorf.

[Allgemeine Automobil Zeitung.]

Automobile Regulations in Denmark.

Apparently the lot of the Danish motorist is not a bed of roses; the present regulations regarding motor-cars in Denmark restrict the speed to nineteen miles per hour, while not only are many of the roads closed to automobiles, but during eight months of the year they must not travel between sunset and sunrise along roads that are not officially lighted. Automobilists were hoping for better times when Parliament came to reconsider the question, as it had to, before the end of the current session, but their hopes have been dashed to the ground by the Minister of Justice, who introduced his new scheme last week. Not only are the old restrictions to be maintained, but the fines are to be increased, while two convictions in one year will result in the withdrawal of the driving licence. The only freedom motorists in Denmark will enjoy will be during the military manoeuvres, when those taking part in them with their cars can legally ignore all rules.

The New York—Paris Motor Race.

The "Matin" of Paris has this week published the programme and rules of the motor race from New York to Paris, via Seattle, Skagway, the Behring Straits, Yakutsk, Irkutsk, Tomsk, Moscow, St. Petersburg, and Berlin. The European cars entered for the race will leave Havre on February 1st for New York on the Transatlantic steamer "Lorraine." The race

4½-h.p.; and (5) ditto of a maximum cylinder bore of 100 mm. for single-cylinder engines, 80 mm. for two, and 65 mm. for four-cylinders.

Miscellaneous Items.

The Austrian Automobile Club is organising a motor tour through Bosnia, Herzegovina, Dalmatia and Montenegro for May next.—The annual tax on motor-cars in Spain is being increased by more than 50 per cent.—Rigal has arranged to drive a Clement-Bayard car in the important races of the coming season.—It has been decided that the annual automobile meeting at Ostend shall commence on July 14th next.—La Société des Transports Automobiles, Services Publics par Automobiles, is the name of a company which has lately been formed in Paris with a capital of £16,000.—The Automobile Club du Nord (France) is organising a free course of lectures at Lille and Roubaix for young men anxious to become *mecaniciens*.—Three Fiats, three Italas and three Isotta-Fraschinis have so far been entered for the Targa Florio race, which is to be held in May next.—The authorities of the Swiss Canton of St. Gall have issued an order rendering it illegal to use armoured non-kid tyres or bands on the wheels of motor-cars.—A 24-40-h.p. Fiat car, fitted with a new design of spring wheel, known as the "Antopneumatica," is at present making a trial run from Rome to Paris.

MANY motor-cars were seen around the lakes and ponds near London during the recent cold weather—their passengers skating meanwhile.

"Is your horse afraid of motor-cars?" asked the tourist who was mending a tyre. "No," answered the farmer, "he's hauled too many of them home for that."

A L.G.B. inquiry will be held on Tuesday next with regard to an application by the Surrey County Council to put into force a ten-mile speed limit in Bridge Street, East Moseley.

THE National Motor Academy of Notting Hill has recently added a 40-h.p. F.I.A.T. to its already large stud of instruction cars. These now number eight, six being four-cylinder cars and two two-cylinder cars.

THE Daimler Company have received an order from Messrs. Eastwood, Swinger and Co. for a 30-h.p. live axle car of the "Blackdown" landaulet type for the use of Mr. A. Swinger, J.P., of Smalley Hall, Derby.

THE number of driving certificates issued by the Royal A.C. last year was 1,166, this number including 609 motor cabmen. The number of mechanical proficiency certificates issued during the same period was 140.

THE large motor garage of Mr. W. H. Stones, at Taunton, was destroyed by fire last week. Fortunately the stock of petrol was lodged some distance from the main building, and the brigade prevented the fire reaching this.

MR. E. LISLE has told the representative of a Wolverhampton journal that the prospects of the Star Engineering Works for 1908 are bright. The increase for the past quarter justifies the view that there will be a much larger output for this year.

ELSEWHERE in the present issue we commence the publication of an interesting article describing a series of tours within a radius of forty miles of Paris. It is from the pen of Mr. Francis Miltoun, and first appeared in our American contemporary, "The Automobile."

IN opening the Dublin Exhibition, the Earl of Aberdeen said he had had satisfactory experience with regard to a well-known make of car, the Daimler, but that did not prevent him speaking warmly of the Richard-Brasier car, with which he had enjoyed delightful runs with his friend Mr. White, or the Unic of his private secretary, Mr. Green.

MESSRS. JARROTT AND LETTS have received a repeat order from the Right Hon. the Earl of Dunraven for a 40-h.p. Crossley car to be ready for his journey to the south of France next month. The vehicle is to be of the open type with Roi des Belges body, Cape cart hood and glass wind screen.

THE 1908 pocket-book of the Continental Tyre and Rubber Company (Great Britain), Ltd., is to hand in the usual convenient form, and emphasising the added reputation of the Continental tyres during the past year. From the page of information we learn that at Cordingley's Motor Show of April last 35 per cent. of the cars exhibited were fitted with these tyres.

FROM the Calmon Asbestos and Rubber Works, Ltd., of 1, 2 and 3, Trinity Place, Tower Hill, E.C., comes the 1908 catalogue and price list of the Calmon motor tyres. These are guaranteed for 3,500 miles if driven in one year under certain reasonable conditions. The pneumatic tyre is made with a plain round tread, square treads of both the plain and ribbed variety, and also steel studded to obviate skidding. Attention may also be called to the Calmon solid tyres.

THE Duco motor accessories for 1908 are illustrated and described in a handy catalogue of pocket size issued by Messrs. Brown Bros., Ltd., from whose depot at 15, Newman Street, Oxford Street, W., all these excellent specialities can be obtained. These include lamps, accumulators, horns, coils, dry batteries, the Albo-Luthi sparking plug, voltmeters, jacks, the "Atlas" combined pneumatic and screw jack, the Duco turntable, and a host of snail tools for motorists—the whole forming a very comprehensive list easy of reference.

HERE AND THERE.

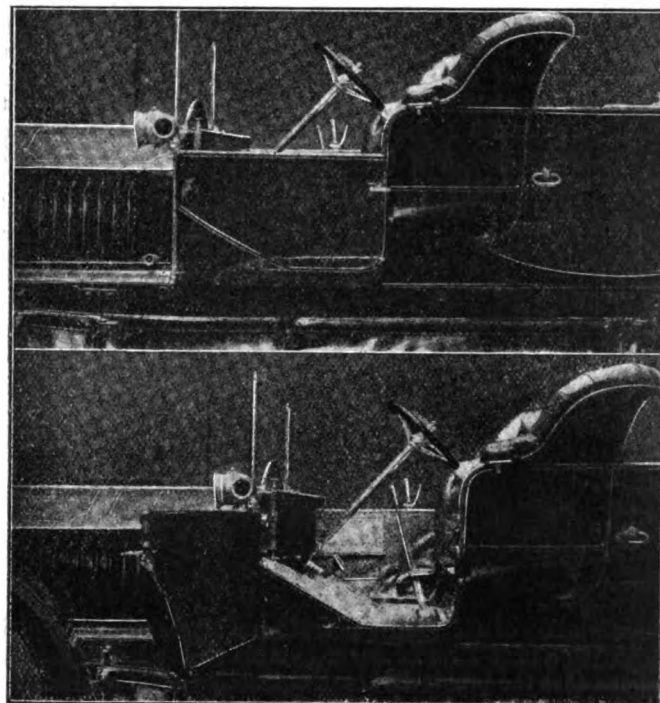
THE statement that the King favoured the proposed motor road to Windsor has been denied by Lord Knollys on behalf of his Majesty.

SEVERAL cars are employed by Messrs. Crabtree and Son, of Church Terrace, Wisbech, in the hiring business they conduct in connection with their motor garage.

MESSRS. ROWLAND BARNETT AND CO., LTD., 3, Hanover Square, Newcastle-on-Tyne, have been appointed agents for the counties of Northumberland and Durham for S.C.A.T. cars.

THE French Automobile Club has voted a sum of £1,200 towards the cost of the new roads out of Paris, which are to be constructed by the French Ministry of Public Works.

Few people know how much of the front-seat passenger's comfort depends on the provision by the makers of good high side doors to the driving seats. Often no doors of any kind are supplied, and, even when they are fitted, they are generally too low to be of much good, and in addition to this they usually spoil the smart appearance and general symmetry of the coachwork, as the lines set out by them are not in keeping with the



rest of the carriage. The difficulty is to make side-doors of such a kind that the change-speed lever and brake can be operated in comfort without the off-side door getting in the way. The near-side door does not, of course, offer any difficulty to designers, and it is merely a question of that on the driver's right-hand side. Messrs. W. T. Clifford-Earp, Ltd., are fitting a good device to all standard bodies supplied with six-cylinder Thames cars. The "gate" change-speed lever works inside the door, and the brake lever is outside. As will be seen from the accompanying illustrations, the top of the door comes level with the top of the dashboard, and the door itself is carried back in a graceful curve to the body at the side of the driver's seat. The near-side door opens in the ordinary way, but that on the off-side drops down into its place, and is kept secure by the support of the glass wind-screen fixture.

MR. C. J. PAFFARD, who introduced Dr. Winter's speed indicator and distance recorder to motorists at one of the early Metropolitan exhibitions, has a fully-equipped garage and motor engineering works at Castle Street and Mill Street, Trowbridge. He is undertaking all classes of repair work, and is keeping a large stock of spare parts and accessories.

MAY is being suggested in Dublin as a suitable month in which to hold the Irish Reliability Trial this year.

GRAVESEND has a new garage, opened by Mr. Spencer, of the Pelham Motor and Cycle Works, in the New Road.

LORD HAMILTON OF DALZELL has recently purchased a 24-30-h.p. Leon Bollée landaulet from the Victoria Carriage Works, Ltd.

THE Peterborough City Garage Company, Ltd., of Cowgate, Peterborough, have been appointed official repairers to the Royal A.C. They have a well-equipped garage in the city.

THE toll bridge spanning the Suir at Waterford was declared free at the beginning of the year, the mayor and corporation being the first to cross at midnight in a number of brilliantly illuminated motor-cars.

A PARTY of journalists who had been to Kirkby Stephen motored a few cold nights ago to Carnforth. The car broke down six miles north of Kendal, and they realised during their long vigil something of the dreariness of the Arctic regions.

THE magistrate at Clerkenwell Police Court has sent a motor-bus driver to prison for a month for being drunk while in charge of his vehicle. His licence has also been revoked. Similar procedure is promised to all succeeding delinquents.

THE Sheffield Motor Company, Ltd., are opening new garage, workshops and showrooms in West Street, Sheffield. A special motor body building department is being established, and every equipment provided for carrying out efficient repair work.

THE Earl of Elgin, the Secretary of State for the Colonies, is inviting suggestions with regard to the development of the petroleum industry in the Colonies. Important investigations on the subject are now being conducted in West Africa and in Trinidad.

A PLEASING and attractive card tray, cast in aluminium, has been devised by Mr. Robert W. Coan, the well-known worker in that metal at 219, Goswell Road, Clerkenwell, E.C. It has a



representation of a car on the track, and measures 12 by 8 in., suggesting a neat form of advertisement to the motor industry, and one that the provincial trade especially should appreciate.

COMMENCING with the first day of the present year the Board of Trade Returns will distinguish between complete cars, motor-car chassis, and the parts thereof—a triple classification in place of the inclusion of chassis as “parts,” which has hitherto been the case.

At a meeting of motor-cab drivers at Kennington on Saturday night, a resolution was adopted asking the Home Secretary to frame a short Bill to legally define the position of motor-cab drivers—to state definitely whether they were motor-car chauffeurs or hackney coachmen.

At the annual distribution of prizes to the apprentices at the carriage and motor-car body factory of Messrs. Atkinson and Phillpson, Newcastle-on-Tyne, Mr. W. Phillpson referred to the progress that British builders had made in the latter departments, and also to the special department of the firm for dealing with that branch of industry.

THE question of the payment for the petrol used for the Irish Solicitor-General's motor-car at the recent North Tyrone election has just been debated before the Derry Recorder. The amount claimed was £3 14s. For the defence it was contended that the motor-car was hired in Belfast at four guineas per day, including petrol. Mr. Burke held the Solicitor-General's agent was responsible, and gave a decree for the amount.

MR. L. E. TAYLOR has extensive motor-car showrooms in the Lincoln Road, King's Lynn.

THE Duke of Connaught is having a Harvey Frost tyre-vulcanising outfit sent out to him at Malta.

THE latest introduction of the Stepney spare wheel is a mudguard extension to prevent the splashing of mud from a Stepney wheel in wet weather.

By the Expiring Laws Continuance Act of 1907 the Motor Car Act, 1903, was continued until the 31st day of December, 1908, when it will expire unless further continued.

THE works of the Sirdar Rubber Company, Ltd., have been removed from Shirland Mews to 21, Crawford Street, W., which is near the office of the company, 34, Baker Street, W.

As instance of how the motor industry is growing in India we are informed that the Stepney Spare Motor Wheel, Ltd., have shipped no fewer than 400 Stepney wheels to India alone within the past three months.

ACCORDING to a recent report there are thirty-six motor-cars at present in use on the Island of Mauritius. The vehicle most greatly favoured is one of about 10-12-h.p., costing in Europe not more than £300.

THE garage of the Warminster Motor Works has been lately extended, and in the new department a social gathering of those interested in its welfare was recently held. Mr. L. Claude Willcox is the manager of the establishment.

MR. J. M. P. MUIRHEAD, secretary of the Automobile Club of South Africa, reports that he recently visited Mauritius and East Africa. In the former country he found about forty cars, nearly all of the same French make, and in East Africa he could only discover “two ancient vehicles of a wheezy and noisy description.”

THE R.M. Syndicate, Ltd., has entered a set of “Resilion” tyres for a long distance trial of 1,000 miles under Royal Automobile Club observation, with the option to continue for a further 1,000 miles. The tyres are fitted to a 16-20-h.p. (by R.A.C. rating 24-34-h.p.) four-cylinder Hotchkiss car. The tyres are filled with a composition made by the R.M. Syndicate, Ltd.

IN the motor notes which have appeared this week in several of the leading provincial papers we notice the following:—“Many motorists who have not yet placed their orders for their 1908 cars are looking forward to Cordingley's show, which is held at the Agricultural Hall, London, in the spring. It is certainly timed for the right season of the year to appeal most strongly to the public, the only drawback being that, in many instances, delivery cannot be promised for some weeks.”

THE Batticaloa Planters' Association some time ago asked the Government that an automobile service be given them from Batticaloa to Bibile (Ceylon), and that the motor-car which proved unsuitable for the Bandarawela-Lunugala road be put on as a trial. At the same time they pointed out there are no sharp corners or steep gradients between these two stations, and that it would bring them to within eleven miles of Lunugala, where there is an efficient horse coach service to Bandarawela and the railway. The trial has now been made, and the Acting Locomotive Engineer has reported unfavourably upon the route, dwelling at length upon the difficulty of controlling a car service in such a remote quarter, the cost of upkeep and the general difficulties of maintaining the service.

A CABLE has just been received from Mr. B. J. F. Bentley—of whose adventurous journey through Abyssinia with an 18-h.p. Siddeley car we have already given some particulars—notifying his safe arrival at Adis Abeba. His trip has aroused great interest throughout the country, this car being the first vehicle of any kind to cross Somaliland. Mr. Bentley left England in May and motored to Marseilles, and, taking boat, thence started from Djibouti at the end of August on the trip across Somaliland and Abyssinia to Khartoum, which he anticipated would occupy some seventy days. The difficulties they encountered may be judged by the fact that Adis Abeba, the point now reached, is rather less than half way to Khartoum, and the journey has already taken four months.

Correspondence.

(Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.)

THE ORGANISATION OF MOTORISTS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The unfortunate rupture between the Royal A.C. and the Motor Union is now making it necessary for provincial club members to come to a decision as to which body they will support.

In the first place, it is much to be regretted that the personal element has entered so much into the controversy. The chief consideration, in my opinion, in weighing the inducements held out by the R.A.C. and the M.U. respectively is the benefit to be derived by the private owner, and it is from this standpoint and not from my official point of view that I wish to approach the subject.

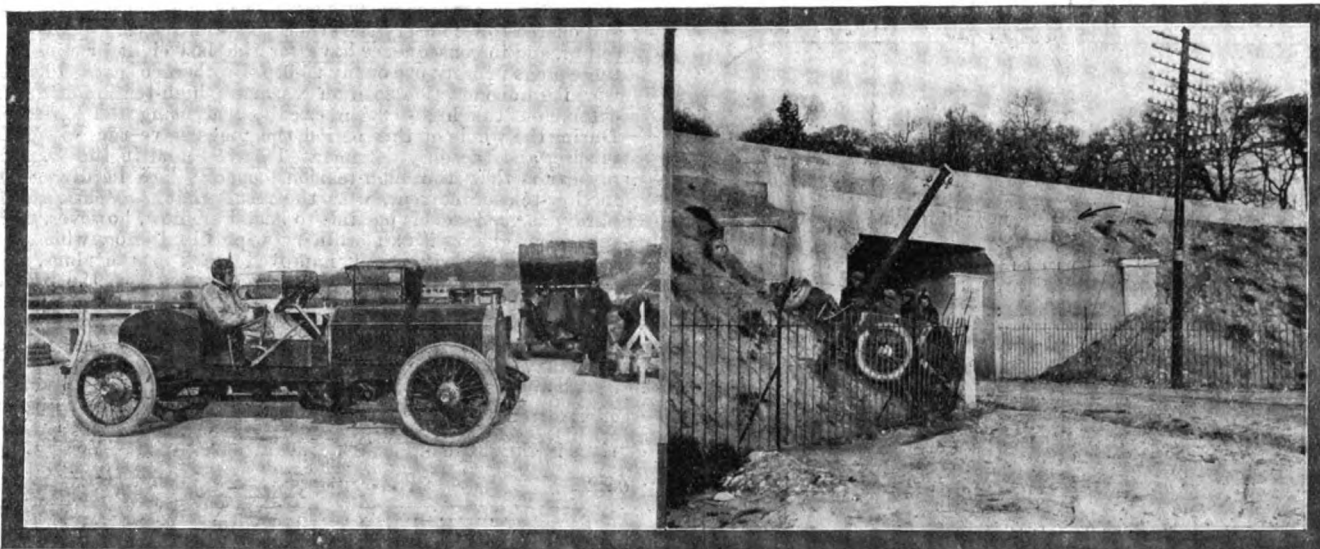
When we look at the past history of the two bodies we find that the R.A.C. has voluntarily concerned itself chiefly with the developments of automobilism by means of scientific work, sporting trials, and social work of a certain kind specially adapted to the more wealthy class of motorist. On the other hand, the M.U., with the consent and encouragement of the R.A.C., has laid itself out to defend the rights of the individual motorist both in the Law Courts and the Houses of Parliament. In view of the present feeling in the country, and the possibilities of more stringent legislation, the private motorist should look upon his connection with a central body rather in the light of its power to defend his rights and liberty than as conferring 21s.

guardians of the road, as the R.A.C. will hardly consent to its own badge being used by a mere associate.

5th.—Competitions.—These may be divided into two classes. The trade trial, which is of undoubted value in the development of the motor but does not immediately concern the private user, and the Club competition, intended primarily for the local motorists but lately thrown more open to the trade, and to some extent, no doubt, abused. The first section we may well leave in the competent hands of the R.A.C., but with the second I hold they have little or no right to interfere, and I feel sure that the provincial clubs will strongly resent the recent action of the R.A.C. in prohibiting hill climbs except under almost impossible conditions.

6th.—Touring.—The club circular carefully omits any reference to the much-discussed privilege of the tryptique. We may infer from this that the privilege is not to be extended to associates, and if this is so, the remainder of the advantages under this heading can either be secured from a perusal of the hand-book or from the officials of provincial clubs, who will always be glad to furnish information.

7th.—General Committee.—On the basis of their present membership the R.A.C. will have about eighty representatives, and unless a large majority of the provincial clubs decide to affiliate under this scheme the democratic nature of the committee will be purely nominal, as the



Tryon on the 60-h.p. Six-Cylinder Napier ready to start on his attempt at the fifty-mile record.

Photo by)

AN ACCIDENT AT BROOKLANDS.

The car after the accident. The vehicle left the track on the right-hand side just by the telegraph post and leaped across the road over the heads of where the men are standing.

(Campbell-Gray.)

worth of material benefits for a subscription of one guinea. It was the need for organisation on these lines which called the M.U. into existence in the first place, and I believe it has shown itself qualified by its record of work to act in this capacity in the future. If we accept this statement of the first need of the individual motorist, we need not consider in detail the proposals of the M.U. which have been circulated to the Provincial Clubs except to say that any of the tangible benefits which the Union can afford to give to its members should be considered as so much to the good over and above the main work of the Union.

Turning to the R.A.C. scheme, which should be considered in more detail, as it is much more of a departure from previously accepted lines, we may consider the value to the individual motorist of each of the proposals therein contained.

1st.—The Journal.—This paper, while full credit should be given to those responsible for its production, is generally admitted to be of less interest than the copiously-illustrated and well-informed motor Press, which all of us read in preference to the rather uninteresting pages of the official journal.

2nd.—Hand Book.—This is certainly of great value to the touring motorist, but it will be sent to all M.U. members in 1908, and if discontinued in future under the present title there is no doubt its place will be taken by an equally useful volume for the use of M.U. members.

3rd.—Legal Department.—The Club may start a legal department if it will, but it will have to spend some time in accumulating the experience which has proved to be the chief value of this section of the Motor Union's work.

4th.—Badge.—Associates of the R.A.C. will have the right to wear a badge. No doubt this means yet another design to confuse the

Club members will practically control the new body. Further, under the R.A.C. scheme thirty-three clubs which are now affiliated will not be represented on the committee at all.

8th.—Terms of Reference.—It should be noted the words used are 'I intend that the terms or reference of the general committee shall include.' It is obvious that the actual settlement will rest with the General Council of the R.A.C., and I shall be surprised if provincial clubs will accept dictation in this way as to what subjects they are or are not at liberty to discuss in conjunction with other clubs.

9th.—Payment of Railway Fares.—This suggestion and the further Clause re fourteen days' honorary membership cannot be considered in any other light than that of an attempted "inducement" to the hon. officials of the local clubs. I hold the opinion, which is probably shared by many, that no honorary official should accept privileges not extended to all members of his club; and further, I doubt if any provincial representative on the new committee would care for the privilege of becoming a temporary member of the R.A.C. practically on sufferance; the same remarks, of course, apply to the offered accommodation in the club garage.

10th.—Under Clause 14 the General Committee are to have power to determine any question as to the area or sphere of operations of any associated body. It is obvious that this power can only affect those clubs joining under the R.A.C. scheme, and will therefore be of little value if a difficulty arises between clubs one of which is not affiliated.

11th.—Capitation Fees.—Under Clause 18 every provincial club must pay for a membership of thirty. This would press very hardly on the smaller clubs. It should also be noted that no provision is made for the affiliation of motor-cycle members at anything less than the full

rate, which would be a fatal objection to any club which included motorcyclists in its membership.

In conclusion, I would like to refer to the words used in the covering letter from Mr. J. W. Orde stating that "The main purpose of the R.A.C. in passing these proposals is to raise the associated clubs in importance." I believe it will be held by most, if not all of the provincial clubs, that nothing short of independence of any superior body will at all increase their importance, and this cannot be attained in any sense under the R.A.C. scheme.

Apologising for the length of my remarks, which is only justified by the importance of the subject under discussion,—Yours truly,

J. E. HODGKIN.

MOTORING AND THE POLICE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It would be somewhat interesting to know who devised police trap and stop-watches as an intelligent method of regulating motor-traffic. To the minds of many it rather borders upon the absurd than upon the useful. It annoys a certain number of individuals, but there is no guarantee that it does good to anybody, and we now see that this kind of espionage is a game at which two can play: witness the novel institution of automobile spies upon the police themselves. I venture to suggest a more reasonable way.

Instead of short stretches, stop-watches, and traps, let the police authority proceed quietly, inoffensively, and withal protectively towards the public; let them test the speed of motor-cars by long distances instead of short. Then with the help of notebooks, telephones, and telegraphs, four or five policemen conveniently posted at intervals of some-



The 30-cwt. Van recently supplied by Messrs. Dennis Bros., Ltd., to Messrs. W. H. Smith and Son.

This is the first petrol vehicle Messrs. Smith have had, and they report that it is giving them every satisfaction. The vehicle is fitted with a 20-h.p. four-cylinder engine with both magneto and electric ignition, and is similar in construction to the vehicle which took part in Class C in the Commercial Vehicle Trials.

thing like fifteen or twenty miles apart upon any great trunk road from London to the coast would be able effectually to control the whole journey. If the posts selected were moreover at dangerous cross-roads, &c., so much the better, but the policeman should be distinctly authorised and instructed to hold up—with the hand as a signal—all approaching motors; to require such to slacken speed and pull up if required for the purpose of better identification as to letters and numbers and making notes of the exact time of passing. The same process or some part of it having been repeated further on down the road, and the number and letter and time having been similarly entered in another constable's notebook, the journey of the motorist would thus become self-registering and sometimes no doubt self-convicting, as, e.g., for a transit of forty miles in the hour between two towns or places only twenty miles distant from each other, or proportionately for lesser distances. The motorist would carry his own condemnation with him.

This very slight and occasional interference of the police authority would be a material protection to the general public, while no reasonable motorist could regard it as otherwise than a friendly caution. This remedy for "scorcherism" is really so simple that one feels almost shy of advocating it. The policeman's note-books should, of course, be evidence and so acknowledged upon charges of driving to the common danger or at excessive speed; the legal limit as between place and place should be enforced though not too technically at any one given spot.

It would really seem that no increase of a police force would be required to carry out so very simple a system. It is not upon ordinary country roads that the "town scorcher" rejoices in his pastime, but upon the big trunk roads, as, e.g., from London to York or Brighton. I believe it would not be necessary to extend this system, but if necessary the police authority would be able to help itself in the matter, and the expense of a few extra police constables in a county would soon recoup itself in the saving of wear and damage to the roads, which is now almost entirely due to heavy motors of great horsepower proceeding at a speed of something like forty miles an hour.—Yours truly,

A COUNTY ALDERMAN AND MEMBER
OF ROADS COMMITTEE.

LOW-TENSION SPARKING PLUGS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very interested in the description in a recent issue of the *M.C.J.* of the new Bosch low-tension sparking plug, as fitted to the 1908 Mercedes cars, inasmuch as in 1904 I took out a patent on a similar device, and have recently been using what I believe to be the outcome of the Simplex plug referred to. About the time I took my patent out there were several different types of low-tension sparking plugs being tried, the best known of which, if I remember correctly, were the Simplex, the Bullock, and one marketed by the Société des Téléphones de Paris, but as little or nothing has been heard of these plugs until recently, I presumed that they had met with the same limited amount of success that I did. The inventor of the Simplex plug has, however, been steadily improving his device, and a matter of three months ago advised me that he had perfected it, and offered to let me try the same. This offer I very gladly availed myself of, and in consequence have for the last eight or nine weeks had these plugs in daily use on my 20-h.p. Brotherhood car. I have had them working in connection with an Eisemann high-tension magneto, merely cutting out the high-tension circuit, and using the low-tension only. During the whole of this period the plugs have run without a single misfire, and the only detriment I have found in the arrangement on my car is that the high-tension contacts are hardly good enough for low-tension current, with the result that the spark at the plug is hardly as good as it is possible to be. I am now, however, fitting a low-tension magneto with an ordinary wipe distributor, which on a bench test showed a very greatly improved spark at the plugs, and in consequence I anticipate that it will not only improve the running of the engine, but also enable the same to be easily started up on the low-tension magneto.

Of course, there is no doubt that, if the system does prove satisfactory, it will be a very great advance in a good many ways on the present ignition systems as known, especially in regard to simplicity and reliability, whilst it would enable engines to be fitted up with a low-tension magneto ignition without the necessity of the usual complications in the shape of mechanical contact breakers.—Yours truly,

PERCY RICHARDSON.

THE RELIABILITY OF MAGNETOS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to "A. W. R." as to reliability of magnetos, I have used both high and low tension magnetos and have run 10,500 miles on a Simms-Bosch high tension without the slightest adjustment, and it is still running well on a 30-40-h.p. Daimler. I have also run equally well on a low tension, and by keeping a magneto clean and well-lubricated they will run for two or three years without remagnetising.

S. H. SPRINGTHORPE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to "A. W. R.'s" query as to the reliability of magnetos, my experience may be of use to him. I have a car with dual ignition, both high tension, the magneto being a Simms-Bosch. To date I have run over 4,000 miles on the latter ignition alone without a single misfire or any trouble whatever, and the same plugs are in as when the car was bought. Lubrication is the only thing that I know about it. I have never seen the inside and I don't want to. It is also quite easy to start on.—Yours truly,

CHARLES S. BARRATT.

THE INCONSIDERATE DRIVER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My attention has been called to a paragraph in your issue of the 28th of last month, referring to some remarks made by me at a lecture given under the auspices of the Education Committee at the Sutherland Institute at Longton, on November 29th last.

I should be very pleased to think that I have been unfortunate in my experience of inconsiderate drivers upon the road, and I am pleased to accept your assurance that the number of considerate drivers is greatly on the increase, and that motorists have come to recognise the need for care and thoughtfulness, not only for the safety of others, but of themselves, although it is a little difficult, in the face of the report, one sees, which go to show that there are still a great number, not only

of careless and inconsiderate drivers, but callous drivers upon the road, and these are the people we have to thank for the continuation in force of the stringent regulations with regard to the user of motor-cars.

After reading the paragraph in your paper I found in the very next motoring paper which I took up to read, namely, the Royal Automobile Club Journal of January 2nd, there were no less than three complaints of inconsiderate driving, and one may fairly assume that this forms only a small percentage of the number which actually exist, but for various reasons are not brought forward.

In my opinion it is the paid professional driver who is responsible for the public feeling which exists against motors, and not gentlemen who drive their own cars, whose intelligence naturally prompts them to have some consideration, not only for the public but for other motorists. I stated in the course of my lecture, and I am still of the same opinion now, that all motor drivers should slow down their car when meeting either another motor, or a horse driven vehicle; and, further, that every driver ought to be able to bring his car to a standstill without risk in the space of the road which is visible to him at the time. As an instance of the disregard of the latter, I was once almost run down at the Weston Crossing, near Ingestre, Staffs. It is to be hoped, therefore, that gentlemen who drive motors will become more stringent in the regulations under which their paid drivers perform their duties, with a view to effectually putting a stop to inconsiderate and careless driving.—Yours truly,
GEO. HAWLEY.

CARBONACEOUS DEPOSITS IN ENGINE CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am carrying out some exhaustive experiments on the cause of so called carbonaceous deposits in the cylinders of internal combustion engines, and I should esteem it a great favour if you would allow me to appeal through the medium of the *M.C.J.* to motorists, in order that I may ask them to send me, at Vanbrugh House, Blackheath, samples of the deposits which they have found in their engines, together with, if possible, particulars as to the make of car, type of lubrication, compression, and any other such points, as, for example, undue heating, which they might consider to have a bearing on the formation of deposit.

I may say that the result of my work will be made public, and I therefore venture to make this request.—Yours truly,
A. DUCKHAM.

MOTOR BODY DESIGN AND CONSTRUCTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very much interested in your recent article on this subject. It has always been recognised that the easiest riding position upon a car is as nearly as possible half way between the rear and front axles. The jars due to road inequalities being transmitted from each axle through the springs to the body, and the effect of each irregularity being successively felt, first in front and then behind, there is a comparative freedom from shock at the central points of the chassis. This is particularly true of long wheel base vehicles, a given rise or fall of either axle representing a very small movement in the centre of the chassis. Rear seats are generally so notorious for their hard riding qualities as to be rather shunned by experienced motorists, being, as a rule, almost directly over the rear axle, and it is unfortunate that one of the two best riding seats has to be given up to the driver—only one of the passengers in a touring party being able to enjoy a seat affording the maximum of comfort.

The increase of bonnet length which comes with the use of six cylinder engines, and the fact that all bodies on high-powered cars are now required by public demand to be very roomy and to comfortably seat five persons, keep the rear seat extremely far back—the permissible length of wheel base having been reached, if not exceeded, in some designs. The rear seats somewhat overhang the back axle in not a few instances, although it is evident that a few manufacturers of touring cars have realised the advantage, in point of easy riding, of keeping the whole body within the space between the axles, and thus locating the rear seat somewhat forward of the back axle. It may be practically impossible to bring this seat sufficiently far ahead to make a substantial improvement in the comfort of its passengers, but it is certainly a move in the right direction.—Yours truly,
COMFORT.

A DE DION QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you or any of your readers inform me what occurs when the throttle is applied to a De Dion engine? Does it effect the lift of the exhaust cams or the inlet cams?—Yours truly,
ENQUIRER.

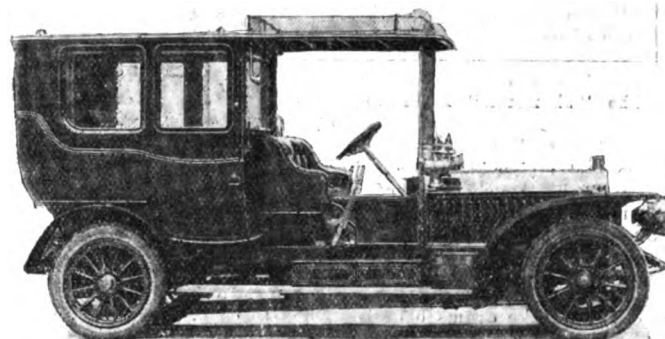
[Practically all De Dion-Bouton single-cylinder engines with atmospheric inlet valves, from the 4½-h.p. upward, have been fitted with a throttle on the exhaust valve lift, but the single-cylinder 8-h.p. engine with the inlet valve mechanically operated is controlled by a throttle on the carburettor; in this case, however, provision is made for raising the exhaust valve to facilitate starting. A diagram of the action of the

exhaust valve type of throttle, as fitted to De Dion motors, will be found in Mecredy's Instruction Book, third edition, page 12. It is also described and illustrated in "Motor Vehicles and Motors," by Worby Beaumont, second volume, pages 21 and 22. All De Dion-Bouton motors from and including the new 8-h.p. are fitted with throttles that operate on the outlet mixture of the carburettor, and are controlled by a pedal, and also by a lever on the steering column.]

DENATURED ALCOHOL AS A NON-FREEZING SOLUTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Denatured alcohol possesses great advantages over other anti-freezing solutions in the following ways:—1. It always has a constant composition, consequently when mixed with water in certain proportions the mixture will always have the same boiling and freezing temperature. 2. It has no corrosive action on any part of the circulating system, either the metals or the rubber, consequently can be used continuously without any renewal of parts. 3. Electrolytic action cannot take place when denatured alcohol is used. Electrolysis takes place whenever a salt solution, such as calcium chloride, sodium chloride, &c., is employed, and this action probably causes more wearing away of the parts than any other, and is not confined to the radiator and pump, but also takes place in the water jackets of the engine. 4. The boiling point of denatured alcohol is higher and the freezing point is lower than that of wood alcohol, consequently a mixture of water and denatured alcohol will not evaporate as readily as a mixture of water and wood alcohol, and the freezing point will be lower. 5. There is absolutely no danger of the action of heat forming any acid which would corrode the parts. 6. Denatured alcohol does not have to be filtered before being poured into the radiator, as it contains no solid matter.



Mr. A. W. Gamage's Six-Cylinder Napier. The body, which is of the limousine type with detachable top, was built by Mr. Max Graddon, of Mildmay Park, N.

7. There is absolutely no danger of its forming a film on the radiator, thus reducing its efficiency. Glycerine when used clings to the surface of the radiator and the inside surfaces of the water joints, and on account of its low specific heat lowers the efficiency of the radiator, and also prevents the carrying away of heat by the water from the engine proper.—Yours truly,
MECHANICAL ENGINEER.

MICA WIND SHIELDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Several accidents have occurred where passengers sitting beside the driver have been seriously injured by the breaking of glass wind shields. In the case of an accident the shield is almost certain to be damaged and the glass will generally inflict damage on anyone who happens to be on the car.

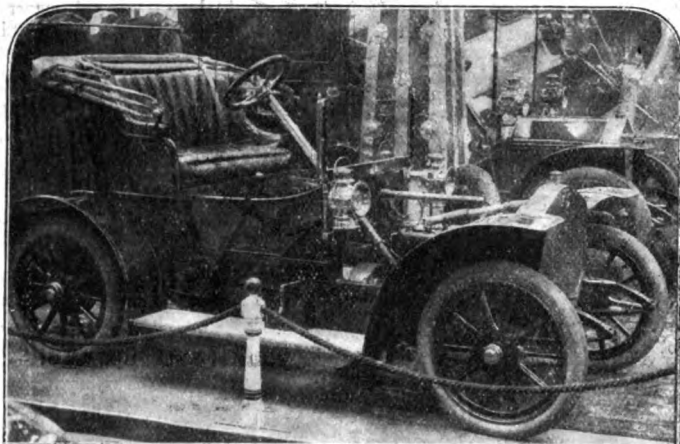
Cannot mica be satisfactorily employed in place of glass? At one of the motor shows I saw a shield in which mica and glass were ingeniously incorporated, but I have never seen it employed on a car. Perhaps some who have had experience of such a shield, or possibly the makers, might be prevailed upon to give their experience in your interesting columns.—Yours truly,
A. M. D.

MR. W. G. JAMES, of the Crypto Car and Cycle Company, 14, Mortimer Street, London, W., writes:—"We have had a new motor-car tyre cover stolen from our depot. We should be glad if you would mention this in your next issue, as it may not only lead to the recovery of the tyre but also to the tracing of the thief. The following is a description of the tyre:—Hutchinson cover, No. 1633, 880 mm. diameter and 120 mm. thick. The cover has a beaded edge and is covered with leather, the top surface being fitted with fibre blocks, in which are three rows of steel studs."

THE DUBLIN MOTOR SHOW.

A MOTOR-CAR Exhibition organised by the Irish Automobile Club was opened in the Halls of the Royal Dublin Society at Ballsbridge, Dublin, on Saturday last, by the Earl of Aberdeen, the Lord Lieutenant of Ireland. The Show is much larger than that of last year, examples of all the leading British, Continental and American cars being on view, interest being increased by the presence of an Irish-built vehicle.

Interest at the stand of Messrs. Straker and Squire, is centred on the 12-h.p. Shamrock car illustrated below. The motor comprises four cylinders cast in pairs, 87 mm. bore by 85 mm. stroke, the valves being arranged on one side. The ignition is by coil and accumulator,



The "Shamrock" 12-14-h.p. Four-Cylinder Car (Messrs. Straker and Squire).

the contact maker being located on the upper end of a vertical spindle driven off the cam shaft. The spindle is extended downward to operate the oil pump. The water circulation is on the thermo-siphon system, no pump being employed. The clutch is of the leather-faced cone type. The gear-box is adapted to give three forward speeds in addition to the reverse, the transmission being by cardan shaft and bevel gear to a live axle. The brakes are all centred on the rear road wheels hubs, twin brake drums being provided to each. The vehicle is built with two-seated body, and should prove a speedy little car. The exhibit of the Ariel Company comprises three models—40-50-h.p., 30-40-h.p., and 20-h.p. The latter (Fig. 2) is the first of the new



The 20-h.p. Coventry-built Ariel Brougham. The new design of the Bonnet and the position of the Radiator will be noted.

Coventry-built vehicles, and differs in several respects from the other cars, notably as regards the shape of the bonnet and the location of the radiator. The "All Irish Car," which is made by Messrs. Chambers Motors, Ltd., is a 10-h.p. two-cylinder vehicle with horizontal engine and epicyclic change-speed gear giving three speeds forward and a reverse. The Cadillac, Star and Sunbeam cars are shown by Messrs. Turner Bros. (Dublin), Ltd., a full range of Siddleys by Messrs. Booth Bros., the Unic, Brasier and Valveless by Mann and Overtons (Ireland), Ltd., the Hotchkiss and Vulcan by the London and Parisian Motor Co., Ltd. Other cars on view include the Martini, Berliet, Panhard, Aries, West-Aster, Rover, Argyll, Napier, Humber, Daimler, Gregoire, Reo, Clement-

Talbot, Minerva, Weigel, Calthorp, Fiat, Austin, Ford, Deasy, S. P. A., De Dion, Alldays, Adams Porthos, Passe Partout, Decauville, Starling, Gladiator, Swift, Sheffield Simplex, Clement and Duhanot.

Motor tyres and non-skids are exhibited by the Continental Tyre Company, Messrs. David Moseley and Sons, Ltd.—the latter firm also displaying their Universal motor rim—Messrs. J. Spencer, Moulton and Co., the Dunlop Pneumatic Tyre Company, Ltd., the Michelin Company, and the North British Rubber Company, Ltd. The Shrewsbury and Challiner Tyre Company are present with a full range of Challiner's patent detachable rims, artillery wheels and pneumatic and solid rubber tyres. Non-skids are shown by Messrs. G. Desclee and Co., the New Motor and General Rubber Company, Ltd., Mr. W. S. Cort, of Market Harborough, Messrs. Middlemore and Lamplugh (Pegasus), Samsons, Ltd., and Messrs. J. B. Brooks and Co., Ltd.

The exhibit of the Elastex Company, Ltd., consists principally of the material with which their name is favourably identified among motorists. A removable, flange rim is also exhibited at their stand. The Midland Rubber Company, Ltd., are represented by a complete range of motor tyres in the plain, grooved, and steel-studded non-skid patterns. Included in their display is the Ajax detachable rim, which has been recently described in our columns. Cans, drums, and cases used in the transport of "Shell" motor spirit are exhibited by the British Petroleum Company, Ltd., who have lately issued a series of picture postcards depicting various motoring events in which this spirit has been used. The Anglo-American Oil Company are also present in the interest of their well-known motor spirits, while Messrs. Wm. Preston and Co., Dublin, draw attention to the merits of "Carburine."

The Fastnut washer is being shown on the stand of the company under the direction of Mr. W. H. Cook, the managing director. This device is well known in Great Britain, and will certainly attract much attention on this, its first, appearance in Ireland. The well-known Albany rotary water circulating pump is shown by the Albany Engineering Company, at whose stand is also the Cave detachable "Quick Change" rim and the "Stanley" silencer. Among the other accessory exhibits we note the Rushmore lamps, E.I.C. ignitivities, Berliet lamps, the Turco electric vulcaniser, the County Chemical Company's specialities, Stepney spare wheels, the H.F. vulcanisers of Messrs. Harvey Frost and Co., Coventry Motor chains, the Auto-vice spanner, &c., of Messrs. Avery and Roberts, Ltd., a range of Messrs. Brown Bros., "Duco" accessories, the Universal valve connector, tyre tester and battery terminals of Messrs. F. S. Nickells and Co., the Veeder odometers and the "Auto Torch" of Messrs. Markt and Co., the B.R.C. Alpha lamps and Messrs. Vandervell's ignition specialities. The Show closes to-day (Saturday).

THE ACCIDENT ON BROOKLANDS TRACK.

ONE of the most remarkable accidents, happily unattended with fatal results, which has occurred to a motorist in this country took place on Thursday of last week on the Brooklands Track. Mr. H. C. Tryon was to make an attack on the records recently set up by Mr. W. T. Clifford-Earp. Starting shortly after noon on a 60-h.p. six-cylinder Napier, he was soon attaining a speed of eighty-four or eighty-five miles an hour, and all went well until in the fifteenth lap a tyre burst, necessitating a change of wheel. The fifty-mile record was beaten by a minute, and then, in the twenty-fourth lap, a second tyre went. The car was running at the top end of the track, near the grand stand, and when the tyre burst the vehicle turned completely round three times. It then slid down to the bottom of the bank, and took a flying leap right across the road, carrying with it two telegraph posts and some iron railings, ultimately falling into a bank of sand on the opposite side. Mr. Tryon, the driver, who was the only occupant of the car, fell out into the middle of the roadway over which the track proceeds, and was picked up and conveyed to an hotel at Weybridge, where it was ascertained that no bones were broken, but that his chest was badly bruised.

The Brooklands A.R.C. has officially made known that Mr. Tryon, before his accident on the 60-h.p. six-cylinder Napier at Brooklands on Thursday last week, beat the Fifty Mile World's Record, doing the distance in 37 min. 45.9 sec., equivalent to a speed of 79.43 m.p.h., with Pratt's motor spirit. The car was fitted with "Castle" coil and accumulators.

Despite the extraordinary distance the car jumped after the second burst tyre, and the way Mr. Tryon was thrown out when travelling nearly 85 m.p.h., he appears to have suffered no serious injury, and the doctor hopes soon to have him about fit and well again. There is very little doubt that it is owing to his coolness and ability in sticking to his car right up to the last that a serious disaster was averted. The accident was caused through the back tyre bursting and then coming partly off the wheel and jamming between the wheel and the frame, so that this wheel was locked just as if a violent application of the brake had been made and the car spun round on the locked wheel. From eyewitnesses and from Mr. Tryon it seems clear that the car turned completely round upon itself two or three times before leaping off the track.

We learn that the New Pegamoid, Ltd., 144, Queen Victoria Street, E.C., are placing on the market a new cloth which is a more perfect imitation of real leather than that which has hitherto been supplied. It is the result of lengthy and exhaustive experiments, and is well adapted for motor-cars, &c.

THE OUNCE OF PREVENTION.*

CONSTANT inspection is the price of successful motor-car operation, as indeed it is with any other piece of mechanism. Inspection not only reduces the liability of those derangements which might cause imperfect operation and stoppages on the road; but, what is far more important, it in a measure forestalls those imperfections which might result in accident to the occupants or damage to the car itself. Inspection for the latter class of derangements is far more imperative than for the former, and it may be well to mention a few of the matters which should be looked to particularly with an idea of protecting the passengers and the vehicle from danger.

THE STEERING GEAR.

The steering gear, from the hand wheel to the wheels themselves, must be scrutinized with the most minute attention. Every nut must be demonstrated to be in place, and its bolt, if it have one, properly secured. The ball joints in the steering linkage should be in correct and firm adjustment. If there is much lost motion between the hand wheel and the steering axle, it should be located and, if possible, removed. Frequently an adjustment is provided to take up wear in the worm gear, or whatever irreversible mechanism is provided in the steering column. The latter should be demonstrated to be perfectly tight to the frame or floor, as the case may be. Tightness in all parts of the mechanism, but still a perfect freedom of motion of the gear, should be the desideratum. If the gear springs badly when it is operated with the vehicle at rest, it should be viewed with suspicion, and if there is a large amount of incurable backlash the worn parts had best be replaced. The irreversible mechanism at the foot of the column is generally intended to be kept packed with lubricant, and every joint and pivot should be lubricated with heavy oil. In connection with the steering gear one should try both front wheels to make sure that they are fast on their axles and that there is no possibility of their working off.

THE BRAKES.

Upon the integrity of the brakes depend the lives and limbs of the occupants of the car, and no pains should be spared to make sure that they are effective. The pull rods or cables which transmit the braking power from pedal or lever should be securely attached to the mechanism which they operate, and entirely free from interference with other parts. Adjustment must be so made that the brake is fully applied before the operating pedal or lever reaches the limit of its motion. In the case of hub brakes one should see that the brake band on one wheel acts just as strongly as that on the other. If leather brake bands are used they should be kept free from oil, but if the braking surfaces are metal oil is expected to be used upon them. There is no excuse for anyone who operates with his brakes in bad order, as their condition may be tested at any moment on the road by any motorist, no matter how non-technical he may be. Do not neglect a brake because you employ it but little, but see that it is in as good condition as the other.

LUBRICATION.

The chief causes of damage to the mechanism which may be removed by inspection are the failure of the lubrication of some portion, the loosening of some part from the fastenings which normally hold it in place, and the failure of the water circulation. Upon the lubrication of each moving part of the mechanism depends its wearing-quality, and too great care cannot possibly be taken in regard to it.

LOOSE NUTS AND BOLTS.

No matter how much care is taken to prevent the working loose of nuts, bolts and screws (and the greatest pains are taken to obviate it in the best modern cars), the constant vibration occasionally causes the slackening of these important fastenings and sometimes their complete working out and their loss, with serious consequences. Nothing but a trial with a wrench or screwdriver of these bolts and screws, covering all parts of the machine, can assure one that everything is as it should be; and here it may be well to make a few remarks as to some of the conveniences which make inspection easy and conduce to its thoroughness. The vehicle should preferably be capable of being readily stripped, so that every part is easily reached, and the engine, base chamber and change-speed gear should be provided with liberal hand holes. An incandescent lamp with wire guard and a long, flexible cable is almost a necessity of a thorough inspection, as are wrenches and screwdrivers of all shapes and sizes. One should constantly be on the lookout for nuts that have dropped off or lost their lock nuts or split pins.

WATER CIRCULATION.

The maintenance of a plentiful supply of cooling water circulating energetically through the engine jacket is necessary, if injuries to pistons and cylinder walls are to be avoided. It is a part of the work of inspection to see that the radiator is full, that no leaks have developed, and that the circulating pump is doing its full duty and is properly lubricated. The belt which operates the fan should be kept well dressed and at the proper tightness, and its fastenings should be secure.

THE CHASSIS.

In the general inspection of the car, one may well begin with the chassis. The tyres should be examined for nails or other puncture-

producing objects and the sides for evidences of rim-cutting. If any parts of the tread are cut it is sometimes possible to fasten down the chipped portions with rubber cement. The front wheels may be jacked up and demonstrated to run perfectly free, but without any serious side play. If ball or roller bearings are used the ball or roller cages must occasionally be packed with grease, and should be adjusted to that degree of tightness which secures freedom from wobble, but without the least tendency toward binding. Plain bearings require very little attention other than the occasional turning of their grease cups.

If the car has a live rear axle care should be taken that its bearings are in perfect adjustment and fully lubricated. The large nuts securing the wheels to the axles should be shown to be perfectly tight. In case the axle is chain-driven one should see that the chain is neither too tight nor loose, and that it is clean and well lubricated. The link which fastens together the two ends of the chain should be closely examined to see that it is secure. The two radius rods which adjust the chain should be set up tight, and at equal length, so as to keep the axles parallel, and the differential case should be supplied with the proper amount of heavy oil to secure constant lubrication. If the car has a shaft drive, the lubrication of the bevel gears, if attended to, will probably ensure the oiling of the differential. In case of the solid axle and double chain drive, the bearings of the wheels or the axle must be attended to, but the lubrication of the differential will probably be taken care of when the change-speed gear case is supplied with oil. The springs should be inspected to see that no leaves are broken and every nut on the clips, which secure the springs to the frame and to the axles, should be left in a tight condition, as otherwise a broken spring may be the result.

THE ENGINE.

The engine should be turned over by the starting handle, and the compression in each cylinder should be proved to be satisfactorily high. If it is not, an attempt should be made to locate the escape of the gas, which, if not being lost by the piston rings, may escape past a sparking plug that does not fit tightly or through an inlet or exhaust valve which does not seat properly. Sometimes one can determine where the loss of gas is by the sound when the engine is slowly turned. The bottom of the crank case should be removed or the hand-hole cover taken off, as the case may be, and the moving parts inspected. No perceptible looseness should be allowed in the bearings or the connecting rod on the crank shaft or upon the gudgeon pin. It is of the greatest importance that the bolts holding the caps on the big-end bearings should be tight and properly locked and the caps on the crank shaft bearings in the engine base should be left in a perfectly tight condition. If any of the valves have proved to be leaky they should be removed, together with their seatings, if these be separable, and ground in by the use of fine emery and a gentle rotary motion. The bearings of the half-time shaft should be in proper adjustment, and if any part of the engine appears to have lacked oil the reason should be ascertained. If splash lubrication is employed, the base chamber, after being put together, should be filled with the proper amount of heavy, high-test oil, and any undue escape of the lubricant through joints or otherwise should be corrected; and if the oil is fed to the cylinders and other parts through oil pipes it is well to occasionally disconnect these and see that the oil is actually delivered when the lubricator is working.

SPARKING PLUGS.

Sparking plugs should be removed and seen to be clean and uncracked and their terminals adjusted at the right distance. The contact device may be uncovered, the contacts cleaned, and the connections of the wires to it demonstrated to be tight and not liable to breakage. It is well to take a look at all the wiring to see that it is not oil-soaked or that it does not pass too near any conducting part of the car. When accumulators are employed, it is a good idea to test each cell by means of a voltmeter. The cells should be packed in such a way that they cannot shift from the motion of the car, and the connections between them should be of flexible cable, provided with proper terminals. Where a dynamo or magneto is used it should have the lubrication which the makers intend, and its commutator and brushes should be in good electrical condition. The tremblers of the induction coils must be adjusted for a rather high musical note, the adjustments set very tight, and the platinum points should be carefully brightened.

CHANGE-SPEED GEAR.

The change-speed gear, if of the sliding pinion or separate clutch system, is usually in a tight case, and care should be taken that this is kept filled to the right height with thick oil. If separate metallic clutches are provided for each speed they should be kept adjusted so as to hold sufficiently, but not to require any undue force to engage them, and the adjustments should be carefully locked at the correct points. Every bearing, gear face and clutch surface should be seen to share in the lubrication. In case a planetary gear is used the straps must be adjusted at such tensions as to secure freedom from slipping on each speed, and the case should contain plenty of lubricant. The pivots of the operating mechanism which tightens the straps should be lubricated, as well as the spool and operating fingers of the high-speed locking clutch. These gears frequently have a number of oil holes, varying with different makes, and none of them should be neglected. It may be remarked in passing that the operation of lubrication, if intelligently performed, will often bring to light, without special effort on the part of the attendant, many cases of looseness of parts, excessive

*Abstract of a lecture by Mr. Albert L. Clough before the Y.M.C.A. Automobile School, Boston, Mass.

wear and other defects. One cannot completely inspect the lubrication system without viewing, and perhaps handling, most parts of the car, and in so doing one is likely to notice anything which is out of order. One should not take for granted that a force-feed lubricator, operated either by the exhaust pressure or mechanically driven by the engine, is infallible in its workings. Oil pipes will sometimes clog, and the small pumps used in the latter type sometimes fail to draw their charge of oil. One must be sure that oil actually reaches the part intended, and to this end oil magazines and their pipes should occasionally be flushed out with petrol. Oil ways and holes must be free so as to carry the lubricant to the very point at which it is needed. One should have a variety of oil cans of proper sizes and lengths of spout, so that there may be no temptation to slight any parts of the mechanism.

If a cone clutch is employed, there seldom will be any need of adjustment, but the operating mechanism which throws the clutch in and out must be oiled. Castor oil is sometimes used on the leather facing to keep it soft and make it "take hold" properly. All operating levers and their connections, including the gear-changing lever, the spark advancer, and the throttle or accelerator pedal or lever should be proved to be perfect in their working. Petrol piping and the tank should be inspected for leaks. The carburettor float chamber should occasionally be drawn off and flushed with petrol, in order to remove any water or sediment, and the spraying nozzle and chamber should be kept free of all foreign substances.

It is impossible to give any directions for inspection which will cover all makes of cars, but a short acquaintance with any particular vehicle is sure to bring out special points which need examination frequently. If, however, all parts are carefully examined in the stable at frequent intervals, there will be very few troubles met with on the road, and it should be the aim of every conscientious automobilist to secure, by his own foresight, a clean road record. Tyre troubles and rare instances of the breakage of parts, neither of which classes of troubles can be avoided by inspection, are about all the difficulties which a good driver ought to expect while the vehicle is in service. An ounce of prevention applied in the stable is better than many pounds of cure applied under the disadvantageous circumstances which the road generally imposes.

SPARE PARTS.

After all the precautions in the way of inspection have been taken, it is well to be prepared to meet ordinary emergencies of the road, and in order to do so the tool box should be liberally and judiciously equipped with the proper tools and supplies. If a long tour is contemplated through a district where repair shops are few, quite an extensive list of spare parts and supplies had best be taken. As to what parts should be chosen, nothing but experience can determine.

But it may be said that whatever part or parts of a particular car have shown weakness should be the parts carried in duplicate. An extra inlet and exhaust valve, with their springs, should be included in the kit, together with a good supply of sparking plugs, if the jump spark is used, and an extra igniter and several sets of spark points if the low tension system is employed. If the contact maker is of the type which employs a platinum-tipped steel spring and screw, these should be carried in duplicate, and it saves considerable bother if a complete contact box is carried as a spare part, as it can readily be attached in place of the old one, and less time taken than would be required to put the old one into running condition. In case ball or roller bearings are used in the car, a set of cups and cones and a supply of balls or a set of roller cages, as the case may be, may well be included. Some people carry an extra set of springs or an extra front spring at least, but these are not likely to be needed unless the car is over-driven, and they are rather cumbersome and heavy. A good country blacksmith is ordinarily able to make new springs; at least, for temporary use in case of breakage on the road.

Extra links for the driving chain and an extra connecting link should, of course, be included, and if a chain drive is used for the pump, or magneto, or for starting the engine, a duplicate should be carried. An extra belt for the air fan, if one is used, may well be provided. One should have on hand a stock of spare nuts and bolts of the sizes used in the car. Ordinarily the supply necessary to fit all parts of the vehicle will not prove burdensome. The small springs, such as used on governors and flexible pump connections, sometimes break, and duplicates should be at hand. Spare tyres are a necessary part of the touring equipment of all automobiles, and both extra covers and inner tubes should be carried, together with a small vulcaniser, patches, cement, sand-paper, extra bolts, a pump, and one of the folding jacks which are now on the market.

In addition to whatever wrenches or spanners are required to fit special parts of the mechanism, the following tools will be found useful. A large monkey wrench, a small bicycle wrench, bar or S wrenches for standard nuts, a pair of parallel jaw-cutting pliers, a cold chisel or two, a few files of different kinds and sizes, a good jackknife, a small punch or drift pin, one of the small pocket tool chests containing a variety of tools, a large and small screwdriver, and an engineer's hammer. A pocket voltmeter will not come amiss. One can add to the equipment a pair of overalls and a piece of oilcloth to kneel or lie upon when making repairs, but these "insignia of the trade" are not nearly so often needed as they were formerly.

(To be continued.)

MR. G. BRADWELL, of 5, Filey Street, Sheffield, is the agent for the Motobloc car for the counties of York, Nottingham, Derby and Lincoln.

DETERMINING TYRE TEMPERATURES.

It is a matter of common knowledge that as the result of friction both with the road surface and that produced by the relative movement of the inner tube and cover of a motor tyre, the latter reaches a high temperature when the car is run at great speeds, but up to the present little or no attention appears to have been paid to the matter of investigating this phenomenon. Observation has shown that the tyres of a racing car reach a temperature that cannot be borne by the hand placed on the outside of the cover, which would appear to indicate that the temperature of the interior of the tyre might at times approach perilously near to the melting point of the rubber itself. In fact, some motorists have accepted this theory as being responsible for the partial dissolution of the inner tube generally termed "blowouts," but experience proves this to be erroneous, many of such injuries being nothing more or less than the result of carelessness in replacing the tube in position, as a consequence of which a portion of it becomes pinched. It is, in consequence, of interest to learn that M. Lucien Périé, secretary to the Technical Commission of the Automobile Club of France, has devised a means of investigating tyre temperatures somewhat more closely than the present method of feeling the exterior with the hand.

Writing of his experiments in the *Bulletin Officiel de la Commission Technique*, he says:—"I have combined this device by means of utilizing a Sclavander pressure indicator and a thermometer, with the aid of M. Morin, the maker of the former useful instrument. The pressure gauge consists of a needle operated by an exterior button passing through an air-tight joint and so placed as to operate the stem of the valve, while the instrument itself is designed to be screwed on the shell of the latter in place of the cap. In order to avoid the necessity of removing the instrument when it is found that the pressure of the tyre is insufficient, a side outlet has been provided on the stem of the pressure indicator. Ordinarily this is closed by a regulation style cap, which may be removed whenever further inflation is necessary. It is to this opening that I have applied my temperature-determining apparatus, which consists of a chamber communicating with the atmosphere through the medium of a pet-cock. In the centre of the chamber in question there is placed the bulb of a thermometer graduated to 120 deg. Centigrade. The thermometer is held fast in place by a packed joint and protected from injury by a casing.

In order to ascertain the temperature of the interior of a tyre immediately after the conclusion of a race, or after having been run at high speed for any length of time, it is only necessary to remove the valve cap of the tyre and substitute in its place the pressure gauge, press the button in order to permit the hot air from the interior of the tyre to escape into the chamber containing the thermometer, and a double reading may be taken—that of the pressure of the expanded air and its temperature. In order that the matter may more closely approximate the exact temperature of the interior of the tyre, it is necessary to open the petcock slightly, thus allowing the air to escape slowly. Otherwise the metal of the gauge and of the containing chamber would be apt to rob the small amount of air necessary to fill the chamber of such a large proportion of its heat as to render the reading worthless. After the air has been escaping through the pet-cock for half a minute or so, the entire apparatus reaches a uniform temperature and the reading practically represents the condition of the interior of the tyre. Experiments with the device should reveal some interesting facts in this connection, as little or nothing is definitely known on the subject of tyre temperatures apart from the fact that it is a matter of common knowledge they do get most uncomfortably hot when run very fast—a condition that is not conducive to longevity.

THE MERVYN O'GORMAN TROPHY.

RECENTLY we announced that Mr. Mervyn O'Gorman had offered a trophy to the R.A.C. for competition on the Brooklands Track or such other place as may be agreed to by the Club. The competition must be held between May 1st and July 31st, and no limitation will be placed on the form or description of the motive power of the vehicles entered, provided that it be wholly mechanical, nor will any regulation be made with regard to the kind of fuel used. The distance is to be not less than 100 miles, and the time and speeds obtaining during the race are to be noted in such a manner that the records obtained for distances less than 100 miles may be obtained and placed to the credit of those obtaining such records. As we went to press the Brooklands A.R.C. intimated that the event would be run off on August 3rd.

OBTAINING CARS BY ALLEGED FALSE PRETENCES.

A SENTENCE of six months' imprisonment was passed at the Warwick Quarter Sessions on Albert Goddard, who was charged with obtaining by false pretences a motor-car valued at £760 from the Daimler Motor Car Company's works at Coventry. The car was abandoned by prisoner at a hotel at Southwell, near Nottingham.

JOHN PARROTT, an engineer, was charged on the 2nd inst. on a warrant at Marlborough Street with having, between November 28th and December 5th, fraudulently converted a motor-car to his own use at Oxford Street, London. He had been arrested on returning from New York and was remanded.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING SPEED LIMIT.

At Kingston-on-Thames County Police Court ten motorists have been convicted of exceeding the speed limit, and fines, exclusive of costs, were imposed totalling £47. All the defendants pleaded guilty, and the batch of summonses was disposed of under the half-hour. The fines ranged from £6 to £3 according to the speed.

There is a measured furlong in St. John's Wood for motoring along which at a speed beyond the legal limit a motorist has been fined £30 and costs.

For exceeding the motor-car speed limit of ten miles per hour, at Newmarket, two motorists have been fined £3 each.

APPEAL ALLOWED.

At the West Sussex Quarter Sessions at Chichester, on the 2nd inst., before Judge Lumley Smith and other magistrates, Mr. T. E. Comins, of Rodenhurst Road, Clapham Park, S.W., appealed against a conviction at the Horsham Bench on October 12th, 1907, for unlawfully driving a motor-car on the public highway at Ruspur in a manner dangerous to the public.

Mr. Leonard Costello was for the appellant, and Mr. Horton Smith for the respondents. The appeal was made on three grounds:—(1) The decision was contrary to the weight of evidence. (2) The conviction was wrong according to law, as it was not shown by the prosecution that any member of the public was in danger. (3) Under the circumstances the fine inflicted was grossly excessive. After the evidence in support of the conviction Mr. Costello addressed the Court on behalf of the appellant, who, he said, did not rush about the country disregarding the safety of his fellow citizens, but was a quiet, ordinary business gentleman, who indulged in motoring for the pleasure of himself and his family. He submitted that the fine of £10 and costs was in a case of this kind excessive. He also suggested that the proceedings against his client were instituted by the owner of a dog by way of punishing the motorist for having killed the dog. Since these proceedings had been going on a civil action had been instituted by the owner of the dog for the recovery of what he considered the value of the animal, and he maintained that he ought not to be allowed also to penalise his client in a criminal court. The appellant, his wife, and Mr. and Mrs. F. W. Plaw having given evidence, the Chairman said he thought the matter was ripe for the Bench to decide without any speeches from counsel. The magistrates accordingly retired, and after an absence of only a few minutes they returned, and the Chairman announced that they had decided that the appeal should be allowed. The Court also decided to allow costs.

FOR HE'S A CHAUFFEUR NOW.

I went back to the village, Tom,
The spot we cherished so,
And hunted up our boyhood friends
Of twenty years ago!
The crowd who tilled the soil with us
Are scattered, I avow!
The motor craze has struck the town,
And they're all chauffeurs now!

You recollect Jim Buzby, Tom,
At whom we used to scoff!
They sold him out at auction once
To clear a mortgage off!
He's liquidated all his debts,
I can't just tell you how,
But he's become a millionaire,
For he's a chauffeur now!

I ran across old Billy Sprigg,
With Mary on his arm.
She used to be a milk maid, Tom,
Down on his father's farm.
She solemnly declared that she
Had never seen a cow,
Bill must be making money, Tom;
For he's a chauffeur now!

While rambling through the old churchyard,
A horror seized my frame!
There stood a granite monument
Which bore Jim Simpson's name.
His motor-car exploded, Tom,
I learned from Davy Slough;
No doubt, if Jim had been alive,
He'd be a chauffeur now.

The county court house which they planned,
You surely can't forget;
They broke the ground when we were boys,
And 'tisn't finished yet;
Mechanics, Tom, are pretty scarce,
As all the folks allow.
They can't get men to do the work,
For they're all chauffeurs now!

FRANK G. WELCH in the "Carriage Monthly."

TEN COMMANDMENTS FOR TYRE USERS.

WHAT might be termed the ethics of the tyre problem are embodied in the text of a cleverly devised show card which the Firestone Tyre and Rubber Company, a leading American concern, is distributing to be hung in garages and such other places as will keep it before the eyes. It is known as the "Chauffeur's Moral Code," and reads as follows:—

(1) I will not overload or overspeed my vehicle, because this will be harmful to the mechanism and tyres. I realise that a good tyre has a certain amount of "life," and if persistently overworked it cannot recover.

(2) I will always keep the brakes working evenly and the axles and wheels "trued up." I can thereby save rack and wear on my vehicle and prevent unnecessary strain on any one of the tyres.

(3) I will not allow oil or grease to accumulate on my rubber tyres, as this will eventually cause decay.

(4) I will never expose my tyres to burning heat, as the wear-resisting properties of the rubber would thus be destroyed.

(5) I will always remember to start my vehicle in a straight line before turning the steering wheel; because by turning front wheels when the vehicle is standing still, a heavy and unnecessary strain would be placed upon the tyres.

(6) I will start and stop my vehicle gradually and avoid jerky motions under all circumstances.

(7) I will not persist in running my vehicle along tram rails, as that would grind down the edges of the tyres.



(8) I will always, when possible, choose a smooth pathway, avoiding obstacles and road irregularities; and will cross tram lines preferably at an angle.

(9) As merely resetting or repairing a tyre will in many cases double its life, I will have my tyres attended to promptly when damaged, in order to secure the greatest amount of service from them.

(10) And, above all things, I will use my influence to have my vehicle equipped with the best tyres made—viz. the

COMPANY NEWS:

THE RILEY CYCLE COMPANY.—Mr. Victor Riley has been elected to the directorate of the Riley Cycle Co., Ltd., at the annual meeting of which the chairman, Mr. Basil Riley, referred to the improved position of the company as compared with the corresponding time of last year. They were now able to make and deliver cars, including the 12-h.p. vehicle, to the features of which much attention has been given of late.

TREVOR.—This company has just been registered, with a capital of £1,000, to establish and carry on schools for the purpose of providing instruction, advice, and assistance relating to motor-cars, aeroplanes, airships, and other mechanically-propelled vehicles.

ELLEHAM AUTO-CYCLE COMPANY.—£5,000. To acquire from D. Adler exclusive right to use two inventions of T. C. H. Ellehammer, of Copenhagen (1) relating to compression release valve, and (2) relating to carburettor.

FALMOUTH AND PENRYN MOTOR COMPANY.—£2,500. 23, Church Street, Falmouth.

ECCLESTON MOTOR CAB COMPANY.—£6,000. Northumberland Chambers, Northumberland Avenue, W.C.

PICKARD'S TAXIMETER.—£70,000. Agreement with Taximeter Patents, Limited, to acquire inventions for manufacture or use of carriage taximeters and similar apparatus. 17, Waterloo Place, S.W.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

IN order to remove any misapprehension as to the scheme of association, the Royal A.C. states that the General Committee to be formed under the new scheme is intended to be a body composed of representatives of the Club, of all associated bodies, and of individual associates. All these bodies are represented on this committee on an equal basis. The individual associates will be represented in the proportion of one for every hundred such associates. This committee will consider matters which may require united action on the part of motorists in the United Kingdom; the consideration of matters of general policy regarding automobilism; the safeguarding of the rights of motor-vehicle owners in the United Kingdom; Parliamentary and Local Government proceedings affecting motorists generally; the consideration of legal cases submitted by the R.A.C. or an associated body or any associate, with a view of rendering assistance if considered desirable; the arrangement of general meetings in the United Kingdom; the control of a fund comprising the capitation fees and such sums as may be contributed by the R.A.C.

A paper will be read at the Club on every Thursday evening, save one up to the first week in March. The series opened with a paper on Thursday, the 9th inst., by Mr. G. Stewart Ogilvie on "Resilient Wheels." Arrangements thereafter have been made as follows:—Jan. 23rd, Mr. G. H. Baillie on "Some Features of 1908 Motor Car Engines"; Jan. 30th, Mr. F. R. S. Bircham on "Handicapping for Motor Boat Racing"; Feb. 6th, Mr. Philip Dawson on "The Electrification of Railways"; Feb. 13th, Mr. Wyatt on "Magnets"; Feb. 20th, Mr. H. R. de Salis (Motor Yacht Club) on "The Inland Waterways of England and Wales"; Feb. 27th, Mr. Mervyn O'Gorman on "Gear Transmission"; and March 5th, Dr. William Watson, F.R.S., on some subject to be announced later on.

MOTOR UNION.

THE Sussex, Lincolnshire, Welsh, Ipswich and Suffolk Automobile Clubs and the Southend and District Motor Club have decided to support the Motor Union. The Yorkshire A.C. will continue its membership under the existing arrangement.

THE AUTO-CYCLE UNION.

THE Committee of the Auto-Cycle Union is taking steps to carry on the dinners and entertainments formerly given by the well-known "Bath Road" Cycling Club to the road-menders who work on the Ripley road. The annual dinner will be held at the Hotel Cecil on Saturday, February 15th. A council meeting will be held in the afternoon, probably also at the same place.

The scheme of association recently issued by the Royal A.C. has been brought before the Committee of the Auto-Cycle Union, which has appointed a sub-committee to consider the matter and report.

The next quarterly trial will be held on Saturday, January 25th, and will take place over the usual route, starting from the Chequers Hotel, Uxbridge, to Banbury, and back via Bicester, Aylesbury, Berkhamsted, Chesham, and Amersham.

THE CYCLE TRADE BENEVOLENT FUND.

THE negotiations that have recently taken place between the representatives of the Society of Motor Manufacturers and Traders and of the Cycle Trade Benevolent Fund have resulted in a satisfactory agreement being arrived at whereby it is intended to bring forward at the annual general meeting of the fund, to be held on the 29th inst., proposals to change the name and constitution of the fund so that members of the motor trade will be admitted on the same basis as members of the cycle trade.

The C.T.B.F. having now accumulated funds exceeding £4,000, the S.M.M.T. will make a donation of £2,000, leaving a similar £2,000 to be voluntarily donated to the fund by individual members, firms, and companies in the motor trade, in order that the motor side of the fund shall have contributed the same sum of £4,000 that has already been contributed by the cycle trade, whereupon it will be arranged that the council of the fund will comprise ten members elected by the motor trade and ten by the cycle trade. Pending that development, the £2,000 put down by the S.M.M.T. will entitle it to nominate five such councillors as against ten elected by the cycle trade.

BROOKLANDS.

THE Racing Sub-Committee, of the B.A.R.C. has resolved that the matches in the 26-h.p. and 40-h.p. Standard Class between the Métallurgique Company and Mr. S. F. Edge, and in the 90-h.p. Standard Class between Fiat Motors, Limited, and Mr. S. F. Edge, shall be run off at the Whiteauntide meeting.

The O'Gorman Trophy will be contested on August 3rd.

Mr. W. T. Clifford-Earp will attack the fifty mile record established by Mr. H. C. Tryon on the 2nd inst.

THE North London A.C. will hold its annual general meeting at the headquarters, the Fox Hotel, Palmer's Green, N., on Wednesday next.

SOUTHERN.

ON Wednesday of last week the Southern Motor Club gave a farewell dinner to their hon. sports secretary, Mr. S. W. Phillpott, at the Boulogne Restaurant, Gerrard Street, W., on his leaving London to take up a position with a motor company in the North of England. Nearly all the town members of the club were present, Mr. F. C. Pattison, sen., being elected to the chair, supported by Mr. Geo. Fisher in the vice-chair. After the usual toasts had been honoured, the Chairman referred to Mr. Phillpott's valuable work for the S.M.C. especially with regard to the open hill climb last year, and the club events, all of which he carried through with success, and assured him that he would be greatly missed with his travelling workshop and ever ready tow rope. The club could ill afford to lose such a good sportsman and worker. Other speakers followed and referred to the work done by the guest of the evening.

Mr. Phillpott, in rising to return thanks, said that the dinner was a complete surprise to him; the only intimation he had of anything being in the air was a telephonic enquiry as to whether he had "a night after Christmas with nothing on." Referring to the sporting events of 1907, he said the work was really one of the greatest pleasures of the season to him, and that he should always look back on his connection with the club with satisfaction. If any members were in Liverpool at any time he would be very glad to see them and make their stay a pleasant one. After his health had been drunk with musical honours, Mr. Phillpott left with his secretary to catch the express.

It was then proposed by Mr. Holt and seconded by Mr. Lorkin and carried *nem. con.* that Mr. S. W. Phillpott be elected an hon. member of the club.

A musical evening followed, in which Mr. G. K. Jones, Mr. Billing, Mr. Horace East, Mr. Pilling and others took part. The dinner was arranged by the riding officer, Mr. Holt.

It has been thought desirable to wind up the Southern Motor House Club, Ltd., voluntarily, as the Southern Motor Club desire to take over the club house and garage for its members. The proper steps have therefore been taken to wind up under the Industrial and Provident Societies Act, 1893, Section 58a, and at an extraordinary general meeting, duly convened and held at 5, Bromfelde Road, Clapham, Mr. J. W. Cufley, chartered secretary, 31, Landor Road, Clapham, was appointed liquidator to carry out the voluntary winding up.

CLUB FOR BELFAST.

A MEETING of motor-car owners was held in the Grand Central Hotel, Belfast, on the 3rd inst., "for the purpose of taking steps to oppose the proposed speed limit of ten miles an hour within the city boundary at the forthcoming Local Government Board inquiry, and also to consider the desirability of forming a motor-car club in order to promote and protect the interests of motor-car owners in Ulster." Mr. Vincent Craig, C.E., presided, and there was a large attendance. The chairman detailed the steps which had led to the application to the Local Government Board, and showed very clearly from the experience of English towns that the proposed restriction would be really ineffectual in averting accidents, of which only two in which motor-cars were concerned had occurred in Belfast.

Mr. J. N. McCammond, as one of the first to own a motor-car in the city, considered they should give serious opposition to the proposed speed limit, and Mr. T. Somerset proposed the appointment of a committee to oppose the proposal of the Corporation. This was seconded by Mr. Frank Workman. On being put to the meeting it was carried unanimously, and the following gentlemen were appointed:—Major T. V. P. McCammond, J.P.; Dr. Dempsey, Surgeon Kirk; Messrs. C. W. Henderson, Lloyd Campbell, F. Workman, J. Milne Barbour, Vincent Craig, Robert Workman, R. M. Chambers, W. J. M'Millen, A. Basil Wilson, R. E. Workman, C. Craig, W. H. Alexander, and J. S. Garrett (convener).

Mr. J. Milne Barbour moved:—"That this large meeting of motorists and others interested in motoring in the city of Belfast records its protest against the proposal to introduce a speed limit for motor-cars of ten miles per hour within the city boundary: that we regard such legislation as absolutely unnecessary, and as certain to defeat the very object intended to be served; while we further strongly condemn the proposal as retrograde, and calculated to place Belfast entirely out of line with all other cities in the control of motor-traffic; that we call upon the Corporation to withdraw its application for the sanction of this restriction, and, failing this, we ask the Local Government Board to refuse its sanction on every ground of public interest and safety." This was seconded by Mr. J. Tate, and carried unanimously.

A vote was then taken with regard to the formation of a club, for which forty-eight voted, there being only one dissident. It was agreed that the committee already constituted should make the necessary inquiries regarding rules and procedure adopted by other clubs as soon as they had fulfilled their duties in connection with the forthcoming Local Government Board inquiry.

On the motion of Mr. T. Ireland, seconded by Mr. W. J. M'Millen, a cordial vote of thanks was passed to the chairman, and the proceedings terminated.

EARL DE LA WARR has become president of the Crystal Palace A.C. The Lincolnshire A.C. has decided to terminate its agreement with the Royal A.C., as from January 31st, 1908.

A LOCAL centre of the Society of Motor Manufacturers and Traders is about to be formed for Norfolk and Suffolk.

MOTOR UNION road signs have been supplied to the Eastbourne Rural Council and the Lancashire County Surveyor for erection at the hill at Alfriston and at a village near Preston, respectively.

MR. H. LANE, of the Beeches, Anchorage Road, Sutton Coldfield, is taking steps to form an automobile association in Sutton Coldfield. A meeting will be held to-day (Saturday), at the Royal Hotel, with Mr. F. H. Finney in the chair.

THE SCOUT'S JUSTIFICATION.

A DECISION of considerable importance was given at Newmarket Petty Sessions, on Tuesday, when William Butler, a motor-scout, was charged with obstructing the police in the execution of their duty. Sir Charles Mathews, instructed by the solicitors to the Automobile Association, defended, and Mr. Bell held a watching brief for the Highways Protection League.

P.S. Mobbs stated that on December 16th, with constables Woods, Porter, and Bennett, he was on duty upon Bury road, Newmarket, controlling the motor traffic, and was at the end farthest from the town of a measured furlong when a car approached at about twenty-five miles an hour. He started his stopwatch and signalled to Bennett at the other end of the furlong. Just as the car got into the measured distance defendant, who was on the opposite side of the road, and wore an armlet, held out his arm. The car did not stop, and defendant got into the road and displayed a red badge. The driver at once put on the brake and proceeded very slowly. He afterwards saw defendant, who, when told he would be charged with obstruction, replied, "I have to do as I am told." At witness's request Butler produced the badge, and he saw the red side meant "drive steadier," and the white side "all clear." In the morning there was a motor trap near the cemetery. Defendant then stood at one end of the measured distance and stopped almost every car travelling faster than ten miles an hour, the speed-limit in force.

In cross-examination witness said he and Bennett were in plain clothes and the other constables in uniform. They tried to conceal themselves from approaching motorists. Corroborative evidence was given by Constables Woods and Bennett, and Harry Thompson, telegraph linesman.

Sir Charles Mathews quoted the case of Constable versus Little, and submitted that there was no illegality in preventing the commission of an offence by supplementing the warnings given by the speed limit posts. He contended that the specific instructions to and actions of the defendant were calculated to bring about the result the police aimed at, viz., the prevention of a breach of the law. No physical interference or obstruction on the part of defendant were suggested, and counsel contended that he had no case to answer.

The Chairman said the justices were not satisfied that there was sufficient evidence of wilful obstruction, and dismissed the case.

ROAD REPORTS.

KENT.—Road repairs, though always going on in the county of Kent unless prevented by stress of weather, never inconvenience motorists passing through the county. The practice of Mr. H. P. Maybury, the County Surveyor, is to lay the metal in half widths of the road, never leaving loose stones to be run through at nights. The County Council is spending considerable sums of money on road improvement, bridge widening, &c., and considerable headway is being made. We understand that for next season's work, commencing in April, 70,000 tons of hard stones, granite, &c., have been purchased as well as 21,000 tons of local material, to build up and strengthen the foundations before the granite is laid.

LINCOLN.—During the next few days the Saxilby, Yarborough, and Wragby roads leading into the city of Lincoln will be under repair, and doubtless Mr. R. A. Macbrair, the city surveyor, will follow his customary practice of having the stone rolled as soon as possible after being laid down.

INVERNESS-SHIRE.—The question of damage done to roads in the Highlands by motor-cars, and the probable cost of making roads suitable for the traffic, has formed the subject of discussion by the Inverness-shire Road Board. It is calculated that a sum of £150,000 would be required for Inverness-shire, including Skye, and it has been agreed to arrange for a joint representation by Highland counties to the Chancellor of the Exchequer for assistance.

WINCHESTER.—Among the roads under repair in this district are the following:—Winchester and Whitechurch road, between the city boundary and Three Maids Hill; Winchester and Basingstoke road, at Stratton Park; Upham and Bishop's Waltham road, between Fisher's Pond and Stroudwood.

LINDFIELD.—To abate the dust nuisance arising from motor traffic the Lindfield Parish Council recently had their roads tar-sprayed. A large quantity of dead fish have been found in the lake at the entrance to the village, and a theory is held locally, that their destruction is due to the tar washed off the roads entering the water.

AUTOMOBILE ACCIDENTS.

THE Countess of Orford had a narrow escape while motoring at Calthorpe, Norfolk, on Thursday week. The chauffeur, in attempting to avoid a collision with a horse and cart, turned sharply, and the left front wheel of the car struck a gatepost with such force that it was smashed, and the post knocked out of position. Lady Orford sustained some scratches and cuts from broken glass, and a doctor who was summoned attended to her injuries.

ONE afternoon last week Lady Gwendolin Cecil drove out alone from the vicarage at Hatfield in her electric car. Reaching a gate which leads to the private dairy, about a third of a mile from Hatfield House, she alighted in order to open the gate. She was on the point of re-entering the car when the vehicle started and knocked her down, two wheels passing over her. An employee on the estate came almost immediately upon the scene, and realised that Lady Gwendolen was seriously hurt. No time was lost in communicating with the household, and a carriage was despatched in haste to the scene of the accident. Later it was discovered that two ribs were broken, but happily no complications are likely to ensue.

AN inquest was held at Wimborne on Saturday on the body of a man named Adams, who, while crossing the road at a corner, was knocked down by a motor-car belonging to the Rev. Cyril Kindersley, vicar of Colehill. Adams died from shock, the doctor's opinion being that his advanced age and the coldness of the weather were factors which contributed largely to producing a fatal result. A verdict of



One of the Delivery Vans employed by the Bradford Corporation.

"Accidental death" was returned, and the chauffeur was exonerated from blame.

ON Saturday afternoon a London General Omnibus Company's motor-bus was passing through Walham Green when something went wrong with the steering-gear, with the result that the vehicle was immediately out of control, and collided with a cab standing at the rank.

THE chauffeur, Crawford Davis, against whom the jury returned a verdict of "Manslaughter," as recorded last week, has been remanded on bail at the Westminster Police Court.

AT Kensington on Tuesday Mr. Luxmore Drew held an inquest on the body of William Allen, age 84, of West Kensington, who was knocked down by a motor-bus in Cheapside on September 7th, and died last week from exhaustion set up by a fractured thigh. From the evidence given it appeared that the deceased stepped in front of the bus from behind a van, and although he was knocked down the wheels of the bus did not go over him. A verdict of "Accidental death" was returned.

AT an inquest at Croydon on Tuesday on Lilian Wright, 13, it was stated that she alighted from a tramcar, walked round the back of the car, and was knocked down by a motor-car and killed. Witnesses declared that the motor-car driver was not to blame, and the jury exonerated him, returning a verdict of "Accidental death."

POLICE TRAPS.

THERE is a trap in the village of Panb, near Oswestry, Salop.

THE Portsmouth road, Thames Ditton, has again been the scene of police activity against motorists.

THE trap in the London Road, Morden, is in constant operation.

MOTORISTS running through Grantham should exercise care. The police are very watchful.

FORTHCOMING EVENTS.

JANUARY, 1908.

- 11th (S.).—Annual meeting of the Lincolnshire M.C.C.
 15th (W.).—Conference of Automobile Club representatives, convened by the Motor Union, at St. Ermin's Hotel, Westminster, S.W.
 17th (F.).—Annual Dinner of the Nottinghamshire A.C. at the Victoria Station Hotel, Nottingham.
 Meeting in Belfast to consider the formation of a local automobile club.
 18th-Feb. 2nd.—Automobile Exhibition at Turin.
 20th (M.).—Manchester A.C. annual meeting.
 21st (Tu.).—Annual meeting of the Yorkshire A.C., Hotel Metropole, Leeds.
 22nd (W.).—Annual meeting of the Southend M.C.
 The Incorporated Institution of Automobile Engineers will meet at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., at 8 p.m. The following papers will be read:—"Front Driving, with special reference to Electric and Hydraulic Transmission," by Dr. H. S. Hele-Shaw, LL.D., F.R.S.; "The Front Driving of Steam and Petrol Vehicles," by Mr. R. W. Harvey Bailey, A.K.C.; and "A resumé of Front Drive Patents," by Mr. J. S. Critchley.
 24th (F.).—Annual dinner of the Scottish A.C. at Edinburgh.
 24th (F.)-Feb. 1st.—Scottish Motor Exhibition in the Waverley Market, Edinburgh, to be opened by Lord Kingsburgh.
 26th (Sun.).—Criterium de Voiturettes and Coupe de l'Exposition Trial for motor-cycles organised by the Turin A.C. and the Motor Club of Italy.
 27th (M.).—Annual general meeting of the Motor Cycling Club at 8 p.m., at the Tudor Hotel, London, W.
 29th (W.).—First lesson of the course to be given by Mr. R. S. Currie to the Ladies' A.C.
 30th (Th.).—Annual dinner of the Yorkshire A.C.
 31st (F.).—Annual meeting of the Blackheath A.C.

FEBRUARY.

- 1st (Sat.).—Annual meeting of the Lincolnshire A.C.
 2nd (Sun.).—Reliability Trial of the Motor Union of Western India.
 7th-15th.—Manchester Motor Show at Belle Vue.
 12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 15th (Sat.).—Auto-Cycle Union Annual Dinner.
 20th (Th.).—Meeting of the Essex M.C.
 Mr. H. R. de Salis on the Inland Waterways of England and Wales from the motor-boating point of view.
 24th (M.).—Motor Show at Bcmby.
 27th (Th.).—Mr. Mervyn O'Gorman at the R.A.C. on "Gear Transmission."

MARCH.

- 18th (W.).—Annual Dinner of the A.A. at the Hotel Cecil, London.
 21st (S.).—28th (S.).—Cordingley's Thirteenth International Motor-Car Exhibition at the Royal Agricultural Hall, London.

APRIL.

- Auto-Cycle Union's Tourist Trophy Race and Quarterly Trial.
 18th.—First meeting of the Brooklands A.R.C. for 1908. The full programme for the season appeared last week.

MAY.

- 10th (Sun.).—Targa Florio Race.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

- Royal A.C. Reliability Trial for Touring Cars.
 15th-19th.—Scottish Reliability Trial.

LIGHTING-UP TIMES—LONDON.

Jan.	12th—5.12	..	14th—5.15	..	16th—5.18	..	18th—5.22
"	13th—5.14	..	15th—5.17	..	17th—5.21	..	19th—5.24

THE TAXICAB IN LONDON.

THE new regulations approved by the Home Secretary concerning cabs and stage carriages retain the clause as to the minimum shilling fare for horse-drawn cabs within the radius, with the qualification that the driver may, if he so desires, notify, by means to be approved by the Commissioner, that he is willing to accept sixpence for any journey not exceeding one mile, without, however, indicating what the particular method of notification to the "fare" is to be. For horse-drawn cabs fitted with a taximeter, as with motor-cabs, the difference of fare within and without the radius is abolished. On all journeys the minimum fare is to be sixpence for one mile, or time not exceeding twelve minutes, and

the same for every subsequent mile, and 3d. for half-mile or under. Motor-cab fares are 8d. for each mile, with 2d. for each fractional quarter-mile.

BUSINESS NEWS.

A DRAWING and designing class has been opened in connection with the Motor Schools, Ltd., of Heddon Street, London, W.

ON Monday last the British Petroleum Co., Ltd., reduced the price of both "Shell" and their "760" by one halfpenny per gallon.

MESSRS. JAMES GIBBON AND SON, 98, West Nile Street, Glasgow, have secured the agency for Belsize cars in that city.

MESSRS. SELLS, the advertising agents, of 167 and 168, Fleet Street, London, E.C., send a clear and readable calendar for the new year.

MR. C. H. RUSH, 199, Piccadilly, W., has been appointed West End agent for the National Motor Academy of Boundary Road, Notting Hill, London, W.

A FURTHER proof of the popularity of the Stepney spare wheel has been provided at the Dublin Show, where over 100 cars are shown fitted with this attachment.

THE Ariel-Simplex racing car entered for the 1908 Grand Prix is being fitted with the Ajax detachable rims made by the Midland Rubber Company, Ltd., Ryland Street, Birmingham.

MR. R. G. ASH, head of the firm of Carr Bros. and Ash, Ltd., merchants, London, who are largely interested in the motor-car trade in South Africa, has left for the Cape on a brief business trip.

WE learn that Mr. R. V. Asbury has joined the Deasy Motor Car Manufacturing Company, Ltd., as travelling representative, to push the sale of Deasy cars with agents in the Midlands, the North of England, and Scotland, &c.

IN order to assist private owners as well as trading firms in disposing of second-hand cars the Cie des Magneto Simms-Bosch, Ltd., 23, Store Street, W.C., can fit such vehicles with the Simms-Bosch magneto ignition—an addition that is likely to assist their sale.

THE well-known motorist, Mr. Andrew Fletcher, of Pencoatland, has now driven his 60-h.p. De Dietrich about 3,000 miles, and writes that "she is marvellous at picking up speed; in fact, she is a revelation to me in every way."

WE are informed that Mr. H. Ramoisy is no longer connected with the Germain Car Company in England. Captain Theo Masui is now in a position to devote more time personally to this country, and early in the spring intends making an extended tour through Great Britain to introduce the new 28-h.p. Germain car to motorists in general.

MESSRS. C. GRAHAM-WHITE AND COMPANY, 1, Albemarle Street, Piccadilly, London, W., have secured the exclusive agency for the United Kingdom of Great Britain and Ireland, its Colonies and Dependencies, for the cars manufactured by the Deutsche Motoren-Fabrik and Herr Feoder Siegel, of Schönebeck, Germany, and for the former they have also secured the manufacturing rights.

THE annual dinner of the employees of Messrs. Mann, Egerton and Co., Ltd., was held at Norwich on Saturday last, when some 120 (out of a total roll of about 160), were entertained under the presidency of Mr. G. N. C. Mann (managing director), supported by Messrs. H. W. Egerton, F. A. Jackson, and A. C. Shepherd (directors), Mr. F. W. Doggett (works manager), Capt. A. W. M. Atthill (Secretary), Mr. J. H. Pennefather (Lower-toft manager), Mr. G. Redgment (Ipswich manager), Mr. H. G. St. John and others.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

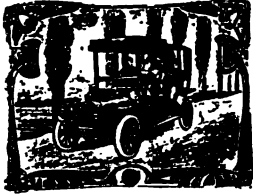
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COMMENTS.



ON Tuesday a L.G.B. inquiry was held at Kingston respecting the application of the Surrey County Council for a regulation to be made limiting the pace of motor-cars at Bridge Road, East Molesey, from Hampton Court Bridge to the junction of the Walton road at Barnes Terrace, and at Church Road, Barnes, to a speed of ten miles an hour. Mr. C. Cornish, in stating the case for the County Council, said that without prejudice the County Council had intimated their willingness to withdraw that part of their application with respect to Barnes Terrace, on the understanding that the Royal Automobile Club and Motor Union withdrew their opposition to the remainder of the roads. Thereupon Mr. Rees Jeffreys, on behalf of the two bodies named, agreed to the course suggested. They thought that the two roads were thoroughfares to which Section 9 of the Act was meant to apply. One good reason for it in the Bridge Road, Molesey, was the number of concealed dangers not apparent to motorists using the road for the first time. They also felt that that portion of the Bridge Road near Hampton Court Bridge was used in the summer months more as a promenade than as a highway by the visitors. As regarded High Street and Church Road, Barnes, it was an old country road which had now developed into a main motor-bus route. The inspector (Mr. F. J. Willis) said that, in view of what Mr. Rees Jeffreys had said, it would be unnecessary for him to call any evidence, and after several of the Barnes residents had emphasised to the Inspector that their objection was more particularly to motor-omnibuses and not motor-cars, the inspector left to view the roads in question; but before doing so said that motors also included motor-omnibuses.

The Nolsy Country.

ON Monday, in the course of an inquiry on behalf of the Charity Commissioners with reference to the removal of the Ironmongers' Almshouses from Shoreditch, something was heard as to the relative noiselessness of town and country. According to Dr. Robinson, the Town Clerk of Shoreditch, rural life is now distracted by an uproarious pandemonium that seems to make the country fit only for deaf people. He complained that at one o'clock in the morning he was often awakened by the "old wheezing croaking motor-car belonging to His Majesty's Post Office." Later the cornercrake began his rasping note; then the nightingale became monotonous for a couple of hours; following which the cows, dogs, and birds annoyed him till getting-up time, when motor-cars commenced their travelling, and the dust nuisance added to the inflictions of the residents. Dr. Robinson is grateful that we have a Police Commissioner in London to exercise some kind of control over motor-buses, and apparently is grateful that the old ladies who enjoy the generous care of the Ironmongers' Company in the Kingsland Road, Shoreditch, have a reposeful oasis where their jaded spirits can rest from the noise and turmoil which seem incidental, if not essential, to this mechanical age. Shoreditch as a haven for the weary is quite a new conception of the district;

probably the Town Clerk will next be issuing a new handbook to the borough under the auspices of the Health Resorts Association.

The Advocate of Resilient Wheels.

THERE was a personal as well as a practical interest in last week's meeting at the Royal A.C. Dr. H. S. Hele-Shaw was in the chair. Mr. Marshall Hall, K.C., a keen motorist as well as an eminent lawyer, proposed a vote of thanks to the reader of the paper on Resilient Wheels, and this was seconded by Mr. A. W. Pinero, the dramatist. Mr. G. Stuart Ogilvie, who is advocating resilient wheels as a contributory factor in the economy of motoring is distinguished in walks of life other than mechanical. He is an Oxford man and a barrister, as well as a J.P. for Surrey, of which county he is a native. Beyond that he has written several dramatic works, has been a motorist for several years, and has, like so many other good sportsmen, found the delights of the mechanical details of the car particularly engrossing. He has not been content to take things, i.e., cars, as he found them, but is endeavouring to improve them—as is clear from his paper outlined on another page.

Continental Touring Made Easy.

THIS year the facilities for continental touring by British motorists are being considerably extended, whilst the difficulties often attendant on various Customs are being steadily eliminated by the enterprise of the various organisations associated with the motor world. Those who are members of the Royal A.C. are, of course, familiar with the triptique system developed by that organisation. Similar facilities have now been made available by the Automobile Association for the benefit of its members. All necessary deposits in connection with cars going from England direct into France, Germany, Holland, Belgium, or Switzerland, or from one of these countries into another, can now be made at the offices of the Association in London, the members being reimbursed at the return of the car to this country. On another page we give some particulars showing how this will work in connection with the Folkestone-Boulogne route, the way to the English coast from London being, of course, guarded by the system of the protection of motorists on the road inaugurated by the Association.

Inquisitorial Methods.

AMONG the matters of great moment with which the Croft Rural District Council concerns itself is the question of the speed of motor-cars journeying on the Great North Road, which runs through its sphere of influence. It recently officially complained to the Clerk of the Peace for the North Riding of Yorkshire, and he has promised that the matter shall be considered at the next meeting of the Standing Joint Committee. But that is not all. At its last meeting its own clerk reported that he had received a visit from Superintendent Wilson, of Richmond, who said that for a long time his officers had been watching Stapleton Bank. He wanted to know if there was any particular person or car of which they complained. Mr. Leach, the clerk in question, went on to say that the super-

intendent spoke of the futility of making general allegations, instead of bringing forward specific instances. Apparently, the police superintendent went further than seeing the clerk, for Mr. Murrrough Wilson observed that he thought "he interviewed most of the members of the Council." We do not remember to have heard of a similar instance of police officiousness. It savours more of Surrey than of Yorkshire, and we must protest against such inquisitorial proceedings. For a Council to complain of the speed at which automobiles traverse its streets is one thing; for a police superintendent to try and ascertain the name of some individual in the manner alleged is another.

The Irish Trials.

INDICATIONS are apparent that the organisers of the Irish automobile trials are profiting by experience, and the decision to announce the results of those to be held between May 11th and 16th within a week from the conclusion of the event is certainly a wise one. The 1908 contest will be on familiar "reliability" lines, the object also being to keep the sporting side of motoring before club members and the public, to demonstrate the general usefulness and reliability of the



A Run Through the Snow.

self-propelled vehicle, and to assist the buying public in Ireland. There will be three hill climbs and a speed test on the level. Marks will be awarded for (a) reliability, (b) hill climbs, (c) speed tests. Having regard to the uniformly good results in the petrol consumption tests during the trials last year, the committee have decided not to take petrol consumption as a part of the forthcoming trials. No account will be taken of tyre stops. Sections will be "open" and "limited," and the awards will be the 200 guinea Dunlop Cup "open," 100 guinea Dunlop Cup "limited," gold and silver medals in each class under conditions, and certificates of performance.

Anticipating the Budget.

In the columns of the *Sheffield Daily Telegraph*—one of those provincial journals which has always shown a due respect for the automobile—we notice a reminder of Mr. Asquith's threatened increase of taxation on motor-cars. On the occasion of the last Budget his attitude towards the necessary motor-car was somewhat bellicose, and, although he expressly declined to do any harm to the industry on that occasion, he

darkly hinted at the possibilities of the future. The fact that hostages have been promised to large sections of people in the way of expensive innovations in legislation seems to suggest that the time is near at hand when the various motoring organisations should cease their jangling and wrangling with one another in order to combat a common enemy. The Chancellor of the Exchequer is a mighty power with his party, and a "stone-waller" when various departments are hurling their claims at him; but should he seek to jeopardise the demand for automobiles by adding to the cost of running the same, he would scarcely be able to stand against the combined assault of the R.A.C., M.U., A.A., the provincial clubs, to say nothing of the R.I.A. and the C.V.U.A.—apologies to any other society not enumerated in this alphabetical formula.

Educating the Chancellor.

ALREADY motor-cars have to supply to the Inland Revenue sums considerably beyond anything that is contributed by ordinary vehicles; they also pay their quota to the registration authorities, and the annual licence for their drivers is not obtained for nothing. Now, to increase the impost would undoubtedly prove a restraining influence on business. Already the notion is abroad that the upkeep of the car—mechanical and tyres—is extremely heavy as compared with the original cost, and many people are doubtless holding back from becoming actual motorists in consequence of this impression. Figures of the actual costs of running vehicles are therefore educative and useful, since they doubtless do much to alleviate the feeling. But, when this has to be contended with, the present scarcely seems an opportune time to impose further charges on individual cars, and so add to the collective cost of the industry. M.P.'s who sit behind Mr. Asquith, and who, like Mr. C. D. Rose, are cognisant of the real position of affairs, will render good service not only to their *confreres* of the steering wheel, but also to British industry, by urging him to stay his hand against the motor-car in his forthcoming Budget proposals.

From Prohibition to Restriction.

A CURIOUS position has arisen in Argyllshire, where two years ago the Secretary for Scotland, after exhaustive inquiry, prohibited motor-cars to run on a number of roads, more particularly in the district of Ardnamurchan. This was done at the request of the County Council, which has now decided to petition the authorities to withdraw the prohibition from five of the roads, aggregating a length of thirty miles, and to substitute a ten mile limit. Probably the advisers of the Council have found from experience that motorists are a profitable race, and that the prohibition of cars over such a large area has had a detrimental effect upon the financial prosperity of the locality. The position is an interesting one, this being the first occasion on which a Council, having secured a restriction with regard to motor vehicles, has subsequently sought to modify its effect. It illustrates the educational process that is going on throughout these isles.

An American View.

MR. ALFRED REEVES, after seeing the London and Paris motor shows and making a perambulation of as much of the Continental trade as he could in a seven weeks' trip, has returned to the United States with a cold *douche* for those manufacturers there who thought that there was a shortage of motor-cars in the Old World. On the contrary, he says "many of the European makers are looking longingly towards America. The foreign makers are capable of supplying cars far in excess of the European demand, and are out in most instances looking for export outlets with more eagerness than are the American makers." There is not much consolation in such a statement for the manufacturers who had looked to this country to take any amount of new importations—a statement,

however, which does not apply to those cars from the States which are at the present time making a reputation here. One comment by Mr. Reeves is of particular interest, for, according to his view, the "London show was more interesting than the Paris exhibition in its display of engineering advance and refinement. Many of the English makers are evincing a daring and originality that is quite refreshing"—testimony to the position that Britain is gaining, if it has not already attained, in the automobile world.

Motoring in New Zealand.

MOTORING is going well forward in both islands of the colony of New Zealand, and public services in which motor-vehicles are employed are becoming popular and profitable. Recently a new tariff on automobiles was established. Whereas the customs duty on motor-cars has hitherto been very heavy—being on the basis of 30 per cent. *ad valorem* on those of foreign manufacture, or 20 per cent. *ad valorem* on cars of British manufacture—it has now been altered, and the

which gives a total of £224,862, as against only £222,114 in the corresponding month of 1906. For the whole twelve months of the past year the figures are:—Number of cars imported, 4,819; value of same, £2,080,166; imports of motor parts, £2,472,520; total, £4,552,686. For 1906 they were:—5,776 cars of a value of £2,486,337; parts, £1,885,323; total, £4,371,660. Turning now to the exports of British cars and parts, these have during the past year undergone a very satisfactory expansion. The number of complete cars shipped was 2,322, of a value of £860,353; chassis and parts were responsible for £467,325, the gross total for 1907 of £1,327,678 comparing with £820,020 in 1906, and £502,714 in 1905.

Certificated Drivers.

THE system of granting certificates for those qualified to drive motor-cars, and who also possess a simple knowledge of the law and sufficient common sense, inaugurated by the Royal Automobile Club, is being widely followed in the colonies. In the Transvaal a Mines Regulations Commission



Mr. Best, of Messrs. Inglis Brothers, Wellington, New Zealand, at the wheel of the 10-h.p. Star Car on which he won the hill-climbing championship recently held near that town.

duty on the basis of 20 per cent. *ad valorem* is charged on the bodywork only. The chassis, including wheels, is now admitted free of duty, whether fitted with a body or not, and no distinction is made between foreign or British manufacture. Evidently there are many firms in the colony capable of building bodies, but the production of the machinery of the vehicle is as yet insignificant there. Such a concession should be regarded with favour by that section of the British motor engineering industry which is seeking an outlet beyond our shores.

Motor-car Imports and Exports.

THERE was a marked decline last month in the importation of foreign motor-cars and parts into this country, as compared with November, but the total was still slightly in advance of that recorded in the last month of 1906. The number of complete vehicles which reached the United Kingdom during December was 204, their value being given at £78,698. Parts were responsible for an additional £146,794,

has reported that drivers of motor vehicles owned by mining companies should have passed some examination held by the Government mining engineer, the nature and scope of the test being left with him and the Transvaal Automobile Club to determine. At Durban, we believe, the examination for the driver's certificate is conducted by the Natal Automobile Club on behalf of the Durban Corporation; and elsewhere in the colonies the automobile clubs are acting with local authorities in doing much to secure that competent drivers shall be certificated in order to satisfy the standard of public safety.

CALLING on Messrs. Pack and Sons at their Sussex Coach Works, George Street, Brighton, the other day, we found considerable activity in the body building department, and noticed several artistic bodies for well-known chassis in the course of construction. The firm are also doing well with the automatic lever for raising and supporting bodies which was recently described in our columns.

MOTORING TOURS IN THE PARIS DISTRICT.

(Concluded from page 1000.)

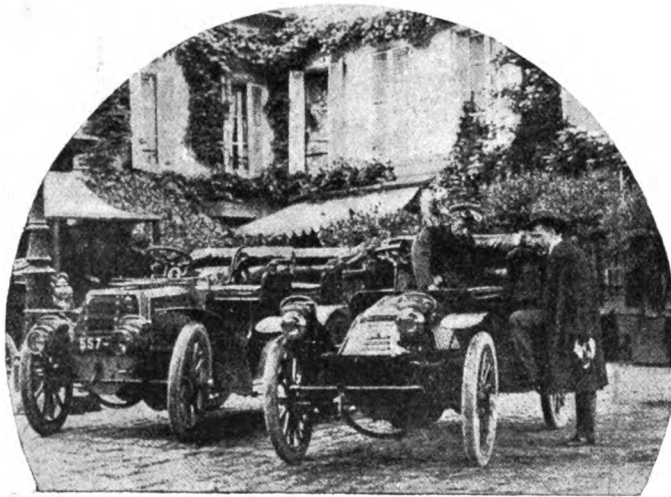
STRAIGHT on from Rambouillet the route nationale leads to Maintenon and Chartres, but, circling Paris, one takes the second class road to Etampes, *via* Ablis, in all forty-three kilometers. It is a second-class road, but does not look it, and, being a byroad, one can let his car out, for there is little or no traffic to stop one, and the gendarmes hereabouts are lenient. Etampes dates from the year 604, and accordingly has a respectable old age to its credit and a history quite as worthy. Various councils of the church were held here when the church practically ruled the state, and the Roi Robert of the second race of kings built a palace here known as the Palais de Quatre Tours, and François Premier, by making the celebrated Anne de Pisseleu the Duchesse d'Etampes, did much more for its popular fame. Etampes has left to-day the Tour Guinette, a part of the chateau which existed before the twelfth century, with the churches of St. Giles and St. Martin dating from the same period, but with later Renaissance interpolations, and another church, that of Saint Basil, which owes its foundation to King Robert in the tenth century. Etampes really, take it all in all, is worth seeing, and the Hotel du Grand Monarque is not bad either; nine francs a day, not more, all found, and the proprietor has been heedful of some recent advice given by the paternal Touring Club de France, with a desirable result with respect to matters sanitary in his grandiloquently-named establishment. From Etampes to Malesherbes is a run of twenty-six kilometres through the heart of the Gâtinais, a forest grown and sylvan region. It is the most thickly wooded of any of the *petits pays* of France bordering upon the Île de France, a land of pleasant valleys and rolling hills, and all green or gold, according to the season of the year. The chief product of the Gâtinais, and in great repute in the markets of Paris, is honey. Malesherbes has a thirteenth century church and a chateau which contains some good furniture of the days of the Louis, and some Gobelin tapestries. There is also the Chateau de Rouville in the suburbs. The town is worth an hour or two, and then the road runs direct—this time a "route nationale" again—straight through the heart of the Forêt de Fontainebleau, the grandest, perhaps, and certainly the most celebrated, forest in the annals of history and art.

Fontainebleau's attractions are many and for all men, and to none more than to automobilists, for the uncounted kilometres of well-kept forest roadway have a great charm and novelty. Strike right through the forest and enter the ville by the Grande Rue, past the palace gates, and put up at the Candran Bleu for *dejeuner*. As a sight Fontainebleau's palace, the outgrowth of Louis VII. *rendezvous de chasse* of the twelfth century, is quite worth the greater part of the afternoon, when there will still be daylight enough left to make the "Grande Ronde" in the forest, including a detour to take in that little artists' village of other days—Barbizon. Have your *aperitif* here at the "Charmettes"—or tea if you affect that sort of thing—look through the closed gates into the gardens of the houses once occupied by Corot, Millet, Diaz and Bayrè, buy souvenir picture post cards to your fill, and then take the road again across the forest, twenty kilometres south-east, to Moret-sur-Loing. This is an ancient little town, with two fortifying gateways at either end of its main street, situated just over the further end of the forest. It is an

artists' sketching ground as famous to-day as was Barbizon in the past. "Les Violettes"—not a hotel, a pension or a boarding house—will care for you marvellously for six francs a day, and you will think you never met with anything quite so good for the price nor anything quite so dainty and picturesque as Moret itself, with its gates and towers, its donjon, its church and its flour mills built out over the river in real stage carpenter's fashion. It is astonishing how unreal the real thing can be sometimes! Truly Moret is a paradise for artists!

The next morning, following up the road by the Seine, just over the ridge back of Moret, you will have a delightful fifty kilometres to Provins, *via* Bray. Provins is one of the most appealingly historic small towns of France (once its population was 60,000, tenth century; to-day it is 8,000). It has a round half-dozen architectural monuments which rank supreme in their respective classes, from the famous Tour de César and the city walls to the Renaissance Eglise Ste. Croix. The hotel Boul d'Or at Provins is bound to keep one for lunch; time will pass quickly in this old mediæval town; and you might do worse. From Provins to Chateau-Thierry, in the valley of the Marne, is sixty odd kilometres, *via* la Ferté-Gaucher, with nothing much to detain one en route except the wonderfully diversified landscape through which one passes. This is the Pays de Brie, and is as famous for its cheeses as is the Gâtinais for its honey. It is a fact that

the only *reel* Brie cheese comes from hereabouts; all others are rank imitations and decidedly not so good in taste or quality. At Chateau-Thierry one is in the valley of the Marne, a highly industrious, work-a-day river like the Seine, but if possible more picturesque. Certainly there are no poplar-lined river banks quite so charming as those of the Marne. It would be an ideal river on which to journey in a motor-boat, and you could even reach the Rhine by the canal which joins the two rivers in their upper reaches. Chateau-Thierry has a first-class literary shrine in the birthplace of Lafontaine; a historic one in the ruins of its mediæval chateau, and a sporting one in the site of the annual hill-climb.



A Pretty Corner at Mantes.

So much for Chateau-Thierry, and if the afternoon is still young you can easily roll off another forty kilometres to Meaux, by the valley road along the Marne, and still arrive further on for the night's stopping place. Meaux is worth a good hour; the city of Bishops has a grand old cathedral, a charming and dainty ruined chapter house, an old Episcopal palace, a battery of curious old water mills astraddle the river, and the remains of a chateau built by the Counts of Champagne in the thirteenth century. Such a menu should satisfy the sight-seeing palate of the most exacting tourist. Villers-Cotterets is forty kilometres northwest of Meaux. It can be reached direct from Chateau-Thierry in about the same distance if it is desirable to omit Meaux. It is the birthplace of Alexandre Dumas Père and the site of an old royal chateau of the Valois, around which still hangs a certain sentimental glamour, in spite of the fact that it has fallen from its high estate and become an almshouse. The Hotel du Dauphin is decidedly the best stopping place for the night in these parts. It is entirely fitted with the famous and deservingly well-thought-of "*chambres hygiéniques*" promulgated, if not invented, by the Touring Club de France, and has got accommodation for thirty cars under cover. The house in which Dumas Père was born is pointed out with pride by every resident of the place, and it sits full on the main street. Here, and in the neighbouring town of Crepy-en-Valois, Dumas spent the early years of his life, before he went up to Paris to become the greatest romancer of his age.

The Forest of Villers-Cotterets is one of the historic forests of France. It was first set out by Francois Premier, and beneath its shade have dawdled a whole portrait gallery of historic and gallant figures, the art loving Francois, his friend Anne de Pisseleu, whom he made the Duchess d'Etampes, his discarded friend, the ageing Diane de Poitiers, who came back again later with the youthful Henri II. in her train, and finally there were Henri Quatre and his whilom friend, the fair Gabrielle d'Estrées, who had more than one clandestine meeting here. The forest is not what it once was, Napoleon III. having cut it largely down and into firewood, which he sold for a profit to himself. From Compiègne to Chantilly is perhaps forty kilometres, following for the most part the valley of the Oise, another of the picture rivers of France, but again a most industrious one. The Chateau de Chantilly shares the honours with the palace at Fontainebleau in abounding interest for the visitor. Each of them is far and away ahead of Versailles or St. Germain, though thousands visit the two latter to hundreds the former. Chantilly, at any rate, needs a guide book to itself, its attractions cannot be catalogued here. Put up at the Hotel du Grand Condé, which sounds romantic, is good and expensive, and very sporty—for the horse racing at Chantilly is, for many, the chief reason for going there at all. However, let the horse-racing go by the board, if you can—and devote yourself to the two Renaissance chateaux, the Ecuries of the Condés and the great collection in the Musée given to the State by the Duc d'Aumale. All this will take half a day—with lunch—but get on to l'Isle-Adam, or Auvers, for the night. At Auvers, at the Hostellerie du Nord, you will come across something unique in the hotel line, very simple, very Bohemian—as that term is understood of the people—for the house caters mostly for artist folk, and Parisians at that, and withal the price for everything is very modest. You may dine in the garden courtyard, under a sort of a tent, at a long table, with chickens and pigeons and cats and dogs strolling about and looking for tit-bits, and perhaps even a stray pet lamb, if the beast has not grown into a sheep by this time. If this is a little too much *en famille* and you would have more seclusion you may dine in the panelled *salle a manger* with its walls covered with pictures and *croquis* by painters from Daubigny down to various Montmartre eccentrics.

At last we have swung around the circle, in three days or five, according as to whether we have lingered by the way or made the *vitesse*, as the French chauffeur says, between towns. If one is bound south of Paris, down into the chateaux country—Touraine—it is easy to make one's way *via* Pontoise, St. Germain, Rambouillet and Chartres. If England is the objective, another enjoyable three or four days can be put in covering that historic highway from Paris to Boulogne or Calais. Usually the motor tourist rushes this in a day or less, but this is wrong, for the district is rich in interest. In outline the itinerary works out something like this: Beauvais (Hotel de France et d'Angleterre), with the most stupendous late Gothic cathedral standing above ground; Amiens (Hotel de Rhin), whose cathedral has been called the Bible of architecture; Abbeville (Hotel de France), where at any rate you should stop long enough to view the Eglise St. Wulfran. After this run along easily to Montreuil-sur-Mer, fifty kilometres, and put in the night at the Hotel de France, which bears a date of the sixteenth century over its *porte cochere*. The hotel is a rambling, creaking old structure whose only signs of modernity are in its *salle a manger* and in the electric light wires stretched along its three-century-old beams.

AN American Company has recently delivered to the Protective Department of the City of Boston, U.S.A., a motor salvage wagon fitted with a 40-h.p. four-cylinder air-cooled engine. The body has accommodation for four men and provides space for the full equipment usually carried on apparatus of this kind, which includes two short ladders, two chemical extinguishers, a life saving net, door openers, axes, plaster-hooks, &c. Each tool or other part of the equipment has its own place upon the car, special brackets or sockets being provided for each.

LAMPS FOR 1908.

AMONG the matters of importance which the motorist must consider in connection with his car the question of lighting occupies a leading place in his thoughts. Not only does safety depend upon the forward illumination but legal pains and penalties may follow any failure in the rear. As every owner knows, lamps constitute either a source of worry or of content, the latter quality being generally associated with economy. Certainly this is the case with the Polkey projectors and side and tail lamps made at the Hockey Lamp Works, Birmingham, by Messrs. George Polkey, Ltd. The firm have both experience and reputation, and their productions for the coming season have distinctive features which should attract the attention of all seeking a combination of good appearance and workmanship with reasonable cost and effective lighting. The projector (Fig. 1) is of the torpedo shape, with a projecting hood and a lens of 7½ in. diameter, the overall measurement from back to front being 10½ in. This is adaptable for either electric or acetylene lighting; in the latter

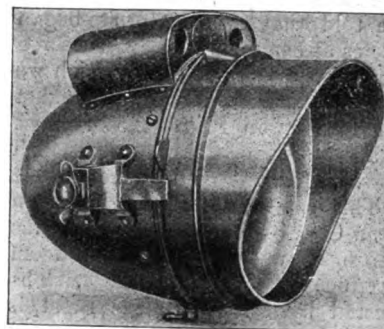


FIG. 1.

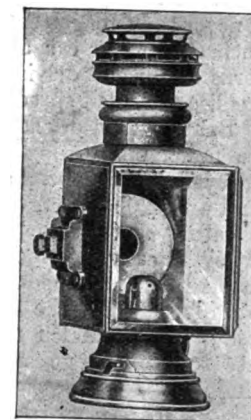


FIG. 2.

The Polkey Lamps.

case the special point of the burner consists in the two impinging arms being parallel with the reflector, with the result that, from the front, the flame appears end on, with consequent reduction of the glare to persons approaching near the lamp. Below the fine jets of the acetylene burner are cleaning needles, which clear away the carbon on the twisting of a couple of milled-edge nuts. Particular care has been given the parabolic reflector, so that the rays of light are accurately reflected.

In addition to the projector, we also illustrate (Fig. 2) one of the side and rear lamps. The set of three are of the same size and shape, and are similarly attached to the car. In the case of the tail lamp, instead of a red sight glass being provided, the whole of one of the sides is occupied by a red glass, thus conforming to legal requirements. All the lamps are thoroughly well constructed of brass, with reflectors of a specially good type. These latter are white sterling silver rolled upon copper, thus securing a permanence of reflecting merits. It will be seen that British makers of lamps have fully recognised the strength of the demand for accessories of native manufacture, and the way in which Messrs. Polkey, Ltd., have responded to the call is worthy of the spirit of enterprise that still characterises many of the older firms who have attained distinction in other industrial spheres. The lamps illustrated may be seen at the London offices of the makers, Finsbury Pavement House, Finsbury Pavement, E.C.

WEST HAM is seeking to attract manufacturers and engineering firms, and the low rates for electric power are proving helpful in this direction. Recently established concerns in the borough are the Rip Motor Company, of Leytonstone Road, Stratford, the British Alcohol Company, Ltd., motor spirit manufacturers, Wharf Street, Canning Town, and Dustabatus, Ltd., patent road material manufacturers, Hartman Road, Silvertown.

ANDOVER AND WINCHESTER.

SOME of the most delightful memories of the pioneer motorists are associated with the early trials and tribulations which were organised by the R.A.C. in the old days when it was the A.C.G.B.I. It had not aspired to become a near neighbour of Marlborough House, although, even then, it was growing great in Whitehall Court. Those pioneer tests of cars were mostly confined to the placid highways of the south, and level stretches were better enjoyed than the merry switchbacks that seemed to have been planted on Scottish hills and Derbyshire moors for the alternating sense of victory and doubt in the minds of motorists of the nineteenth century.

Of course, every car can take hills and romp over mountains in this more modern era. Radiating from the Crystal Palace, the daily runs to different venues were delightful anticipations, and often successful realisations. They were not all tame performances. Sometimes judges would rush from concealed hedgerows for brake tests, and often policemen would come from hiding places for names and addresses. There was one never-to-be-forgotten day of trapping—on the return from Winchester, when car after car was stopped, and such official records of furious driving were told that even motorists began to realise they had speedy vehicles at command.

But we must desist this reminiscential mood into which we have fallen on reading an account of how a fellow-journalist journeyed to Stonehenge from London on Pratt's motor spirit—and a 16-20-h.p. Argyll car, a successor of the car upon which we journeyed with the late Mr. A. Govan on the memorable journey already referred to. This capital description has been reprinted by the Anglo-American Oil Co., who have added some neat illustrations, the excellence of which can be seen from those we are enabled to reproduce by their permission. The route to Stonehenge, as suggested by Mr. H. Massac Buist, is as follows:—

From Hyde Park Corner to Hammersmith, Shepherd's Bush, and Brentford to Hounslow, where take left for Staines, crossing bridge there, and turning right for "Basingstoke, 29 miles." Through Egham, past Virginia Water (20½ miles from London), Sunningdale, Bagshot (leaving Bisley on left hand, presently Aldershot on left), York Town (passing Sandhurst and Wellington Colleges on right), Hartley Row, and Hook to Basingstoke. From Basingstoke by Worting, Oakley, and Whitechurch to Andover, where take right fork for Amesbury (left fork is for Salisbury), striking north-westward through Weyhill, thence south-



westward to Amesbury, and so in 1½ mile keeping straight on across Salisbury Plain to Stonehenge (79½ miles). Return to Amesbury, where make rectangular turn due southwards for Salisbury.

This is a run of eighty-nine miles. From thence it is a good journey *via* Romsey (31½ miles) to Winchester (40 miles), or the latter city can be reached in 16 miles from Basingstoke (46½ miles from London) by way of Popham and Kings Worthy. All these places deserve a visit. They have each their special interests as well as being in Hampshire, which, according to the late Grant Allen, was "the real original nucleus of the British Empire."

Winchester, historically, was certainly one of the first if it is not now the greatest of our cities. In the Roman days five important roads branched out from the place, leading to Porchester, Southampton, Old Sarum, Marlborough, and Silchester. There are many historical corners apart from the abounding interest of the cathedral. The High Street, shown in the sketch, leads to the fine statue of King Alfred, and has a grand old town hall with a projecting clock of curious workmanship. The lower storey of the building is recessed, and has a colonnade. A few steps beyond is the Buttery Cross, at the



foot of which a butter market was formerly held—in the days before the motor-car revival. In the days of King Alfred, Winchester was, to quote Dean Kitchen, "the home of all the learning and the arts known in that day, and rivalled the earlier splendour of the court of Charles the Great at Aix-la-Chapelle." Later, trade and commerce were attracted to the city, and the Guild Halls of the merchants were a great feature of its life.

When Southampton was an important port—important relatively as regards London—Winchester's commerce rivalled that of the present capital. In Stuart times it attracted royal notice, and Sir Christopher Wren was instructed to advise with regard to the design of a bold scheme to give a noble approach to the cathedral, but the demise of Charles the Second led to the abandonment of that idea.

Andover, another town selected for pictorial representation, is of a very different order to the ancient city of Winchester—although it, too, has its old almshouses, historic grammar school, and other points of architectural importance. It was a Roman station, possesses a charter dating from the reign of King John, and has a good wide market-place, well becoming in a town of agricultural prosperity. A few years ago it became notorious by reason of the severity of the fines inflicted by the local bench upon unsuspecting motorists who were trapped in the vicinity. "Hand-over justice" became a very significant phrase among sportsmen.

Hampshire is a capital county for motoring, its well-constructed roads—broad and straight in many parts—being a pleasure to all who travel by the newer locomotion. Police traps occasionally abound; but, it must be acknowledged, a better spirit has lately come over the police there, and complaint is no longer loud on that point.

"WHO'S WHO" has a niche entirely its own in the reference library, and grows more representative every year. Its accuracy has long been at high-water mark, as they observe in motor-boating circles.

THE imports of motor-cars and cycles and parts into New Zealand during 1906 attained a value of £79,821. The British share of the total was £55,010, that of the United States £10,289, Germany £1,942, and other foreign countries, £12,580.

A YOUTH who applied a lighted match to the plug hole of an empty petrol cask in the yard of a motor garage at Jedburgh, recently, was killed outright. The cask was hurled into the air, striking the lad, and producing a fracture of the skull.

The Stanley Steam Car.

SINCE we described the Stanley steam car in the *M.C.J.* of August 20th and 27th, 1904, the vehicle has steadily increased in favour, both in America, where it is built, and in this country. While the general arrangement is still the same, many improvements in the details have been introduced, and the complete description which follows will no doubt prove of general interest. Three sizes are being made, that known as the E.X. and rated at 10-15-h.p. being fitted with a two-cylinder engine 3 in. bore by 4 in. stroke and an 18 in. boiler; the F. model is of 20-30-h.p., the engine cylinder dimensions being 3½ in. by 5 in. and the boiler diameter 23 in.; the third car is of still higher power, and is the latest introduction; it is rated at 30-40-h.p., being equipped with a 26 in. boiler and an engine having cylinders 4½ in. bore by 6½ in. stroke, this being the same size as that fitted in the racing car which created world's records over the kilometre and mile on the Florida Beach in January, 1906. The general arrangement of the different types being the same, the following details may be taken as applying to all, regard being had, of course, to the fact that the dimensions of the various parts vary in accordance with the power of the car.

The engine (Fig. 1) is placed in a horizontal position underneath the rear of the car and in such a position that a spurwheel on its crank shaft meshes with a bronze toothed wheel containing the differential on the back axle. It is of the two-cylinder double-acting type, employing ordinary slide valves and Stephenson link motion. All the bearings on the engine are of the ball type, including the crank shaft bearings, crank pins, eccentric rods, straps and the guides on the crossheads. The forward portion of the engine is hung from the car by a hanger strap, whilst the other end is carried on the back axle by means of engine frame hangers and circular bronze straps encircling the back axle

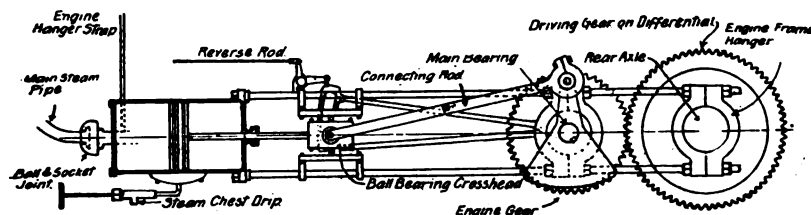


Fig. 1.—Sectional View of Engine and Transmission to Rear Axle.

on either side of the differential case; these straps are free to move, to maintain the proper relation between the engine gear wheel and driven gear on the axle. One of the chief objects of this arrangement is to allow the engine and the drive on the back axle to be in correct relationship when the springs of the car are in action. The whole of the engine and differential gear is enclosed in dust and mud proof copper cases, provided with suitable sliding doors for inspection and lubrication.

The boiler (Fig. 2) is of the vertical fire tube type, tested under steam and hydraulic pressure up to from 700 to 800 lbs. The shell and bottom plate are swaged out of one piece of special steel; the top tube and plate are let in, and to make a joint an electrically welded steel ring of great strength is shrunk on round the outside of the shell. The latter is then wound with several layers of steel wire under tension to give additional strength. The end plates are drilled taper to take half-inch tubes which are expanded, these forming stays. The inside of the boiler, in fact, all the parts in contact with the water, is heavily galvanised to prevent corrosion. Both a safety valve and automatic fire cut-out are provided, the latter cutting out the burners at any fixed steam pressure. A special fusible plug is also fitted, which protects the boiler from damage in the event of a low water level arising through careless driving or other cause. This warns the driver when there is still 3 in. of water

in the boiler; the fires have then to be turned out and a new plug inserted, the whole operation being accomplished in a short time on the roadside, without it being necessary to take down the burner or other parts.



Fig. 2.—View of Bottom of Boiler, showing Superheater and Fusible Plug Connection.

The main burner (Fig. 3) consists of a round plate of cast iron having raised parallel corrugations which cross the burner plate. Transverse slots which are cut in these raised portions about ¼ in. apart form the outlets for the mixed gas and air. The pilot light is fixed by a small compartment about 3 in. long by 1 in. broad placed between two of the above raised sections, but entirely independent from them. The fuel is led to the burners first through a coil of heavy drawn brass pipe placed in the flue at the top of the boiler; it then passes to the three vaporisers, which consist of steel pipes crossing the raised sections of the burner, and emerging in three nozzles to the mixing tubes. The two outside nozzles constitute the main fire and the centre one the pilot; the supply to the latter is entirely independent, the object being for it to light up the main fires as they are turned up or down by the automatic fire cut-out or by the hand control. It is possible

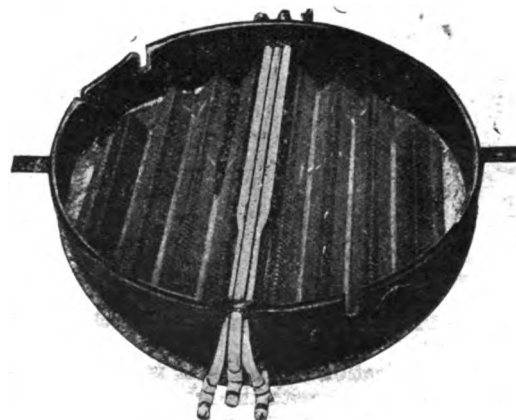


Fig. 3.—View of Burner, showing Raised Slotted Sections and Final Vaporising Tubes.

to burn paraffin in the Stanley burner with certain alterations, or by using a specially-constructed burner, but this is not recommended, except where the car is to be used in counties where

difficulty is experienced in procuring the light spirit or where its high cost precludes its use.

The water passes from the water tank through a gauze strainer to the power pumps (see Fig. 4) thence either to the boiler, past the boiler check valve, or by the return pipe back to the water tank. The feed to the boiler is regulated by a by-pass valve which is placed under the steering wheel beneath the

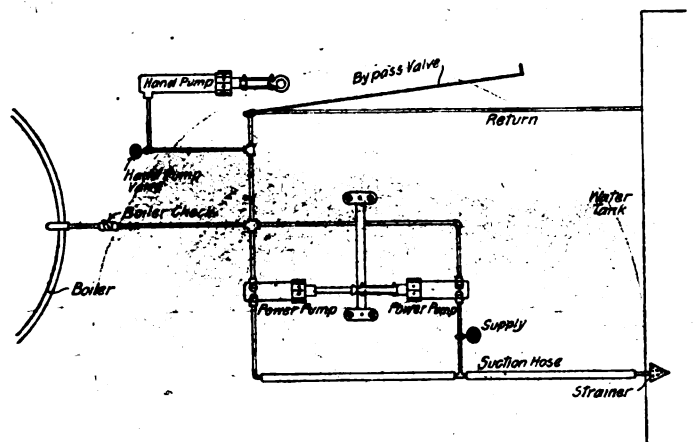


Fig. 4.—Diagram of Water Connections.

throttle quadrant. When the by-pass valve is closed the water cannot go through the return pipe, and the pumps force it past the check valve to the boiler. When the by-pass valve is opened, the water flows through the pipes against which there is no pressure, viz., the return pipe, and the boiler check valve prevents the steam pressure in the boiler from bearing on the pumps. An auxiliary hand pump is provided in connection with the hand lever, which also actuates the petrol hand pump. When using the hand pump, the valve connected with the same should be opened, care being taken to shut this off after use, for if it be left open the power pumps will force out the plunger of the hand pump.

The steam control system is shown diagrammatically in Fig. 6. Steam passes from the top of the boiler in the centre through the main throttle, past the auxiliary throttle and through the boiler to the superheaters, which are subject to the full heat of the fire. The steam is then passed again through the boiler and into the main steam pipe, where it takes lubricating oil for the

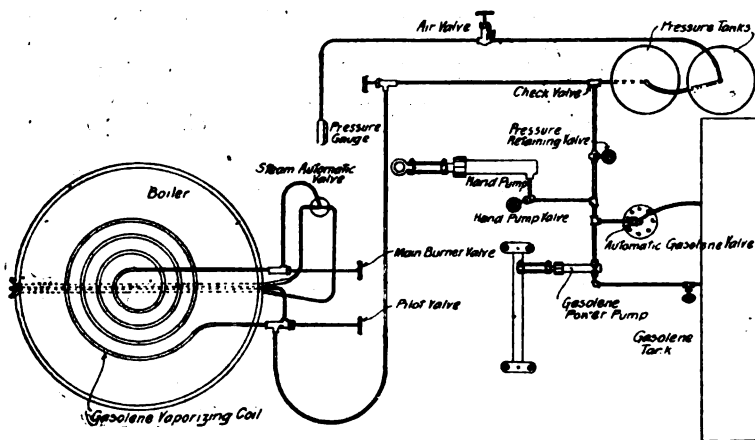


Fig. 5.—Diagram of Fuel Supply and Control System.

cylinders. The lubrication of the latter is effected by means of a small pump in connection with the lubricating oil tank, worked by means of a ratchet wheel off the pump rocker shaft. As the ratchet wheel turns, the small pump plunger is drawn out, by means of a dog and cam, sucking oil from the tank. At a given point the plunger of the pump sends a jet of oil to the steam, which is carried through the main steam pipe to the engine. The faster the car travels the more oil is supplied to the cylinders,

and vice versa. The oil tank has a capacity sufficient for from 250 to 300 miles.

The arrangement of the fuel supply system is illustrated in Fig. 5. The petrol, referred to as gasoline in the illustration, is carried in a non-pressure tank at the rear of the car. The fuel is gravity fed through a pipe from the tank to the petrol power pump, situated under the footboard and working off the same shaft as the water power pumps. It is then forced into the pressure tank, referred to below, by means of the petrol power pump. From the pressure tank it is led through a coil of solid drawn brass pipe on the top of the boiler; this heats up the petrol to such an extent that it is only necessary for it to travel through short steel pipes, across the fires to the main burner nozzles. Between the coil and the main burner vapourising tubes the petrol is intercepted by the hand main burner valve situated on the dashboard and the automatic valve, this latter cutting off the fuel supply at a fixed steam pressure.

The pressure in the pressure tank is indicated on the dash by means of a gauge, which registers up to 200 lb.; the usual working pressure which can, however, be adjusted, is about 100 to 120 lb. A petrol automatic relief valve is connected up to the pump, so that, should the pressure exceed that at which it is set the excess of petrol is led back to the main tank.

The pressure tank really comprises two cylinders arranged side by side, the bottom of one being connected with the top of the other. Supposing the tanks to be empty, and the gauge at zero, to get up petrol pressure in order to start the fire the operation is as follows:—With the hand pump, pump petrol till the gauge

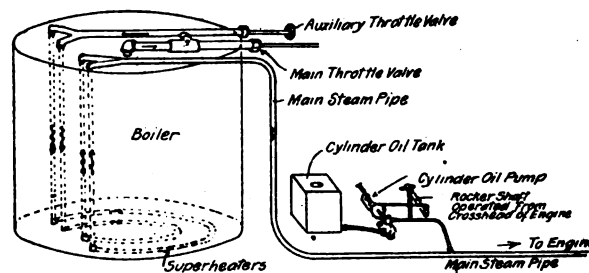


Fig. 6.—Diagram of Steam Pipe Connections and Lubricating System.

registers between ten and fifteen lbs. Tank No. 2 is now nearly full of petrol, the air having been driven into tank No. 1, and, being compressed, is under a pressure, indicated by the gauge. A hand pump is now attached to the valve and air pumped into tank No 1 until the gauge indicates from eighty to ninety pounds.

If the fire were now lighted, and allowed to burn for some time, the petrol pressure would gradually drop. But it can be raised by using the hand petrol pump again.

When running on the road, the power pump supplies the petrol and keeps up the pressure; as this pump delivers an excess, an automatic relief valve is provided, adjustable as to pressure, through which the excess passes back to the supply tank.

(To be concluded.)

MESSRS. SIDNEY STRAKER AND SQUIRE, LTD., have an extensive repair shop and garage at Nelson Square, Blackfriars Road, S.E., where they are prepared to undertake the overhaul and repair of motor-cars of every class. Their machine shop is equipped with modern machine tools, and a staff of thoroughly experienced mechanics is employed.

ON Monday a motor-car driver was sentenced at Westminster Police Court to a month's hard labour for being drunk while in charge of his vehicle, and on the same day a Hammer-smith chauffeur was sent to prison for fourteen days without the option of a fine for having been in a similar condition while in charge of a motor-car in the Charing Cross Road, London, W.C.

CONTINENTAL NOTES.

The A.C.F. Grand Prix Race.

The regulations regarding the 1908 Grand Prix Race have now been adopted and issued by the French Automobile Club. The race is to be over a distance of from 700 to 800 kilometres, and held in the first fortnight in July, the date and circuit to be fixed later. Each firm will have the right of entering three cars, but manufacturers employing engines, or the same construction mechanically, under licence, or under a title which includes the same name, will not be allowed to enter more than three cars together. The entry fees are fixed at the following figures:—£200 for one car; £360 for two cars; £480 for three cars. Entries are to be sent to the Sporting Commission of the A.C.F. before February 15th. After this date and until June 1st entries will be received at double fees. In the case of a large entry list, arrangements may be made for an elimination contest. All motors taking part in the race are to be of a bore of 155 mm. in the case of four cylinders, or the equivalent in the case of one, two, three, six or eight cylinder cars. The competing cars must be of a minimum weight, in running order, of 1,100 kilog. The employment of oxygen, &c., in con-

sions for two or four-cylinder motors, and the weight not to exceed 650 kilos. The distance of the race will probably be about 350 kilos. All the French builders of small cars who have been questioned on the matter are enthusiastic about the projected race, they considering that it will tend to stimulate the construction of cheaper and lighter vehicles.

Motor Wagon Regulations in Antwerp.

As a result of some trials, extending over a month, recently made by Messrs. De Roubaix-Oedenkoven with a Renard road train in the Antwerp district, the municipal authorities of that city have just adopted the following new regulations with regard to motor lorry traffic:—(1) Motor-wagons used for the carriage of goods may not be loaded with more than 5 tons; the tyres, if made of metal, must be at least 16 cm. wide. (2) The motor-wagons must not exceed a speed of 6½ miles per hour. (3) Motor-wagons for the carriage of goods must be able to travel in both directions; they must be driven by a machinist-stoker and a helper. (4) The vehicles (trailers) must be attached to the motor by means of an articulated hook, which cannot come unfastened, and which is made in such a manner that all the vehicles follow exactly the same direction; no more than two vehicles



A French Military Motor Ambulance.

In France dogs are now being used in connection with ambulance work. The illustration given above shows some trials being made with them in conjunction with a motor ambulance recently constructed by Messrs. De Dietrich and Co.

nection with the carburettor is forbidden. All vehicles must have a reverse motion and be fitted with silencers having an horizontal outlet. The colours fixed for the various nations are as follow:—Germany, white; America, white and red; England, green; Belgium, yellow; France, blue; Italy, red; Switzerland, yellow and red. All repairs are to be made by the driver or *mecanicien*; detachable rims may be used, but the changing of wheels is prohibited. It will be permitted for the *mecanicien* to change place with the driver at the end of any lap, but only on the circuit in case of urgent necessity.

Le Grand Prix des Voiturettes.

The surprise of the past week in French motoring circles has been the decision of the A.C.F. to organise a voiturette race to be known as Le Grand Prix des Voiturettes. It is to be held over the same course as that of the Grand Prix for big cars, probably the day previous to the last-named event. The conditions will probably limit the diameter of the cylinders to 100 mm. for single-cylinder engines, with proportionate dimen-

may be drawn, and each train must be not more than 82 ft. long. The load of each vehicle is not to exceed the weight determined in Art. 1; The last vehicle must be equipped for going backwards. (5) The approach of the motor-wagon must be signalled preferably by means of a horn, but in no case by a shrill or piercing whistle. (6) Any infringement of the regulation in question to be punishable by a police fine.

A Successful Aeroplane Flight.

After many attempts Mr. Henry Farman, on Monday last, succeeded in accomplishing a flight with his aeroplane over a measured circular course of one kilometre, thereby fulfilling the conditions attached to the Deutsch-Archdeacon prize of £2,000, the trip being made in the presence of the committee. The aeroplane was kept at an altitude of from twelve to twenty feet, and made a wide sweep round the distance post without sensibly slackening speed, Mr. Farman finally alighting beyond the winning post with the same ease and precision with which he had started. The machine is fitted with an eight-cylinder 50-h.p.

Antoinette motor, and the official time for the measured kilometre was 1 min. 28 sec.

Public Services in Italy.

The Italian Minister of Posts and Telegraphs has appointed a technical commission for the purpose of drawing up a programme for a public competition of motor vehicles for the conveyance of passengers, mails, and parcels. The Minister has stated that such vehicles might become valuable auxiliaries to the railways, and that it is consequently a matter of necessity to devise a type of special automobile adapted for the postal and passenger services.

A Small Car Trial in the South of France.

The Marseilles Automobile Club is organising a speed trial of small cars for the 19th May next. The event, which is known as *Le Circuit Provençal des Petites Voitures*, is open for: (1) Cars with single-cylinder engines up to 100 mm. bore, (2) ditto to 125 mm., (3) four-cylinder vehicles up to 80 mm. bore, and (4) ditto up to 95 mm. The entry list is being limited to fifty competitors.



One of the Single-Deck Motor-Buses in Service between Havre and Quilleboeuf.

The Nice Automobile Week.

The programme of the automobile week at Nice, which is to be held in March, has now been definitely drawn up. On the 22nd there will be a kilometre speed trial; on the 23rd a "Raid du Printemps" will be held in place of the touring competition first proposed; on the 25th an elegance competition; on the 29th a flower fete; and on the 31st an automobile paperchase.

Petrol in Switzerland.

A new regulation requiring petrol tins to bear an official stamp as to their capacity was to have come into force in Switzerland on the 1st inst., but, owing to the movement organised by the importers, it has been decided to postpone the order for a year. In the meantime, the Government authorities will consult with the dealers as to the best form of petrol tin to adopt.

More Motor Cabs for Paris.

A new company is in course of formation in Paris, with a capital of £80,000, to place 200 De Dion 8-9-h.p. single-cylinder taximeter motor-cabs in service in the French capital, at the same rates as the horse-drawn vehicles. The daily receipts per cab are estimated at 35 fr. 5 centimes, of which 35 per cent.

(12 fr. 27 c.) will be the driver's share, leaving 22 fr. 78 c. for the owners. With a hundred cabs in service the working cost, including depreciation, has been figured out at 14 fr. 7 c. per cab, and with 200 vehicles at work 13 fr. 53 c.

The Liedekerke Cup.

The annual race for the Liedekerke cup, which is to be held at the end of July next on the Ardennes circuit, will this year not be run on a cylinder capacity basis, but will be restricted to cars having engines with a maximum bore of 106 mm. for four-cylinder motors, and a minimum weight empty of 1,050 kilogs. The distance to be covered will be at least 300 miles.

Racing on the Ice.

The Swedish Automobile Club, whose headquarters are in Stockholm, is organising a reliability trial of motor vehicles for the 15th and 16th February, and a speed trial on the ice for the 8th March.

A German Voiturette Trial.

It is reported that the German Imperial Automobile Club, in conjunction with the German Motor Cyclists' Association, proposes to organise a trial of voiturettes in July next. There will be three daily runs, viz., Berlin-Breslau, Breslau-Prague, and Prague-Munich. Both the Bavarian and the Austrian Motor Clubs have been officially invited to participate in the organisation, as the latter half of the course passes through Austrian and Bavarian territory.

A New Anti-Freezing Medium.

Writing to "Omnia," a French motorist recommends the use of chloride of magnesium as an anti-freezing medium. Added to the cooling water in the proportion of from 12 per cent. to 15 per cent., he claims that not only does it possess advantage over glycerine, in that the water always remains perfectly fluid, but that it has no detrimental action on metal.

Motor Vans in the German Postal Service.

Following the example of Munich, motor mail vans are now to be introduced in the postal service in Nuremberg. It is stated that thirteen vehicles are being ordered, of which nine will be continually in use and four held in reserve, in case of temporary breakdown of any of the others.

French Motor-Car Imports and Exports.

The imports of foreign motor-cars and parts into France during the eleven months ending with November last attained a value of £305,480, a decrease of £1,080 over the corresponding eleven months of 1906. During the same periods the exports of motor-cars and parts from France advanced from £5,058,040 to £5,366,040.

Motor Vehicles for Municipal Purposes.

The municipal authorities of Bourges (France) propose to replace the present horse-drawn dust-carts with motor vehicles.

Miscellaneous Items.

The municipal authorities of Berne, Switzerland, propose to add an electrical motor vehicle to the equipment of the local fire brigade.—The Furka road between Brig and Morell, in the Swiss Canton of Valais, has been closed to automobile traffic.—His Imperial Highness the Crown Prince of Germany has just ordered a Stepney spare wheel for one of his cars.—The two women motor-cab drivers in Berlin are reported to have given up the work, the reasons assigned being the cold weather and the ribaldry of the Berlin roughs.—A public motor-car service between Madrid and Getafa, a popular resort about eight miles from the Spanish capital, is contemplated.—The annual 500 metres hill-climbing contest, organised by the "Provence Sportive" of Marseilles, is to be held on April 19th next.—An exhibition of agricultural motors is to be held at Bourges, France, at the end of September or at the beginning of October next.

AT 69, Roscoe Street, Liverpool, Mr. Henry J. O'Connell has commenced business as a motor agent and dealer in accessories.

MR. ELI CLARK has a large motor garage opposite to his showrooms at 223, Cheltenham Road, Bristol, and is well able to prove of assistance to motorists in that district.

AMONGST the latest purchasers of Argyll cars in India are the Nawab Shah Yar Jung Bahadur and His Highness the Maharaja Dalgan-Jansing of the Patna State.

MR. H. L. STOCKS, of Kirkcaldy, has recently ordered a Sheffield-Simplex 45-h.p. six-cylinder limousine as a result of his satisfactory experience with the Brotherhood car he acquired about two years ago.

MR. A. SWINGLER, J.P., of Smalley Hall, Derby, informs us that the 30-h.p. Daimler referred to in our last issue is for his own private use, and is not being supplied to him by his firm for business purposes.

THE Bombay, Baroda and Central Indian Railway Company has lately put in service a number of covered trucks specially designed for the conveyance of motor-cars. They are 25 ft. long inside, so that two small cars can be carried in one truck.

WISLEY, always a popular resort with Surrey motorists in summer, was even more so last week-end, when skating was in full swing on the lake. Cars arrived in never-ending succession until round the Hut Hotel was assembled one of the largest concourses of automobiles on record.

AN interesting pamphlet has been published at Beeston and Coventry giving the opinions of many owners of Humber motor-cars as to the excellent qualities of those automobiles. A county arrangement has been devised to facilitate reference by prospective owners who may wish to test the popularity of this car in their own districts.

SOME of the resident magistrates of Ireland are calling public attention to the new Lights on Vehicles Act, 1907, which is in operation in that country as well as in the southerly part of Great Britain. At Bray and elsewhere the magistrates have asked the constabulary authorities to see that its provisions are generally observed.

"THE INDUSTRIAL MOTOR REVIEW," published on the 15th inst., contains several articles of practical value to all interested in the development of the commercial motor. Its comparative costs of horse and motor traction are an authoritative and reliable feature, and the experiences of users of motor delivery vans have distinct value.

DESPITE the many warnings given in the *M.C.J.*, as well as in our contemporaries, as to the care that is necessary to prevent the freezing of the cooling water and resulting damage to the motor, the recent snap of cold weather has brought in quite a large amount of work in the way of cracked cylinders to the various firms which make a speciality of repairing castings.

SOME of the motor taxi-cab drivers in London are of an ingenious turn of mind; one of them has devised a box arrangement over the clutch and brake pedals, so that when driving his feet are protected from the cold. Another has fitted a specially shaped iron bracket to the dash, over which he can in wet weather place the lower portion of his overcoat, and in this way keep the rain from dripping into his boots.

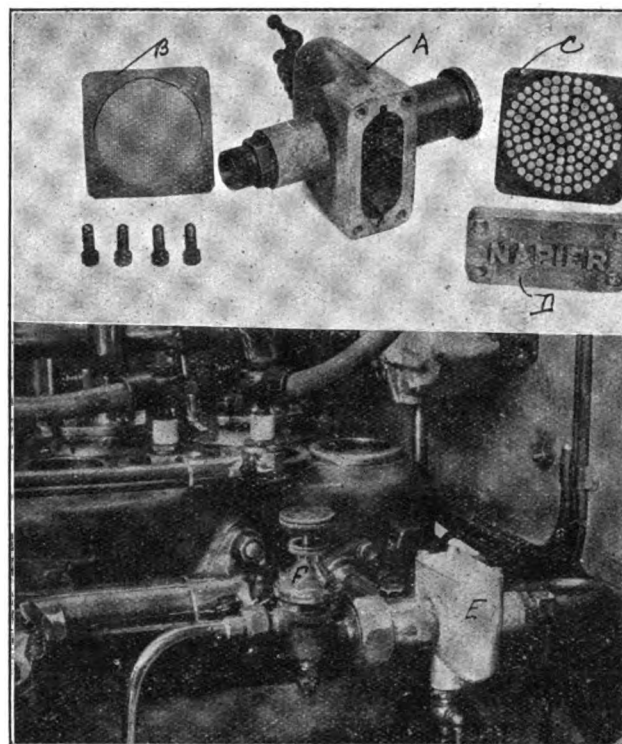
"PETROLIUS," in the "Morning Advertiser," quotes the interesting case at the Daresbury Petty Sessions, recently reported in the columns of the *M.C.J.*, as "very pleasant reading for motorists, for we do not often hear of motorists obtaining costs against the police; and yet, where the police are unable to establish their case, it seems only reasonable that costs should be given against them. Motorists are not infrequently brought from long distances to answer charges which the police are unable to sustain, and there is no reason why they should be denied their costs when they are the victims of such proceedings. The Daresbury case will no doubt be a useful lesson to the local police, and will not be lost on the motor trappists generally."

HERE AND THERE.

MESSRS. COOPER'S Coach Builders' Art Journal Diary for 1908 will be of considerable service to coach and motor body builders.

SEVERAL dealers in Edinburgh have been fined for keeping calcium carbide in tin vessels without having a licence for the same from the local authority.

ON all motor-cars employing the exhaust to create pressure in the petrol tank for the purpose of leading the petrol to the carburettor there is a certain amount of condensation from this exhaust which gets into the petrol tank. While in the Napier car this mixture is, of course, prevented from getting into the petrol tank by an exhaust pressure filter; Mr S. F. Edge has recently had some trials made with the view of ascertaining what quantity of liquid is, under normal running conditions, created in this way. A 40-h.p. six-cylinder car was run a distance of forty-two miles, petrol used $2\frac{1}{2}$ gallons, and the result was there was 1.4 cubic centimetres of water collected in the filter for every gallon of spirit consumed. This works out for every 100 gallons of spirit



4.93 oz. (very nearly $\frac{1}{4}$ pint) of water, which is a very material amount to get into the pressure tank, and likely to cause plenty of inconvenience. The way this possibility is eliminated in the Napier cars is shown by the accompanying illustration. A is the main body of the filter itself; B the fine gauze which prevents dirt or other harmful matter getting through to the pressure valve; C is the perforated plate which supports the gauze, and so prevents it being blown through by any violent explosion; D is the top of the filter, held on by four little screws, so as to make it easily removable to clean the gauze if necessary. At the bottom of the filter is a small tap by which any accumulation of water can be allowed to run off. E shows the pressure filter in place on the engine, while F is the pressure valve itself. Mr. Edge informs us that the general principle of this exhaust filter was suggested by Mr. Edward Kennard, of The Barn, Market Harborough, the purchaser of the first car turned out from the Napier works.

THE White Hart Hotel, at Windsor, has a Daimler motor-car, which it is letting out on hire.

To prevent the water in acetylene generators from freezing, a French motorist recommends the addition of ordinary methylated spirits to the extent of about 25 per cent.

MESSRS. A. J. WILSON AND CO., LTD., 154, Clerkenwell Road, E.C., issue a serviceable office calendar.

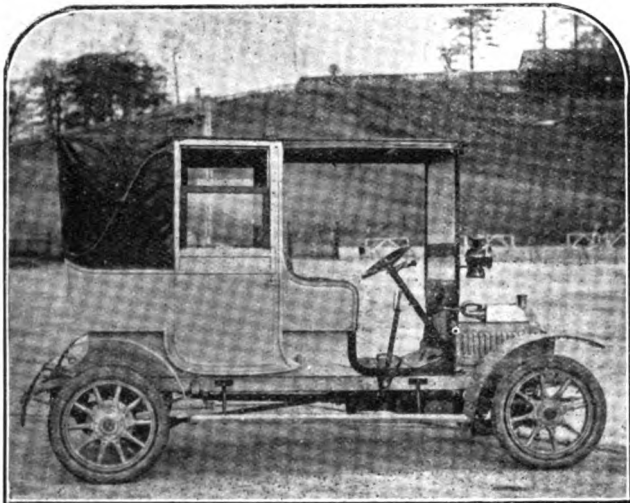
THE London motor-'bus strike came to an end on Tuesday morning, when most of the drivers capitulated.

A MEETING of carmen in London has passed a resolution thanking metropolitan borough councils for sanding the roads during the recent inclement weather.

THE Automobile Association patrols, as well as the police, are engaged in the effort to discover the driver of the car which caused the death of a labourer at Kenley on Saturday night.

THE question of the records made at Brooklands has been discussed by the R.A.C., who agree that a scheme for world's records should be laid before the Competitions Committee at the next meeting, and that a letter should be written to the Automobile Club of France pointing out that the R.A.C. had succeeded in timing records automatically, and therefore accurately, and inviting their co-operation in the scheme for the institution of a definite system.

THE illustration below shows a 15-h.p. Thames cab, for which Messrs. W. T. Clifford-Earp, Ltd., inform us they are finding a very good market. The vehicle, accommodating four passengers inside and one outside with driver, was the first to be tested on Brooklands track on January 2nd, and it covered the half mile, electrically timed, at the rate of 34.6 miles per hour. In addition to this it showed itself a very good hill-climber by ascending the winding gradient, on leaving the Brooklands



enclosure, on second speed, in a very thorough manner. The petrol consumption is twenty-five miles per gallon, and the roof over the driver is arranged to carry 3½ cwt. of luggage. Another special feature in connection with the cab that is claimed is that the whole of the transmission gear, including the engine, can be removed from the chassis for inspection, and put in its place again, in the same time that it takes to put a horse in the shafts of an ordinary cab.

WEBSTER'S Royal Red Book has now attained the distinction of the 121st edition, and is as free from errors as previous issues have been proved to be. It is a court and fashionable register, and, having well established itself, will doubtless be of interest to those engaged in the motor trade. Messrs. A. Webster and Co., of 43, Dover Street, W., are the publishers.

APROPOS of the cost of motoring, a very interesting letter has just been published in the "British Medical Journal" from Dr. G. Baynton Forge, M.R.C.S., L.R.C.P., of West Malling, Kent, who has run his Coventry-Humber 5,548 miles, and has kept an exact record of the cost of running during this period (covering fourteen months). The following are his figures:—Petrol, £20 15s. 4d.; oil, £6 11s. 6d.; sundries, £4 8s. 10d.; ignition, £2 6s. 6d.; tyres, £14 18s. 1d.; mechanic, £10 13s. 9d.; total, £59 14s. Dr. Baynton Forge adds that "I have never been late for nor missed an appointment or train, neither have I been hung up on the road."

IN the new fire-engine station of the L.C.C. at Trinity Road, Wandsworth, the horse has been entirely ignored, the whole equipment being by motor appliances as far as possible.

MR. W. T. LORD is having a busy time in India, whither he has gone in the interests of the Argyll car. His headquarters are at the Bombay Motor Car Company's premises, where thirty of the 14-16-h.p. Argylls are to be delivered. Other agencies are also being established in the Far East.

NOT a few motorists have met with new experiences during the recent snap of cold weather. Frozen acetylene generators have not been unusual, while many have experienced great difficulty in starting up their engines, all sorts of dodges having been tried to induce the motor to run. The necessity of a hot water or exhaust gas jacket to the carburettor has also been proved by the freezing up of those not so provided. One motorist of our acquaintance had an experience of this sort late on Saturday night last, or rather early on Sunday morning, and eventually had to invoke the aid of two policemen to help him to push the car to the nearest garage, nearly a couple of miles away!

ON Tuesday afternoon a daring robbery was effected at the Hutchinson Tyre Depot, 13, Maddox Street, W. Some person or persons unknown walked into these premises and removed a Hutchinson non-skid tyre, No. 47,000, and another plain Hutchinson tyre with leather band, but unnumbered. It is presumed that the thief had watched the depot for some time, and at the moment when all the assistants were in the offices at the rear, quietly walked in unobserved and took the two tyres away. As the number of one cover is given, purchasers of tyres should be able to notify the Hutchinson Tyre Company if these tyres are offered them for sale, and inform the police, who have the matter in hand.

AS we announced last week, motor-cars played a prominent part in the celebrations in connection with the freeing of the toll bridge at Waterford. There were fifteen cars drawn up in front of the City Hall Buildings at a quarter before midnight, and after the mayor, high sheriff, and the other members of the Corporation had got on board, a procession of cars was formed, headed by Sir Wm. Goff, Bart., chairman of the Irish Automobile Club. On the stroke of midnight they proceeded across, after the mayor had duly declared the bridge free. Practically the whole of the city turned out, and the cars had rather a lively time, getting backwards and forwards across the bridge, the crowds, in their endeavours to be amongst the first to cross, c'inging on to the vehicles, the majority of which were lent by Mr. W. F. Peare. A special vote of thanks has been accorded that gentleman by the Corporation, as they considered it rather unique that a procession of motor-cars should be the first to cross the freed toll bridge. Captain J. J. O'Neill Power, J.P., Colonel R. T. Carew, J.P., D.L., and other local gentlemen also joined the procession with their cars.

WITH regard to some of the small electric vulcanisers which are being described as suitable for vulcanising covers or tubes in conjunction with any ordinary ignition accumulator, a word of warning is given by the United Motor Industries, Ltd. Supposing the vulcaniser takes about 4 amps. of current and maintains this consumption throughout the vulcanisation; this is too excessive from an ignition accumulator of anything under 40 ampere hour capacity, or even at that capacity, and it must invariably follow that if vulcanisers are used in conjunction with accumulators whose ampere hour capacity is under 40 that the plates will very quickly deteriorate, and that trouble will ensue from buckled plates, falling of paste, &c. In order to meet the demand for an accumulator suitable for vulcanising purposes the firm named have issued an accumulator of 40 ampere hour actual discharge, or it would nominally be known as a 60 ampere hour ignition accumulator. This is especially suitable for vulcanising purposes, and the plates are specially made for rapid discharge. They are of massive construction, very carefully pasted and treated to prevent any possibility of damage due to the high discharge rate they will be worked on. This battery will be known as the "Castle" vulcanising battery, and is likely to soon become a standard accessory in the lists of the U.M.I.

SOME NOTES ON RADIATORS.

By E. T. HUMPHRIES.

THERE are many parts of a motor-car, particularly those hidden from view, that can to a very large extent be designed and carried through irrespective of all appearances, which oftentimes materially assists both the working efficiency and durability. Such remarks hardly apply, however, to radiators, as there is no part of an internal-combustion self-propelled vehicle which is so much in evidence as the water cooler. This being the case, there is sometimes a tendency to sacrifice that which would be most efficient for something which adds to the general effect and outline of the vehicle.

There is every indication that the idea of the radiator was taken from the steam-engine condenser, for in general design it is a reproduction of the ordinary surface condenser, only that its operations are somewhat reversed. In the motor-car its functions are to cool the water, which is inside the pipes, and the air on the exterior, with a fan to assist its radiation, while with the steam engine the steam is inside the pipes and the water outside and used as an agent for cooling purposes.

Before treating with the various kinds of radiators, a word will not be out of place with reference to the use of the fan, particularly in view of the fact that we are just now in the winter season. It should not be overlooked that beyond the fact that at least some power (if only small) is absorbed in driving this particular part, in very cold weather and when running fast it is oftentimes quite unnecessary and undesirable to run it at all, for if the water is reduced below a certain temperature it follows that excessive cooling of the cylinders may reach such a pitch that the economical working of the engine may be affected. For this reason a combination of fly-wheel and fan is not without its drawbacks.

It can be accepted as a general rule that the gilled pattern of radiators is more easily repaired than the honeycomb; although some makers of the latter claim that, in the event of damage, a tube can be replaced by a new one in half a minute. The gilled type is all that is required for low-powered cars, but when it is considered that the efficiency of the cooling media depends upon the size of the honeycomb block or the number of feet of gilled tube, it will be understood that for high-powered cars, such as anything over 40-h.p., the former is the more efficient. Size and shape vary very much, but for cars not exceeding the above-mentioned horse-power the outside dimensions of either type should approximately be 26 in. by 22 in. by 4 in.; above that power an additional 1½ in. depth is usually adopted. Racing and special freak cars are not taken into consideration. They are a law unto themselves. There is no doubt but what the efficiency of a radiator, particularly in hot weather, would be increased if some arrangement could be fitted on the back so as to direct the air currents into the fan. As at present constructed, much of the air is out of the range of the fan leaves, and if the fan is really of any assistance the cooling surfaces are not uniform and unequal expansion and contraction takes place, quite sufficient at times to account for leaking tubes; and owing to the different metals that go to form a radiator and its tubes, this is a very important factor. Similar troubles arose in the earlier days of the locomotive engine, when copper fire-boxes and brass tubes were used.

THE "Resileon" filled tyres had completed a run of 911 miles up to Saturday last. Non-stop runs on all save one day have been accomplished.

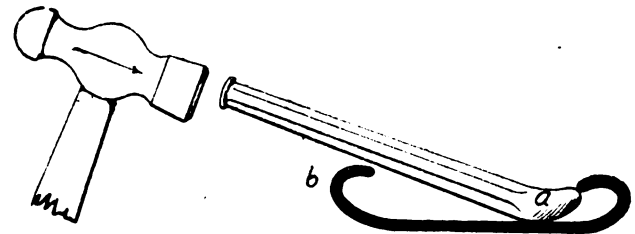
A 100 kilometre race was held near Buenos Ayres, Argentine Republic, on the 13th inst., the winner being M. Vanhee, who on a 15-h.p. Gladiator covered the distance in 1 h. 22 min.

MESSRS. DUTTON AND AUNGER are attempting a motor-car ride across Australia from Adelaide to Port Darwin. It took them three hours to cross a creek between Oodnadatta and Charlotte Waters, arriving there on Sunday, December 8th. They have difficulty in arranging for supplies of petrol, and have already been delayed in consequence.

SOME USEFUL NOTES.

THE separation of the parts of an engine or car that may have become tightly stuck together because of dirt and corrosion during a long period of use is often a serious problem. In such a case, nothing promises better than recourse to a fairly liberal application of paraffin, supplemented by light but continued tapping with a hammer. By directing the taps judiciously, first in one direction and then in the opposite, now to one portion of the surface and then to another, and giving them as much force as is safe, long persistence will almost invariably result in the desired separation. Fresh applications of paraffin should be made from time to time, if necessary, to insure a supply constantly in place, ready to help by its property of penetrating to the finest crevices. For bolts and nuts, shafts, hubs and collars, pins and keys, &c., this method is widely recognised by expert machinists and repairers as almost a panacea.

It sometimes happens that injury to a tyre may necessitate a more or less extensive run on the rim, in which case there follow certain inevitable results that will call for some repairing. As much as a hundred miles, even if the road is very bad, will not necessitate replacement, if particular care is used to strike all projecting obstructions at a low speed. At the end of the run, no matter how carefully it has been made, it is almost certain that there will be a few dents in the edges of the rim, which will have to be straightened out before the edges of the tyre cover can be got in place. To straighten out these kinks, and to do so accurately, is a difficult matter without special facilities, but by making a tool like that illustrated herewith it is an easy matter, remarks the "Motor Age," to bring the metal back to



its original section. The end *a* of the tool, which should be made of good steel, is ground into the exact form of an uninjured rim, as shown at *b*. Therefore, by driving it with a hammer into the bent places as shown it will readily effect proper straightening. The width of the working end of the tool should not be greater than from one-half to three-quarters of an inch, or it will not work right, on account of the curve of the rim. It will require some time to do the repair properly, but it will pay, nevertheless. After the rim has been straightened out the tool should be put under the rim and the latter tapped with a hammer to smoothen out the outside edge of the rim. Then the rim should be given coats of paint and varnish before it can be considered to be repaired in a workmanlike manner.

AMONG the many causes that may result in loss of compression in a motor is the settlement of any dirt or foreign matter in the seat of either the inlet or exhaust valves, the latter being the more prone to this trouble. Bits of carbonised oil very often fall on the seat of the exhaust valve and are pounded into the metal, causing the valve and valve seat to "pit." They, of course, do not fit closely after this, and the compression is forced out between them as a consequence. In a case of this kind it is necessary to remove the valves and grind them in.

THE fact that an engine "goes off" after a month or two of use, and yet everything, such as the ignition, compression, &c., is all right, may usually be attributed to the slight alteration in timing due to the wearing either of the tappets or valves, or both. Nothing is so important for an efficient and sweet-running engine as accurate timing of all the valves, and this is a thing frequently neglected by many people.

Correspondence.

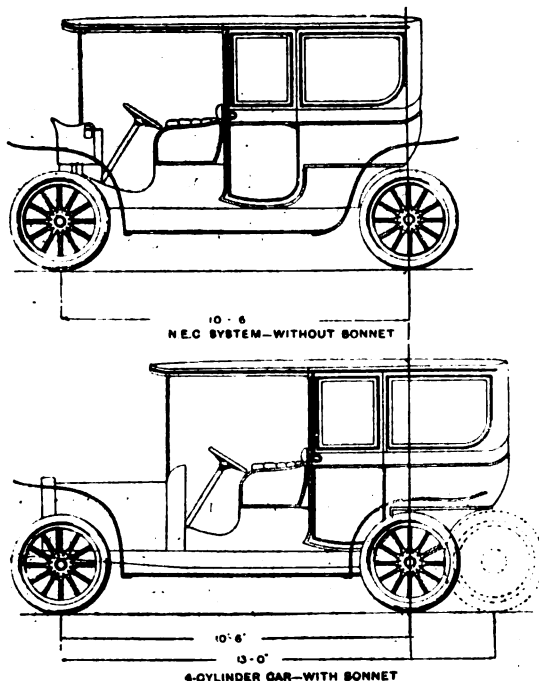
[Letters to the Editor should be addressed to the offices, 37-38, Charing Cross Road, London, W.C.]

MOTOR BODY DESIGN AND COMFORT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We shall be much obliged if you will grant us space to say a few words in reply to your correspondent "Comfort." As is now fairly well known, we have from the commencement given special attention to the comfort of the passengers; in fact, that is one of the leading points which has been in our minds ever since we started experimenting and designing our N.E.C. cars—now some five years ago. Your correspondent says that on some cars "the rear seats somewhat overhang the back axle." This is surely a rather euphemistic way of expressing the actual facts, for on very many cars the seats entirely overhang the back axle, and the passengers' feet are actually over the back axle itself. It is certainly true that a few manufacturers have managed to improve considerably on this.

Your correspondent then says that "it may be practically impossible to bring this (rear) seat sufficiently far ahead to make a substantial improvement in the comfort of these passengers." Now this is just what we have succeeded in doing. We have designed our car in such a way that we can give more accommodation than can any other maker and still have our rear seat absolutely right forward of the back axle.



A Graphic Demonstration of the Effect of the Bonnet on the Design of the Car as a whole.

But merely putting the seat just in front of the back axle will not by itself secure the utmost possible comfort. If "Comfort" will inspect almost any car of standard design he will see that the amount of play permissible to the axle and the wheels is very small indeed, and that if these parts were allowed to have any real freedom of movement they would in passing over any rough roads smash the body to atoms. To secure comfort there must be flexibility of springs, and to allow for the consequent greatly increased movement of the axle and wheels it necessarily follows there must be a very greatly increased clearance, and it is impossible to secure this clearance in any practicable manner except by getting the back axle right out behind, clear entirely of the body and the chassis.

We should be very pleased indeed to give "Comfort" a demonstration of what we mean. The sort of trial we should like would be for "Comfort" to choose the roughest piece of road he knows, drive over it on a car of standard design and then drive over it on one of our N.E.C. cars. One cannot attempt to make clear the great difference without using what would seem to be exaggerated language. Not only would there be this extraordinary difference in comfort, but also we should dare with complete safety to drive our car over a rough road at a far higher speed than anybody dare drive a vehicle of standard design. It is quite amusing when taking out a passenger accustomed only to cars of ordinary design to see them clutch the seat in dread when our car approaches at a high speed some place on the road at which they expect to get a fearful jolting. They simply go over it without feeling that there has been any road inequality.

There are other important considerations in which the argument

is all in favour of our system, such as danger in rounding corners at high speed, to which we should like to refer, and hope you may permit us to do so at a later date, but our present letter has already got to a considerable length.—Yours truly,

NEW ENGINE (MOTOR) CO., LTD.

THE SETTING OF VALVES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, "An Interested Enquirer," asks a question as to valve setting which I am sure is of interest to a great number of amateurs. I can tell him of at least one attempt to solve the problem, viz., "Larrad's Petrol Motor Timer," which I saw and purchased at the recent show. By this instrument, which any amateur can use, an engine with adjustable tappets can be quickly set with very great accuracy, provided the cams are accurate. Whether, as the makers claim, this setting is the best possible, even supposing that fast and slow running engines should be set alike, I must leave to motor engineers to determine; but I have seen a most marked improvement in one engine by its use, and a considerable one in another, in which, owing to cam irregularity, the system could only be adopted to the extent of getting the inlets and exhausts timed accurately for opening, the closing of both being irregular. I am now experimenting on a third, and have little doubt of a good result.

The ease with which the slightest want of truth in the cams can be detected is remarkable, and I am inclined to believe that an unsuspected cause of bad running in many engines is due to a failure to grind the cams true after hardening. The makers, Messrs. Pulham and Co., of Bexhill, will, I believe, make the instrument to any setting desired, if a purchaser has a pet theory of his own. I have no financial interest in the instrument, but I have received from its use not a little instruction and benefit.—Yours truly,

AMATEUR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I read with great interest the various methods of timing in the *M.C.J.* of the 11th. The setting of the inlet valves in the 24-h.p. Panhard is extremely interesting, as I think this engine is not a high-speed one—i.e., it is not high-speed when compared with the Minerva and others. It would be interesting to know if the Panhard have tried this engine, opening the inlet valve earlier and closing it earlier. What have Messrs. S. F. Edge, Ltd., Iris and Clement-Talbot to say on the subject?—Yours truly,

INTERESTED ENQUIRER.

[We shall be glad to publish the diagrams and particulars of the valve setting of the engines of other leading motor-car builders, if they will kindly furnish us with the necessary material.—Ed. *M.C.J.*]

A CLUB GARAGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—About this time last year you allowed me, through your correspondence columns, to place before your readers a brief description of my club, the inauguration of which had just taken place. The unique feature of this club was the provision of a workshop and a modest garage. Possibly a brief account of our first year's working may now be of interest.

The object of providing a small workshop was that many motorists and motor-cyclists in the town took sufficient interest in their machines to desire to do alterations, experiments, and adjustments, and without a workshop and possibly assistance from those more skilled in the use of tools it was very difficult if not impossible.

We find that our workshop has, on the whole, been well patronized, but much more by motor-cyclists than car owners, which is but natural, as the old-fashioned type of enthusiastic car owner, who would hardly ever allow anyone but himself to make adjustments and alterations, is becoming very rare, at any rate in this part of the country.

Motor-cyclists seem much keener on this branch of the sport, which might be termed "workshop motoring," and many considerable alterations have been made in our workshop, such as the fitting of foot-rests, two-speed gears, carburettors, &c., and even repairs to coil and accumulator attempted, whilst as a rule at least one machine is adrift for overhauling.

The storage capacity of the club premises, if not perfect, is at least very useful, and allows us to extend the club's usefulness to members in the district, who are glad to have somewhere to put their machines up when passing through the town or attending club runs or competitions, and where they can get them at any time without having to submit to the early closing arrangements of some garage proprietors. Briefly, then, our experiment with a club workshop has been successful, and in towns of large population (this has but 10,000) and engineering centres such a club should prosper enormously.—Yours truly,

R. K. HUBBARD,

Hon. Secretary Basingstoke and District Motor Club.

DETACHABLE WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your report of Mr. Tryon's exciting performance at Brooklands on January 2nd, and the fine record of fifty miles in 37 min. 45.9 seconds which he established, you mention that near the end of the distance a tyre gave out, and a delay of just under two minutes took place in changing the wheel. This is of course strictly correct, that is to say from the time the car became stationary to the time it started off was about that time, but the reason for what seems to me an abnormal length of time should I think also be given.

It is the Napier practice to change the R.W. wheels in races by bodily lifting the car on to a trestle instead of using a jack, because it is rather quicker. As a matter of precaution, although only the right hand hind tyre was down, both wheels were changed, Tryon, in the knowledge that he was only just inside the record, was impatient to get off again, and as soon as the wheels were fixed, and before the car had been lifted off its trestles he put in his clutch. Now it is not easy to lift a car with its wheels whirling round, and so Tryon had to withdraw his clutch and put on his brake before the car could be touched, and this, of course, delayed matters. Eye-witnesses tell me that the wheels themselves were fixed fully one minute before the car started off again.

Most people were prepared for the essential value of detachable wheels for a twenty-four hours' record, but it must have come as a surprise to many to learn that the world's record for so short a distance as fifty miles also depended for its making on Rudge-Whitworth detachable wire wheels.—Yours truly,

JOHN PUGH.

MICA WIND SHIELDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to some remarks in your correspondence columns, mica wind shields might be used, but they are easily damaged, a terrible trouble to clean, and the stuff has a tendency to turn yellow. I have not observed the effect of rain on mica windows. It seems to me that when an accident occurs, causing the car to stop suddenly, the passengers are shot forward, I suppose, with force proportional to the speed the car was running at. Now why cannot screens and windows be so arranged that they, too, shoot forward out of the way and stay there by means of a spring catch. Then a rail across the framing of the window would, I should imagine, effectually arrest the further progress of the passengers. Anyway, a bump will be better than a cut. Of course, there is the driver, who has the wheel to stay him; the centre window would come down on his head—well, he does it himself, I suppose.—Yours truly,

HERBERT J. CHAPMAN.

THE "FOUR-INCH" RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We should like to protest through your valued columns against the proposed abolition of the above race. If this event is allowed to fall through, we think an opportunity of a good advertisement for British manufacturers would thereby be lost. There is, in our opinion, no reason whatever why the proposed Isle of Man race should clash in any way with the 2,000 miles trial, as one would be a race, pure and simple, and the other a reliability trial. A large number of the public take more interest in a sporting event than in a reliability trial, and the proposed race will provide the only opportunity for the British manufacturer to compete on his own ground with foreign rivals. We shall most certainly compete should the race be held.—Yours truly,

ARIEL MOTORS, LTD.

WIRE WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We find that there is a rumour so persistent that it points to the probability that it is being industriously circulated by opponents of wire wheels, that these ruin the tyres through permitting water to gain access to them through the holes in the rim. If there were the least shadow of truth in this the Lanchester Company would hardly continue, after six or seven years' experience, to use wire wheels, nor would the popularity of the wire wheel be steadily on the increase. The absurdity of the suggestion is obvious when it is remembered that each nipple has a head very like the valve in a motor cylinder, and the rim is drilled and countersunk in the direction that the spoke will occupy, so that the tension on the spoke draws this nipple head down on to a very excellent seating. The tension on the spokes varies according to the design and other circumstances from 600 lb. to 1,200 lb., and in many cases even higher. It will readily be seen that water or anything else stands a very poor chance of getting through.

An examination of a rim which has been used in a wire wheel points to the same conclusion. The seating of the nipple head is absolutely free from rust, while the inside of the rim is sometimes very slightly rusty, most of the rust being round the security bolt holes and the valve hole. This is partly because the security bolts and the

valves are made of different metal from the rim, thus setting up an electrolytic action. The other reason is that when tyres are fitted sufficient care is rarely taken to see that the washers form a waterproof joint with the rim.—Yours truly,

RUDGE WHITWORTH, LTD.

CARS FOR HIRE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a reader of your esteemed Journal, and having a powerful motor-car at my disposal, I write asking the advice of any of your readers as to a suitable resort where the same might be let on hire to the best advantage.

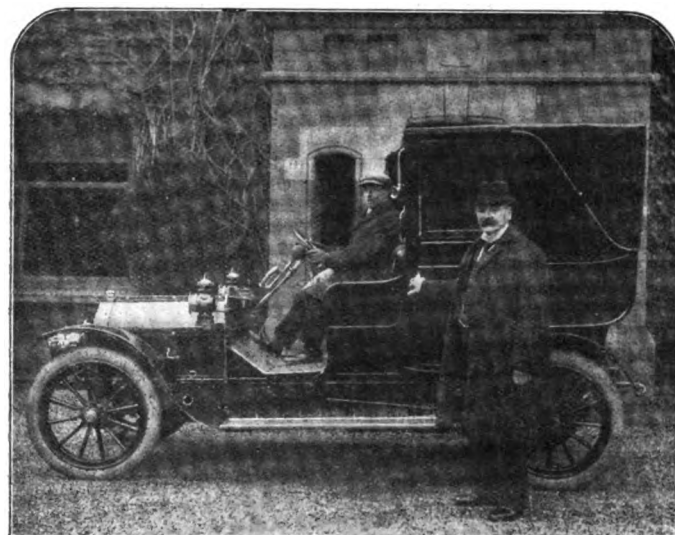
Some of your subscribers living in places where motor services have not yet been established may be able to suggest possible openings likely to be successful.—Yours truly,

W. M.

DRY BATTERIES FOR IGNITION PURPOSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have had so much trouble lately with the accumulators—what with broken and corroded terminals, quick loss of charge, &c.—on my car (single cylinder) lately that I am anxious to find a substitute which, although the cost may be slightly greater, will permit me to go on my way without fear or worry regarding ignition difficulties. On making enquiries I find that the De Dion Company usually turn out their small cars with dry batteries in place of accumulators, and also that a firm is supplying a dry cell known as the Helløsen. I therefore venture



Dr. J. W. Smith, J.P., of Weaverham, near Northwich, and the car lately presented to him by the inhabitants of the villages of Weaverham, Acton, Kingsley, Norley, Barnton, &c., as a recognition of his forty years' service as a medical man in the district and sixteen years' service as a county councillor. The vehicle is a 14-20-h.p. Siddleley, and was supplied by Messrs. Isaac Robinson and Sons, Motor Engineers, Northwich.

Photo by]

[Jeffries, Northwich.

to write to ask those motorists who have experience of dry batteries to send you the result of the same. Particularly I would like to know whether they do give the satisfaction that is claimed, and also what is the mileage which can be got out of a four-cell set say by an 8-h.p. car.—Yours truly,

L. BENTLEY.

WE have an inquiry for the address of the makers of Bartlett's generator.

THE A.C.F. GRAND PRIX RACE.—Mr. S. F. Edge writes that at present no entries have been sent in for the six-cylinder Napier cars for the A.C.F. Grand Prix Race for the reason "that no entry forms or copy of regulations have yet been received either by myself or the Royal Automobile Club. As soon as these regulations are published and approved by the R.A.C. then the question of entering will at once be dealt with."

THERE was an interesting function at the Mansion House, E.C., on Wednesday, the 8th inst., when the various winners of awards at the Milan Exhibition attended to receive the usual tangible proof of their success. Among these was the secretary of the E. M. Bowden's Patents Syndicate, Ltd., that firm having annexed a gold medal for the display of Bowden wire mechanism, &c., at the exhibition in question.

THE OUNCE OF PREVENTION.*

(Concluded from page 1014.)

SUPPLIES.

Among the supplies which should be carried, a good quantity of the best high test motor oil is the most important. Grease of the proper quality for use in cups and in packing bearings, and graphite for chain lubrication, should be included in the outfit. A plentiful supply of cotton waste and a cake of tar soap should not be forgotten. Rubber friction tape is a very handy article not only for temporary electrical insulation, but for stopping leaks in rubber pipes and in tyre repairs. A supply of annealed iron wire of medium size, compactly coiled, and a little rubber-covered electric cable may prove of value, the former in making temporary mechanical repairs, and the latter in renewing a defective portion of the ignition circuit. A little emery of rather fine grade should be provided, in case valves require grinding, and a piece of emery cloth will be found useful in brightening the electrical contacts of the ignition system. Every car should be supplied with a funnel fitted with a very fine wire gauze strainer, for use when the petrol tank is to be filled. The three supplies most necessary to the running of an automobile (excluding the cooling water) are petrol, lubricating oil, and good, lively batteries. As long as these are at hand and no part of the car is actually broken, anyone worthy of the name of an automobilist ought to be able to keep on the road. It is rather a commentary on human responsibility that there are so many stops made from lack of petrol and so many "foolish virgins." Fresh batteries are not obtainable at every cross roads, and one set at least ought to be brand new when one is starting on a long tour in "truly rural" districts. In genuine touring, when long distances are made each day, inspection and lubrication, as previously outlined, should be carried out punctiliously at the beginning of each stage.

ENGINE TROUBLES.

The most common trouble likely to be experienced on the road is a failure of the engine to develop its power. This may be total or partial, and it is necessary to locate the trouble and remove it. When an engine stops or becomes weak the chances are that the cause is defective ignition rather than anything else. With a single cylinder motor explosions which are actually missed can be readily detected at low speeds by the sound and by the unsteadiness of the motion, but when at high rates of revolution it is less easy to be sure that missing is going on, while with a four-cylinder engine it is very difficult to detect the occasional missing of one cylinder, especially when the speed is at all high.

An engine may fire perfectly when tested running light, with nearly closed throttle, at a very moderate speed, but will miss very badly when the throttle is opened widely, the spark advanced, and the speed high. There are several reasons for this: When the throttle is nearly closed a very small charge of gas is taken, the compression is low, and even a weak electric tension will cause a spark at the plug through the not very dense charge, but when the throttle is opened wide and the spark advanced so as to take place at the maximum point of the now greatly increased compression, a strong electrical tension is required to force the spark through the dense gas. Again, when the engine is running slowly the contact device makes a longer electrical connection than when it is speeded up, and a weak battery is then more likely to build the current up to the sparking point than when the connection is so brief as it is at very high speed. Sometimes, too, when the surfaces of the contact-maker are worn, the contact brush, when revolving at very high speed, may pass over the contact surface without touching it sufficiently to establish a connection. One should not reason that because an engine fires properly at low speeds, on light throttle opening, it will fire its charge regularly under heavy duty. The chances are very large that the engine which suddenly fails to develop its wonted power under these conditions is either missing charges or igniting them feebly. The carburettor is very likely to be blamed for giving a bad mixture in such cases, but it is generally innocent.

When the engine is shut down after giving weak power attention should be paid to whether it stops promptly after switching off the current. If it does not, the chances are that it is hot and has been firing prematurely. Such a condition is generally preluded by "knocking" or some signs of labour. Overheating may be caused by a failure of the cooling water to circulate properly, or by lack of cylinder lubrication, and, if the engine is found unduly heated, the circulating pump should be inspected to see that it is operating properly, and the radiator examined to see that it is full. If the latter is comparatively cool while the engine is excessively hot, it is fairly certain that the circulation is defective, and the cause of its stoppage must be sought. Some of the best cars are equipped with a gauge which shows at a glance whether the pump is developing pressure, but this does not necessarily prove that the circulating system is not clogged at some point.

In case the cooling water is doing its work properly, and yet the engine overheats, investigation of its cylinder lubrication must be undertaken, and one must be satisfied that sufficient oil is actually delivered to the bearing surfaces of the pistons. Lubrication may have failed so completely that the pistons stick when the engine is stopped. In this case cylinder oil should be injected freely until the engine is

"limbered up" sufficiently to operate upon its regular oil supply which has been restored. If the engine is found to stop promptly upon the switching off of the current it is not a case of overheating. It is a good plan to turn the engine over and note carefully whether the compression in each cylinder is of the usual strength, and whether the inlet and exhaust valves of the respective cylinders open properly at the correct times. If compression is lacking in any cylinder it may be that its exhaust or inlet valve is stuck open or that the inlet valve is stuck closed. A valve or its spring may have broken or some foreign object may have lodged on the seat of the valve. Everything appearing right in this quarter, and the engine still unable to develop its full power, the ignition is almost certainly at fault. Those cars which make use of the auxiliary spark gap, with a separate break for each cylinder, and carry the arrangement mounted upon the dash in plain view of the operator, are at an advantage over others, as the gaps may be watched and the defective cylinder identified. When the engine is somewhat slowed down on the highest speed, with full throttle, missing is most easily detected by this means. When a spark does not occur at the gap the explosion in that particular cylinder must have been missed. If no spark gap is provided it is sometimes possible to discriminate the defective cylinder by successively cutting out the sparking plugs. This may readily be done by means of a screwdriver having a wooden handle, the blade of which is made to simultaneously touch the engine and the head of the plug, which it is desired to short circuit. The engine should be speeded up as much as allowable, by means of the throttle, and the successive short circuiting of the plugs performed. When the ignition of a cylinder, which is working properly, is thus cut off the engine will slow down considerably, and will probably work somewhat irregularly, as the defective cylinder or cylinders are still in action, but when a cylinder, which is missing badly, is thus cut out the speed will be very slightly reduced, and the action of the engine will become more regular. After a little practice it is easy to determine which cylinders are doing full work and which are not.

If the missing is confined to a single cylinder the trouble is generally easy to locate and does not usually denote a general failure of the ignition system or lack of current. The sparking plug of the defective cylinder should be removed, carefully cleaned with waste dipped in petrol, and tried again, unless it is obviously broken, in which case it should be replaced by a plug known to be perfect. The sparking points should ordinarily be separated not more than a "strong" thirty-second of an inch. In case the trouble still persists, the coil belonging to the defective cylinder should be examined and the ear placed close to the trembler to ascertain that it buzzes at perfectly regular intervals and with a sound of uniform pitch. If it does not, or if there is an excessive or irregular spark between the trembler points, the trouble may be there. The points should then be carefully cleaned with emery cloth and the adjustments manipulated until the best possible action of the buzzer is obtained, and the adjusting screws made tight. In case the buzzer still fails to respond properly, it may be that the primary wire between the coil and the contact device is broken or short circuited, or that the contact device makes a poor contact for that particular coil, although this is unlikely, as some other cylinders would then probably be affected.

If, on the other hand, the trembler of the defective cylinder is working regularly and energetically, the trouble is likely to be in the secondary, and the secondary wiring should be examined to see that it is not broken and that the discharge is not taking place through some poorly insulated portion of the circuit to some metallic part of the car, thus cutting out the sparking plug. There is, too, a remote possibility that the secondary of the coil may have broken down, but this hardly need be considered. It is fairly certain that the trouble in the defective cylinder will be located at one or the other of the points mentioned.

If, instead of a single defective cylinder, there is a general failure of ignition, resulting in the stoppage of the car or very erratic operation of the engine, the natural thing to do in the case of accumulator ignition is to change the battery. Both batteries of a well kept car are always assumed to be in perfect condition at the start of a long run, and so when the second set is switched on it is reasonable to assume that it is of full power. If only the battery was at fault perfect ignition will be restored, but in case the change does not remedy the difficulty it is highly probable that one of the "common" wires may have been broken, i.e., one of the wires upon which all cylinders depend. These are the wires from the switch, and the wire or wires which connect to the engine frame and earth the system. These should be inspected to see that they are perfect, and if broken should be replaced. It is possible that the trouble may be in the contact maker. The travelling brush which makes contact with the segments may be broken or disconnected, or, in the type of contact device which use steel springs, one or more of these may have broken. After long use the metal contact segments sometimes wear down below the level of their insulation, so that the brush makes a poor contact, and the segments and their insulation then require to be turned off in a lathe or repaired temporarily with a file. Where platinum contacts are used no dirt should be allowed between the points, and they should be bright and clean. The adjustment of the screws holding the stationary platinum contacts should be set so as to give a sufficiently long and firm connection. It will generally be found that if the battery is good and the common connections are all perfect some of the cylinders, at least, will work properly.

In the rare instances in which the stoppage of the engine is not found to be due to faulty ignition, and not until all parts of the ignition mechanism have been clearly demonstrated to be in good order, the

*Abstract of a lecture by Mr. Albert L. Clough before the Y.M.C.A. Automobile School, Boston, Mass.

carburettor should be inspected. The spraying nozzle should be demonstrated to be clear by removing its covering and depressing the float so as to force petrol through it. If it is not clear, a very fine wire may be used to make it so. The float should be shown to be free in its motions, and it should be proved that it operates its needle valve properly. The air intake may have been clogged by something sucked into it from the road, and it should be examined with this possibility in view. It seems superfluous to add that the tank should be examined to see if there is a supply of petrol, and that the petrol cock should be open, but many long stoppages have been more than once occasioned on these two accounts.

CLAIM AND COUNTER CLAIM.

At the Windsor County Court, F. Brown, a cab proprietor, and J. Brown, his brother, driver, have sued James Horlick, of Gloucester, on a claim made up as follows:—Loss of use of horse, £8 10s.; loss of use of horse at £1 per week, £8; damage to harness, £1 10s.; damage to a vehicle, £4; total, £20; claim for personal injuries to John Brown, £30; total claim, £50. There was a counter claim for £25 for damage to defendant's motor-car. After hearing the case his honour in summing up, said there was a duty cast upon anyone coming out of a side street into a main road to exercise care. The point he had to decide was, was there negligence on either side? The important question was where the collision took place. He had come to the conclusion—though with some doubt—that there was negligence on the part of the defendant's chauffeur. With regard to the driver Brown, his Honour did not think the blow was given by the motor-car; he thought the plaintiff was negligent in not being able to pull up at once. He found the collision

THE USE OF AMPEREMETERS IN CONJUNCTION WITH INDUCTION COILS.

WE have received the following interesting communication relating to the use of amperemeters in conjunction with induction coils from the United Motor Industries, Ltd.:

The use of an amperemeter with induction coils is of very considerable advantage from several points of view, the most essential of which are, A, to determine and obtain synchronism of the tremblers, B, to work the coil at a safe consumption. Without an amperemeter it is absolutely impossible to get either of the results above mentioned, as without the instrument clearly and accurately showing the current the coil is taking, adjustment becomes mere rule of thumb and guess work, which is not satisfactory. It may not be generally known that the lag of trembler coils is very high, that is to say, the difference in time between when the contact is made and when the first inductive spark occurs at the plug, even with a high speed trembler such as the "Castle." The lag, of course, also increases as the speed of the engine becomes greater and runs to as high as 52 deg. of a circle. Again, the lag advances as the consumption of the coil increases. This is the most important fact in the matter, as, if one considers the question carefully, it follows that if the different units of a multiple coil consume different currents then the sparking occurs at different periods comparatively in the cylinders, instead of occurring at the same precise position of each piston in each cylinder. This means a difference in the explosive force in each piston, unevenness of torque, consequently a jerky drive and increased noise and rattle.

In order to determine the actual difference in the lag of tremblers we have constructed a special machine for the purpose, which is



Touring in Spain.—A Daimler Car at the Pillars of Alameda, at the foot of the Guadarrama Pass.

took place in the middle of the road, and he thought although there was negligence on the part of the chauffeur, the question was not without doubt. He was of opinion that Brown being an ordinary careful driver should have pulled up, that he was guilty of want of care in coming out of the Eton road at a speed that was unreasonable. His Honour found a verdict for the defendant upon the claim and for the plaintiff upon the counter-claim. Upon application costs were allowed the plaintiff on the counter claim and for the defendant on the claim, to be taxed by the Registrar.

CHARGE OF MANSLAUGHTER.

At the Central Criminal Court, on the 9th inst., Crawford Davis, a chauffeur, was indicted for the manslaughter of Maria Munday, a widow, who died in St. George's Hospital on December 24th from the effects of injuries sustained through being knocked down and run over by a motor-car which he was driving. The facts of the case have already been reported in the *M.O.J.*, and after hearing evidence Mr. Justice Bigham, in the course of his summing up, said it was impossible for him to indicate the dividing line between mere negligence and gross and culpable negligence. It was entirely a question for the jury to decide upon the evidence. Motor-cars were bewildering, and sometimes terrifying to elderly people, but they were of great benefit to the public, and were things people would have to reconcile themselves to whether they liked them or not. At the same time they must be handled with very great care, and drivers of them must remember that foot passengers had as much right to the road as anyone else. The jury found the prisoner guilty, and sentence of six months' hard labour was pronounced by the judge.

extremely simple, being a commutator with an angular segment so that the length of contact can be altered. On the same shaft is fitted an insulated high tension "live" finger, the point of which runs close to and round the face of a ring on which is marked the degrees from zero to 360. When at rest and when the commutator first makes contact the high tension spark is seen at the zero point.

A table follows giving the position of the first spark at varying consumptions and varying speeds, all other conditions being equal:—

Consumption at rest.	Consumption running.	Revs. of commutator shaft.	Length of segment.	Position of first spark.
Amps.	Amps.			
.75	...	6	...	2°
.75	...	6	...	12°
.75	...	6	...	36°
1.0	...	7	...	5°
1.0	...	7	...	16°
1.0	...	7	...	43°
1.5	...	9	...	8°
1.5	...	9	...	23°
1.5	...	8	...	50°
2.0	...	1.1	...	12°
2.0	...	1.8	...	36°
2.0	...	1.2	...	60°

Now, taking for instance a four-cylinder engine with 4 in. stroke (bore of no importance) and a quadruple coil with "Castle" tremblers. Let the firing position at the retarded point be at the top of the stroke in the cylinder, and let each trembler be adjusted to .75 amperes (not running) for No. 1 cylinder, and 2 amperes No. 2 cylinder, 1.5 amperes No. 3 cylinder, and 2 amperes No. 4 cylinder, a general adjustment

RESILIENT ROAD WHEELS.*

BY G. STUART OGILVIE, J.P.

which we might mention in our experience is by no means uncommon: we have often come across quadruple coils running at varying consumptions from 1 to 4 amperes, so that in taking this particular instance we are taking an average. Then we have at, say, full advance (reckoning on a 60 degree full advance) at 932 commutator revolutions or 1,864 engine revolutions, No. 1 cylinder firing 1.15 in. from the top of the stroke, No. 2 cylinder .97 in., No. 3 .82 in. and No. 4 cylinder .575 in.; a position of affairs which is not likely to give one the sweetest running, and which is indeed most detrimental to the life of the instrument. More mysterious knocking is caused by this than one would imagine. Again, the use of a meter enables one to gauge to a nicety the proper and safe consumption for any type of coil, once the owner has been informed of the proper consumption which is best for all-round purposes. This consumption, whatever it is, can be checked periodically, especially when any alteration to the adjustment is made in the manner of filing of the platinum points, replacing of screws, blades, or armature, when it becomes difficult to most people to adjust the tremblers to give the best results. The use of an amperemeter will decrease this work very considerably.

One cannot accurately by the sound of the trembler, nor yet by the appearance of the spark, tell if a section is performing its work properly. A good strong buzz is as likely as not due to the fact that the consumption is high, or, in other words, that the tension of the armature spring or platinum blade is too great. The appearance of the spark also is very deceptive. The length of the spark may remain about the same, but its fatness and heat may be considerably increased, and yet to the unpractised eye appear approximately the same. This will show that a meter is a most necessary factor for determining the coil output. One of the dangers of a coil consuming too much current is the general melting of the insulation both contained in the bobbin and surrounding it, resulting in a considerable attenuation of the spark, which from that time forward cannot be rectified. This attenuation is given in the figures as under:—

Continuous consumption 2½ amps.				
Starting temperature reading of thermometer 18.6° Cent.				
Time.	Temperature of wax.		Length of spark.	
Zero	...	18.6°	...	15 mm.
½ hour	...	25.2°	...	14 "
1 "	wax melting	32.4°	...	14 "
1½ "	"	36.2°	...	14 "
2 "	"	38.3°	...	14 "
2½ "	"	41.4°	...	13.5 "
3 "	"	44.3°	...	13.5 "
3½ "	"	47.6°	...	13 "
4 "	"	49.4°	...	13 "
4½ "	"	50.0°	...	13 "
5 "	50 Cent., end of thermometer reading	...	12	"
5½ "	"	"	12	"
6 "	"	"	12	"
6½ "	"	"	12	"
7 "	"	"	11.5	"
7½ "	"	"	11.5	"

This test was carried out by embedding into the insulation of the wax surrounding the bobbin an ordinary Centigrade thermometer.

It is hoped that the absolute necessity to use an amperemeter has been shown for all who have induction coils on their cars for firing the cylinders, either in permanent use with a cut out switch, or carried in the spare kit on the car. Needless to say, the "Castle" amperemeter we have introduced is specially constructed for induction coils—that is to say, it does not register the alternating currents in the primary due to the action of the condensers. It is of solid construction throughout, and has a flanged lacquered brass case with silvered dial and bevelled glass. The readings are from zero to three, which is ample for all coil purposes. The action is particularly and absolutely dead beat, and the needle is not affected even by severe vibration.

POLICE TRAPS.

A POLICE trap has been established at Maidstone Road, North Cray, near Bromley, Kent.

POLICE watchfulness is keen in the Greenwich district, as we are informed by a gentleman, well known in Shaftesbury Avenue, W.C., who was "trapped" there on Sunday.

LOCAL sportsmen in Newmarket are calling upon the police to rigorously enforce the ten-mile limit in the town.

In a recent issue we referred to the splendid record run between Bombay and Calcutta on a 24-h.p. Deasy car. We now learn the actual time was 5 days 19 hours 20 min., notwithstanding a delay of fourteen hours owing to a bad smash into a wall. The actual distance run was 1,632 miles.

THE weather in Scotland recently has been exceedingly bad, and but few motorists have had the temerity to venture out on the roads. Among the exceptions, however, is Mr. Alexander Shaw, who one day drove his 18-h.p. Siddeley car home to Edinburgh from a point forty-five miles north of Aberdeen. The roads were covered with snow and ice all the way, and scores of people were skating on the highway, on which the snow has frozen hard. In spite of the bad conditions, however, Mr. Shaw and his party travelled the 119 miles in exactly five hours.

The subject of the paper is—"Resilient Road Wheels and their Economic Relation to the Automobile." The automobile to-day—exclusive of the tyre bill—is the cheapest form of land locomotion known to man. In the recent 15,000 Miles Reliability Trials, the extraordinarily cheap mechanical upkeep of both the Hotchkiss and the Rolls-Royce cars are on record. By the courtesy of Lord Russell I am in possession of certain figures in reference to the cost of the mechanical upkeep of his 30-40-h.p. Daimler car, fitted with a heavy limousine body with an average running load-weight of 4,358 lbs. Lord Russell's figures happen to be peculiarly interesting, inasmuch as they tally almost exactly with the sum spent by myself on a sister 30-40-h.p. Daimler, carrying a slightly heavier body. In both cases the period under observation covered over 10,000 car—or about 21,000 ton—miles running. I find that Lord Russell's maintenance bill came to £45 13s. 5d., while mine totalled £46 13s. 7d. That is to say, in both cases the cost of mechanical upkeep worked out at almost exactly ½d. per ton-mile. Now, splendid as were the results of the Rolls-Royce car, I am not sure that the conduct of these two sister Daimlers—running, as I have pointed out above, under absolutely normal touring conditions in the hands of untrained amateurs—is not yet more remarkable and significant. An inherent modesty prevents my too closely insisting upon the average speed of my own Daimler car. Now let us see, again from actual figures, what was the cost of maintenance of the resilient road wheels of these cars. The total pneumatic tyre cost of these four cars appears to work out as follows:—Lord Russell's Daimler, average running weight 4,358 lb. (on Continentals), 8d. per car-mile—or, say, 4d. per ton-mile. On my Daimler, 4,760 lb. (mixed makes), 7½d. per car-mile—or, say, 3½d. per ton-mile. The Rolls-Royce, 4,435 lb. (Dunlops), 5½d. per car-mile—or, say, 2½d. per ton-mile. On the Hotchkiss, 4,748 lb. (Michelins), 6½d. per car-mile—or, say, about 3½d. per ton-mile. While on Mr. H. R. Pope's Itala car, in its record run from Monte Carlo to Havre, the average life of each driving-wheel cover sank as 244 miles, working out at 13d. per car-mile for back wheels only. Lord Russell finished his 15,000 miles on Palmer tyres with vastly better results to his own pocket. This, however, appears to have been chiefly due to the praiseworthy generosity of the Palmer Company, who presented him with seven outer covers and one inner tube either gratis or at specially reduced prices, showing a saving of £70 18s. 6d., or 40 per cent. on the entire bill. Lord Russell is also careful to point out that he has entered the cost of all tyres used as that of the 1907 price list, showing a further saving on eleven covers and six inner tubes purchased in 1906 of £36 11s., or another 20 per cent. on the entire bill. If these figures are correct, the Palmer tyre bill would average 4½d. per car-mile, or, say, 2½d. per ton-mile. We find, therefore, in every one of these cases that the cost of maintenance of the resilient wheel comes out at five times as much as the cost of the maintenance of the whole of the rest of the chassis. How far detachable rims and spare wheels (of which the Rudge-Whitworth spare wheel seems to be by far the best, if not the only engineering device) and the thousand and one other makeshifts which are being put on the market to minimise the unreliability of the pneumatic tyre, may succeed, it is difficult to say.

The essence of any practical road wheel is that it shall be capable of conveying heavy weights at high speeds over uneven surfaces, without injury to itself, its axle or the chassis and load borne thereon. Furthermore, in a power-driven wheel it is essential that the transmission gear, which conveys the torque of the engine to the road wheel, shall be protected against road shocks, and, still more, against the sudden strain of overcoming the inertia of heavy weight when starting, by some subsidiary baffling agent. To do this—1. The wheel must possess stability—lateral and circumferential. 2. It must absorb vibration. 3. It must yield to concussion. 4. It must be durable, and therefore economic. 5. It must be simple of design, accessible of detail, and easy to repair. 6. It must not, when power-driven, convey the torque of the engine through its primary resilient medium. 7. It must convey this torque through a secondary resilient medium. 8. It must distribute the axle weight over as wide a superficies of resilient material as possible. 9. It must "sit down on the road"—that is to say, resilience must be obtained without the tread of the wheel losing its friction drive off the road surface. 10. It must give fair warning of approaching collapse arising from wear or accident. 11. It must be easy of draught. 12. It must be silent in running. I would add, not as essentials, but as highly desirable qualities of the ideal wheel, that—It should be impervious to atmospheric conditions. It should be elegant and pleasing to the eye.

If, by reason of its elusiveness, compressed air is found to be an unsuitable resilient medium for motor wheels, our only alternative is a spring wheel. The new resilient road wheel is known as the Vico wheel. Subjectively every detail of the Vico wheel is new and original; objectively, the idea of a floating rim, with some form of resilient medium intercolated between the said rim and the hub member is as old as the eternal hills. The essence of the Vico wheel lies in the method of correlating these two members. Previous inventors have not made allowance for the circumferential as well as the vertical movement of any inflexible floating rim upon its hub member. Without such an allowance obviously no pivotal action is possible, because the floating rim becomes

* From a paper read at the Royal A.C. on Thursday, January 9th, 1908.

locked on the horizontal and radial line of the wheel, and is unable to follow the deflections of the resilient medium within. In other words, a wheel thus designed becomes at certain periods of each revolution a rigid wheel, bearing its axle weight upon a girder formed by the lower half of the floating rim. This circumferential allowance, then, is the novelty in the Vico wheel. Further patentable matter is afforded by the Vico buffer stop, which gives a spring drive independent of, but co-ordinating with, the action of the primary resilient medium—viz., a series of rubber rollers superimposed in a suitable race between the floating rim and the felloe of the rigid wheel or hub member. The rim and felloe are correlated for driving purposes by four sets of buffer stops projecting from the felloe of the rigid member, and so disposed, that on account of the eccentricity of the rim and felloe, they come successively into engagement with corresponding drivers attached to the rim at a practically definite point of revolution of the wheel, one set of stops disengaging with their rim drivers as the next comes into operative position. While there is thus always a direct drive between the parts, this is achieved without detrimentally affecting the resilience of the wheel or its power of accommodating itself to the varying surfaces encountered on ordinary roads. It is obvious that extreme lateral rigidity is secured by this method of correlation. In the case of a driving wheel, in which the felloe stop encounters and drives the floating rim stop or driver, the arc of contact of the stops is in the forward half of the wheel in the direction of the tread. The driving action is very effectively illustrated by considering what occurs when a driving wheel encounters an obstacle. The first result of the joint effect of the driving and resisting forces is a yielding of the buffer stops and a simultaneous pivotal movement of the rim about the pair of stops then in engagement, and, during the pivotal movement, part of the weight of the car, usually supported on the lowest point of the rim, is thrown upon the forward rim stop, with the result that, in addition to the driving effort, the weight of the car itself assists the wheel to over-ride the obstacle. The moment of this auxiliary force will depend upon a number of factors, but, generally speaking, it will increase with the speed of the car, and, within limits, with the height of the obstacle. It will also depend upon the position of the stops in engagement at the moment of encounter with the obstacle.

I cannot but think that when the public mind has once realised the manifold superiority of the wire over the wooden wheel, there will be a strong revulsion of popular feeling in favour of the all-metal wheel. The first set of wire spokes fitted to these Vico wheels were found to be rather too light, and after about 1,800 miles' running several of them worked loose and were immediately replaced at home by my servant, an ex-coachman, demonstrating thereby the extreme ease with which a wire wheel can be repaired by unskilled labour. I took the opportunity, during my absence abroad, to send the wheels back to the Rudge-Whitworth Works to have stouter wires inserted. Since then, during the last 19,000 odd ton-miles running, these wheels have never been touched except for cleaning and lubricating purposes, and are apparently as good as the day they were turned out of the Rudge-Whitworth Works.

I will now give the cost for a pair of Vico driving wheels during £10,110 car or over 21,250 power-driven ton-miles.

Cost of Vico driving wheels per car-mile, 2-262d. ...	2½d.
Cost of Vico per power-driven ton-mile ...	1d.
Cost of pneumatics on driving wheels only, on same car and under same conditions, 6-554d. ...	6½d.
Cost of pneumatics per power-driven ton-mile, 3-008d. ...	3d.
Money saved by Vico wheels as compared with pneumatics under similar conditions on Daimler car 3020, per ton-mile ...	2d.

Here, then, we have at last succeeded in establishing something like a reasonable proportion in the mechanical maintenance and the resilient wheel maintenance of a heavy and high-speed car.

COMPANY NEWS.

ALEXANDRA MOTOR CAB COMPANY.—Agreement with W. Bowden and H. S. Phillips. 59-61, New Oxford Street, W.C.

M. AND W. MOTOR SYNDICATE.—£4,000. Agreement with E. G. Williams and P. Mavrogordato. 43, Great Windmill Street, W.

BURGESS AND HARVEY.—£5,000. To acquire the business carried on by W. H. M. Burgess at 40, Glasshouse Street, W., and to carry on the business of manufacturers, proprietors, agents for and dealers in motor-cars, &c. 40, Glasshouse Street, W.

RUDGE-WEDGE.—£1,000. Manufacturers of and dealers in cycles, motor-cycles, &c. Directors must be directors or employees of Rudge-Whitworth, Limited. 34, Spon Street, Coventry.

THE LONDON AND PROVINCIAL MOTOR-CAB COMPANY.—£100. J. THOMAS AND CO. (CARDIFF).—£5,000 (£1). Agreement with J. Thomas and G. W. O. Huddart, manufacturers of and dealers in motor-cars, &c. 2, Wellington Street, Cardiff.

FROM Vauxhall Motors, Ltd., comes a copy of the first number of the "Vauxhall Magazine," a little publication which is to be issued monthly in the interests of the Vauxhall cars.

MR. R. S. BYRNE, lately with the Times System Automobile Company, Ltd., and Messrs. J. Keele and Co., and who has an exhaustive knowledge of Darracq and other cars, is open to take up a new appointment.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

IN addition to paying 5s. per annum for each of its own members into the funds of the Motor Union, the Royal A.C. has made money grants to the Union as follows:—1903, £325; 1904, £360; 1905, £980; 1906, £1,078; 1907, £610; 1908, £850. The R.A.C. has further defrayed half the cost of speed limit inquiries, &c. In 1905 the Club also contributed £500 towards the fund for the collection of evidence for the Royal Commission on Motor-car Traffic, a joint committee of the Club and the Union having been formed for that purpose.

Premises have been secured by the Royal A.C. at 112, Piccadilly, as a London address for associates, in which will be found reading and writing rooms and facilities for light refreshments.

It has been decided that accommodation will be provided in the new club premises in Pall Mall for associates.

The Expert and Technical Committee are about to submit a report on the use of studded tyres to the committee of the Club. At the last meeting of the committee it was resolved that the Dewar Challenge Trophy for 1907 should be awarded to Messrs. Rolls-Royce, Ltd., in respect of the performance of their car in its 15,000 miles Long Distance Trial.

New members of the Club elected this year include the Marquis of Waterford, Sir Maurice Fitzgerald, Bart., Sir Alfred Jacoby, M.P., Major General F. A. Ogle, C.B., Sir W. B. Forwood, Lieut. J. W. McCowen, Messrs. Alfred Mond, M.P., W. S. Graves, J.P., J. I. Parsons, J. H. Storey, J.P., E. J. Wythes, J.P., and H. S. Foster, J.P.



In addition to selling the light tradesman's car illustrated above, Messrs. Panhard and Levasseur are hiring them, at a figure which relieves the hirer of any trouble and responsibility.

Driver, supplies, garage, cleaning, and all running repairs are all included in this contract. The chassis used are of the Panhard three-cylinder 8-11-h.p. model, but any type of body can be fitted.

MOTOR UNION.

ROOMS for members of the Motor Union are provided at the Tenby Hotel, Swansea; the Grand Hotel, Leicester; and the Station Hotel, York.

AUTOMOBILE ASSOCIATION.

BEGINNING with the popular Folkestone-Boulogne route, the Automobile Association Touring Department promises efficient attention to the welfare of tourists. Not only will the South-Eastern and Chatham Railway Company both in England and—in the person of the Chief Superintendent, Major R. D. Stevens—at Boulogne (who will act as the Association's agent), do everything possible to expedite matters, but a special Automobile Association representative will be in attendance at Boulogne on the arrival of every steamer. He will wear a miniature Automobile Association button-hole badge and will take charge of the landing arrangements, pay the various small fees, arrange for driving licences, obtain petrol, &c., and be at the disposal of members for all reasonable needs. Moreover, all these expenses can be arranged with the Automobile Association London offices before leaving, so that a member need not trouble about payments in respect of his car from the moment he embarks at Folkestone to the time when he drives away on the French roads.

SOCIETY OF MOTOR MANUFACTURERS.

AT the last meeting of the Council of the Society of Motor Manufacturers and Traders regulations were considered with regard to their November exhibition at Olympia. It was resolved to abolish trial rides in the vicinity of the hall. This has been recommended by the committee of management on the ground that the use of trial cars had been abused, and constituted a nuisance to the neighbourhood.

BROOKLANDS.

FROM the Brooklands Automobile Racing Club comes a copy of the speed tables, which will be of considerable assistance to officials and others attending Brooklands track during the coming season, enabling them to ascertain at a glance the miles per hour run by the cars at the conclusion of any of the laps on the track. Half mile, mile and kilometre tables are also given.

MIDLAND.

At a meeting of the committee of the Midland A.C., held on the 9th inst., the following resolution was passed by a majority of one, the chairman not voting:—"That a special meeting of the members of this club be convened to receive and, if thought fit, pass a recommendation from the committee to rescind the affiliation agreement with the R.A.C. and the Motor Union, and to enter into a new agreement with the R.A.C. upon the lines indicated in their circular.

The club will have a smoking concert on the 1st prox., at which a cinematograph display of motor-car incidents will be given.

HARROGATE.

ON Thursday of last week the annual meeting of the Harrogate and District Automobile Club was held at the Prince of Wales Hotel, Harrogate, under the presidency of Dr. E. N. Ozanne. The report was presented by Dr. Holroyd, hon. secretary, who referred to the year as one of considerable activity. He had been in communication with the North Eastern Railway Company with regard to level crossings, and they had promised to make investigations and remedy grievances where such existed. He referred to the important case with regard to the water rate for motor-cars, which had been decided in favour of motorists, and also to the speed judging and hill climbing competitions they had made during the year. The treasurer's report showed a credit balance of £61.

Dr. Ozanne was re-elected president, Mr. J. E. A. Titley hon. solicitor, Dr. B. Holroyd hon. secretary, and Mr. Birtwistle hon. treasurer. These, with the following gentlemen, constitute the committee:—Messrs. Watney, Holroyd, Little, T. E. King, E. Solly, Blamires, Fortune, T. C. Atkinson, Scott, and J. T. Simpson.

A discussion then took place with reference to the affiliation of the club to the various motoring organisations, and eventually it was agreed to leave the matter as at present until the end of 1908, the committee to give full consideration to the problem in the meantime.

YORKSHIRE.

At the Hotel Metropole, Leeds, on Tuesday of last week, Dr. S. Rumbold gave an interesting lecture to the members of the Yorkshire A.C. on "A Tour in Normandy." There was a good attendance, over which Mr. E. H. Hepper presided. The lecture was a capital description of a tour in Normandy—a country which must ever be interesting to English tourists. In the space of three weeks the lecturer seems to have seen all the interesting sights, to have been a keen observer, a diligent student of the historical associations of the places he visited, and above all to have been an enthusiastic and capable photographer. In the latter capacity the fruits of his labours were seen in a charming series of lantern slides, which were shown by Dr. Parkinson, and which added immensely to the realism of the lecture. At the close Dr. Rumbold was accorded a hearty vote of thanks.

NORTH YORKSHIRE.

At the committee meeting of the North Yorkshire A.C., held at York, the hon. secretary reported that arrangements had been made for the erection of motor warning posts at dangerous cross-roads in Tang Hall Lane, near York. A letter was read from the Westow Parish Council, calling attention to a dangerous corner on the road from Westow to Kirkham Abbey, and the hon. secretary was directed to ask the East Riding County Council to erect the necessary warning posts. The hon. secretary reported that the dangerous corner where the Bishopthorpe road joined the York and Tadcaster highway was being improved by the Bishopthorpe Rural District Council, the necessary land for rounding off the corner having been given by Mr. Lycett Green. The Chairman submitted plans of an improvement proposed to be made at a dangerous corner at Staxton, on the road from Malton to Scarborough, and as it appeared that Lord Londesborough had undertaken to give the necessary land, free of charge, if the expense of widening the road could be defrayed from other sources, it was decided to bring the matter before the East Riding County Council with a view to their either carrying out the work or making a substantial contribution towards the cost.

SCOTTISH.

EARL CAWDOR, Mr. R. B. Haldane, M.P., Secretary for War, Sir Walter Thorburn, Col. R. G. Ramsay, Capt. Cameron of Lochiel, Mr. A. H. Nasmyth, J.P., and Miss J. M. Cunningham have been elected members of the Scottish A.C.

A draft of the Lighting of Vehicles (Scotland) Bill, which it is proposed to have introduced into the House of Commons during the coming Session of Parliament, has been finally approved by the committee.

At the meeting called on Saturday to form a club for Sutton Coldfield, a committee was appointed, with Mr. Howard Lane, of the Beeches, Anchorage Road, Sutton Coldfield, as hon. secretary *pro tem*.

IRISH.

LAST week, at the Gresham Hotel, Dublin, about 200 motorists attended the dinner of the Irish Automobile Club, over which Sir Horace Plunkett, K.C.B.O., presided.

In proposing the toast of "The King," Sir Horace referred to the motor-car trips which his Majesty had taken in the poorer districts of Ireland in 1905. The toast having been duly honoured, that of "Our Guests" was given, coupled with the names of Messrs. J. W. Orde, E. M. C. Instone, and C. W. Henderson, all of whom replied. The toast of "The Irish A.C." was proposed by Mr. Claude Johnstone, and in responding Sir W. G. B. Goff, Bart., referred to the progress of the motor business in Ireland, and mentioned that the Irish Club now had a membership of 500. A tribute was paid to the untiring exertions of Mr. E. White, hon. sec., Mr. W. Sexton, hon. treasurer, and the vice-chairman, Mr. Talbot Powell. The toast of "The Dublin Motor Show" was voiced by Mr. P. W. Cairnes, and in reply Mr. E. White referred to the number of exhibits at Ballsbridge as highly creditable having regard to the difficulties of transport. Mr. J. C. Percy also replied on behalf of the Show Committee, and the toast of "The chairman," proposed by Mr. J. Ellis Goodbody, concluded the speechmaking.

THE committee of the North Herts A.C. is of opinion that the interests of the club will best be served by supporting the Motor Union.

A GENERAL meeting of the Brighton and District Motor Cycling Club will be held on Tuesday, the 28th inst., at the Royal Pavilion Hotel. Intending members may obtain full particulars from either Mr. Harold Clifton, 68, Ship Street, Brighton, or Mr. R. W. Cartwright, 63B, North Street, Brighton, the joint hon. secretaries.

AUSTRALIAN RELIABILITY CONTEST.

THIRTY-ONE motor-cars belonging to members of the Automobile Club of Victoria took part in the Sealed Bonnet Motor Reliability Contest recently held. It took the form of a three days' trial, the routes being from Melbourne to Camperdown, from Camperdown to Ballarat, and from Ballarat to Melbourne. Twenty-nine of the competitors completed the journey.

Cars were required to travel within certain limits of speed, and the bonnets of the cars were sealed before the start each morning. One hundred points were credited for each day's run, and certain penalties for unreliability were deducted. A competitor who removed a bonnet seal forfeited ten points, and if at the finish the axle of his car was bent five points were deducted. Another five points were forfeited for each spring broken, and there were also penalties for infringements of the time regulations. A gold medal and club certificate will be awarded to every contestant who scored the maximum of 300 points, a silver medal and club certificate to each contestant who scored 280, and a bronze medal to each contestant who scored over 260 points.

The result of the main competition was as follows:—

Name.	Car.	Points Scored.
Dr. Weigall ...	8-h.p. De Dion ...	300
W. J. Proctor ...	8-h.p. De Dion ...	300
W. A. Korner ...	8-h.p. De Dion ...	295
CLASS B.		
A. H. Bell ...	8-10-h.p. Tarrant ...	300
O. Camplin ...	8-10-h.p. Darracq ...	300
H. E. Farrow ...	7-h.p. Singer ...	300
Dr. Balfour ...	8-10-h.p. Humber ...	300
CLASS C.		
H. H. Sich ...	14-16-h.p. Argyll ...	285
Captain H. Tarrant ...	12-14-h.p. Argyll ...	300
H. Franklin ...	12-16-h.p. Talbot ...	300
W. Dalrymple ...	15-h.p. Talbot ...	300
J. Moffat ...	15-h.p. Talbot ...	269
A. H. A'Beckett ...	10-12-h.p. Humber ...	290
A. O. Barrett ...	15-h.p. Talbot ...	300
C. F. Holmes ...	15-h.p. Humber ...	300
C. B. Kellow ...	15-h.p. Talbot ...	300
CLASS D.		
E. G. F. Loder ...	Cottin-Desgouttes ...	300
C. F. Millar ...	15-h.p. Talbot ...	300
E. Manifold ...	24-h.p. Minerva ...	300
C. H. Campbell ...	30-h.p. Daimler ...	300
W. B. Wilkinson ...	—	300
H. A. Currie ...	20-h.p. Rolls-Royce ...	300
R. M. Nissim ...	15-h.p. Siddeley ...	276
W. H. Davidson ...	40-h.p. Napier ...	300
H. L. Stevens ...	40-h.p. Darracq ...	300

The following competitors also completed the course, but do not receive any award:—D. Thompson, 16-20-h.p. Humber; Count von Horn, 20-h.p. Cadillac; F. Vallender, 9-h.p. De Dion; A. T. O'Keefe, 20-h.p. Darracq.

The following is the final result of the contest:—Most Meritorious Performance (trophy value £10).—W. J. Proctor, first, on 8-h.p. De Dion. Hill Climb (trophy value £5).—W. J. Proctor, first, on 8-h.p. De Dion. Speed Test (trophy value £5).—W. J. Proctor, first, on 8-h.p. De Dion. One of the conditions of the contest was that no competitor

was eligible to receive more than one prize, therefore the hill-climbing and speed trophies go to the competitor obtaining second place. Mr. W. Dalrymple, on a 15-h.p. Talbot car, secured second place in the hill climb, consequently is awarded the £5 trophy for that event. Dr. R. E. Weigall, on an 8-h.p. De Dion, having secured second place in the speed contest, is awarded the £5 trophy.

CASES UNDER THE MOTOR CAR ACT.

A QUADRUPLE SUMMONS.

James Lever, of 101, Lawes Road, Fulham, appeared before Mr. Garrett, at the West London Police Court, on the 8th inst., on four summonses for driving a motor-car in a dangerous manner on November 21st, failing to give audible warning of his approach, failing to produce his licence, and neglecting to have affixed to the car a proper identification mark. It was stated that a horse-omnibus was going along Lillie Road, Fulham, and when it had reached the junction of that road and Fulham Palace Road a passenger alighted. Just then a motor-car driven by the defendant came round the corner at a rapid pace from the direction of Putney, and before the passenger could get out of the way the car bore down on him and carried him a distance of some eight or nine yards. After the accident questions were put to the defendant and to another man, who was in the car, the latter saying that he was the owner of the car, and giving his name as John Smith, 52, Hartismere Road, Fulham. Subsequent inquiries disclosed the fact that that was a false statement, and nothing more had been seen of that man, nor was the ownership of the car yet established. The car bore a manufacturer's identification mark—A 3 R X, and that was a mark assigned to Mr. Patmore, of the Rocket Cycle Company, 45, The Broadway, Walham Green. Inspector Elliott called at that shop, and, learning that no car of the company bearing that mark was out on November 21, saw the defendant, who told him that all he knew was that on November 21st this other man, whom he only knew by the name of Smith, brought the car, with that mark on it, to his shop to be repaired, and that afterwards they rode out together to test the repairs. For the defence, Mr. Hanson urged that the whole affair was an accident. He called the defendant and two witnesses to support the theory of the defence. Mr. Garrett observed that, while morally the real person responsible for the misuse of the identification mark was the mysterious Mr. Smith, the defendant was legally liable, and he hoped that at the conclusion of the case the defendant would find Mr. Smith, and make him contribute towards the penalty. His worship imposed penalties amounting to £20, with five guineas costs.

DISMISSAL.

At the South Shields Police Court a motorist's case has been dismissed, his defence being that he was not travelling faster than the motor-buses of the North Eastern Railway Company.

EXCEEDING LEGAL LIMIT.

Four motorists were fined £5 and costs at Barnet on the 8th inst. for exceeding the legal limit at Prickler's Hill, on the Great North Road; on the same day fines of £3 were inflicted on three motorists who exceeded twenty miles an hour along Parkside, Wimbledon Common.

On the 9th inst. twenty motorists, including Mr. W. Heaton Armstrong, M.P., were fined at Kingston for exceeding the legal limit in Richmond Park.

On Monday five motorists were fined sums ranging from £2 to £5 for exceeding the legal limit at Epsom.

For exceeding the legal limit in Shooter's Hill Road, Blackheath, a motorist was on Tuesday fined 40s. and costs at the Greenwich Police Court.

REFUSING INFORMATION.

Messrs. J. E. Hutton (Limited), Shaftesbury Avenue, W.C., answered an adjourned summons, at Marlborough Street (London) on Saturday, for refusing to give information as to the identity of a person who drove a motor-car belonging to them in a dangerous manner, on October 12th, along Queen's Road, Walton-on-Thames. Mr. H. Muskett prosecuted for the Commissioner of Police. The case, which had been adjourned since December 20th, was placed before the magistrate, Mr. Mead, as one of considerable importance, as the company had absolutely refused to give Inspector Cooper any information to show who the driver of the car was. The evidence showed that only the number of the car could be obtained, owing to the furious pace at which it was driven. Two previous convictions for similar offences at Grantham and St. Neots against the company having been proved, counsel for the defence urged that the wrong official of the company, the managing director instead of the secretary, had been applied to for the required information. As a matter of fact, it was not known who was the driver of the car on the day in question. Mr. Mead imposed a fine of £30, with £5 costs.

A REAR LIGHT TROUBLE.

Frank Fox was charged at Lichfield with driving a motor-car without having a rear light. P.C. Eley said he noticed that the rear lamp was out. He whistled to defendant, who immediately stopped, and he then drew his attention to the lamp. Defendant lit the lamp, but before he had gone far the lamp went out. Defendant then went to the shop of Messrs. Jones and Co. and bought a new lamp. Mr. Jones was then called, and stated that defendant called on him at the Talbot House Garage. Fox told him that he had had a lot of trouble

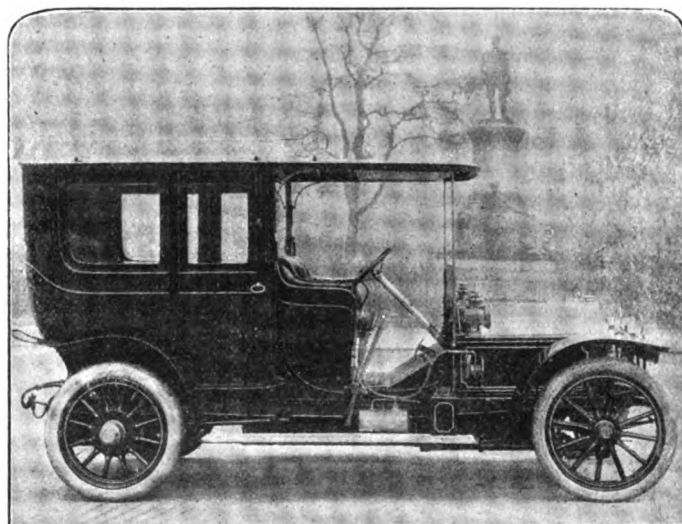
on the journey from London. The burner of the lamp did not hold the wick up properly. The lamp was warm when the car stopped at the garage. He purchased a new lamp. A letter was read from Mr. Harry Tate, the comedian, stating that he regretted that the lad could not appear, as he was engaged at the Theatre Royal, Manchester, playing the part of the front legs of the elephant, which might sound ridiculous, but was nevertheless a fact. He asked the Bench to deal leniently with accused, as he was a trustworthy servant.—After a consultation the Bench decided to order defendant to pay the costs of the case, 6s. 6d., and to pay 10s. to the poor box. Mr. Jones immediately paid the amount.

DRIVING TO THE COMMON DANGER.

Ernest Garnett, chauffeur, was, at Guildford, fined £20 and his licence was suspended till it expires on March 20th, for having driven to the common danger at Thursley. The police stated that defendant drove down the hill on Portsmouth road at the rate of fifty miles an hour. Mr. Staplee Firth, who defended, elicited that there was no one else on the measured quarter of a mile, and submitted that there was no public danger. He thought defendant's employer would appeal. The chairman said defendant would be disqualified from holding another licence till December 31st.

AN ACQUITTAL.

At the Kingston-on-Thames County Bench, on Saturday, before Mr. W. Y. Cockburn and other magistrates, David Bentley, a mechanical engineer, residing at Thames Ditton, was charged with the manslaughter



The 40 h.p. Crossley Limousine which Messrs. Jarrott and Letts have just supplied to Lady Alwyne Compton.

The chassis was sent to France to have the carriage body fitted by Messrs. Drignot. The car is painted dark blue picked out with white lines, and the upholstery is finished in brown corded cloth with lace trimmings to match, fold-up extra seats of a special pattern being also provided.

of Theophilus Cooper, formerly the landlord of the Clarence Hotel, Kingston, who died from the effects of injuries sustained in a collision with a motor-car driven by the prisoner on the Portsmouth road, at Esher, on December 8th. At the inquest on the body of Mr. Cooper the jury returned a verdict of "Manslaughter" against the accused. Addressing the Bench for the defence, Mr. C. F. Gill, K.C., submitted that there was not sufficient evidence of negligent driving on the part of the prisoner to justify them in committing him for trial on a charge of manslaughter. The accident was obviously caused by the skidding of the motor-car, as it was facing the governess-car, and although it was a lamentable thing that a man should lose his life, it was not right that another should be convicted of manslaughter unless gross carelessness could be shown. Prisoner then gave evidence, and declared that what he observed first was the light of a cycle, and as he was approaching it he saw a dark object loom up suddenly in front of him. Then he applied his brakes, which made the car skid, and to stop the skidding he released his brakes, with the result that his car struck the governess-car and it overturned. At this point the chairman said the Bench did not wish to hear any more evidence. It was a case that should have been brought before the Bench, but having heard what took place they were satisfied it was a case that should not be sent for trial. Prisoner was therefore discharged.

Mr. THOMAS BUTLER, of Charnwood, Cotham Park, Bristol, has just returned from a tour in Switzerland with his Iris, and writes that he "did not come across a single covered car we could not pass on the level or on the hills."

FORTHCOMING EVENTS.

JANUARY, 1908.

- 18th-Feb. 2nd.—Automobile Exhibition at Turin.
 20th (M.).—Manchester A.C. annual meeting.
 21st (Tu.).—Annual meeting of the Yorkshire A.C., Hotel Metropole, Leeds.
 22nd (W.).—Annual meeting of the Southend M.C.
 The Incorporated Institution of Automobile Engineers will meet at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., at 8 p.m. The following papers will be read:—"Front Driving, with special reference to Electric and Hydraulic Transmission," by Dr. H. S. Hele-Shaw, LL.D., F.R.S.; "The Front Driving of Steam and Petrol Vehicles," by Mr. R. W. Harvey Bailey, A.K.C.; and "A resumé of Front Drive Patents," by Mr. J. S. Critchley.
 The annual regimental dinner of the Army Motor Reserve will be held at the Trocadero Restaurant, London.
 Inquiry at Belfast into the application of the City Council for a ten mile speed limit on all roads through the town.
 24th (F.).—Annual dinner of the Scottish A.C. at Edinburgh.
 24th (F.)-Feb. 1st.—Scottish Motor Exhibition in the Waverley Market, Edinburgh, to be opened by Lord Kingsburgh.
 26th (Sun.).—Criterium de Voitures and Coupe de l'Exposition Trial for motor-cycles organised by the Turin A.C. and the Motor Club of Italy.
 27th (M.).—Annual general meeting of the Motor Cycling Club at 8 p.m., at the Tudor Hotel, London, W.
 29th (W.).—First lesson of the course to be given by Mr. R. S. Currie to the Ladies' A.C.
 30th (Th.).—Annual dinner of the Yorkshire A.C.
 31st (F.).—Annual meeting of the Blackheath A.C.

FEBRUARY.

- 1st (Sat.).—Annual meeting of the Lincolnshire A.C.
 2nd (Sun.).—Reliability Trial of the Motor Union of Western India.
 7th-15th.—Manchester Motor Show at Belle Vue.
 12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 15th (Sat.).—Auto-Cycle Union Annual Dinner.
 20th (Th.).—Meeting of the Essex M.C.
 24th (M.).—Motor Show at Bombay.
 27th (Th.).—Mr. Mervyn O'Gorman at the R.A.C. on "Gear Transmission."

MARCH.

- 18th (W.).—Annual Dinner of the A.A. at the Hotel Cecil, London.
 21st (S.).—Cordingley's Thirtieth International Motor-Car Exhibition at the Royal Agricultural Hall, London.

APRIL.

- Auto-Cycle Union's Tourist Trophy Race and Quarterly Trial.
 18th.—First meeting of the Brooklands A.R.C. for 1908.

MAY.

- 10th (Sun.).—Targa Florio Race.
 11 (M.)-16 (S.).—Reliability Trial of the Irish A.C.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

- 11th (Th.).—Probable start of the International Touring Car Trial of the R.A.C.
 15th-19th.—Scottish Reliability Trial.

LIGHTING-UP TIMES—LONDON.

Jan. 18th—5.22	20th—5.26	22nd—5.29	24th—5.33
" 19th—5.24	21st—5.27	23rd—5.31	25th—5.35

AUTOMOBILE ACCIDENTS.

Two men have been removed to the West London Hospital, suffering from serious injuries caused by being thrown to the ground at Hammersmith owing to a motor-omnibus colliding with the scaffolding they were on.

WHILST motoring into Cheltenham from Gloucester with four others on Saturday Mr. E. J. Boodle, of Gloucester, was thrown out of the car through a collision with a carrier's van. He fractured his skull and was taken to Cheltenham Hospital. The other occupants of the car were unhurt.

A BOY was knocked down and killed at Fareham, on Saturday, by a motor-car, which was going in the direction of Southampton. The boy was running behind a cart, and crossed the road, after the motor horn sounded, in an endeavour to save his dog, which darted in front of the car.

ON Saturday, at midnight, in Godstone Road, Purley, a motor-car proceeding towards Godstone ran into a man named Arthur Borer, of Little Roke, Kenley, who was walking in the opposite direction. He was carried about fifty yards, and the machine, not yet identified, is alleged to have passed on. The unfortunate man was picked up and

taken to Purley Cottage Hospital, where he was found to be badly injured.

WHILE Sir Alfred Hickman, ex-M.P. for Wolverhampton West, was motoring near Wolverhampton, a woman crossed the road and was knocked down in trying to avoid the car. A heavy railway lorry was following the car. The chauffeur, in trying to avoid the woman, swerved, but the angle taken was so acute that the car skidded right round, and collided heavily with the railway lorry. Sir Alfred and the chauffeur were thrown out, but escaped serious injuries. The injured woman, Mary Davis, is suffering from the shock.

ROAD REPORTS.

BANBURY.—Main roads under repair in the Banbury district during the next few weeks will be Oxford road, Bloxham road, Broughton road, Middleton road, Daventry road and Warwick road.

BRIDGE OF ALLAN.—The Secretary for Scotland has assented to the proposal for the limitation of the speed of motor-cars in Henderson, Keir and Union Streets, in the Bridge of Allan, to ten miles an hour.

LEYTON.—The Ratepayers' Association having urged that a motor speed limit of ten miles per hour was advisable in the High Road, Leyton, brought the matter before the District Council. The District Council forwarded the request to the Essex County Council, who wanted to know if any accidents have occurred in that thoroughfare owing to the reckless driving of motor-cars. And now the R.A. is endeavouring to ascertain the reasons for its request.

HELENSBURGH.—On the motion of the Provost, the Helensburgh Town Council has resolved to make application to the Secretary for Scotland to restrict the speed limit of motor-cars to ten miles per hour in certain streets in the borough.

KILMARNOCK.—At a meeting of the Kilmarnock District Committee of the County Council, Mr. Lang, the road surveyor, reported that the Fenwick to Flockbridge road was so much damaged by heavy motor-car traffic that from May last up till date the quantity of metal applied to it amounted to 2,100 tons, being 500 tons more than had been estimated for. The Chairman explained that they had agreed with Renfrew County Council to have a joint meeting with the parties who were causing the damage by heavy motor traffic. With the view of preventing dust, the Committee will lay down 800 or 1,000 yards of tarred metal in different parts of the district as an experiment.

BUSINESS NEWS.

AMONGST recent purchasers of Weigel cars are Mr. Gavin Shanks, of Coatbridge, and Mr. Leslie Fox, of Taunton.

MR. J. W. HEATH has resigned his directorship of the Albany Automobile Company, Ltd., 106, Albany Street, N.W.

AT the Dublin Show which closed on Saturday last 401 Dunlop tyres were fitted to cars and spare wheels exhibited on the various stands.

THE COVENTRY CHAIN COMPANY (1907), LTD., intimate that they have changed the address of their registered offices to Spon End Works, Coventry.

THE ANGLO-AMERICAN OIL COMPANY, LTD., inform us that they have reduced the wholesale price of Pratt's motor spirit and Anglo's 760 spirit one halfpenny per gallon.

MR. H. RAMOISY, who has just severed his connection as manager for the Germain cars, writes us from 7, Warbeck Road, London, W., that he is taking a short holiday before fixing up a new appointment.

THE motor tyre repair department of the Midland Rubber Company, Ltd., at Ryland Street, Birmingham, is excellently organised with a view to the prompt dispatch of work entrusted to the company.

MR. C. D. CLAYTON, who is well known to the motor trade in connection with Messrs. A. J. Wilson and Co, Ltd., has commenced business on his own account as a motor advertising agent and will shortly open offices in the vicinity of the Motor Club.

AT the distribution of awards at the Mansion House, London, a few days ago in connection with the 1906 Milan Exhibition, awards were handed to Messrs. Armstrong, Whitworth and Company, Ltd., E. M. Bowden, Ltd., Dunlop Pneumatic Tyre Company, Ltd., Greenwood and Batley, Ltd., J. and E. Hall, Ltd., J. E. Hopkinson and Company, Ltd., Humber, Ltd., Rudge-Whitworth, Ltd., Seamless Steel Boat Company, Ltd., John I. Thornycroft and Company, Ltd., and Willans and Robinson, Ltd.

AMONG the noticeable displays of body work at the recent Dublin Show was an Ariel car finished as a Parisian phaeton by Mr. William Vincent, of Castle Street, Reading. The vehicle is fitted with a folding Cape hood and wind screen. The colour of the body is a very choice shade of dark green, and is upholstered in a sage green leather. Another example of high grade work and material was seen in a landaulet body on a Unic chassis. This body is painted in dark green, and a very pleasing effect is obtained by lining it with black and bright crimson; the crimson line, while not being pronounced enough to be unduly obtrusive, has a wonderfully smartening effect on the whole of the colour scheme. The body is upholstered with green leather, and is fitted with a luggage extension over the driver's seat, and glass wind screen. The Shamrock car of Messrs. Straker and Squire, illustrated in our last issue, is also fitted with a very smart two-seated body by Messrs. Vincent, on whom the three bodies referred to reflect great credit.

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COMMENTS.



NOT only are the preparations for the International Touring Car Trial of 1908 getting into shape, but manufacturing firms are anxiously watching each new item of information that comes forth with regard to its details. In order to develop the interest in the event the Royal A.C. has allowed news to filter through from Piccadilly—a policy that doubtless secures its purpose, but entails upon likely com-

petitors the necessity of watching carefully from week to week to make certain that no fact of importance is overlooked. Elsewhere we publish the latest information, and it is evident that the sub-committee that has been engaged in drawing up the regulations has not been laggard in its work. By the inclusion of the Brooklands track in the event a spectacular finish will be possible, while the Scottish A.C.'s itinerary will ensure a succession of hardships that should satisfy competitors and the public alike as to the reliability portion of the programme.

An English Minister on French Roads.

WHILE on the Continent recently with several Parliamentary friends, Mr. Lloyd George, the President of the Board of Trade, enjoyed the pleasures of motoring to the full. He motored practically all the way from London to Nice, and thus had the advantage of learning, at first hand, something of the excellent roads which are a feature of France. He was much struck with the way they manage the roadways in France, and doubtless will be able to give some useful information on the subject to Mr. John Burns, whose travels abroad have generally been on foot. Legislators have been able to realise the value of the motor-car in getting into Parliament, and apparently many of them are anxious to continue their automobile education when they have realised their ambitions.

Roadside Dangers to School Children.

AT the last meeting of the Wimbledon Education Committee an interesting discussion took place with regard to the dangers from passing motor-cars to which children proceeding to and from school are particularly liable. Ultimately it was resolved to approach the County Council as well as the Town Council on the matter. On several occasions we have drawn attention to the enterprise of some of the provincial automobile clubs in communicating with school teachers and others having influence with children as to the need of care being exercised when crossing the roadway. In France the idea has been even further developed and organised, so that a complete scheme of warning children has been devised in some important districts. If the local authorities in Surrey would give adequate attention to the subject they could do a great deal by enjoining the necessity of care in children in order to minimise the risk which they now run in crossing the high road. The matter has also received attention north of the Tweed, and suggestions for widening the roadway, reducing the angular character of the curves, and otherwise lessening the dangers in the vicinity

of the schools within their area are now before the Hawick District Committee of the Roxburgh County Council.

Motor-Cars in London.

AT the first meeting of the London County Council for the present year, the Public Control Committee reported that from October 1st to November 30th, 1907, applications had been received for the registration of 652 motor-cars, fifty-six heavy cars, and 107 motor-cycles, thus bringing the total number of these vehicles up to 17,963, 1,723, and 7,891 respectively. Changes of ownership in 442 cases had been dealt with, and the number of licences to drive motor-cars and motor-cycles issued was 2,415, bringing the total number up to 66,142. It is still contended by many registrars under the Motor Car Act that changes of ownership are not always notified, and we would again advise our readers who may dispose of their cars to take care that proper notice of such change of ownership is given to the authorities. Similarly any change in the colour of the body after the original registration should be made known to the registrar by whom the number of the car was assigned.

Drivers must be Warned.

IT is reported that another accident has occurred on the Brighton road, in which an automobile was concerned, the driver going away without waiting to render assistance. This is really regrettable, and we trust that owners of cars will impress upon their drivers not only a goodly fear of doing anything to endanger the lives of others, but also of the necessity of acting properly in the event of unfortunate accident. Nothing arouses the public feeling against motorists so much as the inhuman conduct of some isolated delinquents who have disgraced their calling. Much depends on the constant watchfulness of employers, and they should take care that their vehicles are not taken out without permission.

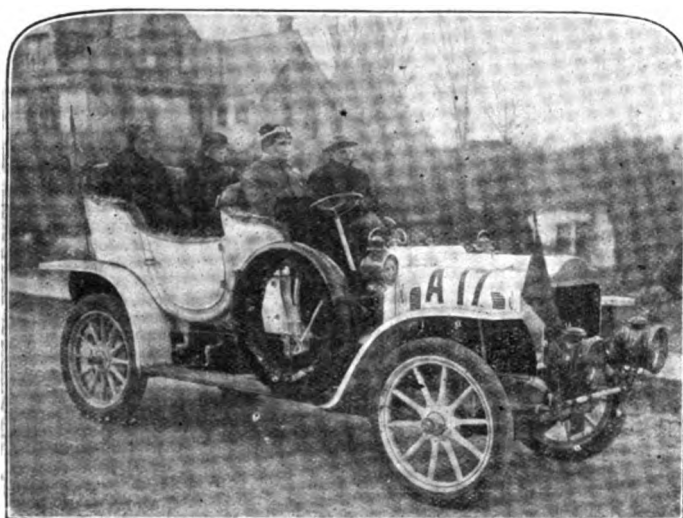
Front Driving.

BEFORE the Incorporated Institution of Automobile Engineers, on Wednesday, three papers were read on various aspects of the front driving of automobiles by Dr. H. S. Hele-Shaw, and Messrs. K. W. Harvey Bailey, and J. S. Critchley. Dr. Hele-Shaw advocated that more extended trials should be given to driving, steering and braking upon all front wheels. With regard to present developments he believes that the system of the four-drive vehicle has a great future in its application to heavy vehicles. Apart from prevention of side-slip, there are advantages in the case of such vehicles running in great cities with paved streets, where not only is manœuvring of great importance, but where rubber tyres are highly desirable, both to save the vehicle from shock and vibrations which occur with steel wheels on paved surfaces at even very moderate speeds, and to diminish the noise, which is found not merely objectionable by day, but almost unbearable by night. Further, the saving not only on tyres, but also on the vehicles, which may have to be accelerated or retarded possibly hundreds of times in a day, would be found to be so great as to far more than outweigh the additional cost of four-wheeled propulsion. In the course of his paper Mr.

Bailey took the Pullcar vehicle illustrated and described in our issue of November 30th, as a typical instance of good practice in front driving, claiming that vehicles thus designed are non-skidding, and consequently economical with regard to tyres. On this aspect of the question, Dr. Hele Shaw related how a few days before he had seen front-driven vehicles run a straight course over a greasy surface, while rear-driven cars had severe side-slips. The consideration of the relative values of the front and rear principles of driving is of practical importance to the industry, and the efforts of the Institution to secure its discussion by scientific and mechanical experts deserve the encouragement of the industry.

The Quaker City Contest.

RECENTLY an important Endurance Run of the Quaker City Motor Club was held at Philadelphia, when twenty-three leading types of cars participated. Among these was the White steam car, and, as frequently happens in such events, it went through to first place. The particular entrant was Mr. N. K. Sheridan, who ran the "White" the whole of the two days of the test with a clean record. In the end three cars had no marks against them and the judges decided that the trio should cover the course of 173 miles again, but in one day



Mr. H. K. Sheridan on the White Car that was first in the Quaker City Endurance Run.

instead of two. After this had been done the cars were again examined for defects in mechanical parts, the ultimate result being that the White was hailed as the winner.

Widening the Roads.

WRITING to the "Scotsman" with reference to motor traffic, Dr. John Haddon, of Hawick, suggests that one of the great dangers to horse drivers occurs on narrow roads which are often fenced with wire. He suggests that "if County Councils would have the road sweepings, which have been piled up on each side, removed, the original breadth of the road would be available. If that were done there would be enough breadth to make a parapet on one side for pedestrians and a track for equestrians on the other, leaving the road as broad as at present for wheel traffic. That could be done with little, if any, extra expense, and would mitigate the dangers of the traffic." Supplementing this view in a letter to ourselves, Dr. Haddon observes that there can be no doubt if the Scottish roads were made as wide as they were before farmers ceased to be glad to have the sweepings of the roads to put on their land, it would be much safer now that motor-cars are running upon them; but there must be a separate track in time, for without high speed the benefit of the motor-car is very slight, and the

public are down on fast driving on the roads. The widening of the road by the removal of the sweepings would make a great difference and should cost nothing if the farmers knew the value of the stuff, and this is the time to move it, when frost stops farm work. The idea is one that should be considered by those responsible for the maintenance of the public highway. It is certainly true that encroachments on the width of the roadways have been generally made during the last decade, and motorists should oppose any further reduction of the area of the track along which they pursue their way. In some districts, as suggested by our correspondent, this can easily be done at particular seasons of the year, and advantage should be taken of all such opportunities to promote safe and speedy locomotion.

In the Fog.

VIEWS are various with regard to the penetrating powers of acetylene in the fog of which we have recently had many experiences. In London it is said that the peculiar nature of the gloom which has settled over the city so frequently of late has defied the acetylene, but, on the other hand, it is claimed that this means of illumination is most effective in Scotland, where the fogs are apparently of a different nature. A correspondent when travelling from North Berwick to Edinburgh found the road made quite plain even in one of the densest fogs he had ever encountered in northern Britain by means of an acetylene lamp. Now that we have returned to something of the old-fashioned fogs, the point is of interest, and we shall be pleased, as will readers generally, to have the experience of correspondents on the subject.

The Present Controversy.

VERY interesting is the progress of the clubs' decisions with regard to taking sides in the great controversy now going forward, and, according to the latest information of an official character, eight clubs have linked themselves with the R.A.C., eleven with the M.U., and nine others have decided to continue with both organisations through 1908. Under these circumstances the controversy is likely to be continued throughout the year, both the Club and the Union striving to get the support of the latter class of clubs for 1909 and onward. Under such circumstances, and in view of the likelihood of legislation, we would suggest that there is much to be said for the leaders of the movement joining with such organisations as the Manchester Automobile Club that prefers to hope for some amicable understanding being arrived at. The tact and good sense of Mr. C. D. Rose, M.P., and Colonel W. J. Bosworth succeeded in providing a *modus vivendi* between the M.U. and the A.A. Cannot they, with the Hon. Arthur Stanley, Mr. C. H. Dodd, and a few others, secure a truce to the existing dispute? According to the present outlook it can do nothing but harm to the general welfare of the movement, hence both contestants will do well to preserve an attitude of mutual forbearance to each other.

Liability of County Councils.

THIS question of the duty of local authorities is becoming of national importance, and the variations in practice throughout the country are sufficiently serious to warrant the call for the whole question of highway maintenance and administration to be made a national question. More than that, the liability of a County Council for the condition of its roads, as determined in the case we reported a fortnight ago, should arouse the ratepayers to a sense of their own position in the matter, for any delay in adapting the roads to the new traffic may cause expense to the county funds. This was pointed out by Lord Breadalbane at the last meeting of the Highland District Committee of the Perth County Council, who said that, having regard to the experience of the Elgin Council, it would be well if the committee would look into their own position. The chairman replied that the Highland District Committee did not keep defective roads, and seemed to suggest that the matter was

almost beyond their purview. As a matter of fact the Perthshire roads are among the best in the kingdom, but that need not lead to too complacent an attitude; and County Councils should learn wisdom from the experience of less careful neighbours.

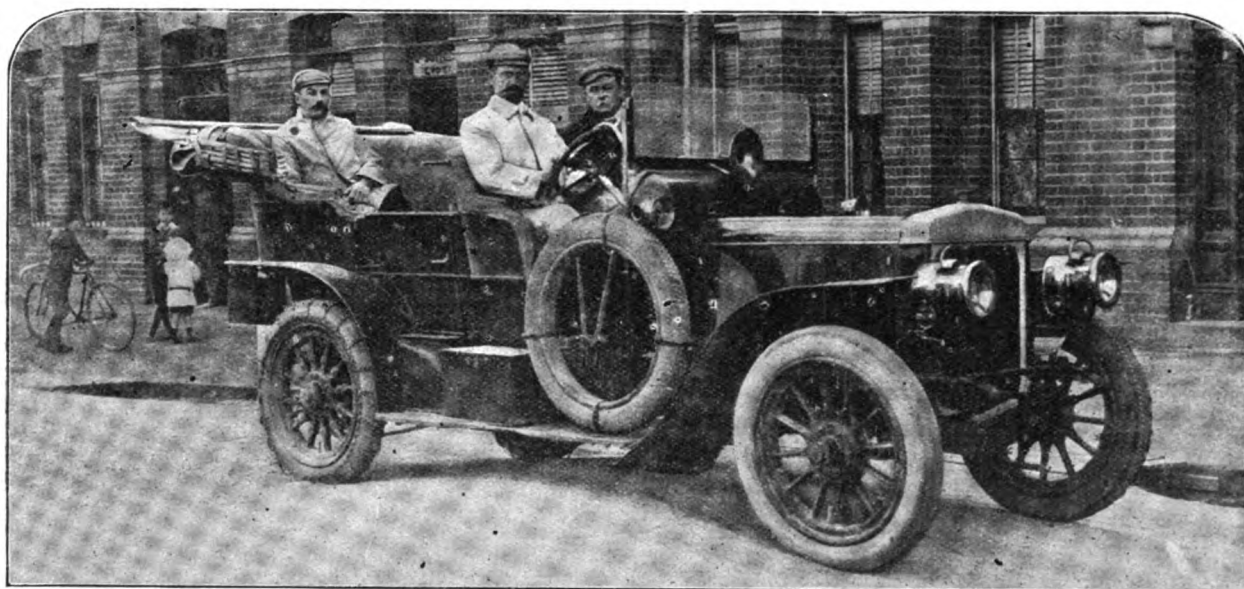
The "Evils" of the Motor Traffic.

IN order to carry out the object indicated in its title, the Highways Protection League is preparing a petition to Parliament against "the evils of the motor traffic," and it will probably be sent to Westminster in the early days of the new session. This organisation has become identified with a campaign against the motor-car, and has certainly attracted some attention in the Press; but whether its diatribes are likely to influence Parliament remains to be seen. If the League would associate itself with the movement to safeguard users of the main roads, by the removal of hedgerows which obstruct the view ahead, the rounding of corners that constitute dangers to moving traffic of all descriptions, and to securing the proper construction of roads, in view of the new conditions that have arisen, motorists would gladly aid its endeavours. But, instead of becoming recognised as the exponent of a policy of improvement

findings, but the latter are such as to prove acceptable to fair-minded persons—and certainly they controvert much of the irresponsible writing which was sent to the Press in the guise of "highway protection"—a phrase which is often narrowed to mean merely "the exclusion of the motorist."

Unrolled Stones.

At this season of the year reports frequently come to hand with regard to the unrolled stones which are found on the roadway. In many districts the surveyors rightly insist that repairs shall be made up as quickly as possible so that traffic shall not be impeded nor the life of tyres threatened. Elsewhere, however, a "happy go lucky" plan prevails, with the result that the careful driver has to go on to the footpath. Otherwise he would run great risks in dashing over several yards of loose stones, more or less pointed. And then, should the ubiquitous policeman be about, the motorist of economical mind is promptly summoned for legal disobedience. The matter is one of general importance. The provision of the Act in preventing the motorist from using the footpath was framed in view of the normal condition of the road, but when the local authorities institut-



Mr. E. E. Wagstaff at the wheel of his 28-h.p. Daimler Car which travelled from Sydney, N.S.W., to Melbourne, Victoria, in October last. The photograph from which the illustration is reproduced was taken outside the Europa Hotel, at Europa, Victoria.

of the highways, the League seems to have attained fame on account of its denunciatory attitude towards motor-cars. King Canute was not successful in commanding the waves, and the Highways Protection League will not have better luck in calling upon motor-cars to stop their running.

An Appeal to the Commission.

MR. F. H. CERRITO, who has lately become honorary secretary of the Midland A.C., has made a good start by sending a well-argued reply to the circular of the Warwickshire Highways Protection League to the County Council on the subject of motorists and their cars. He takes up the wise line that both the League and his club may be looked upon as partisan bodies; consequently anything that either may say deserves careful, if not critical, consideration on the part of those who may be called upon to decide as to the points of difference. Fortunately Mr. Cerrito is able to point to an impartial Commission that has had all the contentions *pro* and *con* before it and that has sifted the evidence, examined the witnesses, and given its decision with almost judicial authority. Probably the extremists on both sides would express dissatisfaction with its

quite a new set of circumstances in the form of unrolled metal surely magisterial discretion should prevail!

More Public Services.

THE way in which the railway companies have lately been watching the development of the various public services which have been established at seaside and other resorts indicates that they will enter more largely into this business in the future than has hitherto been the case. We learn that during the past few days one of the leading companies purchased fourteen motor-omnibuses with a view to improving the summer services, and that considerable accession of this class of traffic is likely to be noted during the coming season. It is recognised everywhere that the easy mobility of the motor-vehicle, which requires no specially constructed tracks, has rendered it easily able to supersede the derelict light railway system in some of the counties, while it will prevent money being wasted on the installation of others elsewhere.

THE trustees of the Jefferson Hospital, Philadelphia, U.S.A., have lately acquired an electrical motor ambulance.

THE STANLEY STEAM CAR.

(Concluded from page 1026.)

FIG. 7 illustrates the new glass water level indicator by which the position of the water in the boiler is determined. The water column X is connected with the boiler, top and bottom, so that the water stands at the same level in the column as it is in the boiler A. Connected with the column, about eight or nine inches from the bottom of the boiler, is a casting C, containing a chamber Z, which fills up from the water column. If the water level is above the connection, it will fill with water, but if it is below it will fill with steam. Surrounding this chamber is another chamber Y, through which the feed water is pumped on its way to the boiler through the pipe K. As the water is pumped through the chamber the contents of the inner chamber are cooled off as soon as the water is high enough to cover the connection with the water column. The indicator itself is in the form of a "U" shaped tube E, open at the top and with one side consisting of a glass tube D on the dashboard B. The other side of the "U" tube is of metal and the end of it is sealed, and inserted through the bottom of the inner chamber of the casting C above described, and extending some distance up into it. The glass tube extends several inches higher than the other end of the "U." The latter tube is filled with water so that the sealed end in the chamber is full, the water standing in the glass, when cold, an inch or two from the bottom of the glass. The operation is as follows:—As long as the inner chamber is filled with water, and while the by-pass is closed, the feed water is being pumped through the outer chamber; it will keep the water in the inner chamber comparatively cool, and the water will remain at a low point in the glass. As soon, however, as the water gets

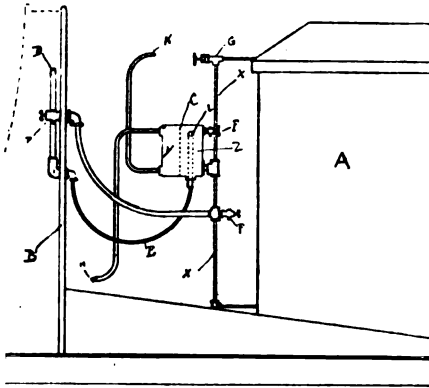


Fig. 7.—The New Glass Water Level Indicator.

will drop again in the glass. Some of the water may evaporate out of the glass, and it is then necessary to add a little to replenish it. Some three inches below the connection on the water column is a pipe leading up through the dashboard, and in the end of which is a pet cock. As long as the water covers this connection the end of the pipe will remain comparatively cool, and if the cock were opened water would flow out. If, however, the water should get below this connection, the pipe would fill with steam, and would be burning hot, and if the pet cock were opened steam would blow off. By means of this, the operator can determine whether or not the water is getting near to the point where the fusible plug would melt. The arrangement is such that when the water is low in the boiler it is high in the glass; and, *vice versa*, when it is high in the boiler it is low in the glass. It should be added, however, that when the car is cold the water will always be low in the glass, whether or not there is any water in the boiler. Consequently, before firing up, one of the pet cocks should be opened, and the throttle valve or syphon valve opened so as to vent the boiler and see if water will flow out of the pet cock. If it will, it indicates that the water in the boiler is above that point, and the fire should not be started until the operator is certain that there is water in the boiler. The great advantage claimed for this device is that it has no moving parts, and that there is practically nothing that can get out of order. G is a pin valve to shut off the steam from the water column X so that the bottom connection into the boiler of this water column may be cleared by opening the pet cock F and blowing water through this.

The vehicles are fitted with either two or four-seated bodies, Fig. 8 depicting the 10-15-h.p. car adapted to carry four persons, the rear seat being adapted to fold up and form a luggage platform when not required. The wheel base is 7 ft. and the track 4 ft. 6 in. We may add that the British agents for the

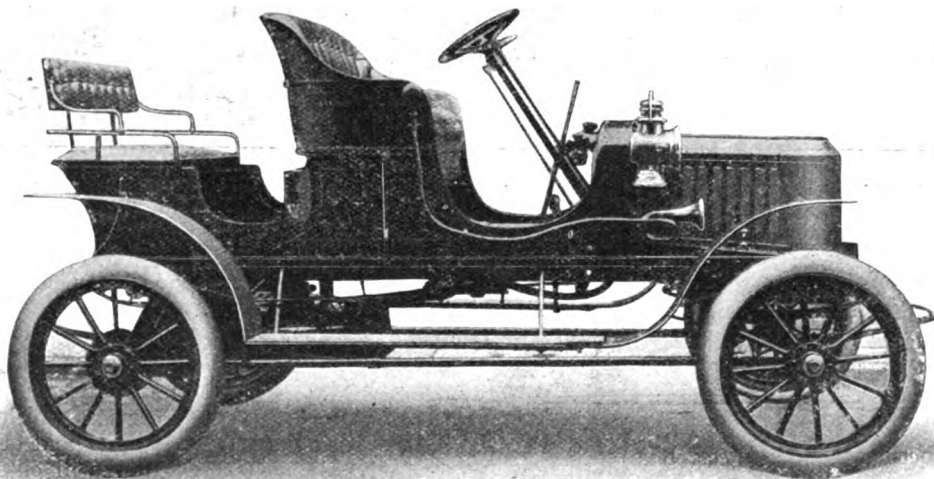


Fig. 8.—General View of Stanley 10-15-h.p. Steam Car with Folding Rear Seat.

below the connection to this inner chamber, the chamber will fill with steam, and as it surrounds the end of the "U" it will vaporize some of the water in it, and force the water further up in the glass, thus showing that the water level is below this point: whereupon the by-pass should again be closed until the water once more falls down in the glass. Usually when the car is standing, and sometimes when running with the by-pass open, these parts will heat sufficiently to throw the water up in the glass a little. In this case, if the by-pass is closed, and if the water is above the connection, it will immediately cool it off, and the water

Stanley vehicles are Mr. F. Wilkinson, 16, John Dalton Street, Manchester, and Messrs. W. Galloway and Co., Gateshead.

ONE of the numerous results of the Prevention of Corruption Act now visible is to be seen in the following note, printed on the stationery of a provincial firm of carriage builders:—The trade custom of presenting to coachmen and chauffeurs small gratuities as an encouragement to exercise cars is observed by this firm, unless objected to by the customer.

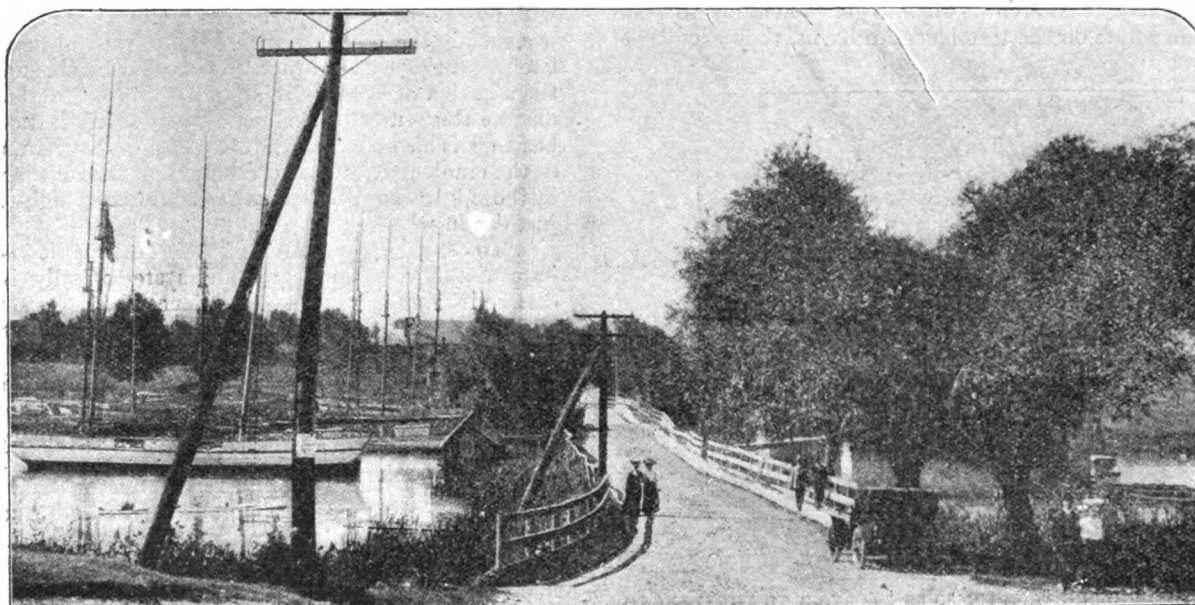
SOME NOTES ON OVERHEATING.

THE senses vary with different people, and this is especially shown by the varying symptoms produced in the more or less fortunate motor owner when his automobile indulges in that eccentricity known as "overheating." A friend of mine always declares that he discovers the complaint by a peculiar smarting of his eyes, but the majority diagnose the disorder by a knocking sound which the engine makes on these occasions; others are not as good diagnosticians and merely appreciate the state of affairs by the engine pulling badly, and still others but when the piston seizes and search has to be made for a single four-legged horse to drag the many-horsed engine home. Well it is if the state of affairs be recognised prior to the last-named condition, so that the ignominy of being drawn by a quadruped may be obviated.

Over-heating causes excessive expansion of the incoming charge, and thus a full one is not admitted; in addition, the excessive heat results in premature ignition, and so the mixture is exploded before it is compressed and there is less force—that is, less power; furthermore, the oil which lubricates, or should lubricate, the liner or inside of the cylinder and the piston rings is burnt up, and so the piston may seize or even

that is the mechanical one in which the oil is forced by a small pump to where it is required, the pipe rarely gets blocked, as there is pressure behind it; as a result, however, of dirt and cold such may occur, or the band that works the pump may slip or break and the pump thus cease working. In the pressure form the tube conveying the exhaust gases may get blocked and thus the oil is not propelled. The sight drips of both forms of lubricator may also need adjustment, the oil of course being thicker in cold than hot weather. In the event of the pump driving belt breaking, a boot lace will in an emergency carry on the work. A patent steel spring belt is made with a protected roller fastening that answers well.

Imperfect water circulation is probably the commonest source of over-heating, especially in engines cooled by a friction-driven pump. The causes are furring of pipes due to hard water; this can be eliminated by only using distilled water, it costs but a few pence a gallon and its use eliminates one source of worry. An air lock may also prevent the water circulating and so the cooling of the cylinders. If the pump works and the water is not delivering, this should be suspected. The treatment is to open the cock at the radiators and so let out the air; if there is no cock there, a water joint must be broken, and after the water is seen to flow remake the joint with a little asbestos



Motoring in Canada.—A Typical Scene near Montreal.

the connecting rod between the piston and crank shaft may break—a catastrophe beyond roadside repair. These troubles may be considered under six headings, the classification being according to the chief causes:—1. Lubrication insufficient, or defective or improper. 2. Water circulation out of order. 3. Ignition improper. 4. Carburettor imperfect, mixture too rich. 5. Compression poor. 6. Excessive load or friction in transmission (such as a broken ball in the bearing of one of the motion shafts in the gear-box) and thus more power being required than the engine can produce. I propose to consider these conditions individually.

The lubricant itself may reach the parts that require its soothing presence, but its quality may be poor, so that it not only becomes too thin but may decompose and form pitch or grit that, in lieu of reducing friction, sets it up. The temperature in the cylinder may be 3,600 deg. F., and at the part to be oiled perhaps only 500 deg. F., still, unless the oil be a mineral one from which the tarry matters have been removed by filtration through animal charcoal at a high temperature, the lubricant will be useless, and then, as a result of the friction, serious trouble results. Again, although the lubricant may be excellent it may not reach its destination. In the Dubrulle form of lubricator,

cardboard. The blocking of pipes may ensue as a result of want of care in putting on new rubber connections; in slipping these over on to the copper piping, the outer portion of the hose may only engage and the inner part be pushed back, thus forming a valve-like obstruction to the passage of the water. The pump friction wheel may, as a result of grease or wet, slip, and so the pump not revolve sufficiently rapidly to force the water round. The vanes of the pump wheel itself may be worn so that proper pockets are not formed to catch and spin the water round. This latter trouble usually means taking the pump to pieces and fitting a new wheel. These causes of worry were fully considered in an article published in the *M.C.J.* of June 15th last. Prior to searching for these morbidities it is as well to make sure that there is water in the tank to be circulated.

With the high tension system of ignition defects are common and account for a good many cases of overheating, loose connections, partly broken wires, imperfect contact at the contact maker, whether it be of the internal or external variety, due to wear of the wipes or the fibre wheel, or the bush of the latter, imperfect contact at the trembler of coils fitted therewith, or of the trembler at the make and break on the non-trembler kind, sooted sparking plugs, broken porcelain, or exhausted

accumulators: one of these is the usual cause. Running the engine in the dark or turning the starting handle with the current switched on will usually reveal a short or an imperfect connection, which, when found, can of course be speedily remedied. If needful, each lead can be separately tested with a battery, and either a voltmeter or an electric bell. All contacts must, of course, be kept clean, especially at the accumulators; here, after polishing the terminals and screwing them on, a little grease should be applied to prevent corrosion. Earthing the plugs on the engine and shorting the contact maker will show plug mischief. The sparking points should be about one-sixteenth of an inch apart, but with run down accumulators they may be approximated a little more. Should the commutator wiper not press evenly on the fibre wheel, they should be adjusted so as to do so, or if the bush of the fibre wheel is worn so that the wheel wobbles, either a new bush should be driven on or a washer fitted so as to keep the fibre wheel square with the two to one shaft on which it is fixed. If the blocks or rollers on the wipers are worn unevenly, new ones are needed, or the old ones can be ground true on an emery wheel. It is as well to carry spare wipers, whether the contact maker be of the internal or external wiper variety, or if it be a make and break. A voltmeter or a four-volt lamp speedily shows if the accumulators are run down; if a spare set is not procurable, by closing the sparking plug points slightly, it is often possible to get the engine to run. If the platinum points on the tremblers are burnt, they should be



An Early Benz Hotel 'Bus.

trued with a fine file and then set so as to give a good buzz. In the high tension magneto the usual trouble is due to dirt at either the platinum points or on the carbon brush to the distributor; if these are occasionally cleaned, and the wires and contacts kept well insulated, trouble from this cause cannot occur. It is well to remember, however, that the magnets need remagnetizing occasionally.

With the present automatic carburettor carbon deposit on the piston or in the combustion head is rather apt to occur, and then a small portion of the deposit may become incandescent and so ignite the mixture prior to compression. A similar deposit may result from the jet in the carburettor wearing, and so making too rich a mixture. The only treatment is to systematically take down the cylinders and clean and scrape them every two or three months if the car is in continuous operation. A flooded carburettor with a blocked overflow hole may rapidly cause this condition; inspection to see that the needle valve is true and that the overflow hole is clear is less trouble than frequent taking down of the cylinders for deposit removal by scraping. Prevention being better than cure, it is as well to set the carburettor so that the engine runs with as much air as possible and to use a reliable lubricant.

Leaky valves or joints are a source of poor compression and thus indirectly of overheating. The constant grinding in of valves is not to be commended, but after a time they may become pitted and then should be taken out, carefully wiped and

ground in. But, before making the valve the bugbear of the trouble, it is as well to make sure that the valve lifters, as a result of the valve seats wearing, are not too long, and thus prevent the valves closing; even if, when cold, they do not do so they may when the parts are hot. There should be just room to pass a sheet of thin paper between the valve stem and lifter when it is down, this will be enough allowance for heat expansion. The inlet valve joints or those at the combustion head may blow, that is, allow gas to pass, either as a result of the nuts holding them in position shaking loose or through the copper asbestos rings wearing. If a little oil is smeared round a suspected joint and the engine pulled round, bubbles will reveal where the defect is, and then, if a new copper asbestos ring is not at hand, a grommet of asbestos cord rubbed up with red lead makes an efficient substitute. Another cause of loss of power is gummed rings due to too much oil blocking the grooves in which the rings should work, opening the compression cocks and pouring in either paraffin or petrol, and then pulling the engine round with the current switched off will clean and thus release the rings.

Excessive friction in transmission may certainly cause overheating; this may be due to want of efficient and sufficient lubrication in the gear-box or bevel bearings or to a broken ball in one of the bearings. The feeling of such of the latter as are accessible will, by the presence of heat, reveal the morbid one. Frequently bearings in the gear-box are oiled by the lubricant in the box itself, and this cold weather this may be too thick to reach them; the addition of a little relatively thin oil to the gear-box will obviate this source of trouble. Want of lubrication of the crank bearings is also a cause. Most cars now have an inspection hole in the crank case, so that the height of the oil there can be seen; in those lubricated by splash it should be so high that the cranks just dip in when pulled round.

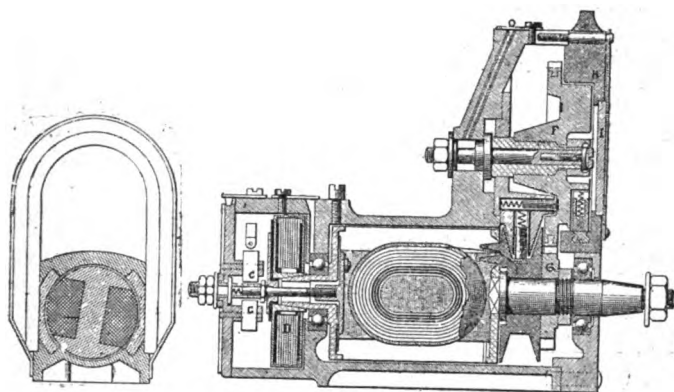
To sum up, in cases of overheating it is as well to immediately stop the engine and systematically investigate the diseased state. From experience I suggest the following procedure:—1. See if there is water in the radiator or tank, if so, whether the pump is working and the water circulating; feeling one of the rubber connections will reveal if the water is delivering. Remember that an air lock may hold up the circulation; to treat this open the cock at the radiator, if there is one, if none, break a water joint or connection and so let out the air. 2. See if there is oil in the lubricator; if so, if the lubricator works, whether the pipes are free and that the oil drips. 3. Notice if engine fires regularly; if not, look for loose connection, bad insulation, wipers not pressing evenly on contact-maker, plugs sooted or porcelain broken, accumulators run down or magneto not working. 4. Examine carburettor, see if overflow hole or pipe is blocked, if jet hole worn and too large, if float floats, if needle valve is true. 5. Test compression, to see if the valves or joints leak, and if the piston rings are gummed. If engine fires prematurely the cylinder will want, on first opportunity, removing and the deposit scraped off the piston. 6. Lastly, examine bearings to see if any have fired or are hot as a result of insufficient lubrication, or a broken ball. Attention to these points, if it does not prevent, should anyway help in effecting a cure of overheating.

C. T. W. H.

MR. H. P. MAXIM, a well-known American motor engineer, writes:—"Now that the weather is down close to the freezing point, drivers and owners will doubtless experience more or less trouble in starting their cars, especially if the machine is kept in an unheated stable. I have adopted a method that is both simple and sure, and I have no more difficulty in starting my four-cylinder machine at 10 deg. below zero than I would at 90 deg. in the shade. I take an ordinary household kettle of boiling water and pour it slowly over the carburettor and inlet pipe, and by the time I have used all the water these members are warmed up. To make sure that the cold oil has not insulated the magneto shaft I squirt a drop or two of petrol on it just where it comes out of the bearing. This cuts the oil, and makes sure of a good contact for the earth return in the magneto."

THE NIEUPORT HIGH TENSION MAGNETO.

A NEW high tension magneto, which may be adapted to a motor of any number of cylinders, has lately been introduced by La Société des Allumages Electriques des Moteurs Nieuport, of Suresnes, France. The fields are composed of four U steel magnets held together at their bases by screws and bound over the tops by a brass strip. A peculiar feature is the method of incorporating the pole pieces of the field. As shown in Fig. 1, the pole pieces are directly embedded in a white non-magnetic material, and the whole is then bored out to form the chamber in which the armature revolves. In this



Figs. 1 and 2.—Transverse and Longitudinal Sectional Views of Nieuport Magneto.

way the armature is completely protected from the entrance or accumulation of foreign matter. In the side sectional elevation, Fig. 2, are shown the assembly locations of the parts. The primary and secondary armature windings are indicated by heavy and light lines respectively. The armature core is made of laminated sheet iron and the armature as a whole is mounted on D-W-F ball bearings. The two windings, the condenser and the primary circuit breaker revolve with the armature. The circuit breaker parts, shown at A and B, Fig. 3, are mounted on the rear face of the condenser casing, and the break in the cir-



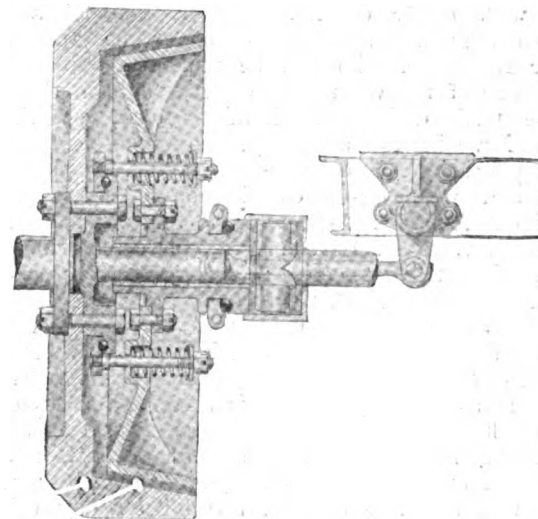
Fig. 3.—View of Interrupter on Nieuport Magneto.

cuit is caused by the contact of the arm A with either one or the other of the two rollers shown at C, Fig. 2. These rollers are a part of the end casing, and it is at this point that the adjustment of the time of the spark with reference to the armature position is made. The condenser D, placed across the primary break, is enclosed in a sealed casing for its protection. One end of the secondary winding is earthed and the other is led, as shown in Fig. 2, to the grooved insulating

ring which is part of the armature. In the bottom of the groove is located a segment, with which the end of the secondary winding is connected. A spring brush at E conveys the high tension current to a second brush, which contacts a metallic ring set into the insulated rotative member F. The latter is mounted on a plain bronze bearing and is driven by the pinion G on the armature shaft. The disc F in turn carries a spring-pressed brush, which makes contact at the proper time with pole pieces set into the stationary insulating member H, on the upper edge of which are the terminals for connection to the sparking plugs. A piece of glass, I, is arranged at the centre of H for the purpose of making observations of the position of the brush carried by the rotor F. Simplicity and directness in action have been aimed at in the design of the Nieuport magneto, and it is claimed to give an exceptionally good spark at a low rotative speed of the armature.

A NEW CLUTCH.

THE accompanying illustration gives a sectional view of a leather-faced cone clutch which has just been put on the market by Messrs. Acer, Ltd., who are supplying it both for fitting to new chassis, and for improving old cars in which the clutches have hitherto been a source of tribulation to the drivers. It will be noticed that the device is provided with multiple springs, these, indeed, being one of its chief features, and not only enable rapid adjustment when required, but are claimed to give better results in practice than clutches in which only one central spring is provided. No end thrust is possible, for the design nullifies it, as will be gathered from the drawing. Attention is also directed to the large ball race ($5\frac{1}{2}$ in. centres), which takes the pull of the springs in de-clutching, and also to a second ball race



—instead of merely a plain ring—that is attached to the draw links to avoid friction when the clutch is withdrawn. Owing to the short radius at which the arms of the release lever work, only a small pressure is required on the pedal in operating. There is a universal joint installed that increases the facility of dismantling the clutch, besides making accurate alignment or whipping of the frame a matter of comparative indifference. Altogether the "Acer" clutch appears to be a well-thought-out and practical type for, in spite of an increasing fashion for other varieties, it is generally admitted that a well-proportioned leather clutch is indeed hard to beat for simplicity, robustness, durability and low cost of renewal.

A LARGE number of inquiries for pleasure cars are reported to have lately been received from Cuba, Porto Rico, Mexico and South America by a number of New York agents.

MESSRS. WALKER BROS. (Wigan) Ltd., of Pagefield Iron Works, Wigan, are storing and repairing any cars which go their way. Mr. A. J. Drake is in charge of the well-equipped workshop.

MOTORING AS RECREATION.



THE difference between play and work is often a question of temperament. Mr. G. L. Gomme, the clerk to the London County Council, regards "a change of work" as recreation; others might see in the effort to get from one pastime to another a species of work at once irksome and troublesome. We were led to this reflection on glancing through some of the 2,000 pages that constitute "Who's Who."

Although a standard work of reference, this familiar red volume is not without its entertaining side, and in the intervals of technicalities and business cares its pages may be agreeably consulted with regard to the play-times of prominent public men and women. That is the journalist's recreation. To be included in the famous volume issued by Messrs. A. and C. Black is something; for those whose biographies have thus attained authoritative publication must have become famous in some particular work of life. Their recreations are as varied as their pursuits. Mr. George Bernard Shaw, who, by the way, became a motorist at the end of 1907, and has doubtless included a determination not to be caught in a police trap among his good resolutions for 1908, declares his recreation to be "anything but work."

Others take leisure more seriously. Professor Herkomer plumps for automobilism, and Sir J. H. A. Macdonald, whose lettered distinctions occupy several lines, includes motoring in a wide range of enjoyment ranging between volunteering and arbitrating in international football disputes—the latter almost as hazardous as the mountaineering which Sir Martin Conway combines with motor cycling. Signor Marconi associates hunting, cycling, and motoring as his most alluring recreations; and Major Langrishe, who will be remembered by motoring pioneers as one of the venturesome participants in the famous 1,000 mile trial, delights in hunting foxes, yachting and motoring. Mr. Charles Cordingley, who was also a member of the 1900 pilgrimage, is described as taking his pleasures in travelling and motoring—a combination of tastes that has carried him to Algeria for the winter. Sir C. Cameron, Sir T. Dewar, and Mr. E. H. Carlile, M.P., place motoring among their recreations, the latter also confessing to farming as equally delightful. The Rev. R. J. Campbell has twin recreations in horse riding and motoring. One of the curious omissions is with regard to Lord Montagu of Beaulieu, who, if we look upon the absence of motoring for recreation as any indication, takes automobilism so seriously that it is scarcely a pastime. The motor-cycle has some strong adherents, Mrs. Kennard, the novelist, and Mr. Harold Gorst, the son of Sir John Gorst, among them. The favourite summer amusement of the lady novelist is to "go on tour and ride forty or fifty miles a day seeing the country, natives, &c." We may also claim the Hon. Stephen Coleridge as a friend of Motorism, for he takes pleasure in "all manly sports that do not involve cruelty to animals."

Several teachers at colleges and polytechnics describe motoring as among their favourite ways of spending leisure hours, notably Professor Callendar, of the Royal College of Science, Mr. J. S. Lyon, of the Royal College of Science for Ireland, who combines a taste for vocal music with petrol engine building, and Mr. Walter Hibbert, a lecturer at the Regent Street Polytechnic, who has written on electrical ignition for motor vehicles and regards experimental work as a great recreation. The recreation of Mr. J. Hargreaves, M.F.H., whose enthusiasm for motor racing has been a feature of the automobile year in the past is not given, and Dr. H. S. Hele-Shaw might have added motoring to his published pastimes of golf and mountaineering. Among the other items of social information contained in the 1908 "Who's Who," we learn that the New Zealand statesman, the Hon. J. E. Jenkinson, places bowling and motoring as his dual open-air attractions, and that Sir W. G. D. Goff, Bart., goes-a-yachting with as keen enjoyment as he goes-a-motoring.

CONTINENTAL NOTES.

Motor Scouts in France.

Following the example of the Automobile Association in this country, cyclist scouts are being put on the roads in France by the Association Generale Automobile at those points where the police have recently been too assiduous in their attentions to motorists.

Belgian Motor-car Imports and Exports.

The imports of foreign motor-cars and parts into Belgium during last year attained a value of £173,048, as contrasted with only £157,664 in 1906. During the same period the exports of motor-cars and parts from Belgium increased from £376,092 to £440,044.

Public Services in Italy.

A proposal is under consideration to establish a public motor-car service between Verolanuova and Orzinuovi (Brescia). The Italian Minister of Public Works has also received an application for authority to start motor-car services in the provinces of Verona, Brescia, Mantua, Rovigo, Vicenza, and Padua.

State Public Services in Austria.

The second State public motor-car service in Austria has just been opened between Linz and Eferding. The vehicles employed are of 35-h.p., and make the journey of 26 kilometres in 1 h. 40 min. In addition to the mails, both passengers and luggage are carried. It is intended to extend the service at an early date to Feuerbach.

A State Automobile Testing Laboratory.

The Prussian Minister of Education's Budget for 1908 includes a sum of £1,500 for the establishment of a State automobile testing laboratory. In view of the progress of the movement it is intended to devote special attention to the subject of motor-cars at the Technische Hochschule in Berlin, where the amount above mentioned is to be spent in perfecting the equipment of the existing laboratory.

The Exhibition Question in France.

At a meeting of the French Chambre Syndicale de l'Automobile in Paris last week it was decided that the annual Paris Salon should be held in December next as usual. The exhibitors are to be asked to go in for less costly stands than hitherto, but at the same time the organisers are not to relinquish any offer to render the general setting of the exhibition one of elegance and brilliance. An endeavour is also to be made to reduce the number of free entries to the Salon, while the exhibitors at the show shall, it is proposed, share in any profits that may be made.

An Alcohol Motor Competition.

The French Automobile Club, with the co-operation of the Ligue Nationale Contre l'Alcoolisme, is organising a trial of motor-car engines solely using denatured alcohol as fuel. The tests, which will commence on June 1st next at the A.C.F. laboratory at Levallois, will comprise (1), a six hours' run on full load; (2), three hours' running under half load; and (3), an equal period running light. The awards will have regard to (a) the weight and power of the engines in horse-power kilograms, under the best working conditions, and (b), the consumption in litres per horse-power hour, at the maximum power developed. One day will be allowed to the competitors to fix their engines on the testing benches, and a second day for any preliminary trials to see that everything is in order. Entries at £4 per engine are to be sent to the A.C.F., 3, Place de la Concorde, Paris, before the 15th May next.

The A.C.F. Grand Prix Race.

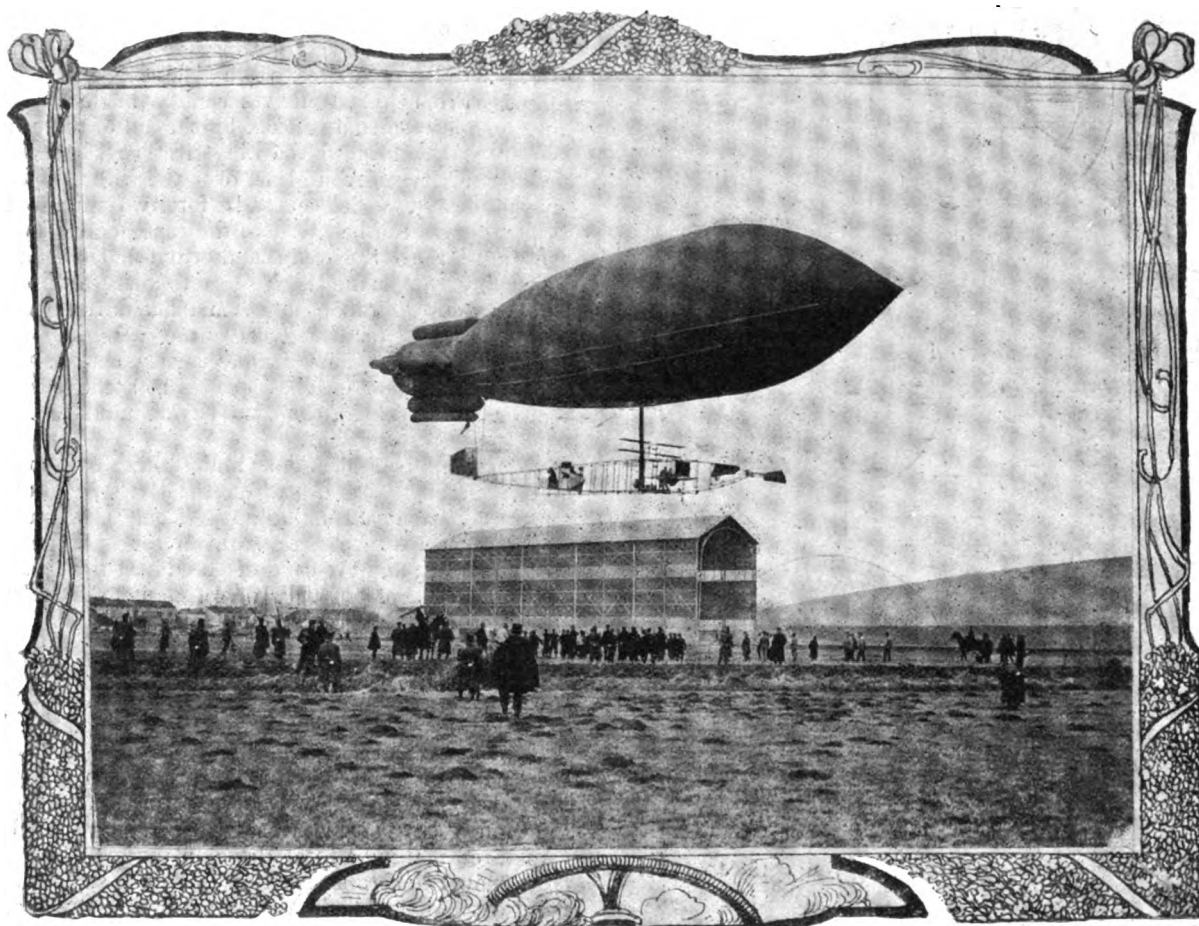
So far fifteen cars have been definitely entered for the A.C.F. 1908 Grand Prix race, viz., three each Germans (Belgium), Benz (Germany), Fiat (Italy), Weigel and Austin (Great Britain). The Sporting Commission of the A.C.F. has decided that even if too large an entry list is secured no elimina-

tion contest shall be held, but that the number of cars per firm shall be cut down to two instead of three. Quite a number of new drivers will, it is expected, be seen at the wheels of cars in the contest, while many of the old brigade will be found driving under fresh colours. Thus Jenatzy is not included in the Mercedes team, which will consist of Messrs. Salzer, W. Poegge and Lautenschlager. Duray, Rougier and Minoia, the latter from the Isotta-Fraschini works, will form the De Dietrich team; Sisz, Caillois and Dimitri that of the Renault Company; the Clement-Bayard team will be made up of Rigal, Gabriel, who has hitherto been with the De Dietrich Company, and Hautvast, the old Pipe driver; while for the Panhard cars the drivers are Heath, Demogeot and Cissac. The first of the trio has driven for the firm before, Demogeot has hitherto been known in connection with Darracq vehicles, while Cissac will be remembered for his series of record-breaking runs on a Peugeot motor-bicycle on Blackpool promenade.

£72 for two, and £100 for three, and at double these rates until June 1st next. Three Isotta-Fraschini and three Gregoires have already been entered for the event. It is stated that the engines of the first-named cars will have four cylinders 62 mm. bore.

Miscellaneous Items.

A COMPANY has just been formed in Dusseldorf with a capital of £5,000 and the title Die Deutsche Elektromobil Gesellschaft "Fram," to acquire and develop the electrical vehicle patents of Sr. E. Cantono, of Rome.—A motor-car exhibition is to be held at Prague, Bohemia, from the 22nd to the 26th March next.—The annual Dutch motor-car exhibition opened in Amsterdam on the 17th inst., and will continue to the 26th inst.—A new anti-freezing compound known as motoglycerol has lately been put on the market by La Société des Huiles de Nanterre, of Nanterre, France.—It is reported that a company has been formed at Janina, Turkey, for the establish-



The French Airship "Ville de Paris," which last week successfully made the journey from Sartrouville to Verdun, a distance of about 135 miles.

Le Grand Prix des Voiturettes.

The French Automobile Club has lost no time in issuing the rules relating to the voiturette race which is to be run the day preceding or following the A.C.F. Grand Prix in July next. The contest will be over a distance of between 350 and 500 kilometres, and be open for cars with engines of a maximum cylinder dimension as follows:—Single-cylinders up to 100 mm. bore, two-cylinders up to 78 mm., three-cylinders up to 68 mm., and four-cylinders up to 62 mm. The cars must weigh, in running order, but not including water, spirit, tools, or spare parts, a minimum of 600 kilog., and must carry not more than two persons side by side. Neither the use of detachable rims nor wheels will be allowed. Firms may each enter three cars, but the A.C.F. reserves the right, in case of an unusually large number of entries, to reduce the number to two. Entries will be received up to February 15th at the rate of £40 for one car,

ment of a public motor-car service between that town and Preveza.—According to a return issued by the Automobile Club de la Sarthe, fifty-nine accidents due to horses took place in that Department of France during the final quarter of 1907, causing the death of ten persons and injuries to fifty-seven others. Motor-cars only caused four accidents during the same period, and from these no deaths resulted, and but four people were injured.—A motor-car exhibition which will run to February 2nd was opened in Turin on the 18th inst.—A number of Brasier 12-15-h.p. four-cylinder taximeter cabs are about to be placed in service in Bordeaux.—Mr. Henry Farman was entertained at a banquet at the A.C.F. club house in Paris on Thursday last week by the French Aero Club, when Messrs. Archdeacon and Deutsch de la Meurthe each presented the intrepid aeronautist with a cheque for £1,000—the prize he won by the successful flight on his aeroplane.

MOTOR TYRE SECURITY BOLTS.

THE Palmer Tyre, Ltd., have drawn our attention to the important question of the number of security bolts which should be employed in connection with motor tyres, and the spacing of them. They inform us that complaints are occasionally received of tubes bursting suddenly while the car has been turning a corner at high speed, and, upon investigating such cases, they have invariably found that the trouble has been entirely due to an insufficient number of bolts being used, or those employed being badly spaced. The valve, contrary to the general opinion, does not fulfil any of the functions of a security bolt. The subject appears to be so little understood by users, or appreciated by car manufacturers, that the Palmer Tyre, Ltd., have prepared the following table showing the correct number and spacing of security bolts for different



Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 5.

sizes of wheel and tyre. The particulars given apply to other types in addition to Palmers:—

Size of Tyre in mm.	10-spoke Wheels.				12-spoke Wheels.			
700 by 65	4 bolts as Fig. 1				4 bolts as Fig. 3.			
700 by 75								
750 by 75								
800 by 75								
700 by 90	4 " " 1				4 " " 3.			
760 by 90								
810 by 90								
870 by 90								
910 by 90	5 " " 2				5 " " 4.			
810 by 100								
870 by 100								
815 by 105								
875 by 105	5 " " 2				5 " " 4.			
915 by 105								
820 by 120								
850 by 120								
880 by 120	4 " " 1				5 " " 4.			
920 by 120								
895 by 135								
935 by 135								
	5 " " 2				6 " " 5.			

The 100 mm. tyres, being designed to fit 90 mm. rims, are deeper in proportion to the width of rim than other sizes, and,

therefore, require a larger number of security bolts. It is important that the bolt holes should be drilled exactly central between the edges of the tips of the rims. It is not unusual to find wheels in which the bolt holes are as much as 3-8 in. out of centre; in such cases the bolt only holds the bead of the cover on one side, and there is a risk of the head of the bolt being broken off owing to the unequal strain set up.

EGYPT AND THE HOLY LAND.

N EARLY eight years ago, when planning a tour of the world with his Napier motor-car, the question of a drive in Egypt and the Holy Land was uppermost in the mind of Mr. C. F. Glidden, but at that time very little information could be obtained as regards the condition of the roads for motor-cars in the vicinity of the historic places. Information is now less scanty. During the past five years several hundreds of miles of new roads have been constructed in the Turkish possessions on the eastern shores of the Mediterranean, opening up both Egypt and Syria. To explore these new fields with his car, Mr. Glidden proposes to establish headquarters at Alexandria, Egypt. From this city drives can be made to many places of note. In a western direction, by the aid of the compass, he will venture well out on to the Libyan Desert, beyond the recently discovered city of Abu Mina, over the billiard-table-like surface of the desert, which extends for two hundred kilometres. Branch drives can be made to the coast, and south, further into the interior, to the oases and camps of the nomad tribes. Returning to Alexandria, he can follow up the Nile Delta to Cairo. Cairo is 130 miles from Alexandria, and the drives in Northern Egypt on the desert to the oases, and return journey, ought to total about 500 miles. Drives south and east of Cairo to the Pyramids of Gizeh, thence across the desert to those of Abusir and Sakkara, can also be accomplished. A good road runs from Cairo to Suez.

It would be a hazardous undertaking to drive from Cairo to Jerusalem across the desert, as the Syrian coast is cut up by unbridged streams running down from the mountains, and the trail is principally a pack caravan route, often infested with hostile Kurds, and the sand of the desert in this section of Syria is soft and deep. It will, therefore, be necessary, in order to reach Syria, to ship the car from Egypt to Jaffa, from which place a good road runs to Jerusalem, the Dead Sea, the River Jordan, and other points of interest. To reach Upper Syria the motorists must return to Jaffa and sail to Haifa, motoring from this point over the mountains of Samaria to Nazareth and the Sea of Galilee at Tiberias. Returning, and sailing from Haifa, their next point in Syria will be Beirut. From this place they are assured of a good road to Damascus; across the Syrian desert to the ruined city of Palmyra, and possibly to Babylon and the Euphrates, making a total drive in Syria of 1,500 miles. Carriage now run across the desert, which is smooth and hard from Bagdad to Aleppo, and on this route there have been established post houses with sleeping and dining accommodation.

MESSRS. PACK AND SONS, carriage builders, George Street, Brighton, have lately fitted a handsome limousine-landaulet body to a 35-45-h.p. Renault chassis to the order of Colonel Shaden, of Rushall Beacon.

COL. ERSKINE and the officers of the 3rd V.B. Northumberland Fusiliers have been testing a motor wagon designed by Sir W. G. Armstrong, Whitworth and Co., Ltd., for the conveyance of troops and baggage. The wagon is constructed primarily as a char-a-banc to carry twenty-five troops fully equipped with rifles and ammunition, together with the driver and two officers. Some 10,000 rounds of reserve ammunition, a stretcher, and various tools and appliances have also their apportioned places, and all accessories are amply secured. When the wagon is not required for troop transport it can in the space of a couple of minutes be transformed into a flat lorry with sides, and will take in that form three tons of material.

THE motor-car is being introduced into Bradford.

THE Durham Motor and Engineering Works have a garage opposite South Ealing Station.

MESSRS. RUSSELL AND Co. have a well-appointed garage at Dryad Street, Felsham Road, Putney, S.W., where accommodation is available for twenty large cars.

THE authorities of the Royal Naval Barracks, Portsmouth, have lately acquired a steam motor-wagon for conveying blue-jackets' luggage and stores from the barracks to the Dockyard.

ADDITIONAL premises in Renfield Street, Glasgow, have been acquired by the County Chemical Company, Ltd., of Birmingham. They have now a licence for the storage of ten tons of carbide in Glasgow.

MR. E. RICHARD, who is known to most motorists who visit Brighton, is retiring from the management of the Hotel Metropole in that resort. He has been responsible for the Metropole for the past eighteen years.

A LARGE showroom in Northumberland Street, Newcastle-on-Tyne, has been taken by the Percy Cycle Company. This adjoins their motor garage, and will be the headquarters of their business in the letting of motor-cars on hire.

WITHIN a fortnight of being equipped with motor appliances the new fire station in Trinity Road, Tooting, was the scene of a fire, some petrol having become ignited. The new motor fire-escape and first aid appliance were seriously damaged.

A CANADIAN correspondent reports that there is a promising outlook for the sale of motor-cars in north-west Canada. A number of ranch owners in the Calgary-Edmonton district are now using motor vehicles in connection with their work.

THE Yachting Committee of the Automobile Club of France have worked out the times for the mile and kilometre records established at Evian by the "Lorraine-Dietrich" of M. Perignon, and find them equal to a speed of 55 kilometres 816 metres an hour.

THE value of the motor-cars and parts exported from the United States during the eleven months ending with November last is returned at £1,091,108, as compared with only £833,406 in the corresponding period of 1906. England was responsible for no less than £334,336 of the total, Canada being second on the list with £229,112.

THE Daimler Motor Company have just issued an interesting paper model of their 30-h.p. car. This affords a graphic means of illustrating the construction of this vehicle, and provides an instructive lesson in the anatomy of motor-cars. The Daimler Company would be glad to send a copy of the same to any of our readers who care to apply.

WE learn that Mr. H. Luff-Smith, who has for many years been connected with the Wolseley Tool and Motor Company, is starting on his own account as a motor-car agent at 6, High Street, Shrewsbury, where, in addition to a depot, he will have garage accommodation for a large number of cars. Mr. Luff-Smith has also secured the sole district agency for the Siddeley vehicles.

AT a recent meeting of the executive committee of the American Automobile Association the following definitions were adopted:—An international race is a race where the entrants are respectively named by and represent any two or more of the recognized national affiliated automobile clubs of the world. A national race is a race where the entrants are respectively named by and represent any two or more of the automobile clubs affiliated with the American Automobile Association.

ARGYLLS HAMPSHIRE, LTD., of Castle Road, Southsea, have sent us a sample of a new motor-tyre valve recently devised by a local inventor, Mr. W. Richards. The valve, which is contained in the main body, is a steel ball with spring. Mr. Richards claims that it will fit existing tyres, and that each valve is separately tested up to 300-lb. pressure. Easy inflation is also one of its merits, and it is very positive in action, while another important feature is that there are no loose parts liable to get lost when changing tubes.

HERE AND THERE.

A NEW garage is about to be opened in Westgate Street, Cardiff, by Mr. C. Winsor Bowen.

A NEW motor fire engine is to be obtained for the Preston Circus fire station at Brighton. The chassis is to be purchased

from the proceeds of the sale of disused appliances, and the body is to be built by the firemen.

UNDER the title of the Kraftfahrer Vereinigung Deutscher Aertzte, a society of German doctors who use motor-cars has just been formed in Berlin.

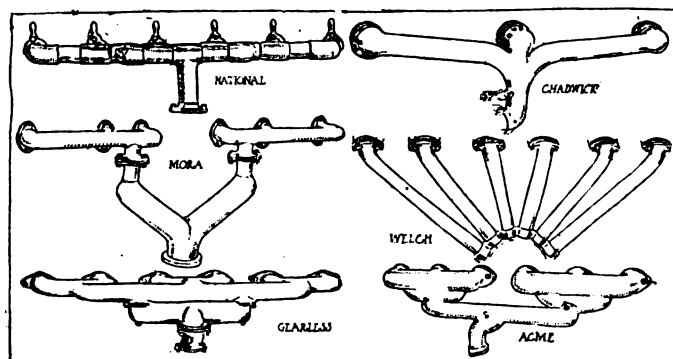
THE Weldless Steel Tube Company, Ltd., of Icknield Park Road, Birmingham, send a list of their motor tubes, and also a calendar in which art and industry are well combined.

THE Great Western Railway intend starting a motor-car service in May next between St. Clears Station and Pendine, passing through Laugharne, which will be the headquarters of the service.

ONE of the conditions which the Watch Committee of Sheffield have insisted upon in granting a licence for the motor-car in that town is that there is to be no "undercutting" of horsed cab fares.

THE Couple-Gear Freight Wheel Company, of Grand Rapids, U.S.A., has secured an order from the U.S.A. War Department for the construction of a heavy motor-wagon for use in the field service of the American army.

IN connection with the article entitled "Some Notes on Induction Pipes," published in the M.C.J. of the 14th ult., the



accompanying illustration, taken from the "Motor Age," is interesting as showing the arrangement of inlet pipes adopted by the designers of several American six-cylinder cars.

MR. W. T. LORD has arrived at Calcutta from Bombay on his Argyll car which ran over 2,000 miles, according to Smith's milometer, about 300 of which were spent in giving various interested persons in various places short trials. The journey by road from Bombay to Calcutta, via Agra, is approximately 1,700 miles. The actual time spent on the road was 77½ hours, including odd runs, the average speed being 25·69 miles per hour.

AS a special accommodation to passengers from the U.S.A. who wish to use their own automobiles in touring abroad, the North German Lloyd Steamship Company have arranged to carry motor-cars, going over and returning to Europe, at a comparatively low cost. Under the new conditions passengers may ship their automobiles on steamships sailing from New York on Thursdays, and by taking the express steamships sailing on the following Tuesdays find their cars waiting for them at Plymouth, Cherbourg, or Bremen.

A COPY of the Automobiltechnischer Kalender and Handbuch der Automobil Industrie for 1908 is just to hand from Herr M. Krayn's Verlag, Berlin, W. This is the fifth year of publication, and this work, while specially intended for use in Germany, will be found to contain much useful information for motor engineers in this country. The various components of motor-cars are described and illustrated, as also are accessories, the up-to-date character of the book being indicated by the inclusion of the new Bosch low-tension sparking plug and the 1908 models of several German motor-car firms.

THE question of widening the well-known Lion Bridge, Alnwick, is being discussed locally.

THE Canterbury (New Zealand) Automobile Association has held a South Island Reliability Trial.

A NEW motor-bus service has been commenced from Willesden to Victoria Station, W., via Kilburn High Road.

MR. A. DIGNASSE has arrived in Bombay with the 35-h.p. Sunbeam, for which Messrs. Hill, Sawyer and Co., of that city, are agents.

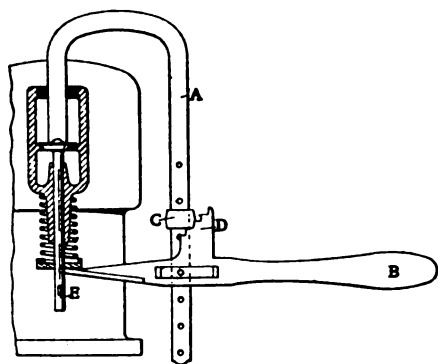
THE London Road Car Company is about to dispose of stabling and other premises which, between them, accommodate about 800 horses.

BETWEEN forty and fifty motor-cars have taken part in a P.S.A. motor meet organised by Mr. Harry Tate from the Midland Hotel, Manchester.

THE Shamrock Cycle Company, of Brunswick Street, Dublin, have installed plant for gear-cutting and also for case-hardening—a fact of importance to motor repairers in the Emerald Isle.

FROM Messrs. H. Coltman and Sons, of the Midland Iron-works, comes a neat catalogue giving illustrations and particulars of the new 20-h.p. car they have lately placed on the market. We hope to refer to this in a later issue.

THE C. F. Weeber Manufacturing Company, of Albany, U.S.A., have recently introduced the tool illustrated herewith to facilitate the removal of exhaust valves from petrol motors. As will be seen, the tool consists of a flat steel bar A, which is so shaped that one end of it rests on top of the exhaust valve, while the other is provided with a series of holes in which cotter pins can be placed, which act as pivots for the lever B. A sliding



collar C acts as a pawl in conjunction with the ratchet arrangement D, which is integral with the lever B. The inner end of the lever is forked so that it can be placed under the valve spring retaining washer. A slight pressure on the outer end of the lever forces the spring upward, at the same time pulling down on the bar A and holding the valve against lifting. The collar and ratchet retain the advantage gained and keep the spring compressed, so that the valve key at E can be easily removed.

THE catalogue for 1908 of the Royal Starling and Imperial Starling cars of the Star Cycle Company, Ltd., of Wolverhampton, comes to hand in a form easily accessible for reference, the specification and illustration of both vehicles giving prospective motorists a good idea of the leading features of these moderately-priced cars.

THE Motor House send a copy of their Car Review and Register, in which we notice that nearly 300 vehicles are offered for sale. Not only are the specifications given, but illustrations add to the effectiveness of this list, which indicates considerable activity as well as enterprise on the part of the great establishment in Euston Road, N.W.

A CERTIFICATE has been issued by the R.A.C. with reference to the 484 mile run of a 12-14-h.p. four-cylinder Krieger petrol-electric cab entered for official observation by Mr. F. Combemale. The average daily mileage was 69; the petrol consumption was $33\frac{1}{2}$ gallons, showing an average of .0414 gals. per ton mile, the average ton miles per gallon as 24.12, and the average car miles per gallon as 10.44.

MESSRS. PRYCE CROW, LTD., are carrying out motor repairs at their works, 55, Oxford Street, Swansea.

A MOVEMENT is being projected in Cornwall to present the Bishop of Truro, Dr. C. W. Stubbs, with a motor-car.

COLONEL W. J. BOSWORTH suggests that the pageant which is to be organised in London this year should be held at the Crystal Palace.

THE West Ham Corporation is about to instal a motor ambulance in its fever hospital at Plaistow. Estimates are to be obtained for a 10-12-h.p. chassis.

LORD AND LADY TALBOT OF MALAHIDE have placed an order with the Wolseley Company for a standard four-cylinder 18-h.p. Siddeley car, to be equipped with a limousine landaulet body.

THE chief item in the programme at a Brixton music hall, on Monday, was the appearance of the Countess Randow, a Russian lady, who allowed a 36-h.p. Argyll car (which, with the occupants seated in it, weighed nearly two tons) to run over her ungloved hand, then her foot, and eventually across her body.

A FIRE occurred recently at the Cleveland Car Company's fine new garage at Darlington. Fortunately the building had been installed with the Pearson Automatic Fire Alarm, which immediately notified the outbreak to the Darlington Fire Brigade, who were on the spot within three minutes of receiving the alarm. The fire was quickly extinguished.

ANXIOUS to make himself affable, a young man at a gathering in the suburbs started a conversation with an old gentleman of choleric appearance, who happens, according to the "Daily News," to be a magistrate in a certain district in Surrey. The old gentleman complained of the "bus delays owing to the strike, and the young man remarked "You should try an automobile." "I prefer to try those who do," replied the magistrate testily.

INSTEAD of attempting to depict by printer's ink the colours which purchasers may nominate for their cars, the Locomobile Company of America is issuing a supplement to its catalogue in the form of a colour sample card. This bears twelve stripes finished with the actual colours as used on the cars, including four shades of red, four greens, two blues, a grey, and a striped yellow. In addition to giving the true colours, the card has a further value, according to the Locomobile Company, in that it "tends to limit the customer's ambitions to combinations which have been found to be in good taste and to colours that have been proved sensible, thoroughly practical, and durable."

A DISPUTE has occurred between the Hambledon District Council and the National Trust for Places of Historic Interest, with regard to the use of Hindhead Common. Hindhead is 897 feet above the level of the sea, and the Hambledon District Council has been in the habit for many years of using stone from Hindhead Common for the maintenance of its main roads. Now the Trust, in the exercise of its new powers, is seeking to restrain the Council from the indiscriminate digging of stone on the common. Its main objection to the Council's action is that the appearance of the locality is spoiled by the holes that are dug and the heaps of debris that are left lying about. The Council, on the other hand, asserts its right to continue to use the Hindhead Common stone for its roads, as it did long before the common was acquired for the Trust.

THE Automobile Club of America has recently installed at its premises in New York a dynamometer for the purpose of testing the power delivered at the driving wheels of cars, so that an accurate estimate of the efficiency, hill-climbing power, and speed can be obtained. This instrument, the dynamometric portion of which is of the absorption type, is the invention of Dr. Schuyler S. Wheeler, and gives direct readings for drawbar pull, maximum gradient taken, speed in miles or kilometres, and horse-power. No calculations are necessary to determine results, the required figures being read off instantly from a very large chart fixed on the wall of the testing room, wherein are shown curves that have been arrived at after a long series of mathematical calculations and practical tests. The dynamometer is installed at the ceiling of the seventh floor, while the chart room and rollers are on the eighth.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, London, W.C.]

THE SETTING OF VALVES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I note several of your correspondents have written and seem to be very interested on the subject of timing petrol engines. During a great many years I have made a special study of the timing of inlet and exhaust valves, also the ignition, and in trying to find out the different methods used by makers for what we may call the "lead" given to the above. My experience tells me that the majority of engines are not set relatively exact one to the other, that is to say, No. 1 cylinder may have a certain lead, No. 2 has got the same as No. 1, and possibly No. 3 has not got the same as No. 2, and No. 4 is probably a little different to the others.

I have made a speciality in my works of the resetting and timing of the exhaust inlet, also for the magneto and accumulator ignition, and I have found in the majority of cases that one can very soon increase the power of an engine if it is set mechanically right. After an engine has had a certain amount of wear it invariably (and almost without exception) gets wrong, and unless it is adjusted by someone who understands it, the engine does not pull as it should. The continual tapping of the tappet lifters in many cases prevents the valve from opening enough, especially in the case where the inlet valve is mechanically operated, and consequently the cylinder does not get enough mixture. One can very often test this by the simple method of putting the thin blade of a knife between the lifters and their valves, and invariably the engine will pick up speed, showing the difference it makes. Also the cams on the half time shaft get worn and the valves open and shut too early or too late, according to the way and the amount they are worn. This also destroys to an enormous extent the power of the engine, and the only way to put this right is to have the engine and timing properly seen to every few months by someone who understands it, and then, and only then, will the engine give off its full power.

I notice some of your correspondents recommend the Larrad timer. In using this I should advise them, if possible, not to use it in connection with the clutch, because there is usually a certain amount of play between the male part of the clutch and the engine, hence it does not register exactly right.—Yours truly,

W. G. WINDHAM, Capt.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With further reference to this interesting question, the letter from "Amateur" is of interest, though it does not get over the difficulty. I believe that the device he mentions is a good one, though I fail to see how the manufacturer or inventor of it can claim that it is absolutely accurate; it is simply the old story of "I'm right, and you're wrong."

I am convinced from practical experience that not only should high and low speed engines have different settings, but, given two engines of the same make and exactly alike in every particular, one will sometimes be found to run better and give off its power with different timing of the valves to the other. Now, if a fixed standard was adopted for this engine, as "Amateur" would seem to suggest, by the use of such an instrument as he mentions, there is no doubt in my mind that both engines would not be timed to the best advantage. There surely should be no difficulty about the cams in a modern machine shop; in several I have visited, both in England and on the Continent, the cams (solid with the shaft) are tested through a gauge for shape to 1-2,000th of an inch, and against a kind of lifter, similar to the ordinary roller and tappet, for lift, this lifter actuating a pointer reading to 1-2,000th of an inch.—Yours truly,

INTERESTED ENQUIRER.

DRY BATTERIES FOR IGNITION PURPOSES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Noticing Mr. L. Bentley's inquiry with respect to efficiency of dry batteries, my advice as a motorist of long standing is, most emphatically, have nothing to do with them, they cannot be relied upon, and give no warning of a run down; a dry battery may run you fairly well to-day, but to-morrow you may be "held up."

It is not the first trouble of an accumulator that renders them uncertain and troublesome so much as the continuous risks incurred consequent upon sending them to be charged. I have overcome all my difficulties by charging my own, and for some time I have used a parallel set of Boron primary batteries; they have given me every satisfaction, and I would not be without them. If Mr. Bentley procures for himself a set of these cells, he will be able to keep his accumulators in perfect condition, which will serve him far better than any dry battery.—Yours truly,

C. COLLIN.

ELECTRIC VULCANIZERS AND ACCUMULATORS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—On page 1,030 of the Journal for January 18th you publish a word of warning re electric vulcanizers from the United Motor Industries which we cannot agree with, as the Hay electric vulcanizer manufactured by us gives perfectly satisfactory results with any first

class accumulator of 30 amp. capacity, and we have not felt the need of a special cell to do the work.

During the last Olympia Exhibition the demonstration of the vulcanizer was carried on with 30 amp. cells, and these at the end of the show were in perfect condition, and are now in use at our London depot still doing good work.

Any motorist having small accumulators should put them in parallel, and thus increase his amp. hour capacity without raising the voltage.—Yours truly,

THE COUNTY CHEMICAL COMPANY, LTD.
Motor Dept.

WHAT TOWNS NEED GARAGES?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—If any of your readers will give advice on the following point I shall esteem it a very great favour. I am an engineer, having served my apprenticeship in loco works, and, in addition, had a successful college course. I have spent some months recently working in a motor repair shop and besides have been making a study of motor-cars for the last few years.

It is my intention to start a garage and repair shop somewhere in the country. I shall have one or two cars for hiring and complete plant necessary for all repairs and complete overhauls.



Mr. Henry Farman, who last week travelled a distance of a kilometre on his aeroplane.

From a Caricature by Mich

[in the "Auto."]

My object in writing this is to ask if any of your readers can advise me as to the best part of the country to go to. It must be a place without a great deal of competition to begin with, as my capital being limited, I cannot afford to wait long for business.

I have been strongly advised to try Devonshire, because of the large population of wealthy people resident in the surrounding district. I am rather afraid that such a county will be very well catered for already.

If Devonshire is not advised, will someone tell me a good place in which to start a high-class repair shop, conducted on strictly engineering lines. I may mention that I do not fear competition from ironmongers, plumbers, tinsmiths, &c.—Yours truly,

L. S. M.

SOME DESIRABLE FEATURES ON CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In spite of the fact that we are now in 1908, and many of the 1908 models have made their appearance, there are, I venture to think, many of them which are wanting in some very desirable features. Consider first of all the petrol tap. Even now we find it hidden away in some very awkward place; this may not strike some people as being a very bad feature, but it is, as it is really most important to have this tap accessible, as, in the event of the carburettor for any reason catching fire (which does occasionally happen), the petrol tap should be immediately turned off, otherwise a large conflagration may result. Then there is the petrol gauge. How many

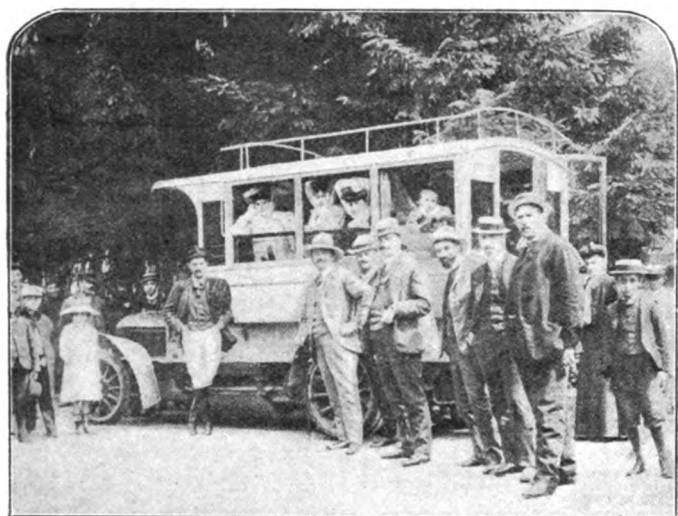
1908 cars are supplied with this very useful refinement? The manufacturers think nothing of putting quite a nice gauge glass for the lubricating oil tank, but the petrol tank is very rarely so supplied, and consequently any attempts at checking fuel consumption are attended with a good deal of trouble and calculation, which a graduated gauge would render entirely unnecessary.

Another point. Is the circulation pump altogether desirable? They certainly are not so troublesome as they were a few years ago, but then they are a source of trouble, and surely it is better to omit them, if possible, and the experiences of Renault and Minerva and others in this direction appear to conclusively prove that a pump is unnecessary.

Now for a lubrication refinement. It probably sounds strange, but it is nevertheless true, that of the 1908 models shown at Olympia there were far more cars with the sight-feeds unmarked than those with them marked! In one case there was a 1908 model with them unmarked, while the 1907 were marked! With six or seven sight-feeds to attend to, and sometimes several more, it is most necessary to know where they feed to, as otherwise one gets careless and runs them all about the same, with the probable result of flooding the back axle with oil, which eventually gets on the tyres and ruins them.

There are other little affairs which might be mentioned, such as accurate marking of the flywheel for valve and ignition setting—rarely found on any car; proper tools in the kit for fitting the various parts; a tool for lifting valve springs so as to easily withdraw the cotter, and many other little refinements which would take too long to enumerate, but the above-mentioned are certainly worthy of the manufacturers' consideration for the 1909 models.—Yours truly,

S. R. B.



A Public Motor Service in Roumania.—The Scheibler Single-Deck Bus which recently started running between Bucharest and Baltatesti.

A STANDARD NOMENCLATURE FOR STEERING GEAR PARTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I venture to suggest that the Institution of Automobile Engineers would be doing a good and useful work were it to devote some attention to the giving of definite names to the various levers, bars, &c., which go to form the steering mechanism of a modern motor-car. At present considerable confusion exists owing to this want of a standard nomenclature. If the Institution were to agree on such a scheme and issue a sheet giving an illustration of the various parts and the names decided upon, they would be quickly adopted by both manufacturers and users and prove extremely useful.—Yours truly,

R. J. BRADLEY.

A CARBURETTOR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 10-12-h.p. Alldays car purchased in July, 1907, which is causing me a great amount of trouble, and I shall be glad if you will advise me as to the remedy. My difficulty is that I cannot get a proper (or an even) mixture for each cylinder, as there are two petrol jets and no proper air control. The two automatic air valves require re-adjustment for every change of temperature, and, although the car runs magnificently when everything is just right, I cannot depend on it from one hour to another.

I have proved the coil to be all right by putting it on a heavy delivery van for a week's work with full loads up hills. Would it be advisable to fix up an ordinary carburettor with one spray and proper air control?

I may also add that when I run the engine free it goes quite well and each cylinder fires regularly without any missing, but when I get on the road and put it to work on a moderate rise, and with the throttle well open, one of the cylinders commences to misfire. Please advise me as to the best method of dealing with this trouble.—Yours truly,

"O 2916."

[The fact of this carburettor having two jets and two automatic extra air valves should not prevent a perfectly satisfactory result being obtained. Besides the two automatic spring controlled valves, which are situated on the inlet pipes, between the mixing chambers and the cylinders, there is, we believe, a pipe which provides the main air supply around and under the jets, and this pipe is common to both. We suggest that if there is not a means of controlling this main air supply already installed, it will be as well to have one fitted, so that it can be worked by the driver by means of a small lever, say on the dash, or else on the steering column. This is not an expensive arrangement, and will probably get "O 2916" out of his trouble with the carburation. It occurs to us that it will be just as well to also examine the commutator, as, although the coil has been proved all right, it is just possible that the contacts are worn on the commutator, and that the roller jumps them when the motor is running full speed with the throttle open.]

A LUBRICATION DIFFICULTY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you make a suggestion what is the cause and how to remedy it, viz.:—One of the feeds on my Rover car suddenly stops dripping, and after I have shut off the oil from the drips for a second or two it commences to drip again, and then after a short time refuses to drip. I shall be much obliged if any of your readers can help me.—Yours truly,

DRIP.

[We think the erratic behaviour of our correspondent's lubricator is to be attributed to nothing more mysterious than the presence of some foreign substance, that will probably be found in the upper portion of the lubricator. We recommend him to disconnect the supply pipes and take out the needle valves, and to thoroughly rinse out the lubricator with paraffin. Owing to the small passage through which the oil has to feed, when it is set to pass the needle valves at the rate of only a few drops per minute, it takes but a very small obstruction to interfere with its flow, and if the substance is of about the same weight as the oil it will jog up and down, sometimes allowing oil to pass and at others arresting its passage.]

ACCUMULATOR QUERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be glad of any assistance you can give me in the following matter. My accumulator runs down more quickly than it did. I have used it for eighteen months without change of acid. How often is it advisable to change it, and what is the best specific gravity? What injury, if any, is done by neglecting to change the acid? The accumulator is placed just above and behind the cylinder under the bonnet. Does the heat tend to make the water evaporate and the acid to become stronger? I have, as occasion required, filled up the loss with one of strong acid to six of water. Is this about right? Does the rate at which the trembler buzzes have any effect upon the force or completeness of the explosion in the cylinder?—Yours truly,

A. J. ELLIS.

[It is advisable to change the acid in an accumulator at least every twelve months, or more often if it has been recharged frequently. The proper specific gravity for new acid added to cells is 1.190 degrees, and after charging this rises to 1.200 or more. By neglecting to change the acid no injury is done to the accumulator, but it will not give such good results in use, the voltage will be low and it is more likely to sulphate. An accumulator should for preference be placed in as cool a position as convenient, but being close to heated parts would not cause any appreciable evaporation, though this will always require attention, as acid is lost by spilling, by gassing when on charge, and by evaporation to a certain degree. When the liquid is lost by spilling it should be replaced by fresh acid of the right specific gravity, but if it is lost by gassing or evaporation it may only require the addition of a little distilled water to avoid the acid in the cells getting too strong. This can only be settled by testing the strength of acid with a hydrometer. The rate of vibration of the trembler increases or decreases the strength of the spark, and a good hot spark at the proper moment is always a factor which makes for efficiency, but it may not have an absolute effect if a good spark is already obtained at a slower rate.]

THE A.C.F. GRAND PRIX RACE.—We have received from Mr. S. F. Edge copies of a correspondence he has had with the Secretary of the R.A.C. with regard to the rules just issued by the A.C.F. regarding the 1908 Grand Prix race. Mr. Edge takes exception to Rule 17, which authorises the use of interchangeable rims but forbids the employment of detachable wheels and adds that "if such a legitimate contrivance as our detachable wheel be barred from their race it is impossible to enter any Napier cars for the Grand Prix."

OIL v. WATER FOR PETROL ENGINE COOLING.

WE have been furnished with particulars of some tests on motor-car radiators with water and oil as the cylinder cooling medium recently made by Mr. H. B. MacFarland, M.M.E., professor of applied mechanics and thermo-dynamics at the Armour Institute, Chicago, at the works of Messrs. Knight and Kilbourne, Chicago, in the interest of the Owen Thomas Motor Company. The tests were made, first, to determine the effectiveness of different surfaces and velocities of air and liquid with both water and oil, under similar conditions; and, second, to compare the efficiency of the Owen Thomas oil cooling system with water cooling in the same engine. Oil cooling has been used as the cooling medium on an American built petrol motor traction engine for a number of years, but the Owen Thomas is claimed to be the first motor-car specially designed to use an oil cooling system. We are informed that complete specific heat and other physical tests of the oil were made for the company by Prof. C. M. Wilcox and Mr. Virgil Oldberg, also of the Armour Institute, to obtain the preliminary data upon which the oil cooling system was based.

In conducting the tests care was taken to conform closely to automobile conditions. Each trial lasted for several hours, and the whole series extended over three weeks. In all thirty-five separate tests were made. In order to get the same effect of air impact on the radiator as when a car is running at various speeds, a current of air was forced against the radiator by means of a blower, direct connected to an electric motor, with a rheostat arranged to give air velocities of from five to forty miles per hour. The water was pumped through the cylinder jackets in the usual way, and the weight of water pumped per minute ascertained, as well as the temperature of the water on entering and leaving the radiator. The velocities and temperatures of the air at the front and the back of the radiator were measured, and the actual horse power developed by the motor was determined by means of a Prony brake. Pipe connections were made from the top of the radiator to a petrol engine which was used to heat the water or oil, and from the bottom of the radiator connection was made to either of two weighing tanks.

Using water in the jackets, four types of radiators were tested under the same series of velocity and temperature conditions. The radiators varied greatly in total radiating surface and in their proportion of wetted radiating surface to extended radiating surface. Radiators Nos. 1 and 2 were alike, except that in No. 1 the extended surfaces were sweated on by dipping the radiator into a hot solder bath, while in No. 2 the surfaces merely had close mechanical contact. No. 1 proved to be 10 per cent. more efficient, owing to this difference in construction. The following table shows the performance of the four radiators:—

Radiator No.	Heat Dissipated (Heat Units).	Temperature Drop (Degrees).
1	593	25.4
2	536	21.7
3	727	28
4	950	32.2

Comparisons of the results obtained with radiators composed entirely of wetted surface with those obtained from radiators having a large proportion of extended surface indicated that the heat dissipated by the extended surface is but a small percentage of that dissipated by the wetted surface, and that in most radiators the extended surface could be materially decreased with little or no decrease in the cooling effect. Increasing the initial temperature of the cooling water entering the radiator not only greatly increased the initial efficiency of the engine but also the dissipating effect of the radiator. It was found that increasing the air velocity in front of the radiators from ten to fifteen and then to thirty miles per hour produced very little increase in cooling effect, and in the velocity of the air at the back of the radiators. The temperature of the air at the last-named point was generally low and indicated that the depth from front to back could be increased with advantage.

In the test the radiators were plugged to prevent loss by evaporation, and the temperature of the water was carefully kept below the boiling point. Whenever much power was taken from the engine the temperature rose quickly, and it was possible only to run for short periods under these conditions. This point did not appear when oil was used, as the boiling point of oil is about twice that of water.

When oil was passed through the radiator instead of water the results were entirely different. In fact, the radiator giving the poorest results with water gave the best results with oil. A careful study of the circulation in different types of radiators and of the thermal properties and capacities of oil and water soon made it evident that the conditions of circulation for the two were far different.

The complete results of the test with oil-cooling will be made public at a future date, together with the tests of the motor designed especially for oil-cooling. The conditions imposed by the piping connections and jacket details of the motor designed for water cooling did not permit the test with oil to be carried to the limit, but, as a matter of fact, the motor in question did better with oil than with water after the best conditions of oil circulation were determined. A good comparison of the

result obtained with the two fluids respectively is furnished by the last test of one radiator. These results were as follows:—

Fluid.	Heat Dissipated (Heat Units).	Temperature Drop. (Degrees).
Oil	700	12
Water	490	25

Another radiator gave the same cooling effect with a temperature drop of 40 deg. for water and 18 deg. for oil. All the radiators used were standard makes, designed for use with water. Mr. McFarland concludes that the tests indicate that the best radiators using oil on this system are 50 per cent. more effective than when using water under ordinary conditions. The engine also can be made more efficient, because oil can be used at a much higher temperature than water without boiling. An indirect advantage of the oil cooling system is claimed to be a decrease in the mechanical losses of the engine with an increase in temperature. The following table of friction losses in a 40-h.p. engine at different water jacket temperatures is given to substantiate this claim:—

Temperature of water from jacket...	69° F.	150° F.	185° F.	203° F.
Loss on horse power	7.1	5.5	5.0	4.5
Mechanical efficiency	85 %	88 %	89 %	90 %

ROAD REPORTS.

AYRSHIRE.—The Ayrshire County Council have decided to make application to the Secretary of State for Scotland to restrict the speed



Touring in Holland.—The Exchange, Amsterdam.

of motor-cars passing through the villages of High Fenwick and Minisham to ten miles an hour.

BOSTON.—Nearly all the roads in this district of Lincolnshire are under repair, and at the present time are in bad condition owing to the frost. It will probably be another six weeks before they are anything like in proper condition for motoring. No work will be carried out on the roads through the town. Caution signs have been erected throughout the district and should be observed, and Mr. G. E. Clarke, the Borough Surveyor, draws our attention to the railway crossing on the main road from Grantham and Sleaford, about one mile before entering the town. The rails there are super-elevated and adjoin a hog-backed bridge, which is very bad on the springs.

HAMPSHIRE.—The "Hampshire Chronicle" is one of the few papers that give regular reports as to the roads which are under repair in the district. It will probably be another six weeks before they are anything like in proper condition for motoring. No work will be carried out on the roads through the town. Caution signs have been erected throughout the district and should be observed, and Mr. G. E. Clarke, the Borough Surveyor, draws our attention to the railway crossing on the main road from Grantham and Sleaford, about one mile before entering the town. The rails there are super-elevated and adjoin a hog-backed bridge, which is very bad on the springs.

HAWICK.—Mr. W. Graham, road surveyor, has submitted an elaborate report to the Hawick Council on the conference of Scottish road surveyors, held in Glasgow, when the question of motor-car traffic on the roads was discussed. He remarked that the ratepayers in that district had as serious a task before them as any other district in Scotland. While the life of road metal used to be from eight to nine years, it was now from three to four years at some places.

HORSHAM.—The sharp corner where King's and Wimblehurst roads at Horsham meet is to be removed with a view to minimising the risks to traffic.

THE Lancashire Steam Motor Company, of Leyland, near Preston, has changed its title to Leyland Motors, Ltd. For several years past the company has been building petrol as well as steam vehicles, so that its old title was somewhat of a misnomer.

CLUBS AND ASSOCIATIONS.

NOTTINGHAM.

THE eighth annual dinner of the Nottinghamshire Automobile Club, which was held at the Victoria Station Hotel, Nottingham, on Friday last week, proved a very enjoyable and interesting function. Mr. Chas. Hardy, the president of the club, was in the chair, and about 200 ladies and gentlemen attended, including the Mayor of Nottingham (Councillor J. T. Spalding), the Sheriff (Councillor W. H. Carey), Mr. A. Richardson, M.P., the Chief Constable (Mr. P. S. Clay), Colonel H. C. L. Holden, R.A., F.R.S., Col. Bosworth, Captain R. K. Bagnall-Wild, R.E., Dr. Hogarth, and Messrs. A. Barlow, E. P. Hooley, A. R. Atkey (vice-chairman), Julian Orde, Stenson Cooke, E. M. C. Instone, P. Richardson, H. Bircumshaw, M. Ross Browne, and Booth Granger (hon. secretary).

Following the loyal toasts, Mr. A. Barlow proposed "The City and County Authorities," stating that motorists owed a great deal in the favoured and enlightened city of Nottingham to the authorities, and they felt very sorry indeed for those unfortunate people who happened to drive motor-cars in such benighted counties as Sussex and Surrey. They could assure Col. Bosworth that they had no need for his assistance in Nottinghamshire, for the authorities had always done their best for motorists. The Nottinghamshire Club had always endeavoured to see that the members should use the roads in a considerate manner, and if any member of the club was proved upon clear evidence to have used the roads badly, he would meet with very short shrift at the hands of the committee. The Mayor (Councillor J. T. Spalding) in responding stated that in Nottingham there was no bye-law to interfere with the speed of motorists. They relied on the common sense of those who drove cars. They must recognise that motors had come to stay, and they could not stand against the advance of science. Mr. R. B. Bagnall-Wild, J.P., and Mr. P. S. Clay (the Chief Constable) also acknowledged the compliment. Mr. Bagnall-Wild remarked that magistrates had only one thing in view—the safety of the public; while Mr. Clay's speech was in his usual humorous after-dinner vein and showed a friendliness to automobilism which was greatly appreciated. He stated that during the past year the police had had no trouble from motorists in Nottingham.

The toast of "The Royal Automobile Club" was submitted by Mr. A. R. Atkey, who congratulated the parent organisation upon gaining its title of "Royal" since they last met. Colonel Holden, who first replied, said that the Royal Automobile Club was not merely a social institution. Its duties on the one hand were to the public, the larger body, and on the other hand to the manufacturers and the users of automobiles. The motor industry, both for the purposes of pleasure and commerce, would not have advanced as it had done but for the work of the various automobile clubs of the country. Mr. J. W. Orde, the secretary of the R.A.C., also responded. They had entered, he said, on a new phase of automobile politics, and the Notts Club had been the first to back them up. When this body was formed in 1900 by Mr. Atkey and a few other stalwarts, it almost immediately affiliated itself with the Royal Automobile Club. Referring to the differences between the Motor Union and the Royal Automobile Club, Mr. Orde said the latter had now 3,300 members. The Notts, Irish, Kent, Midland, Norfolk, Northampton, Wolverhampton, and Ladies' Clubs had notified them of their intention to associate themselves with the R.A.C., and these represented 1,757 members. The Auto-cycle Union, which included the Auto-cycle Club and thirty-two other clubs, had also sent in their notice that they would become affiliated, and these represented a further membership of 2,000. The Scottish Automobile Club were to hold their meeting on the 24th inst., and he was informed that it was their intention to associate themselves with the club, and this would bring them another 1,000 members. The total membership of the Royal Automobile Club and its associates would then be 8,636. So far as he knew, the clubs which had sent in their adherence to the Motor Union were Ipswich, Lincolnshire, North Hertfordshire, Sussex, and the Welsh, with a total of 607 members. Four clubs—Bedfordshire, Harrogate, Shropshire, and Yorkshire, with a total of 579—had notified their intention of remaining under their existing agreements. There were, however, 120 clubs in the country, so that they had only heard from a very small percentage; but, with the lead that the Notts Club and the others had given, there was no doubt that the majority of the clubs of the country would decide to associate themselves with the Royal Automobile Club.

Mr. Booth Granger, the hon. secretary of the Notts A.C., in proposing "The Motor Union and the Automobile Association," said that, although they had separated themselves from the Motor Union, they still hoped to be friends. The Motor Union, he understood, had decided to form a Notts Committee and the Notts Club certainly wished them every success in their endeavours. The Automobile Association had done splendid service to motorists throughout the country, but they hoped their methods would never be required near Nottingham. Colonel Bosworth, who responded, said that it was a byword that the sweet reasonableness and sportsmanship of the authorities in Nottinghamshire made the life of the motorists a happy one. Colonel Bosworth described the action of the motorist who knocked down and killed a man at Kenley, and drove on without stopping, as detestable, and deplored by every motorist, and stated within a few hours of the accident the association's agents and scouts were watching over 12,000 miles of roads for a car that was alleged to have been damaged. This only showed that the

association did something occasionally which helped the police, and did not hinder them. Mr. Stenson Cooke also responded.

The toast "The Notts Automobile Club" was honoured on the proposition of Captain R. K. Bagnall-Wild. Mr. Charles Hardy, in reply, said he hoped the members of the club would in the future, as they had done in the past, drive with consideration. They must not drive as if with the idea that they had "bought the earth;" they must consider other people on the road, and by doing that they would help the growth of the automobile cause. Mr. E. M. C. Instone proposed the toast of "The Visitors," to which responses were given by Mr. A. Richardson, M.P., the Sheriff (Councillor W. H. Carey), and Mr. E. P. Hooley. Mr. Richardson thought the decision of the Royal Club to discontinue licences for competitions on public roads, unless the local authorities were in perfect agreement with them, was perhaps wise in view of a passage of the Budget speech of last April. There was little doubt that the motor industry would be dealt with by Parliament during the coming session. He hoped their action would be such that there would be no damage to their pleasure and especially to the industry, which employs so much labour and in which so much capital is invested, and he believed nothing would lead to such a result unless through an outraged public opinion.

The health of the chairman was drunk with musical honours, the acknowledgment by Mr. Hardy concluding a very enjoyable evening, a word of thanks being due to Mr. Booth Granger, the hon. sec., for the most complete arrangements he had made, and which included an excellent musical entertainment.

ROYAL.

THE legal department of the R.A.C. has now been constituted and will give legal advice free of charge to all members and associates.

The following clubs have resolved to associate with the R.A.C., viz., Irish, Kent, Norfolk, Northants, Notts, Wolverhampton, and the Ladies' A.C.

MOTOR UNION.

THE Union has made arrangements whereby the Triptyque will be at the disposal, free of charge, of all its members who intend travelling on the Continent. The Triptyque enables car owners to deposit the Customs duties on their cars in London instead of at the frontier stations of Continental countries.

According to an official *communiqué* from the secretary the following clubs will retain membership of the Motor Union, viz., Bedfordshire, Blackpool, Dorsetshire, Derby and District, Harrogate, Ipswich and E. Suffolk, Lincoln, Motor Cycle Union of Ireland, North Herts., North London, Southend and District, South Devon, Sussex County, Sheffield, South Wales and Monmouth, Welsh, Wilts, and Yorks. In some cases the recommendations of the committee have to be ratified by the members.

AUTOMOBILE ASSOCIATION.

ALREADY applications are being made for seats at the Automobile Association's third annual dinner on March 18th next, in the Grand Hall, Hotel Cecil, London.

MR. H. C. PICKERING, St. Brelade, King's Norton, is the hon. secretary of the newly-formed Worcestershire M.C.C.

AUTO-CYCLE UNION.

FOR the Auto-Cycle Union's quarterly trial to-day (Saturday), starting from the Chequers Hotel, Uxbridge, twenty-six entries have been received in the bicycle class and three in the passenger class.

The Competitions Sub-committee has decided to recommend to the General Committee of the Union that this year's International Motor-Cycle Tourist Trophy race shall be again run on a fuel consumption limit as follows:—Single-cylinder machines, 100 miles to the gallon; multi-cylinder machines, eighty miles to the gallon.

BLACKHEATH.

THE fourth annual report of the Blackheath Automobile Club gives a full record of the useful work done during the past twelve months by this organisation, which has sixty-two active and four hon. members. In addition to the ordinary runs, a number of sporting events were carried out, and it is hoped to make the programme for 1908 equally attractive. With this idea in view, those fixtures which merely comprised a run out to a certain place will be abandoned, and meetings with some definite object in view, such as a hill-climbing competition, speed judging competition, &c., will be substituted. The balance-sheet shows an income of £159 and balance in hand £24.

The annual dance of the club took place on Saturday last, when about 120 members and friends assembled, Mr. Leonard Beadle, the hon. sec., acting as M.C.

KENT.

AN extraordinary general meeting of the Kent A.C. was held at the Royal Crown Hotel, Sevenoaks, on Saturday last, to consider the following questions:—1 (a). Whether this club be in future affiliated to

the M.U. or, (b). Associated to the R.A.C. under the scheme for that purpose. 2. If it be resolved that this club be in future affiliated to the M.U. the following words in Rule 1 be deleted:—"affiliated to the R.A.C." and "affiliated to the M.U." inserted in their place.

Sir David Salomons, Bart., the president of the club, was in the chair, and was supported by the following members of the committee:—Messrs. C. J. Morgan (Chairman), W. Willis, T. H. Nash, W. E. Brewerton, Capt. Page (representing the East Kent Committee), and G. M. Kenyon (hon. sec.). There was a large and representative attendance of members, to whom Sir David Salomons explained the situation that had arisen.

Mr. Willis then moved the following resolution, being the recommendation placed before the members by the committee:—"That the Kent Automobile Club be associated to the Royal A.C. under its association scheme." This was seconded by Mr. H. Gardner.

A long and interesting debate ensued, in which the following members took part:—Messrs. T. H. Nash, A. Booth Hearn, A. R. Norman, C. J. Morgan, W. Wylie, J. D. Siddeley, C. E. Wright, H. T. Englehardt, and Capt. Page. The president and the hon. secretary answered various questions raised during the discussion. The resolution moved by Mr. Willis was then put to the meeting and was carried unanimously. The hon. secretary was then instructed to give formal notice to the M.U. to terminate the agreement.

The Hon. Secretary then referred to the work done in the past by the Motor Union and Mr. Rees Jeffreys, and proposed the following resolution, which was seconded by Mr. H. Gardner and was carried unanimously:—"That the Kent A.C. regrets the necessity for severing its connection with the Motor Union, but tenders to that body its appreciation of the good work hitherto done by the M.U. in the cause of automobilism in this country.

Mr. C. J. Morgan, the chairman of the club, proposed a vote of thanks to Sir David Salomons for taking the chair, and for his keen interest in the welfare of the club. This was carried with acclamation, which Sir David suitably acknowledged.

HEREFORDSHIRE.

THE Herefordshire A.C. has, through Messrs. Perry, Thornton and Schriber, accepted from Mr. Henry Ford a twenty-guinea challenge cup for the big open hill climb, known as the Frome Hill climb. The cup will be known as the Henry Ford Trophy, and will be won outright by the successful competitor. The basis of the award will be time in seconds occupied in climbing the hill, multiplied by pounds sterling declared catalogue price of the competing car, the winner to be that car showing the least total.

LINCOLNSHIRE.

SIR H. B. BACON, BART., will preside at the annual general meeting of the Lincolnshire A.C., to be held at the Great Northern Hotel, Lincoln, on the 1st prox. A long agenda has been prepared, and Major J. A. Cole will give a report with regard to affiliation to the Motor Union. In the annual review reference is made to the successful meeting of the M.U. which was held at Lincoln last May, and to the various social events held during the season.

During the year forty-nine new members have been elected to the club, the membership of which is now 227. The balance in hand is £97, and altogether the outlook for the future is most gratifying to those who have been responsible for the organisation of the automobile movement in Lincolnshire.

MANCHESTER.

THE annual general meeting of the Manchester Automobile Club was held at the Midland Hotel, Manchester, on Monday.

Mr. J. A. Morris, president of the club, was in the chair. The report and accounts for the past year were adopted, and the following officers were elected for the ensuing year:—President, Mr. A. E. Jones; vice-presidents, Messrs. T. W. Grace, J. A. Morris, and F. Smith; captain, Mr. A. E. Crowdy; honorary treasurer, Mr. J. Hoyle-Smith; committee, Messrs. T. W. Grace, J. A. Morris, F. Smith, F. R. Hesse, G. B. Heywood, A. G. Hogg, — Kershaw, D. A. Parkyn, S. Wallwork, and T. M. Young, with the president, captain, and honorary treasurer *ex officio*.

A discussion took place with regard to the breach between the Royal A.C. and the M.U., to both of which the Manchester Club is affiliated, and it was unanimously resolved to support a proposal to use the united influence of the provincial clubs in order to bring about a reconciliation between the two bodies.

WITH a membership roll containing 260 names, a cash balance in hand of over £183, and a record of highly successful work during the year, the committee of the Manchester Motor Club had every reason for being on good terms with themselves at the annual meeting.

It was decided to leave over to a future meeting the question of the club's affiliation with the M.U. or the R.A.C.

The officers for the current year are:—President, Mr. A. J. Bell; vice-president, Mr. J. Higginson, jun.; captain (car section), Mr. H. W. Cranham; sub-captain, Mr. E. Jones; captain (cycle section), Mr. O. Grosse; sub-captain, Mr. J. Fraser; hon. treasurer, Mr. P. H. T. Butler; hon. secretary, Mr. A. J. Moorhouse.

SHEFFIELD.

THE report of the committee of the Sheffield and District Automobile Club for 1907 shows that the membership roll has risen from 125 to upwards of 160, the balance at the bank being now £93.

During the year various road authorities have been approached with regard to the condition of their roads, and we notice that a scheme is on foot for widening the bottom of the dangerous hill from the Hathersage road, leading into Grindleford.

In the report reference is made to the various sporting events held by the club, and a new scheme is suggested by which honorary district secretaries or representatives might be appointed in such localities as Chesterfield, Doncaster, Rotherham and Worksop to awaken local interest in automobile affairs.

The annual meeting of the club will be held at the King's Head Hotel, Sheffield, on the 27th inst.

SHEFFIELD AND HALLAMSHIRE MOTOR-CYCLE CLUB.

THE annual general meeting of this prosperous club was held at headquarters, Mr. J. H. Hall in the chair. A large number of members put in an appearance, and after the minutes of the last meeting had been passed, and the accounts for the year adopted, a long discussion took place re affiliation to the Auto Cycle Union, the meeting being practically unanimous in favour of affiliating, but as certain matters are not yet definitely settled between the A.C.U. and R.A.C.,



An Accident which Might Have Happened.

it was decided to leave the matter over, and call another meeting to consider the scheme in detail in a few weeks' time.

A new rule was passed admitting hon. members at an annual subscription of 2s. 6d., lady members also to be admitted upon payment of the same amount; and it was suggested that some special competition be held for lady members during the coming summer.

The following were elected officers for this year:—President, Mr. John H. Hall; vice-presidents, Messrs. J. Haslam, W. Watts, H. Bisby, W. Hill, Brooke Shaw; hon. secretary, Mr. T. F. Turner; trials secretary, Mr. Gould; hon. treasurer, Mr. W. H. Hill; committee, Messrs. Dakin, F. Dover, Vale, J. W. Ardern, F. Farrar, W. James, C. R. Honey, Kay, Sawyer, J. A. Fairer, Tarrant, Oliver; auditors, Messrs. C. Champion and Dakin.

WEST ESSEX.

THE members of the West Essex Automobile Club held their first annual dinner at Ilford under the presidency of Mr. B. F. Wickens. Mr. J. W. Yates-Fish was in the vice-chair; and the guests included Mr. Rees Jeffreys, Mr. F. Straight, Mr. J. S. Brown, of Helmsford, Mr. Reynolds, secretary to the Essex Motor Club, and Mr. Warnery, secretary to the Southend and District Motor Club. About £50 worth of prizes were presented by Mrs. B. Foster Wickens, including a shield given by the President, and won by Mrs. W. E. Gunnett for 1907-8. In replying to the toast of "The Club," the Secretary announced that in 1905 there were only twenty-eight members, in 1906 fifty-one, and 1907 seventy.

MR. W. C. MOSS, who is known to many readers in connection with Messrs. Moss and Woodd, is prepared to accept an engagement.

CASES UNDER THE MOTOR CAR ACT.

RECKLESS DRIVING.

At North London Police Court, William Henry White, motor-car driver, of Lewisham, has appeared to four summonses, before Mr. Fordham—(1) for recklessly driving a motor-car, (2) for not giving audible and sufficient warning of his approach by bell or other instrument, (3), for failing to stop when he knew an accident had occurred, and (4) for not obeying the signal of the police to stop. He was fined £11 11s., the magistrate characterising it as a very serious case.

Robert Pickstone, chauffeur, living at Chelsea, was summoned, at West London Police Court, for driving a motor-car in a reckless manner in Earl's Court Road, and for failing to give warning of the approach of the car. The magistrate imposed penalties amounting to £12 with three guineas costs.

DISMISSAL.

A chauffeur in the employ of the "Newcastle Chronicle" was summoned for having driven a motor-car in the Westgate Road, Newcastle, in a manner dangerous to the public having regard to all the circumstances of the case. The Lord Mayor dismissed the summons.

EXCEEDING LEGAL LIMIT.

Frederick Craig, chauffeur to Mr. Marshall Hall, K.C., was summoned at Croydon on Saturday for driving at excessive speed in London Road, Morden, on December 23rd. He was defended by his employer. Police-constable 687 V, who timed the car over a measured distance, said its rate of speed was just over twenty-seven miles an hour. Defendant when stopped said his speedometer registered twenty miles, but he could not watch it every minute. In cross-examination by Mr. Marshall Hall, witness admitted that the "trap" was at the bottom of a hill, but the actual measured distance was level. He started his stop-watch with his thumb. Mr. Marshall Hall said he contested the case on principle, he being the owner of the car. His wife was inside, and, being nervous, defendant was never allowed to go too fast. He (the chauffeur) was a public school man, and had taken to motor-driving because he was subject to consumption. He (Mr. Marshall Hall) appeared there because he felt it to be a duty to the motorists who, like himself, took infinite pains not to annoy the public. The car was specially designed to prevent dust and had a speedometer attached, which he had frequently checked to ensure its accuracy. The Act was never meant for short-distance timing like in the present case. His view was that the Legislature never intended it to be enforced as the police were doing it now, stopping a motorist at the foot of a hill. He usually took one hour and twenty minutes to get to town from Ashstead Park, but the journey that day was twenty minutes longer. He suggested that the police had made a mistake, especially as the stop-watch was started with the thumb instead of in the correct way, by the first finger. Defendant said that before leaving Ashstead Park he had special instructions to be careful. When he stopped the speedometer registered twenty-two or twenty-three miles, which was due to having just come downhill. Mrs. Marshall Hall, who was in the car, deposed that the instructions as to careful driving were carried out. By a majority the Bench imposed a fine of £3 3s. and 9s. 6d. costs. The Chairman (Alderman R. V. Barrow) remarked that the Bench had been pleased to see Mr. Marshall Hall. Mr. Marshall Hall: Thank you; but I am sorry I cannot say the same about the majority of the Bench.

For travelling at a speed of thirty-nine miles an hour at Isfield on January 5th, Lionel Martin has been fined £7 10s. and costs by the Horsham Bench. Defendant pleaded that his speedometer was broken at the time. At the same court a fine of £5 and costs was inflicted on Ernest Carnell for travelling at a speed of thirty miles an hour. Mr. Staplee Firth, who defended, maintained that there was an element of doubt in the case, there being conflicting testimony on both sides.

DANGEROUS SPEED.

At the Shoreham Petty Sessions, on Monday, a case against Herbert Hardy, of Sheffield, was adjourned for a fortnight, in order to secure the presence of the defendant.

Before the Borough Justices of Winchester, on Friday last, Mr. H. G. Smith was summoned for driving a motor-car in a manner dangerous to the public and also for not stopping when an accident had happened. Mr. Staplee Firth defended and a number of witnesses were called for the prosecution. A lively cross-examination of these was conducted by Mr. Firth, intended to show that police evidence with regard to certain tracks which it was alleged were made by the defendant's car was not so clear as might have been presumed. After consultation was his brother magistrates the chairman of the bench announced that there was insufficient evidence to convict the defendant of driving in a manner dangerous to the public and they dismissed the second summons.

MR. A. E. OAKLEY has resigned his appointment as general manager of the Beaufort Motor Company, Ltd., and under the style of Messrs. Albert E. Oakley and Co. has commenced business on his own account as a motor-car and accessory agent at Allsop Street, Upper Baker Street, London, N.W. He has purchased the Beaufort Company's stock of spare parts for Beaufort cars, and has also made arrangements with the manufacturers which will enable him to secure quick deliveries from time to time. At the depot plant is also available for carrying out all classes of repairs, while several well-appointed and powerful cars are available for hiring out purposes.

THE INTERNATIONAL TOURING CAR TRIAL, 1908.

THE regulations for this trial have now been completed. The sub-committee was composed of two representatives of the Royal A.C., two representatives of the Society of Motor Manufacturers and Traders, with Mr. E. H. Cozens-Hardy, vice-chairman of the Expert and Technical Committee of the R.A.C., as chairman. The regulations were approved by the full Trial Committee on Thursday of last week, with a few slight alterations, and will be submitted to the Committee of the Club for adoption on Wednesday next. The R.A.C. and the Scottish A.C. have been in communication in regard to the regulations, and representatives of the Scottish A.C. have attended several of the meetings with the object of comparing the two sets of regulations in order that these might be in complete agreement.

The basis of the 2,000 miles trial is time lost in minutes. In reckoning the time lost, fractions of minutes will count as minutes, except on the timed hills and at Brooklands. As already intimated, the competition will finish with a race of about 200 miles on the Brooklands track. Cars will be started for the race by classes, and in accordance with their respective time records on their arrival at Brooklands, plus the number of minutes corresponding to the number of gallons of fuel taken on board for the purpose of the race at Brooklands. By this means the car of each class which first passes the winning-post at Brooklands will have won the first prize in its class, and the result will therefore be made known immediately, which is, of course, an advantage from the spectators' point of view.

The Royal A.C. will award a cup to the winner of each class and a certificate will be given in respect of the performance of each car, whether it completes the trial or not, and the club reserves the right to publish any certificate. The regulations are particularly strict as regards the driving of the cars on the road. The speed in towns and villages has to be reduced, and in no case may a car be driven to the danger or inconvenience of other users of the highway. Infringement of this regulation subjects the competitor to disqualification, and if a competitor is disqualified he loses all right to any award, notice or record.

It is proposed that the cars shall leave London for Glasgow on the morning of Thursday, June 11th, and from Glasgow follow the routes of the Scottish Trial and be under the management of the Scottish Club until the end of the Scottish trial, after which they will proceed to Brooklands track under the direction of the Royal A.C. by a route to be hereafter published.

THE RESPONSIBILITY FOR BREAKDOWNS.

THE story of a journey in a motor-car from Chichester to the Ascot Races was related before Judge Scully at the Chichester County Court, on the 15th inst. It was a claim by Mr. T. S. Adcock, motor engineer, of North Street, Chichester, against Mr. Henry Humphreys, of the Globe Hotel, Chichester, for £4 4s., for the hire of a motor-car. There was a counter-claim for £7 16s. In opening, Mr. Tompkins, for the plaintiff, said Mr. Adcock lent a motor-car with a driver to the defendant to go to Ascot Races. It was claimed by the defendant, he believed, that there was a guarantee that the motor-car should take him and his party to Ascot in time for the races and back at a certain time. That, however, was denied by the plaintiff. The question was whether the plaintiff was liable for accidents to the motor-car which he was totally unable to avoid, the car being in a proper state to go on the road. The plaintiff, in giving evidence, said the car was hired in June, 1905, at an agreed charge of £4 4s. The previous night to the hiring he drove the car with the driver up Goodwood Race Hill to test the brakes. The driver, Carpenter, gave evidence. He said he was formerly in the employ of Mr. Adcock, but was now in the 1st Searchlight Company of the Royal Engineers, at Aldershot, and driver for the captain of his company. He described the journey to Ascot, and said the stoppages were wholly due to tyre troubles. There were four persons and a large hamper on the car besides himself. Owing to being mis-directed on one occasion they went out of their way six or eight miles.

After the defendant's evidence Mr. Bew addressed his Honour for the defence, and said if this was a contract for hire there was an implied warranty that the car was reasonably fit for the journey, and if it was a contract for carriage, the contract not being performed through failure of the plaintiff, the defendant was entitled to perform it himself and charge the cost.

Mr. Tompkins argued that it was a contract for the hire of the car for the day, and that the tyre trouble was unavoidable.

His Honour upheld the contention of Mr. Bew, and said that whatever the cause of the breakdown was, excessive heat or undue weight of the party, he did not know, but the plaintiff was informed of the purpose for which it was wanted. He said nothing against the competency of the driver, as a driver or mechanic, but it was clear he had not a reasonable knowledge of the road, and a considerable time was lost in consequence. He gave judgment for the plaintiff for £4 4s. on the claim, and for the defendant for £6 10s. on the counter-claim, the latter being the sum mentioned in a letter by the defendant as the amount of the expenses which had been incurred. Replying to Mr. Bew, his Honour said there would be costs on the amount each party recovered.

WE hear that the Benz Company are about to introduce a new 12-18-h.p. four-cylinder car.

THE CONFERENCE OF CLUBS.

A LARGELY-ATTENDED conference of local and provincial automobile clubs was held on Wednesday of last week, at the St. Ermin's Hotel, Westminster, S.W., "in order to give the affiliated clubs the fullest opportunity of acquiring information respecting the position arising from the withdrawal of the R.A.C. from the membership of the Motor Union, and of expressing their views as to the future policy of the Union." The conference was open to the chairmen, hon. secretaries, representatives of the clubs on the General Committee of the Union, and any other delegates appointed by the committees of the clubs.

Mr. C. H. Dodd (Berkshire A.C. and Chairman of the Emergency Committee of the Union) presided, and referred to the efforts made to arrange peace between the two bodies. The Union had set to work to reorganise itself to meet the new situation, and it had been decided to recommend that an Executive Committee should be formed which should stand behind the chairman and the secretary in connection with all matters of policy. This Executive Committee had not hitherto existed, and it must strengthen the hands of the General Committee. The scope of the work open to the Union was absolutely unlimited. It was unfettered, and it would be able to carry out that work through various sub-committees.

Earl Russell opened the discussion. The Union was prepared to carry on the organisation of provincial motorists in this country as it had done in the past, and it was prepared to conduct the whole of its business by a committee on which the provincial clubs were represented in direct proportion to their membership. That meant that the supreme and controlling body of the Motor Union would remain, as it had been in the past, simply the representatives of affiliated clubs and of individual members of the Union. What the General Committee of the Union would do would depend entirely on the voting of its members, who would control the business. The ordinary legal and legislative work with which the union was extremely well acquainted would be continued in future as in the past. The union had had the best opportunities and facilities for dealing with local authorities and forwarding local interests throughout the country. He thought the conference would also know that the union had had the important experience of dealing with motor legislation. He concluded by asserting that the provincial clubs should have absolute liberty and self-government.

Among those who continued the discussion were Messrs. Blewitt (Midland), E. H. Myddleton-Gavey (Sussex), J. H. Reeves (Kensington), R. W. Buttemer (West Surrey), Godfrey Lowe (Lincolnshire), J. Barber (Sheffield), J. Potter (Blackpool), W. Bourke (Berkshire), Rev. J. H. Short (Cardiff), Thompson Willows (South Wales), A. Armitage, J. P. (Somerset), and T. W. Grace (Manchester). The latter moved the following resolution:—"That the provincial clubs are of opinion that unity of automobile organisations is at present absolutely essential, and it is imperative that a new agreement between the R.A.C. and the M.U. should be entered into, so as to avoid the certain disintegration of the motor forces of the country that is sure to be otherwise felt, and the R.A.C. be requested to appoint a committee to meet a committee representative of the provincial clubs to consider the terms of such agreement."

This was seconded by Mr. J. E. Hodgkin (North Eastern) but it was agreed that it should not be put to the meeting. Dr. Hopkins Walters (Berkshire A.C.) said he wished to put it strongly to the Conference that the strength of the affiliated clubs rested in their unity. Whatever the Union did, the important thing was that there should be as little overlapping as possible, and that they should endeavour to ascertain what the policy of the other body was. He did not think there would be any great differences upon essential points. He was glad that Mr. Grace's resolution was not put, because they were simply met in conference, and the result of the discussion was to be conveyed by the representatives of the clubs to their members in the provinces. Then at the General Committee on the 29th they would be able to express the views of their organisations, and that was the time when they would be able to decide upon important matters of principle.

A vote of thanks to the chairman closed the proceedings.

POLICE TRAPS.

THE Blairgowrie District Committee recently met at Cupar Angus, when it was reported that the County Clerk had written saying that a number of constables had been specially told off to test the speed of motor-cars. The Chief Constable of the county is to be asked to report as to the hire and purchase of stop watches for the police.

AT Ewell the police trap is in frequent operation against speedy motorists.

ISFIELD now has its police trap, leading to the Horsham court.

A TRAP has been established by the police at Crook Log, Bexley Heath.

THE police have a trap at Great Ponton, on the Great North Road, victims of which appear at the Grantham (Spittlegate) Petty Sessions.

MR. JAMES GALLAHER, of Gallaher, Ltd., has placed an order with the Daimler Company, through Messrs. Leslie Porter, Ltd., Belfast, for a 30-h.p. live axle "Birdlip" limousine car, with a 9 ft. 6 in. wheelbase. The company have also received an order from Messrs. Koller, Caspary and Co., Christiania, Norway, for a 42-h.p. "Daventry" limousine car.

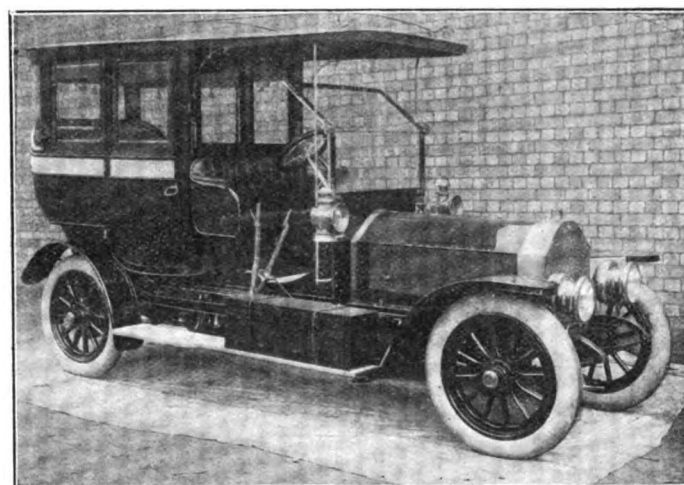
AUTOMOBILE ACCIDENTS.

DR. THOMAS has made inquiry at Paddington Coroner's Court with regard to the death of Jane Blackett, aged 77, who was knocked down and fatally injured by a motor-car. Frederick Butler, a porter, said that the old lady started to cross Edgware Road just as a motor-car was approaching at an ordinary rate of speed—about eight or ten miles an hour. The driver attempted to get round her, but she hesitated, stepped back, then went forward again, and was knocked down by one of the mud-guards of the car. This evidence was confirmed by other witnesses, who said that no blame could be attached to the driver, as immediately he saw the deceased he put on both his brakes and made every effort to avoid her. Death was due to injuries to the ribs and skull, and a verdict of "Accidental death" was returned.

LADY MARSHALL was driving in her motor-car across Blackfriars Bridge, London, when the vehicle collided with a coal-van, the offshaft of which passed through the front glass panel of the car and was broken off. The horse in the van was thrown down on to the pavement. Lady Marshall fortunately received no injury, but, being anxious as to the condition of her chauffeur, she accompanied him to St. Bartholomew's Hospital in one of the City electric ambulances. He was found to have a badly injured shoulder, and was detained.

A MOTOR-CAR fatality has occurred at Boughton, between Canterbury and Faversham. Mr. E. J. Philpot, a motor and cycle agent, was in the act of turning the starting handle preparatory to returning to Canterbury, when the vehicle, the gear of which had apparently been left in, started forward and ran over him, inflicting fatal injuries.

A MOTOR-CAR fatality is reported from Hindhead. Mr. James Halley, an inventor, of Crouch End, was walking along the Portsmouth road, attended by a nurse, when a motor-car belonging to Sir Archibald Macdonald, Bart., approached from the direction of Liphook. Mr. Halley,



The Star Six-cylinder Live Car Axle recently completed by the Star Engineering Company to the order of their Agents in Singapore for a Chinese Mandarin.

The vehicle, which is fitted with a luxurious limousine body, also by the Star Company, has a standard six-cylinder motor, 4½ in. bore by 5 in. stroke, and two ignitions, Simms-Bosch high-tension magneto and synchroised coil and accumulator.

designedly, got in the way, and the efforts of the nurse to drag him away in time were unavailing. The driver of the car applied his brakes and swerved to the side of the road, but it was too late to avoid a collision. The car struck Mr. Halley on the head, knocking him down and inflicting injuries to the skull. He was taken to the Haslemere Cottage Hospital, where an operation was performed, but he succumbed to his injuries. At the inquest on Tuesday a verdict of suicide whilst of unsound mind was returned, the motor-car driver being exonerated from blame.

MR. TROUTBECK held an inquest at Westminster, on Monday, concerning the death of William Drury, of Clevedon Place, Eaton Square. Harry Woolben, a clerk, of Eaton Place, said that on Friday he saw a motor-car approach at a walking pace in Sloane Square, from three to five miles an hour. The deceased was standing in the roadway, and when he saw the car he seemed confused and undecided what to do. He swerved when the car got close to him, "made a grab" at the front of it and was knocked down. At that time the car was hardly moving. The driver sounded his hooter several times. The jury returned a verdict of "Accidental death."

A MOTOR-CAR accident occurred on Tuesday between Helsby and Frodsham, Cheshire. Mr. Gilbert Blackburne, the eldest son of Colonel Ireland Blackburne, Hale Hall, Lancashire, was driving his own car, when about half-a-mile from Helsby it skidded and the wheel came off. He was thrown out, and sustained a broken thigh. His chauffeur's face was cut.

FORTHCOMING EVENTS.

JANUARY, 1908.

- 24th (F.).—Annual dinner of the Scottish A.C. at North British Station Hotel, Edinburgh.
 24th (F.)—Feb. 1st.—Scottish Motor Exhibition in the Waverley Market, Edinburgh, to be opened by Lord Kingsburgh.
 26th (Sun.).—Criterium de Voitures et Coupe de l'Exposition Trial for motor-cycles organised by the Turin A.C. and the Motor Club of Italy.
 27th (M.).—Annual general meeting of the Motor Cycling Club at 8 p.m., at the Tudor Hotel, London, W.
 Annual general meeting of the South Wales and Monmouthshire A.C.
 29th (W.).—First lesson of the course to be given by Mr. R. S. Currie to the Ladies' A.C.
 30th (Th.).—Annual dinner of the Yorkshire A.C.
 31st (F.).—Annual meeting of the Blackheath A.C.
 Last day for receiving nominations for the representatives of individual members upon the General Committee of the Motor Union.

FEBRUARY.

- 1st (Sat.).—Annual meeting of the Lincolnshire A.C.
 2nd (Sun.).—Reliability Trial of the Motor Union of Western India.
 4th (Tu.).—I.I.A.E., Dr. Hele-Shaw's address to graduates' section.
 5th (W.).—Annual dinner of the Bradford A.C.
 6th (Th.).—R.A.C., Mr. Philip Dawson on the Electrification of Railways.
 12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 15th (St.).—Auto-Cycle Union annual dinner at the Hotel Cecil, London.
 20th (Th.).—Meeting of the Essex M.C.
 21st (F.)—29th (Sat.).—Manchester Motor-Car Show at Belle Vue.
 24th (M.).—Motor Show at Bombay.
 27th (Th.).—Mr. Mervyn O'Gorman at the R.A.C. on "Gear Transmission."

MARCH.

- 18th (W.).—Annual dinner of the A.A. at the Hotel Cecil, London.
 21st (S.)—28th (S.).—Cordingley's Thirteenth International Motor-Car Exhibition at the Royal Agricultural Hall, London.

APRIL.

- 48th.—First meeting of the Brooklands A.R.C. for 1908.

MAY.

- 10th (Sun.).—Targa Florio Race.
 11 (M.)—16 (S.).—Reliability Trial of the Irish A.C.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

- 11th (Th.).—Probable start of the International Touring Car Trial of the R.A.C.
 15th—19th.—Scottish Reliability Trial.

LIGHTING-UP TIMES—LONDON.

Jan. 25th—5.35	27th—5.37	29th—5.40	31st—5.44
" 26th—5.36	28th—5.38	30th—5.41	Feb. 1st—5.46

COMPANY NEWS.

CHESHAM AUTOMOBILE SUPPLY COMPANY.—£10,000. Agreement with W. E. Middleton and P. C. Middleton. 5 and 6, Eccleston Place, S.W.

TURNER'S AUTOMOBILE WORKS.—£5,000. To take over business of builders, constructors, and repairers of motor-cars, vans, and automobile vehicles carried on by W. Turner and R. H. Wright at Rusholme, Heald Grove, Rusholme.

ENFIELD AUTOCAR COMPANY.—At Birmingham, an extraordinary general meeting of the Enfield Autocar Company, Ltd., has been held, at which it was decided to wind up the company voluntarily. Mr. Thomas Evans (the chairman) pointed out that the directors considered this the best plan, in order to protect their assets, which had been threatened by the action of numerous creditors. They had not lost faith in the concern. So far as production went success was assured; all that was now required was £50,000 additional capital. Mr. T. D. Neal, the receiver appointed by the debenture-holders, stated that the total liabilities on January 6th were £108,258, of which £24,673 was due to debenture-holders and £83,585 to shareholders. The assets as a going concern were £69,889, leaving a deficiency of £38,369, which was equal to 9s. 2d. per share, making the face value of the shares at the moment 10s. 10d. In order to provide sufficient to pay the debenture-holders and creditors in full, they could afford to write down the assets to 32 per cent. of their value as a going concern. There were four methods open to them each of which involved the finding of cash to the extent of at least £25,000, and, in addition, the assumption of the payment of the present liabilities amounted, approximately, to £25,000. One was selling the concern to an existing company, and with this in view negotiations had been opened in two

directions. Mr. Neal was appointed liquidator, and a committee was elected to report on the suggested schemes.

KNIGHTSBRIDGE AUTOMOBILE COMPANY.—£2,000. 26, The Manor House, Marvlebone Road, N.W.

SPARE MOTOR WHEEL OF AMERICA, LTD.—The statutory meeting of this company was held on Tuesday, Mr. R. L. Wood presiding. He referred to the works in America fitted with machinery capable of turning out 10,000 wheels a month, and said there were over 300,000 registered car owners in the States. The report was seconded by Mr. H. J. Thomas and adopted unanimously, as was also a vote of thanks to the chairman.

LIMITED PARTNERSHIPS.

W. B. CHIPPENDALE AND CO.—Aeronautical engineers, &c. 56, Parkhurst Road, N. Partnership for seven years, from January 8th, 1908. General partner: W. B. Chippendale. Limited partner: L. Harding.

FROM "TRUTH" PILLORY.

Kingston County Petty Sessions. Before Mr. W. Y. Cockburn and the Rev. A. E. Baavan. J. Jarrard, charged with being drunk while having the care of three horses and a dray load of beer. Fined 10s.

Kingston County Petty Sessions. Before the same magistrates. Eight defendants charged with exceeding the motor speed limit in various parts of the division. Each fined £5 and costs.

THE CROYDON MOTOR FATALITY.

THE first steps have been taken in elucidating the circumstances surrounding the death of Edward Borer, of Kenley, who died from injuries caused in Croydon by a motor-car driven, it is alleged, by Duncan A. Brown, a chauffeur, of Hayes Court, Kenley. At Croydon Police court Brown, who is in the employ of Mr. Stewart, of Malvern, Kenley, has been charged with manslaughter, and remanded, the Bench agreeing to accept bail.

BUSINESS NEWS.

THE Stern Sonneborn Oil Company, Ltd., have a special oil for the air-cooled cylinders of motor-cycles which has been giving good results.

THE Canada Cycle and Motor Company have opened a depot at 20-22, Adelaide Street West, Toronto, for the sale of their Russell cars.

MESSRS. MARPLES, LEACH AND CO., electrical engineers, of 6, Victoria Avenue, Bishopsgate Street Without, London, E.C., have sent us a neat and useful little 6 in. slide rule, duplicates of which they will be pleased to send to any of our readers on application.

MESSRS. HYSLOP BROTHERS have moved into a large new garage at the corner of Shuter and Victoria Streets, Toronto, Canada. The garage proper is on the ground floor and has a total floor space of no less than 10,000 sq. ft. A large lift has been installed to transport cars to the top floor for repair purposes.

THE exhaust cut-out is such a valuable assistant for tackling extra stiff hills that it is a pity it should so often entail so much noise in driving. The noise is apparent, too, even when the cut-out is not actually in operation, owing to these fittings rarely being gas tight when closed. To obviate this, the E. M. Bowden's Patents Syndicate, Ltd., have just introduced a new pattern with a special valve—practically an inverted exhaust valve—which entirely precludes any escape of gas.

THE Touring Information Department of the Continental Tyre and Rubber Company is open to give tourists the fullest information with regard to journeys on the Continent, especially in France and Germany, and intending tourists in the first named country may obtain on application the Continental French Guide Book, published at 2s., which is compiled in a similar manner to the English edition, and for tourists in Germany, the specially prepared German map and atlas giving distances in kilometres, together with all other necessary information, from the Continental Tyre and Rubber Co., Ltd., 102 to 108, Clerkenwell Road, E.C.

MESSRS. IRIS CARS, LTD., of Bird Street, Oxford Street, W., have sent us a copy of an attractive coloured picture entitled "A Cabinet Minister," they have just issued, depicting an Iris car leaving the Palace Yard of the Houses of Parliament at Westminster. The artist, Mr. Philip Dadd, has succeeded in depicting a realistic motor-car in conjunction with historic surroundings and lifelike representation of everyday circumstances occurring in this busy spot. Messrs. Iris Cars, Ltd., will be pleased to send a copy of the picture free of charge to any of our readers who care to apply for the same.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

THE Motor-Car Journal.

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COMMENTS.



IN opening the Edinburgh Motor Show, Sir J. H. A. Macdonald, K.C.B. (the Lord Justice-Clerk), made reference to the growth of the British motor-car industry, in which Scotland has naturally had a place. Naturally, Sir John became reminiscent, as he has a right to do, having been one of the voyageurs on the 1,000-mile pilgrimage. Later in the day, at the annual dinner of the Scottish A.C., he referred to a census he had taken in London, where he had the opportunity of observing how many private cars there were as compared with private carriages. On one morning on the Embankment there were 234 cars to 147 carriages, and during the day all through the town there were 510 motor-cars to 242 carriages, the totals being 744 cars to 389 carriages. In fact, this advance in the number of automobiles in daily use is one of the notable things that strike every comer to our city as significant of progress.

Motors and the Army.

LAST week a further testimony to the value of the Army Motor Reserve was given at the regimental dinner of the corps held in London. Incidentally, in proposing one of the toasts, Lieut.-Col. Mark Mayhew, who presided, mentioned the fact that the distance travelled on their cars by officers of the A.M.R., whilst employed on military duty last year, was equal to almost five times the circumference of the earth. Several of the military authorities spoke as to the good work that had been done, and General Sir W. G. Nicholson, Quartermaster-General of the Forces, mentioned that the employment of mechanical transport on active service was at present receiving the consideration of the Army Council, and in the deliberations on the subject the experience of officers of the Reserve would be extremely useful. Certainly the position of the automobile in military affairs is well assured.

Automobile Education.

It is gratifying to learn that the authorities of the University of Sheffield recognise the growing interest in motor matters. Those concerned with the welfare of the town are able to realise what an important bearing the automobile industry may have upon the progress of Sheffield. Attention may be drawn to the fact that, appreciating the immense and rapidly growing demand for special alloy steels, many eminent Sheffield firms of steel producers have organised departments to deal entirely with this line, and to study in detail the requirements of motor manufacturing. The University classes in metallurgical research, therefore, are very popular. It is, however, to the newly-organised classes specially arranged for—(a) motor-car owners, (b) chauffeurs and students, by the University authorities, that we would call particular attention. Many professional and other gentlemen, who would otherwise be car owners, are often slow in adopting the automobile owing to their lack of sufficient technical knowledge to enable them to dispense with the services of a chauffeur, or, if a chauffeur is employed, to enable them to judge if their proper interests are being served by him. With the object of overcoming this difficulty,

a series of lectures have been organised, in which it is intended to impart to the would-be motorist a sound grounding in the technical points of the modern motor-car. In addition to an already noteworthy engineering laboratory equipment, a 25-h.p. chassis is available for demonstration purposes, and a petrol engine fitted with magneto ignition has been purchased with which to carry out the necessary demonstration on ignition, carburation, location and repair of faults, &c., &c. It is further shortly intended to commence a series of lectures on motor-car design in the interests of young engineers and draughtsmen interested in the subject, and it is hoped to obtain the assistance of the professors of chemistry attached to the University in the study of carburation, exhaust gas analysis, &c. The classes are under the direction of Mr. A. W. Reeves.

The Event of 1908.

As we have already announced, preparations are well forward in connection with the International Touring Car Contest to take place in Great Britain during June next. The Scottish Club will control that portion of the route in North Britain, or, to be precise, from Glasgow, where the Scottish Trial will really commence. While the basis of marking in the Scottish Trial is entirely different from that of the 2,000 miles Trial, the rules of both have been considered by the Joint Committee of the two clubs, so that there shall be no actual conflict. Those of the Scottish event are to be issued simultaneously with those published by the R.A.C. for the 2,000 miles Trial, and we understand that the committees of the two clubs have arranged a basis of elimination of entries, should such be necessary owing to their exceeding the number which it is possible to accept.

The Letter H.

MERTHYR TYDFIL will be constituted a County Borough on April 1st, and the L.G.B. has assigned to its Council the letters HB for the purposes of motor-car registration. The letter H seems to have been reserved in the first place for additional registrations, as beyond the single H, which is the identification mark for Middlesex, it has only been used as a first letter in the cases of HT, the South Riding of Tipperary, and HS for Renfrew. As the final letter of the identification mark it appears in Norfolk, AH; Buckinghamshire, BH; Derby, CH; Walsall, DH; Hanley, EH; Gloucester, FH; Donegal, IH; Northampton, NH; and Berwick, SH. Those interested in the curiosities of motor-car identification marks should send to the office of the M.C.J. for a copy of our identification card, which will be sent post free to any reader making early application.

Motoring in India.

THERE was quite a gathering of the clans at Bombay when Mr. W. T. Lord set out from there recently to make the trip to Calcutta on a 14-16-h.p. Argyll. He intended to travel from station to station under ordinary touring conditions, accompanied by Mr. Charles Wildbore and a native servant, who would also act as interpreter. From several points of the journey come news of progress, and some of the incidents *en route* were decidedly interesting. Shortly after

leaving Agra—the road running parallel with the narrow-gauge railway to Cawnpore—he was hindered by a herd of buffaloes. One night he stayed at an inspection bungalow at Monomow. There were bungalows about every twelve miles, but food was unattainable in towns. Luckily he and his companions were able all through to supplement the larder by the gun and rifle, there being no lack of buck, chinkara, duck and partridge. He failed to get petrol at Cawnpore, and as the Argyll would not assimilate the drop of Scotch whisky he gave her, he slept in the tonneau while the mechanic travelled by other means into Lucknow for the necessary spirit.

London to Edinburgh.

As usual, the Motor Show at Edinburgh has again incited many intrepid motorists to dare the elements in chill and foggy January. This year new interest was given to the time-honoured jaunt to the north by the test given the new English-built model of the 20-30-h.p. Lorraine-Dietrich car. It was driven by C. Bianchi, and a start was made from London at 6.20 p.m. on Friday of last week. As soon as the outskirts of London were reached a dense fog was encountered, and



Messrs. Bianchi and C. Lamb leaving Great Marlborough Street, London, W., for Edinburgh on a 20-30-h.p. British-built Lorraine-Dietrich.

progress was considerably hampered. Going northward the fog thickened, and at Bawtry, in Yorkshire, the passengers had to dismount and take turns in leading the way afoot, lamp in hand. Later the gloom lifted somewhat, and then better advance was made until the car eventually reached Edinburgh at 3.30 p.m. on Saturday last. Under the climatic conditions that prevailed record making was out of the question, but the British car worthily sustained the reputation of the French vehicles of similar name.

Benzol as Fuel.

MR. A. E. CROWDY, who represents the Wolseley Company in Manchester, has for some time past been carrying out some experiments with the use of benzol in place of petroleum spirit in petrol motor-cars, and while the tests have not been of sufficient duration to enable him to make any conclusive deductions, he has kindly furnished us with some interesting information. Mr. Crowdy writes:—"As you may know, there are two separate and distinct spirits (benzol) on the market at the present time, one of which has a large percentage of sulphur,

which makes it unfit for use in motor-cars; the other, the spirit which I have been using, is quite free from all trace of sulphur, and gives excellent results. I find in actual practice, that the aperture of the jet in the carburettor requires to be at least .004 in. smaller in a four-cylinder engine with a bore of 100 mm. than that used for petrol, and also that the air supply requires to be slightly increased. When the carburettor is correctly set, the engine starts without any difficulty, and appears to give as much power as if petrol was being used, whilst at the same time considerably more mileage may be obtained to the gallon, by reason of the smaller jet and extra air supply. So far as I have been able to ascertain, there is no deposit resulting from the use of this benzol, neither does it exercise any adverse effect on the working of the engine. It is perhaps not generally known, that the carburettor fitted to the Wolseley-Siddely cars of to-day is so constructed that it is possible, by making small adjustments, to use (1) spirit which has a specific gravity of .710, (2) spirit which has a specific gravity of .760, and (3) rectified benzol. The relative cost per gallon of these spirits in the North of England is approximately as follows:—(1) .710 spirit, 1s. 2d.; (2) .760 spirit, 1s. 1d.; (3) benzol, 1s." Later on Mr. Crowdy intends to make some very careful consumption tests, using ordinary Pratt's spirit of a specific gravity of .710 as a standard for the comparison, and at the same time hopes to get the comparative b.h.p.

A Police View of Traps.

A SAD accident in which a motor-car was associated seems to have led to a kind of panic among the City Fathers of Belfast, and their application for a reduction of the speed of all motor-cars passing the town to ten miles an hour has produced something of a Gilbertian situation. For the Police Commissioner regards his powers under the Motor Car Act as amply sufficient to protect the public. In fact, he told the Inspector at the inquiry that the proposed restriction would rather weaken the position than otherwise. The administration of the new by-law would certainly necessitate the employment of more policemen to discharge this special duty, which would mean increased cost on the ratepayers for no advantage that he could see. The introduction of police traps was not conducive to good feeling towards the police. In the fatal accidents that had occurred the juries had especially exonerated the drivers from blame, and in each case the speed was below ten miles.

Open Competitions on the Public Highway.

IN view of the discussion which has arisen as to the attitude of the Royal A.C. with regard to the open competitions on the public highway, it may be well to recall the terms of the resolution which was adopted by the General Committee of the Club, and which has apparently not been clearly understood by many members of the various clubs concerned. The exact wording of the motion was as follows:—"That in view of the annoyance caused locally, and in the interests of the automobile movement generally, the Club shall neither hold nor issue any permits for open competitions other than reliability trials, nor support any closed competitions on the public highway where a speed in excess of the legal limit is a factor, unless such highway has been closed to ordinary traffic by the authorities, or the competitions are held on the fore-shore with the sanction of the authorities." In arriving at its decision we understand that the Club was influenced by the large number of complaints received from those resident, adjacent to, or even on the hills where most of these open events were held during 1907, and by the annoyance caused by the holding of these events, not so much on the day itself when the competition was under proper control, but for some days before the event, when large numbers of cars practised at high speeds up and down the hills. Closed competitions are, of course, in a different category. A closed event, which is a competition confined to members of a club, is much more easily supervised by a local club. It can more easily be confined within proper limits,

and if the authorities are favourable to the idea the risk of opposition on the part of the public is likely to be avoided. Clubs need not, moreover, apply to the Royal A.C. for permits for closed competitions. In regard to motor-cycling competitions the Club has made no pronouncement; it has handed over the control of motor-cycling to the Auto-Cycle Union, and the question of holding hill climbs for motor-cycles concerns that body only.

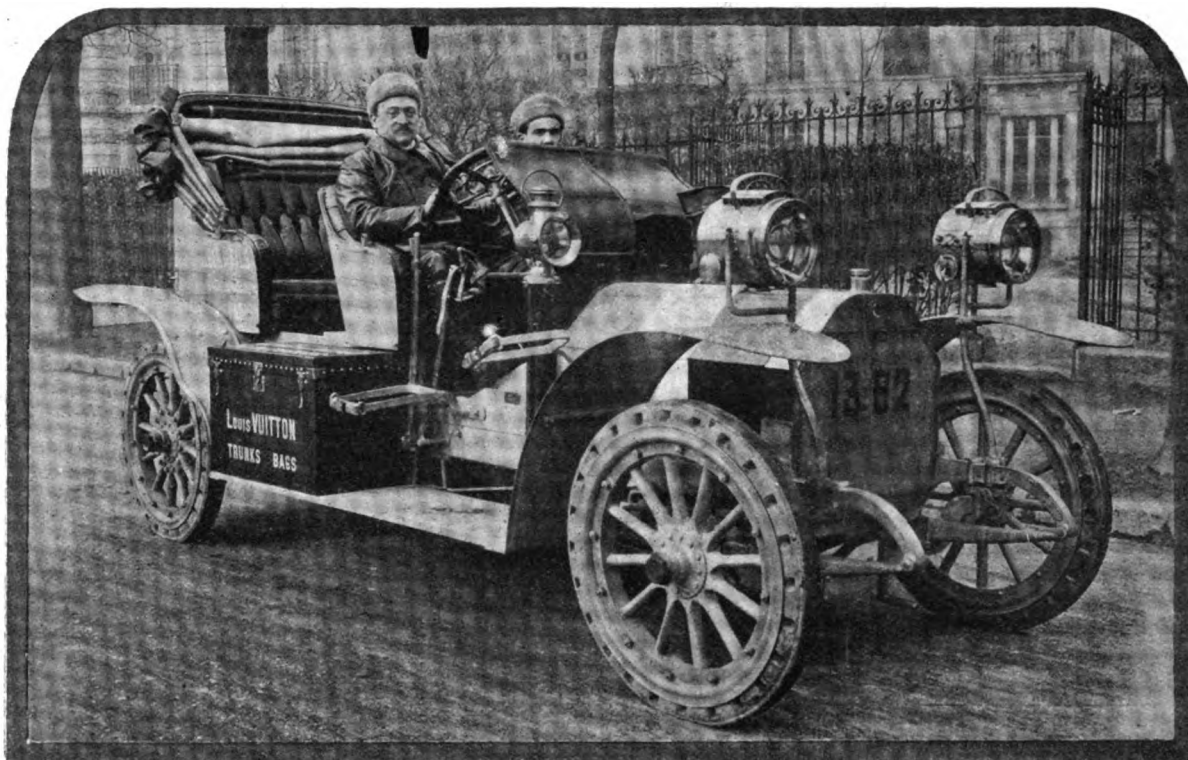
Thefts from Cars.

INSTANCES of thefts from motor-cars have been somewhat frequent of late—whether from the growing carelessness of owners or the increasing boldness of others we will not venture to determine. The fact, however, remains that the warning recently addressed through our Correspondence columns by leading motorists should be in the memory in 1908 as well as in the latter days of 1907. Time was when rugs, bags, &c., might safely be left on automobiles while the driver and

danger signal be put up at dangerous corners near schools. In addition warnings by the teachers are very necessary.

The Improvement of Carriages.

A LITTLE-RECOGNISED effect of the automobile on the industries of the country has been the increased variety that is now seen in any carriage builder's establishment. There is no doubt that until the adoption of the Motor Car Act, 1903, those responsible for carriage-building work had got into a rut from which horses could not remove them. That change, however, has been effected by the motor-car, as is seen in the diversity of styles of light carriages that are now seen, and in the greater number of materials now utilised in their upholstery. The sombre drabs and greys that once dominated the leather work of carriages have been superseded by striking brighter hues, and many coach builders are rejoicing in the greater scope they are now allowed in the design and fittings of horse-drawn vehicles. The carriage builder has studied the motor-car to the



M. Godard, who took part with a Spyker Car in the Pekin-Paris Run, at the wheel of the Motobloc vehicle he will drive in the New York-Paris Contest.

passengers were away for a few minutes; now the enterprise of thieves does not stop at trifles and lamps are sometimes removed, while unsecured articles are often taken. The delinquencies have no geographical limits; they occur in the provinces as well as in London, and recently our attention has been called to quite an outbreak of such exploitation in Bradford, Leeds, and other towns in Yorkshire. A word is as good as a sentence to the wise motorist, who will take due precautions after this New Year's warning.

The Dangers to Children.

EMPHASIS is given to our Comment last week on the need for children being warned as to the dangers of the road by an inquest just held at Sheffield. After hearing the evidence the coroner remarked that a number of children were killed through dodging behind one vehicle into the road of another. The jury thought that the teachers at the schools might do something, and finally it was suggested that a motor

advantage of his own particular craft, and his attempt to cater for new requirements has given him a desire to improve those with which he is most intimately associated. Further evidence of this excellent "sign of the times" is seen in the encouragement of carriage classes at county shows, and we expect great enterprise in that direction this year. In fact, it would appear that all classes are recognising the truth of what the motorist has sought to impress upon his friends, viz, that the motor-car will relieve the horse of his burdens, and enable him to take his place on the road as a means of pleasure and sport.

DURING the hearing of an action the other day at the Southwark County Court, one of the counsel said, "I don't know whether your Honour indulges in the sport of motoring?" Judge Willis: Sport, do you call it! I was never in a motor-carriage but twice, and then I kept it at a proper speed—twelve miles an hour—and enjoyed it. The second time I was glad to get out." And, of course, everyone in court smiled; some even laughed.

SOME TYRE WORRIES AND HOW TO AVOID THEM.

"'Tis strange but true, for truth is always strange,
Stranger than fiction."

THESE words of Byron surely apply to tyre stories. I certainly know nothing so singular as the different luck the amateur motorist has with his tyres; one man rarely goes for a spin but a cover bursts or a tube punctures; another has the same set of tyres and even does not pump them up once in six months, and as to trouble he is a stranger to it. Truly Sladen says:—

"Vox et preterea nihil; and the name
Of chance is but the argument of fools,
Sworn with th' expansion of their own conceit.
Can that which is not, shape the things that are?
Is chance omnipotent—?"

I think we can put aside the question of make. The leading tyres now on the market are all equally good. It is the old,

of the canvas lining. These states may be considered more in detail.

Insufficient inflation causes excessive lateral tension, with a resulting rolling action that may tear the sides of the cover from the beaded edge. The correct pressure is usually given by the makers and varies with the size of the tyre and the weight it has to carry; it is less on the front than on the driving wheels. On 65 mm. tyres with a light load a pressure of 50 lbs. per square inch is enough, whereas on larger ones the pressure may be 90 lbs. The average gauge on a pump only shows the pressure of the air passing through the pump, but tyre gauges are on the market that register the air pressure inside the tyre, and since systematically using such an instrument I have maintained the correct pressure, and, as a consequence, have had much less tyre trouble.

Sufficient French chalk or black lead must be dusted inside the cover to prevent the air-tube sticking to the casing; but too much forms lumps that may cause friction and so damage the tube. Dirt and mud being left between the rim and tyre after a run may cause the former to rust—another producer of



Motor-Cars and Hunting.

The Earl of Harrington, the master of the pack bearing his name, always arrives at the meet in his car. The illustration above shows the Earl in the act of removing his motoring clothes, at Bleasby Hall, the seat of Captain Kelham. The Earl carries with him on the car several terriers for use when the fox goes to earth.

old story of a poor workman blaming his tools. In some cases, it is true, the tyres are not the size for the weight of the car, but more often the tyres suffer from want of attention. Given "a dream" of a tyre, take corners sharply, back on to sharp kerbs, run over sharp flints with only half inflated tubes, and even such a tyre will object and show its resentment of the neglect by bursting or puncturing. Detachable rims are, of course, very interesting, and may save trouble, but with care the trouble could be avoided, and tyres but changed in the garage, when with proper levers, especially a forked one, the beaded edge cover is easily taken off and put on; and even the introduction of the valve presents no difficulty if a forked lever is employed, which also facilitates the introduction of the security bolts.

The causes of tyre deterioration are insufficient inflation, neglect to put enough French chalk between the tube and the outer cover, or dusting in too much, with consequent lumps that cause friction, contact of tyre with grease or rusty rims, imperfect alignment of wheels, neglect to stop holes or cuts in the outer cover, and thus admission of damp with consequent rotting

wear. It is a good plan to occasionally remove the tyre, and, after cleaning, paint the rims. "Prevention is better than cure"; water externally has no bad effect on a tyre; in fact, it does the rubber good; but water permitted to get to the canvas may do much harm, and is a common cause of a "burst."

If the front wheels are not in alignment with the back ones then, as the wheel moves, there is a combined sliding and rolling action, which is of a grinding nature and soon wears out the cover. I remember once wearing big holes in a tyre merely in a run from Wakefield to London; an examination showed this to be the cause, and after adjustment of the front wheels and the actuating arms the return journey on new front tyres was made without a scratch. The lesson was learnt at the cost of a couple of covers, but it was cheap at the price. I now always see that the steering wheels are parallel to the driving ones. Covers, of course, frequently get cut, and often the cut does not extend into the tube. Perhaps the flint or other foreign body, such as a nail, is left neglected in the tyre; it may then work its way and ultimately cause a puncture, or, if the owner is lucky, the foreign body may work out without causing tube injury, but if the

opening is neglected wet gets in, and the canvas rots, with ultimate bursting of the cover. I confess that I used not to stop up holes in covers or inspect every night to see if there were any. As a result I had a burst on a journey home from Eastbourne on a lonely road, four miles from a repairer. Luckily I had a spare cover, but I certainly recollect the job I had in getting it on without help and without a forked lever. It took over an hour, and was hot work. Still it was an instructive experience, and now my tyres are inspected every night. The stopping of holes is an easy task, but it must be done thoroughly. Want of care is more often the cause of the stopping coming out than the make and quality of the stopping. Pneu Cure is excellent, and so is a preparation called the Vulcan stopping and vulcanising fluid I once bought at Gamage's. This, too, requires care in application.

The hole must first be cleaned, then wiped out and rubbed with fine sand or emery paper. Then a coating of ordinary rubber solution should be applied. Any quick-drying solution answers; personally I like the one made by the Dunlop Company. When this is dry, which usually takes twenty minutes, the hole must be filled up with the Vulcan stopping, putting in a little at a time with the edge of a penknife, letting it dry and then pushing in a bit more. After the hole is more than filled up it should be left for an hour at least to set, and then the patch should be painted over with a coat of vulcanizing solution. I have now on my car two such holes, which were filled up in this manner nearly three months ago, and the stopping is still in, and, what is more, looks as if it would outlive the tyre. I have also used this fluid for vulcanizing on a patch to a punctured tube, and it answers well, though when time permits I generally get punctures in tubes repaired with a hot vulcanizer, such as "H. F."

The valves of the inner tubes may occasionally leak; it is as well to carry a spare valve plug and valve seating and rubber plug washers; these may wear and thus allow tyres to become deflated, and though, of course, in an emergency spare temporary washers can be made out of a bit of soft leather or rubber insertion, it is easier to have a washer that will fit in the kit carried on the car. A common cause of puncture is nipping of the inner tube by either the security bolts or the edges of the cover. These torts can all be avoided by care in putting in the tube. If it is slightly inflated before the outer edge of the cover is put into position, the latter should not catch the tube, and if each security bolt is pushed up prior to that portion of the cover being levered over, then it is impossible to nip the tube, as the bolt should then move freely and only come back when the tyre is pumped up.

A little care in driving will greatly prolong the life of a tyre, especially in not letting the clutch in too suddenly and in avoiding all fierceness of that member. A little castor oil has a marvellous effect on the clutch leather, and, in addition to adding to the life of the tyres, saves the machinery. A fierce clutch often accounts for a broken bevel or a fractured differential sleeve. Sudden application of the brakes, by causing the driving wheels to skid, not only causes wear by friction, but also tends to tear the rubber from the fabric; taking corners sharply is another cause. Tyres will last much longer if the clutch is slipped in turning, and if, when possible, the car is driven on the crown of the road.

These are, I know, all simple facts, but from experience I have learnt that attention to these points reduces tyre expenses and saves roadside tyre repairs.

C. T. W. H.

MESSRS. MARKT AND CO., 6, City Road, E.C., are introducing the Brown Compressometer, which will enable the compression in each of the cylinders to be determined quite easily. It is a 100 lb. gauge fitted with a maximum hand which remains at the highest point of compression. The device is employed by simply being screwed into the cylinder in place of the sparking plug, the motor being turned over by hand and the pressure being immediately indicated on the dial. A new automobile oilstone is also being marketed by Messrs. Markt and Co. for grinding and smoothing rough surfaces.

STARTING ENGINES BY THE LEFT HAND.

IN the case of petrol motors revolving clockwise there is an element of danger in the use of the right hand for turning the starting handle, for if a back-fire occurs the operator is thrown with force against the lamp or mudguards, and he is indeed lucky if he escapes with a sprained wrist and a few bumps or cuts, not to mention the damage to the lamp or mudguard. Furthermore, the body is cramped and is of necessity turned half way around so that the fullest force can be exerted, a position inviting loss of balance. Herein the motorist who uses his left hand for starting the engine is, considers our French contemporary "L'Omnia," at a decided advantage. Grasping the handle as he does, with the fingers curved (the thumb simply retaining the handle within the fingers), when a back-fire occurs the arm is thrown outward, the fingers are opened and no damage is inflicted. Further, the left-handed operator squarely faces the machine, and by reason of the distance between his feet and a firm grip on the radiator or dumb iron with his right hand, it is next

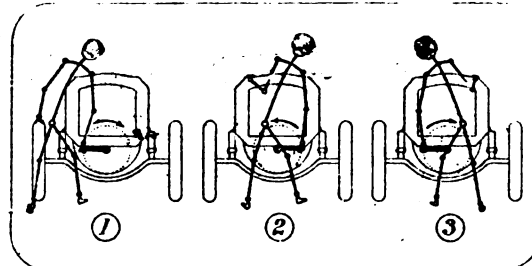


Diagram Illustrating Position of Operator in Starting up Petrol Engines.

1. Usual position in starting an engine by the right hand. 2. Position when starting an engine which turns to the left (most engines now rotate clockwise). 3. Position when starting an engine by the left hand.

to impossible to throw him from his balance. The hand grasping the dumb iron also assists in the exertion of more strength on the starting handle. This question of using the left hand has been discussed by several doctors and constructors in our contemporary, the above reasons being cited for its use in place of the right hand. At least two French motor-car factories are stated to train all their mechanics to use this hand in starting. With low tension ignition it is essential that the motor be turned over quickly in starting, and this can be more readily accomplished if the left hand is used. The use of the left hand is most desirable because of the fact that it renders the driver immune from injuries due to back fire.

A MOTOR-CAR exhibition is to be held in Moscow from May 17th to June 2nd next.

ACCORDING to the meteorologists there will be a return of fine weather and dusty roads during the present year, and already motorists are anxiously considering the various fitments that can be added to the car to render it suitable for touring. Among these is the Rivett wind and dust screen, which has the distinct advantage of being instantly raised or lowered while the vehicle is in motion. It is the invention of Mr. A. Rivett, of 236, High Road, Leytonstone, Essex, who was one of the pioneers of the motor business in the eastern suburbs. When in the upright position its appearance is of the customary character. When the top half is let right down the advantages of the usual folding screen are obtained, with the additional merit that the top half inclines towards the driver, securing a maximum of protection for the hands and body of the driver. Should rain come on suddenly while the car is in motion the screen can be at once raised high enough to protect those on the driver's seat, and yet the driver gets a clear view over the top. There is no hindrance to freedom of movement on the part of those behind the screen, and the method of securing the device is an effective assurance against the rattling too freely associated with such accessories.

CONTINENTAL NOTES.

Another Race in Sicily.

In addition to the voiturette and heavy car races which are to be held in Sicily in May next, it has now been decided to hold a third event, to be known as the Coupe des Voiturettes Trinacria, for vehicles the four-cylinder engines of which have a bore of between 90 and 100 mm. or 106 mm, the latter figure having not yet been definitely fixed. The race will be over a distance of about 450 kilometres. The entry fee has been fixed at £40 per car; the winner will secure the Trinacria trophy and a prize of £320, the second prize is £200, the third £80, and the fourth £40.

A Voiturette Race in Italy.

In connection with the motor-car exhibition at present being held in Turin a race for voiturettes took place on Sunday last over a 36 kilometre circuit, which had to be covered five times to give a total distance of 180 kilometres (112½ miles).

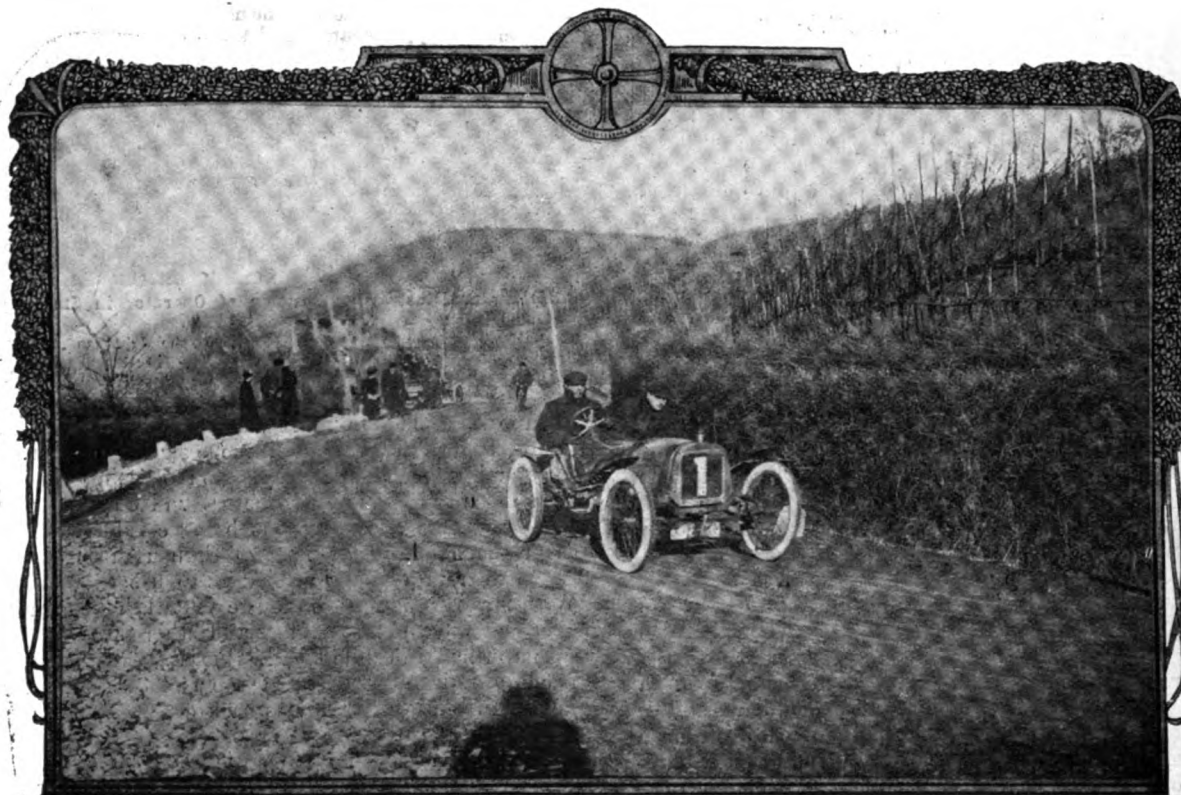
Pekin-Paris event; a De Dion, with M. B. Saint-Chaffray at the wheel; a Sizaire-Naudin, driver M. Pons, and a Züst, driver M. Scarfoglio.

A 200-h.p. Flat Racer.

"Les Sports" of Paris reports that the Fiat Company are building a 200-h.p. car capable of maintaining an average speed of over 100 miles an hour. It is added that the vehicle will be driven by Nazzaro on the Brooklands track against the Napier.

Miscellaneous Items.

A syndicate of the firms in Paris making a business of hiring out cars has just been formed.—The date of the proposed tour of France for motor-cycles and light cars, which is being organised by the Auto-cycle Club of France, has been altered. It will now be held from the 23rd to the 29th April instead of from the 4th to the 9th of May.—The Austrian Automobile Club proposes to hold a trial of industrial motor



The Turin Coupe des Voiturettes.—Giuppone on the winning Lion-Peugeot Car descending the Pins Hill.

The contest was open for vehicles of a maximum bore of 100 mm. for single-cylinder engines and 80 mm. for two-cylinders, the total weight of the cars being not more than 500 and 600 kilog. respectively. There were only eight starters, including three each Lion-Peugeots and Padus (an Italian-built vehicle), a Sizaire-Naudin and an Alcyon. One of the Lion-Peugeots fell out in the first round, only four finished the second lap and three the third circuit. At the end of the fourth round only Giuppone on a Lion-Peugeot and Cissac (Alcyon) were left in, these two finishing in the order named in 4 h. 12 min. and 4 h. 32 min. respectively.

The New York-Paris Motor Run.

Considerable excitement prevailed in the neighbourhood of the offices of "Le Matin," in Paris, on Tuesday, when four cars which have been entered for the projected New York-Paris run set out for Havre. The vehicles were a Motobloc, which will be driven by M. C. Godard, who with a Spyker went through the

vehicles in July next.—A company has just been formed at Brunen, near Wesel, Germany, to establish a public motor-car service in the district.—An automobile club has lately been formed at Limoges, France.—A motor fire-engine is to be added to the equipment of the fire brigade at Elberfeld, Germany.—Quite a number of low-powered four-cylinder cars have lately made their appearance in Germany. Messrs. Stoeber, of Stettin, for example, are building a 6-12-h.p. vehicle, and the Siemens-Schuckertwerke of Berlin one of 6-10-h.p.—The Automobile Club of Nice is placing a motor ambulance at the service of the municipal authorities of Nice. The body is mounted on a Delaunay-Belleville 24-h.p. chassis.—It is now announced that the drivers of the Panhard trio of cars in the A.C.F. Grand Prix race will be Heath, Cissac, and Maurice Farman.—The tenth anniversary of the founding of the Austrian Automobile Club is to be celebrated by a banquet in Vienna on the 6th inst.—On Tuesday, "Les Sports" stated that the Dieppe circuit had again been definitely adopted for the 1908 A.C.F. Grand Prix race.

THE SETTING OF VALVES.

LARRAD'S PETROL MOTOR TIMER.

JUDGING from the correspondence we have received, the article published in the *M.C.J.* of the 11th ult. on the subject of the setting of the valves, inlet and exhaust, of petrol motors, has attracted more than passing interest. It will be remembered that we gave the setting adopted by seven leading motor-car firms, and pointed out that in each and every case a different arrangement was employed. One result of the article has been the bringing to our notice of a device known as Larrad's Timer, which has lately been put on the market by Larrad's Patents Syndicate, of Bexhill, and 21, Holborn Viaduct, London, E.C., by the use of which motorists are enabled to secure the absolutely correct setting of the inlet and exhaust valve lifting cams of petrol engines in a very short space of time.

We give an illustration of the instrument in Fig. 1, from which it will be seen that it consists of a disc carrying a specially-shaped spirit level on a spindle. Projecting from one side of the spirit level is an arm with three holes drilled in it. The disc also has several holes, each bored at a certain radius from the centre corresponding with those in the arm of the spirit level. A peg is provided, which passes through the one or other of the holes in the arm, and into one of the holes on the disc. The outer radius holes in the disc are three in number, one representing zero, and the other two the opening and closing positions of the exhaust valve. The two middle radius holes represent the opening and closing positions of the inlet valve, and the two inside radius holes represent ignition positions. The method of timing an engine with this device is carried out as follows:—Set the piston at the top of its stroke, then fix the instrument on the clutch, flywheel, crankshaft, or other suitable part revolving with the latter. Place the peg in the hole marked zero, and adjust the disc until the air blob is central. Then place the peg in the hole on the exhaust radius marked "open," and turn the crankshaft till the air blob is again central; the exhaust valve should at this

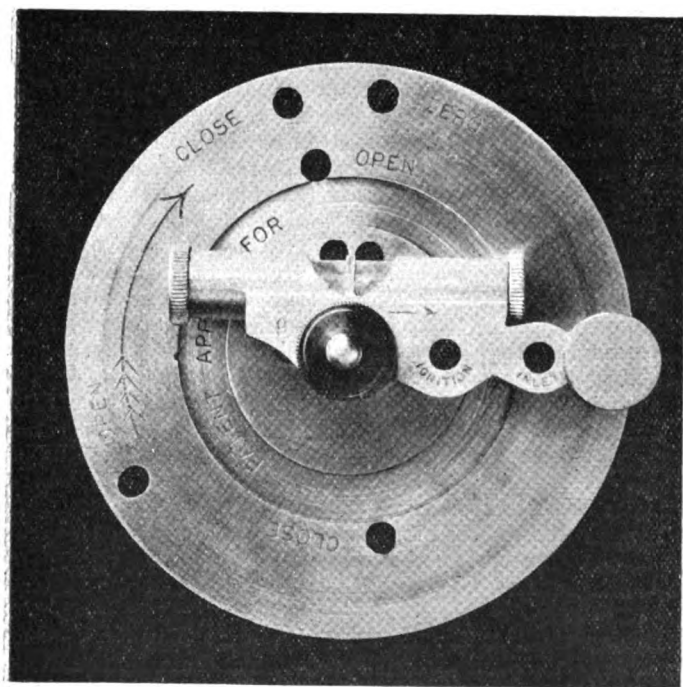


Fig. 1.—General View of Larrad's Petrol Motor Timer.

point commence to lift. Continuing, remove the peg and place it in the hole marked "closed," rotate the crankshaft as before until the air blob is central, and the exhaust should be just closed. To time the inlet valve practically the same operations are repeated, with the peg in the respective holes in the middle radius.

First place the peg in the inlet hole marked "open." This time, instead of revolving the flywheel in the direction of the arrow, move it slightly back till the air blob is central, which gives the position when the inlet valve should commence to lift. Now place the peg in the hole marked "inlet closed," and revolve the

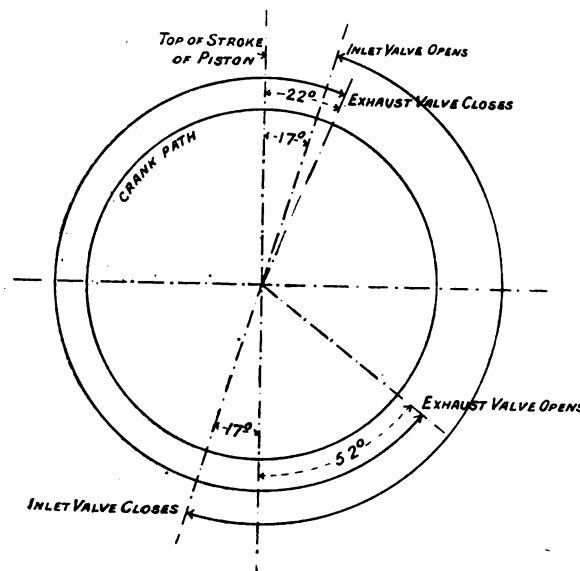


Fig. 2.—Diagram of Valve Setting as given by Larrad's Timer.

flywheel again in the direction of the arrow. When the air blob is in the centre of the spirit level, the inlet valve should be just closed. The holes in the inner radius are marked M and A, and represent high-tension magneto and accumulator and coil respectively, while for low-tension the hole marked zero should be used. With the peg in its relative hole and the crankshaft turned until the air blob is central, the retarded ignition position is obtained. The disc is marked on both sides, so that, by reversing the positions of the holder and spirit level, it can be used equally well at either end of the engine.

An examination of the instrument showed at once that Larrad's Timer is not merely a device to facilitate the setting of valves, but gives a particular setting, which is, we learn, the result of long experiment on the part of Mr. Larrad, who claims that by altering the cams or adjusting the valve tappets, or both, to suit it, any high-speed engine will not only develop greater power than with its old arrangement, but will also run quieter and slower than before. This is a specially interesting point, as from the information the Syndicate have furnished us with, and now published for the first time, and from the diagram (Fig. 2) we have prepared, it will be observed that the Larrad timing differs considerably from the practice adopted by the makers mentioned in the article already referred to. In the first place, it will be noted that the exhaust valve opens very early—52 degrees from the bottom of the firing stroke of the piston—while it closes late—22 deg. down on the suction stroke. The inlet valve is timed to open late—17 deg. down on the suction stroke, and to close late, 17 deg. up on the compression stroke. The most striking feature of the setting, apart from the very complete scavenging of the exhaust gases, owing to the long period the exhaust valve is open, is that the inlet valve opens 5 deg. on the suction stroke before the exhaust valve closes—that is to say, both valves are for a brief period open at the same time. We have in hand a further series of diagrams of different makers' valve setting, which we hope to publish in an early issue, and among them is one in which the practice of overlapping is followed, and, as it is that of a very successful car, Mr. Larrad has some outside support for his claim that it ensures the charge of gas admitted on each suction stroke being a very rich mixture, and not reduced in power by any unexhausted burnt gases. It is claimed, in fact, that the overlapping has the effect of causing the inrush of explosive mixture to chase

out, as it were, any remaining exhaust gases, and that there is no danger of back shots in the carburettor.

That the Larrad setting is one which possesses merit is evidenced by the letter from "Amateur"—the *nom de plume* of a West Country motoring enthusiast—published in our issue of the 18th ult., as well as other testimony that has been brought to our notice. At the same time, we still feel that there is room, in view of the great variation in the valve setting of modern petrol motors, for a series of tests to be carried out by some independent authority as to which arrangement—all other things in the way of valve sizes, compression, &c., being equal—gives the best result, and we have the Larrad Syndicate's authority to state that they are ready to submit their setting to such a trial at any time, so great is their confidence that the result will only be a substantiation of their claims.

Realising, however, that they cannot all at once convert every motor designer to their way of thinking, and that there is also a want of some device to enable motorists and motor

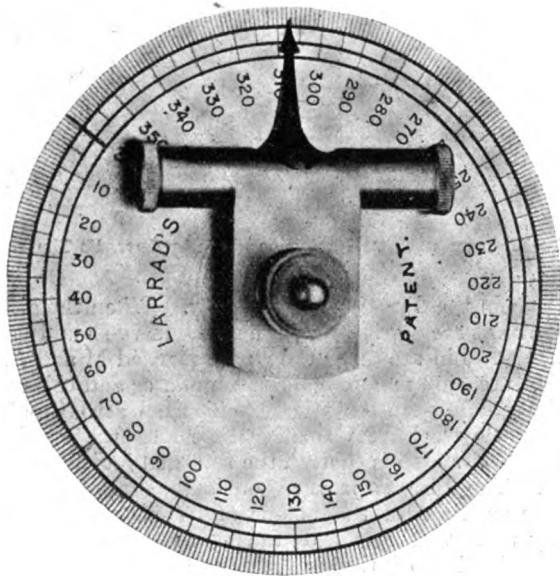


Fig. 3.—General View of Larrad's Degree Instrument for Testing the Valve Setting of Petrol Motors.

repairers to test and probably re-adjust the timing of any petrol motor, the firm have, in addition to the Timer, also introduced what they term a degree instrument (Fig. 3); this is identical with the device shown in Fig. 1, except that the disc, instead of being provided with certain holes, is marked off on one side in degrees, and, on the other, in percentages of the circle. As Captain Windham pointed out in our last issue, the cams of many multi-cylinder engines are not always set relatively exact to one another; while, again, the continual tapping of the tappets brings about a certain amount of wear which prevents the valves from opening sufficiently, and so hinders both the evacuation of the burnt gases and the inspiration of the fresh charge. It is in testing for any irregularities of this kind that the utility of the degree instrument will demonstrate itself. Apart from the valves, however, there are other directions in which the device will be found useful; for instance, it can be used for trueing steering pivots and front axles after an accident, for setting eccentrics on all kinds of engines, and also for placing any movement at particular parts of the circle.

ONE of the Union Jack motor-buses skidded so badly near Canning Town, E., on Saturday afternoon last that one of the rear road wheels was wrenched off.

LIEUT. GIMPERLING, of the 21st U.S. Infantry, has started from Denver in a motor-car on a 1,000-mile trip to Fort Huachuca, with the view of making a topographical map of Southern Arizona for the use of the U.S. War Department.

LIGHTS ON VEHICLES.

THE object of the Lights on Vehicles Act, 1907, which came into operation on January 1st, was to necessitate that "no person shall permit his vehicle to be in any street or road during the period between one hour after sunset and one hour before sunrise without providing a light"; certain exemptions were, however, allowed. These can only be granted by the town or city councils, and then special circumstances must be established. So far as we have been able to ascertain by exhaustive inquiry, very few Councils have found it necessary to claim any exemptions from the operation of this Act in England, Wales, and Ireland, and it is evidently being adopted in its entirety almost as a general rule.

In two or three important towns, however, where special local conditions suggest some latitude, the Town Councils have adopted special orders which have been sanctioned by the Home Secretary. Thus, for instance, the City Council of Liverpool, believing that it would be dangerous to enforce the provisions of the Act "as to vehicles when carrying certain inflammable goods, and all vehicles in certain parts of the city in which such goods are stored or dealt with," has ordered that vehicles carrying cotton shall be exempt from the operation of the Act, and also that all vehicles shall be exempt while in any of the following streets, highways, or roads, viz.:—Hawthorne Road, Westminster Road, Barlow Lane, Walton Road, Kirkdale Road, Great Homer Street, Fox Street, Soho Street, Stafford Street, Monument Place, Greek Street, Copperas Hill, Renshaw Street, Berry Street, Great George Place, Great George Street, St. James Place, Park Place and Park Road, or while in any street, highway or road to which the public have access within the city between the above streets, highways or roads, and the boundaries of the Mersey Dock Estate.

The area within which vehicles are outside the operation of the Act is that situated in the lower part of the city and adjoining the Mersey Docks and Harbour Board. The streets within the area are well lighted, and no difficulties are anticipated, as the bye-laws have previously excluded slow-going vehicles from their operation as regards the carrying of lights. So far as the exclusion of the light from vehicles carrying cotton is concerned, this does not greatly affect the question, as the carriage of such goods is almost entirely confined to the area indicated by the streets we have mentioned.

Many Councils, of which that at Luton may be regarded as typical, have not made exemption orders, from the feeling that, as the intention of the Legislature undoubtedly was to secure uniformity as to the lights which vehicles should carry, it was undesirable to destroy that uniformity by setting up local exemptions. Further, where a large section of their areas was of the rural or urban character, they have recognised that harvesting vehicles without lights on highways are no less a nuisance than others; hence the general endorsement of the Act as adopted at Westminster that we have noted. No special orders in connection with the Act have been issued in Richmond and Swindon, but in other places the matter is having the attention of the authorities. It is at the present time under consideration at Coventry, and also at Newcastle-on-Tyne, where new bye-laws are awaiting the final sanction of the City Council. The owners of vehicles in the City of Leeds (which has submitted a new bye-law on the subject to the Home Office) are almost unanimously adopting a white front and a red rear light.

During the last few days an important development has occurred in connection with this matter, and the whole question of local exemption is now under the consideration of the Municipal Corporations Association, with a view to framing regulations in concert with the County Councils Association so that the uniformity which all practical persons recognise as so desirable shall be secured. As yet, however, no definite recommendation has been made, and doubtless the experience of those places where new regulations are made will be watched very closely with a view to securing a satisfactory policy all round.

A MOTOR-BUS service is shortly to be started in the town of Petropolis, Brazil.

At the twenty-sixth annual general meeting of the Institute of British Carriage Manufacturers, held on the 23rd ult. in London, Mr. Sydney Norris, of Manchester, was elected president.

THE employees of Chambers Motors, Ltd., were, through the generosity of the firm, given a day's excursion from Belfast to Dublin in order to visit the Irish Automobile Exhibition.

THE Mayor of Brighton, in fining a motorist 50s. and costs for driving at a dangerous speed, has expressed a view that the magistrates intend to put a stop to such proceedings in the roads of that town.

MESSRS. JONES AND CO., whose garage is as much a feature of Lichfield as is the house of Dr. Johnson, have issued a series of route maps to Bournemouth, Newcastle-on-Tyne, London, Edinburgh, and Glasgow. These are given to motorists calling at their place.

MR. H. S. CAUTLEY, the prospective Parliamentary candidate for the East Grinstead Division of Sussex, is already receiving letters asking his views as to the motor-car question. Replying to a local farmer he says he agrees that motor-cars "are a luxury, and that they ought to be further taxed."

"INDIAN MOTORS, LTD.," has been registered in Calcutta, and arrangements have been made with the Bombay Motor Car Company to take over the representation of Daimler and Fiat cars in Bengal, while a new feature of the business will be the importation of commercial vehicles. These have hitherto only been seen in India in an experimental way, and there can be no doubt as to the large opening there is for industrial enterprise in this direction.

To Londonderry belongs the distinction of possessing the first motor fire engine in Ireland, the enterprising town authorities having purchased a Merryweather motor "Fire King" steamer, which was delivered last week. The engine has a pumping capacity of 400 gallons per minute, and can travel at a speed of twenty to thirty miles an hour on the level. The boiler is fired with oil fuel, the water being kept hot in the fire station by means of a gas burner, which enables the machine to turn out within one minute from receipt of a call.

AN important decision affecting the liability of local authorities to keep their roads in proper repair was given by Judge Gye in the Basingstoke County Court recently. The Farnham Rural District Council brought an action against Messrs. Mussellwhite and Sapp, builders and contractors, of Basingstoke, to recover the sum of £48 alleged to have been extraordinary expenditure on the repair of a road at Hindhead which had been damaged by the defendants' traction engines. His Honour gave judgment for the defendants, with costs on the higher scale.

THE fire which occurred a few days ago at the garage of Mr. Milton Bode, the well-known theatrical proprietor, destroyed all the woodwork of his new Ariel limousine—a fine body made by Mr. William Vincent, of Castle Street, Reading. He will not, however, be without a car for a few days, as Mr. Vincent is just completing a handsome side entrance touring body for Mr. Bode's Panhard chassis. The body that was burnt was almost identical (except as to the colour scheme) with that shown by the firm at the Cordingley motor exhibition at the Agricultural Hall last March.

DURING the progress of the South Herefordshire election the motor-car is, of course, playing its part. Unhappily for one of the candidates, an automobile containing speakers recently broke down at a secluded village on the way to a meeting of considerable importance. Some of his opponents were more punctual at the gathering, and, seeing that the motor-car did not bring its contingent of speakers, they took advantage of the occasion to address the meeting and to secure a vote of confidence being adopted in favour of the candidate against whose interests the meeting was called.

HERE AND THERE.

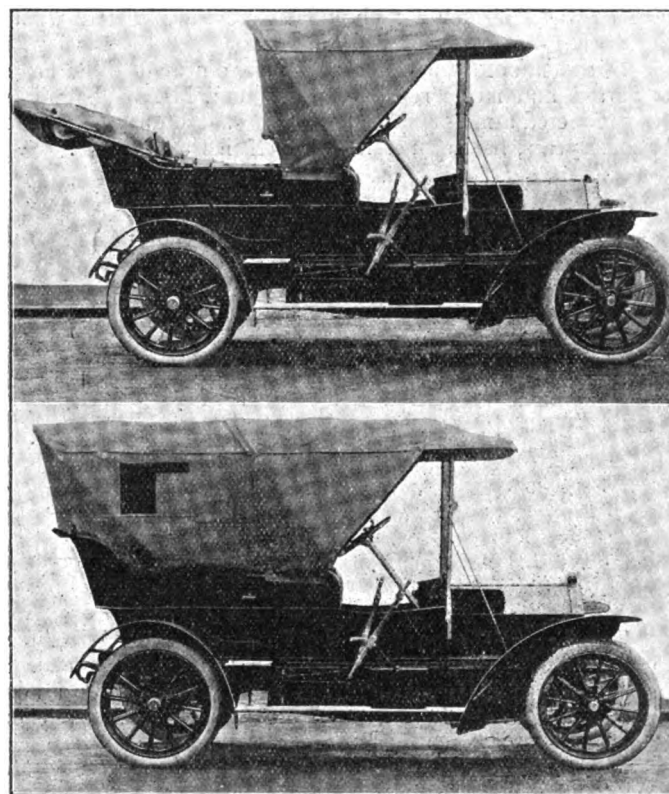
MESSRS. MORGAN AND CO., LTD., have facilities for the re-charging of accumulators and the repair of motor tyres at their place at Leighton Buzzard.

THE decrease in receipts of the Brighton and South Coast

Railway Company during 1907 has been officially attributed as due, among other causes, to the competition of motor-vehicles.

MR. T. WILSON, the Master of the Burton Foxhounds for the last twenty years, has become a motorist, having ordered a 42-h.p. Hampton limousine car from the Daimler Company.

WE illustrate herewith one of the Star Engineering Co.'s latest 12-h.p. four-cylinder cars, fitted with a special detachable back portion, side entrance body, and a Cape cart hood, which can be used on the vehicle either as a double extension hood for a side entrance car or as a single hood with the side curtains attached. One of the pictures shows the back portion of the hood down ready for detaching the back portion of the body. The front part of the hood can be removed to the back of the



body the same as the usual double extension hood, and folds down on the rear portion of the body in the ordinary way. The main feature of the hood is that while it is of the double extension variety, it can be used as a single hood for a two-seated car, or the front portion can be employed to close the back part of the hood entirely by the partition behind the forward seat. We may add that the Star Company are in a position to fit hoods to any make of car.

MR. R. L. JEFFERSON'S adventures on mountain and veldt on a Rover car are described in an interesting illustrated pamphlet just published by the Rover Company, Ltd., of Coventry. The way in which the 8-h.p. machine carried the traveller over the Great Karroo is a fine tribute to the car.

MESSRS. S. F. EDGE, LTD., have sent us particulars of a Napier 10-h.p. two-cylinder motor-car that is about to be put on the market. The chassis has an 8 ft. wheel-base, turning circle diameter of 25 ft., and width of frame of 2 ft. 4 in. The engine has two cylinders, 3½ in. bore, magneto ignition, with forced lubrication, and water circulated by a pump. The gear-box is adapted to give three speeds and reverse with direct drive on top speed. Wire wheels are to be fitted with ball-bearing hubs.

LORD DUNLEATH, of Ballywalter Park, County Down, has just bought a 15-h.p. Coventry-Humber.

THE Commons Preservation Society intend to oppose the suggested London to Windsor motor road service.

A COURSE of lectures in automobile engineering is being given in connection with the University of Sheffield.

WE are informed that two Humber cars have been awarded gold medals in the Reliability Trials of the Automobile Club of Victoria.

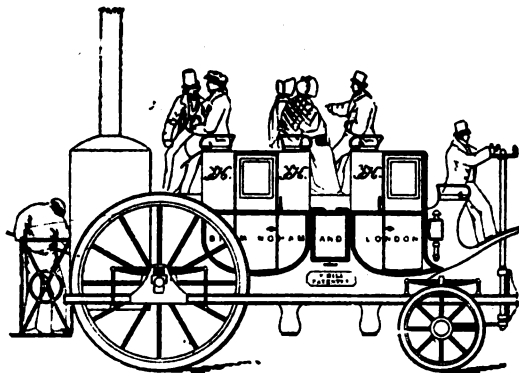
THE DAIMLER COMPANY have received an order from H.H. the Sultan of Zanzibar for a 42-h.p. Daimler chassis which is to be fitted with a Pullman limousine body.

"WILLING'S PRESS GUIDE" has now attained the dignity of the thirty-fifth annual issue. Its information with reference to newspapers is both comprehensive and reliable.

M. THERY, who, it is reported, will again drive a Brasier car in this year's A.C.F. Grand Prix race, is carrying on a business at Levallois-Perret, near Paris, devoted to the hiring out of taximeter motor vehicles.

MESSRS. BARNETT'S MOTORS, LTD., Bristol Street, Birmingham, who are agents for Renault and Austin cars, have just received an order for a 20-h.p. Hispano-Suiza, fitted with all the latest refinements of body work.

DONNYBROOK, the celebrated village near Dublin, has now its garage and motor repair establishment, Mr. W. Ladley, who has conducted a motor business at Morehampton Road, Dublin, for some years, having installed himself in Donnybrook.



A Steam Coach built by F. Hill in 1840.

THE annual banquet of the Automobile Club of America was held in New York on the 25th ult. In appreciation of France being the cradle of the motor-car, the guest of honour was the French Ambassador, M. Jules Tisserand, while other speakers included Senator Chauncey M. Depew.

MR. J. V. AIKIN, the proprietor of the Didsbury Motor Works and Garage in Albert Street, Didsbury, Manchester, has been compelled to extend his premises in order to cope with the demand for motor-car accommodation in the district. In addition to the ordinary garage work Mr. Aikin undertakes the sale and repair of cars and accessories.

FROM the City Ignition Company, of 14, Spencer Street, London, E.C., comes a copy of their latest price list of motor accessories and fittings. Among the specialities that may be mentioned are the Malcolm high-tension distributor and contact breaker, the Cicoy induction coils, the Voltoo two-volt coil, accumulators, voltmeters, sparking plugs, horns, lamps, &c.

THE Parsons Non-skid Company have put on the market a whistle blown by compressed gas from one of their Sparklet inflator cylinders, which is admirably suited for a burglar or fire alarm for country houses. It gives an exceedingly penetrating scream which can be heard for several miles, and can be operated by simply depressing a lever. The cylinders can be relied upon to contain the gas for any length of time, and each one is capable of about 250 full blasts of one second duration. As burglary by motor-car appears to be becoming a fashionable occupation, it is well that a firm engaged in the supply of motor accessories should take steps to ensure protection.

MORE than a score of entries have been received for the trials to be held this month by the Bombay Motor Union.

A NEW garage is being opened by Mr. G. A. Spencer at 45, Alexandra Street, in the centre of the town of Southend.

MESSRS. A. AND C. BRIDGLAND, LTD., have a motor garage at 33 and 35, London Road, East Grinstead, where motor accessories and petrol can also be obtained.

"TOWN PLANNING IN THEORY AND PRACTICE" is the title of an interesting book issued by the Garden City Association, 602-3, Birkbeck Bank Chambers, Holborn, W.C.

MESSRS. WALKER BROS., LTD., of the Pagefield Ironworks, Wigan, have taken up the construction of industrial motor vehicles, and have just introduced a 16-18-h.p. two-cylinder two-ton delivery van.

MR. DOUGLAS S. COX, of West Norwood, has sent us a photograph of the Osterfield 40-h.p. eight-cylinder car which has just been completed. Unfortunately the picture, owing to it being too dark, does not lend itself to reproduction.

MESSRS. REID AND EVANS have a well-equipped garage and works in the New North Road, Exeter. They keep a car for towing vehicles that have broken down, and have a special plant for charging accumulators. Free tuition in driving is given to their clients.

LIEUTENANT PAUL GRAETZ, who is making the journey by motor-car across Africa from Dar-es-Salaam, German East Africa, to Swakopmund, German West Africa, has now reached Bismarckburg, at the southern end of Lake Tanganyika, about 1,100 miles from his start.

THE Semperit Tyre Company, of 2, Hans Road, Brompton Road, S.W., send a neat price list of their "Semperit" motor tyres and of a steel-studded non-skid pneumatic tyre without leather bands, which has a good appearance, and is claimed to be both reliable and durable. It has attained considerable reputation on the Continent, and its progress in this country will be regarded with interest.

FROM the Gordon Carriage Works, of 47, Harders Road, Peckham, S.E., come several improvements in connection with wind screens, luggage carriers, hoods, &c. The Gordon Cape Cart Hood is readily detached and placed in position and presents a good appearance on the car. The Wind Screen turns upon a disc allowing it to be adjusted to any one of seven machines. The upper half can be folded inwards to minimise the resistance, and also to allow the driver a clear view ahead in rainy weather. Those in search of improved forms of hoods and screens will find the Gordon Carriage Works well able to meet their requirements.

A DEPOSIT of £250 has been made with the Brooklands A.R.C. by Mr. S. F. Edge, accompanied with a challenge to M. Rene de Knyff to race either one, two, or three Panhard cars against either one, two, or three Napier cars. He suggests that no stakes should be put up by M. de Knyff, and that the cars should comply with the regulations of the Grand Prix, 1908, with the amplification of the rule allowing detachable rims, so that detachable wheels may be used and changed during the race. The distance suggested is one to four hundred miles on the Brooklands track between June 15th and July 20th of the present year. M. de Knyff has replied stating that his company has no intention of accepting the challenge, but if Mr. Edge wishes to race against the Panhard cars he can enter for the Grand Prix de l'A.C.F.

A SPLENDID catalogue of motor clothing and accessories has been issued from Automobilia Ltd., of 532, Oxford Street, London, W., one of the most centrally situated motor establishments in the metropolis. The selection of clothing both for lady and gentlemen motorists is fashionable as well as utilitarian. In the latter section are some good styles of leather liveries, &c., for chauffeurs, a department in which the firm have specialised to the advantage of their clients. The lamp section is complete with head lights, side lamps and some good types of electric lamps calculated to save motorists from the worries often associated with such accessories. Motor horns and sirens and electric sundries of every description, speedometers, motor jacks, tyre gauges, &c., make up a very comprehensive work of reference.

Correspondence.

[Letters to the Editor should be addressed to the offices, 47-53, Charing Cross Road, London, W.C.]

THE ALDEN SAMPSON PETROL ELECTRIC ROAD TRAIN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have noted with interest and appreciation the excellent article upon our road train in your issue of December 28th, 1907. Although we consider your notice one of the clearest descriptions of the train which we have yet seen, we trust you will pardon the following. It is not made clear that the springs are pivotally suspended, thus acting as equalising beams to always retain the proportionate loading of each axle regardless of the road surface, and that they could be replaced by simple beams should a springless truck be desired. Their attachment to the axles is such as to enable them to retain the axles in correct crosswise position under the bodies, the springs being free to move endwise on the axles, the latter being held fore and aft by radius rods. Any portion of the load can thus be permanently carried on any axle by locating the pivotal point of the springs as desired.

The flexibility of the electric drive and the complete reversibility of each car has, as was anticipated in the design, proved to be not only of great advantage, but an absolute necessity in a train of this kind. We were lately compelled to load the train at the end of a long crooked alley, which had a gate rail preventing the tractor from

land, and the great number and diversity of interests which realise that a train of this kind is to supply a long-needed economy in their freight handling is very gratifying.—Yours truly,

For the Alden Sampson Manufacturing Company,

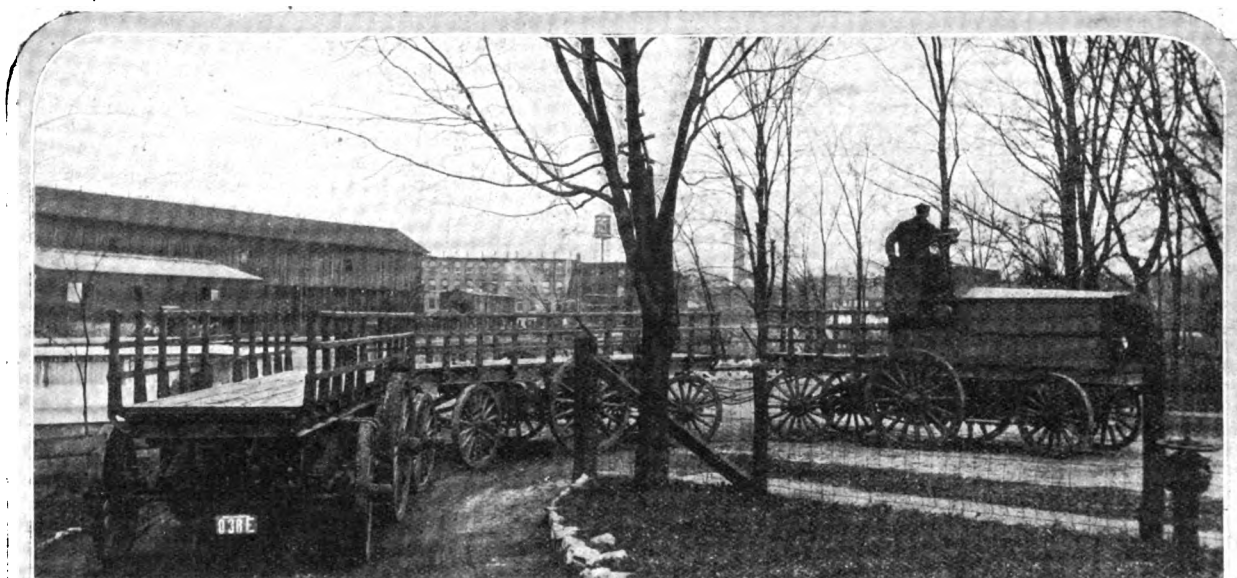
P. H. BREED.

Pittsfield, Mass., U.S.A.

THE RULES OF THE A.C.F. GRAND PRIX RACE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I enclose you copy of a letter which I have addressed to the Secretary of the Automobile Club of France. The rule I refer to is couched in the following words, according to the translation issued in the "Club Journal"—"Article 4. Manufacturers making use of engines or mechanical construction in accordance with the same patent or under the same designation into which the same name enters, are not permitted to enter together a number of cars in excess of three. In the event of a misunderstanding between firms manufacturing cars that use the engine or mechanical construction (presumed correct translation of "appliances," D.M.W.) in accordance with the same patent, the Competitive Committee shall decide the number of cars to which each firm is entitled. The decision to be based upon the importance of each firm,



The Alden Sampson Petrol-Electric Road Train making a sharp turn.

entering and which had no place to turn. The tractor was left in the street, and, with power supplied through long cables provided for the purpose, the cars were run into the alley, steered by hand, and after being loaded, and with steering tongues reversed, were run out again in the same manner.

In the same way any number of cars could be loaded at different points of a yard, and when ready placed in the train behind the tractor by their own motors, an advantage not obtained by any mechanical drive.

As an example of how evenly distributed the torque is through our train, the writer has been able to go between the cars and pull any one of the draw pins while the train was climbing an eleven per cent. grade under load. In another case the train pushes or pulls each car over a high kerb, which would effectually stop any car operating alone. The tracking of the train is most interesting, each car following almost exactly in the tracks of the one ahead of it; due to this fact, any corner or turning which can be negotiated by an automobile of six feet wheel-base can be made by the entire train. The steering is as easy as any five-ton truck and the control perfectly simple, one man operating the entire train with ease. We are not in a position as yet to give actual running costs of the train, as since returning from New York the severity of a New England winter has made it difficult to get any but the most abnormal tests, but we hope to be allowed an opportunity to put before your readers at a later date more data and interesting developments in the operation of the trains.

The train is exciting a great deal of genuine interest, and every mail brings us inquiries from all parts of the United States and from Eng-

land, taking into account the number of cars delivered to the public in the course of the preceding three years, and whatever the number of manufacturers may be there shall be no inconsistency with the second paragraph with the present article."

I think that the justice of my letter will be obvious to your readers without my commenting thereon.—Yours truly,

D. M. WEIGEL.

21st January, 1908.

The Automobile Club de France,
8, Place de la Concorde, Paris.

Gentlemen,

We have duly received a translation of the rules covering the Grand Prix Race from the Royal Automobile Club, and would ask you to be good enough to favour us with an explanation of Rule 4, as it is couched in such drastic terms that we consider it would be futile for us to go to the large expense of building racing cars and paying our entrance fees if this rule is drastically enforced upon the lines indicated by it. Your committee must be well aware that there are several patents claimed by various firms which other firms are using and not admitting the validity of. As examples, we would point out to you that to the best of our belief we may say this company claims a patent for the Beehive radiator. They also claim one for the Gate change.

The Renault Company, we believe, claim a patent for the direct drive on top speed, and, in fact, practically every part of a motor-car is claimed as a patent by one firm or another.

We know that many firms in the trade do not admit the validity of the greater number of these patents, in fact I may say practically all of them of any importance, and I would suggest that the question as to the validity of that patent or not is one that should be dealt with by a court of justice and not by your committee.

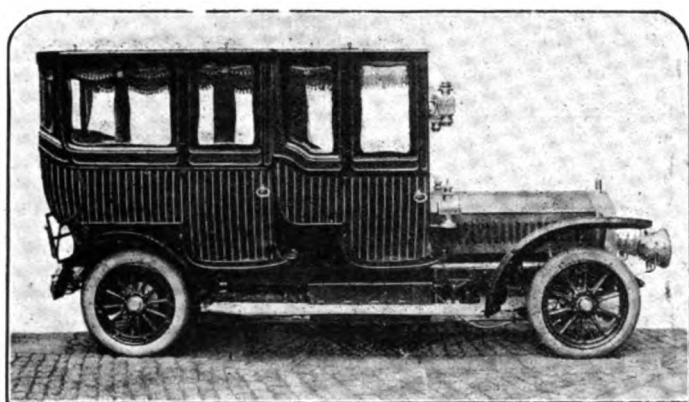
If, on presenting ourselves to take part in the race, your committee constitute themselves as legal judges, they might be doing an injustice either to the patentees or that firm which denies the validity of the patent. I certainly think that the rule is one that is likely to cause a large amount of friction and is of so speculative a nature that if it is to be exercised upon the lines that are suggested, your committee is entitled to insist upon it, and I for one would strongly advise my directors not to take the risk of spending a large amount of money in speculating as to whether they might or might not be permitted to take part in the race upon such terms as this.

The favour of a reply will oblige.—Faithfully yours,

D. M. WEIGEL.

Mr. Weigel has since received the following letter from M. R. de Knyff, the President of the Sporting Commission of the A.C.F.

I have received your letter of the 21st inst., and I hasten to reply to your enquiries. Article 4 of the rules of the Grand Prix of the A.C.F., 1908, which you mention, does not open up the question of patents, with which the Sporting Committee has no intention of interfering, it is simply to prevent affiliated firms from profiting by such circumstances to have six cars instead of three entered, and thereby obtain an advantage either in the race or in the advertisement that such firm might have. As an example: Messrs. Lorraine-Dietrich and Messrs. Turcat-Mery construct cars under the same licence. In the event of both these firms taking part in the Grand Prix they would only



The 60-h.p. Six-Cylinder Napier recently supplied to His Highness Jai Singh Bahadur, Maharajah of Alwar.

The Maharajah is only twenty-six years of age, but is a keen sportsman and is given to making long tours of inspection in his extensive territory. The body is of a special detachable-top limousine type, the front part being entirely enclosed. Accommodation is provided at the rear for six passengers, and for two alongside the driver, the body being much wider than is usual. The upholstery is in light blue brocade, with curtains and arm-straps to match. The roof is also of a delicate blue-embossed material, tastefully ornamented, and clusters of electric lights mounted in brass holders give an artistic effect. The exterior painting is a light shade of blue with vertical white stripes.

be entitled to enter three cars between them. We trust that this information will suffice for you to understand the essence of the rule.

Apart from this, the suggestions contained in your letter lead me to believe that we are in accord.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The rule of the French authorities prohibiting the changing of wheels in the Grand Prix race of 1908 is generally taken to exclude the use of the Rudge-Whitworth detachable wire wheel from that contest, but we believe it is more probable that the intention is to exclude the replacement along with the wheels of bearings and brake drums, the strain and wear on which in a race of this description is very severe, and the replacement of these parts ought not to be permitted, because it would not tend to the betterment of the motor-car.

We are urging the R.A.C. to use their great influence in presenting this view of the matter to the French racing authority, and to obtain from them a definite ruling as to whether the detachable wheel, which does what the detachable rim does, only at less expense of time and weight, will be permitted or whether it will be excluded. If the ruling obtained permits the detachable wheel, then these will undoubtedly be largely represented. If, on the other hand, the detachable wheel is excluded, it can only be on one of two grounds. First, that in the event of a broken wheel a new one could be fitted and the car could proceed, while with a detachable rim the car would be permanently disabled. Second, that the detachable wire wheel offers advantages that may be regarded as an unfair handicap to the cars fitted with detachable rims only. The first possibility may be dismissed with the

remark that a car breaking a wheel at modern racing speeds would inevitably be wrecked, and the replacement of a wheel would be purposeless. The second possibility is the more serious, and there is no doubt that a detachable wheel, because it has only one nut as against at least six of the detachable rim, can be replaced in far less time, and therefore does undoubtedly form a handicap of a serious nature against cars with detachable rims.

But does this serious handicap form a sound and sufficient reason for the prohibition of a device that is a recognised equipment of a touring car, and not a mere adventitious aid to racing? An examination of the history of motor racing in its tyre changing aspect is necessary to the proper understanding of this question. At first the men on the car carried spare tyres and changed them as best they could, taking from seven minutes to twenty minutes according to tightness of the cover and the fatigue of the drivers. Later gangs of men with spare tyres were stationed at various points on the course, and whenever a stop was made for any purpose whatever, all four tyres, irrespective of condition, were cut in two, torn off, and fresh ones fitted. This was later prohibited as adding unnecessarily to the expense and because it was held undesirable in a contest promoted for the development and perfecting of the motor-car.

In the Gordon Bennett of 1906 the Renault and F.I.A.T. cars were equipped with detachable rims that enabled a tyre to be changed in five minutes without the fatigue that attended the fitting of a fresh cover. The result was Renault first, F.I.A.T. second, and there were no protests against their use, although at each change they saved the car so equipped some five minutes of delay and much fatigue, and although at that time they were by no means a recognised feature of touring cars. The Rudge-Whitworth detachable wire wheel was used in racing in the Tourist Trophy race of 1907 and in almost every race and time trial held at Brooklands, and also in some few races on the Continent, notably on the Aries cars, while in addition they have been fitted to privately-owned motor-cars of a great variety of makes with such results that they are unquestionably a recognised feature of the English motor-car of the present day.

On these grounds we regard their prohibition in this race as quite contrary to the precedents established in the past, and for this reason we have every confidence that the case, when vigorously presented and pressed by the R.A.C., is bound to result in an interpretation of the rule which will permit the use in the Grand Prix race of detachable wire wheels.—Yours truly,

RUDGE WHITWORTH, LTD.

SOME NOTES ON RADIATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reading your journal of the 18th ult., particularly the article by your contributor, Mr. E. T. Humphries, I notice he says that "the idea of the radiator was taken from the steam engine condenser. . . . In the motor-car its functions are to cool the water, which is inside the pipes, and the air on the exterior with a fan, &c. . . . while with the steam engine the steam is inside the pipes and the water outside and used as an agent for cooling purposes."

May I suggest that this statement or affirmation is somewhat erroneous and misleading, the fact being that the water (the cooling agent, the sea in the marine engine) is inside the pipe and the steam from the induction pipe or main exhaust plays upon the exterior surface of the pipes. My object in writing this brief criticism is that other readers not well versed in steam engine principles may not be misled from wrong facts.—Yours truly,

ENGINEER.

THE SETTING OF VALVES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As to valve timing and the use of "Larrad's" timer, "Interested Enquirer" has no doubt drawn attention to a point in the instrument which may reasonably be argued to be a weak one, in that all engines are set alike. I ought to have mentioned, however, that the makers have anticipated this objection by making in addition an instrument divided into degrees and tenths, so that each cylinder may be timed differently if the user so desires. It is this form I am now using. In answer to Capt. Windham I have found the best place to attach it is the rim of the flywheel, if necessary by a special fitting, as the larger the circle upon which it turns the greater the possible accuracy.—Yours truly,

AMATEUR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As "Interested Enquirer" has apparently never handled the Larrad Timer, we would suggest that the only conclusive way out of the difficulty is by personal experiment. He fails to see how a spirit level can be claimed to be absolutely accurate; again we suggest experimenting with a level with and without a cigarette paper under one end and the old story of egotism will vanish. Needless to say we did not put this instrument on the market without experimenting with all types of engines. Your correspondent in his last letter states that he is convinced that from practical experience high and low speed engines should have different settings of the valves, yet in his previous letter he says it would be

interesting to know if Panhards have tried the Minerva position; surely he has increased his knowledge in a week. Continuing, he says, given two engines of the same make and exactly alike in every particular, one will sometimes be found to run better with a different timing to the other; this means if two engines are equal in every other respect except power putting the valves unequal will make them equal. We can assure him, however, that the fault is elsewhere; but if he is convinced that he is right, will he bring the two engines he refers to to our works, where we will prove to him that he is wrong? Your correspondent has been lucky in his choice of shops for viewing cams; if they all were as true as those, silence would reign.—Yours truly for

LARRAD'S PATENTS SYNDICATE.
H. PULHAM.

CHARGING ACCUMULATORS FROM DYNAMOS.

TO THE EDITOR OF *The Motor-Car Journal*.

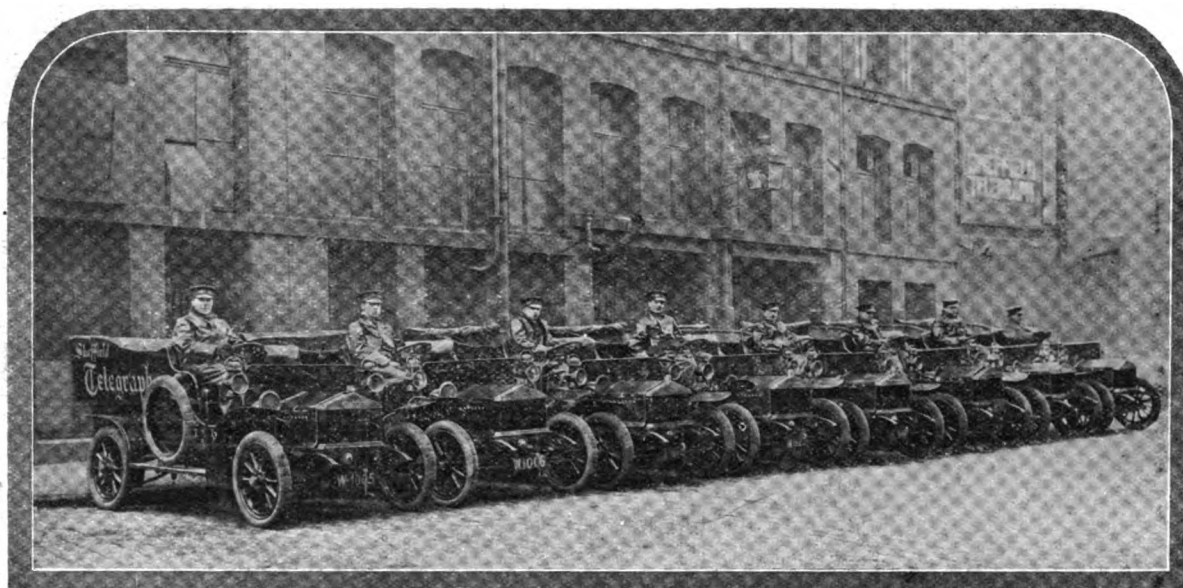
SIR,—I have fixed a little dynamo for the purpose of charging my ignition accumulators; it gives 1 to 1½ amperes at 40 volts pressure at a speed of 3,000 r.p.m. I should be glad if you could inform me what is the best kind of resistance and the most effective way to proceed.—Yours truly,

ENQUIRER.

[In order to make the dynamo suitable for charging from two to eight 4-volt accumulators, it will be necessary for "Enquirer" to provide a resistance frame with coils of German silver or platinoïd wire having

rate most grades of it now generally supplied, so heavy that it will not vaporise in January like it does in June without some external assistance, hence the necessity of the jacket. The latter is usually placed round either the mixing chamber or the throttle, and if it is anything of a jacket it should become nice and hot after the engine has been running about ten minutes. There is another reason for having a jacket, and it is this: when an engine is "ticking" like the proverbial clock, consequently taking in a pretty rich mixture, a good deal of petrol will collect in the inlet pipe with rather curious results. Sometimes the engine will, after quietly ticking away for a minute or so, suddenly, without anything being touched, break away and race for nearly half a minute. This is one of the results of "petrol in suspension," as it is technically termed, and another unpleasant result is the sudden choking or "fagging" of the engine when the throttle is opened. Now all this is avoided by the use of a good jacket, as the mixing chamber and throttle chamber and inlet pipe are all raised to a fairly good temperature by the heat of the jacket and all superfluous petrol is vaporised. It has to be borne in mind, however, that a jacket requires attention; it is liable in the case of hot-air jackets from the exhaust to become clogged, and naturally it then ceases to become a jacket. It is possible that in the hot weather the jacket may be superfluous, or even cause too much heat, but this is easily remedied. The jackets are usually arranged to work from the exhaust, and very often a tap is fitted so that the exhaust can be cut off; if not, it is no difficult matter to disconnect the pipe.

In the writer's opinion the best way to detect the causes of uneven running is to make use of the exhaust "cut-out."



The Fleet of eight Delivery Vans employed by the Proprietors of the "Sheffield Telegraph" for the rapid delivery of newspapers. The vehicles—the number of which is shortly to be increased to ten—are of 12-h.p.; they are built to carry up to 10 cwt., and it will be noticed that the body is roomy and low to avoid danger of skidding and overturning.

a resistance of 20 ohms. It takes 5 volts to charge a 4-volt accumulator, so with a total pressure of 40 volts our correspondent has enough power to charge eight accumulators of 4 volts each in series. When he wishes to charge a less number it will be necessary to put in resistance to absorb the extra volts, unless the speed of the dynamo can be reduced.

Assuming that at least two 4-volt accumulators are charged at one time, these will absorb 10 volts, leaving 30 volts to be used up in the resistance, and with a current of 1½ amperes required the amount of resistance should by Ohm's law be 20 ohms. As the voltage of the accumulators being charged varies, exact figures cannot be given, but a variable resistance of this range will allow ample regulation if an ampere meter is used in the circuit as a guide to what is passing. The resistance frame can be obtained from a firm of electricians, or it can be constructed roughly with the necessary coils of wire and connected up to a multiple contact switch or a brass sliding sleeve.]

SOME WINTER MOTORING TIPS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I frequently hear complaints about the uneven running of cars, and no particular fault can be discovered. The subject is an interesting one. Just about this time of the year the weather in England is most changeable, and motor spirit now is not what it used to be, it is much heavier and requires more vaporising. Let us turn our attention to the carburettor. In the writer's opinion every carburettor for use in England should be either hot-air or hot-water jacketed; petrol, or at any

A weak cylinder is at once detected, and the particular cylinder may easily be located; if there is one faulty cylinder amongst the four, that is quite enough to upset even running, more particularly when running slow or top speed. Badly timed valves are frequently the cause of a "lame" cylinder, and quite recently I came across a car which fired badly on one cylinder, though the other three were perfect; when running quite slow the faulty one would go out altogether. The compression was perfect and the ignition (two systems) also, but careful inspection revealed the interesting fact that the inlet valve was opening nearly an eighth of an inch down the suction stroke and closing nearly one eighth before it reached the bottom. The tappets on this car were adjustable, and after reducing the clearance (nearly three sixteenths of an inch) between the tappet and the valve so as to correct the timing, this cylinder ran perfectly and just as well as the other three. Inaccurate timing of the exhaust valves can cause just the same trouble.

One last little hint—also discovered by experience—because your drip lubricator appears to be working all right, just make sure that all four cylinders are being lubricated; if one gets starved, although it may pick up some oil by "splash" it will go much better if its cylinder walls are being lubricated the same as its fellows.—Yours truly,

AN OLD HAND.

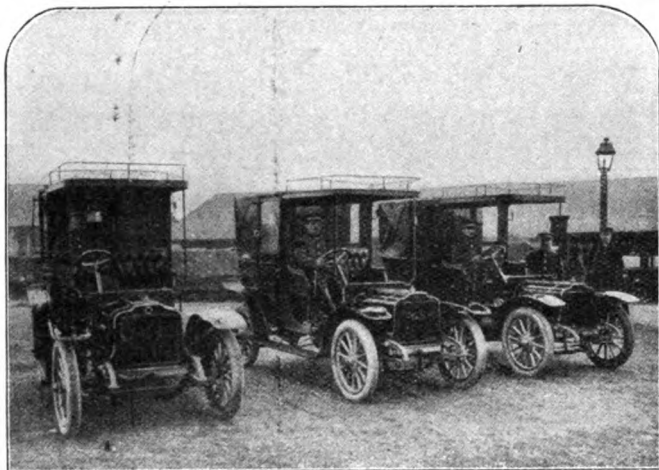
A DERBYSHIRE motorist writes regretting the refusal of the Derbyshire County Council to adopt the recommendation of its Bridges and Highways Committee to erect warning signposts. This is much deplored by motorists resident in the county, as there are many dangerous cross roads within their area.

SOME FEATURES OF 1908 ENGINES.*

By G. H. BAILLIE:

THE features of this year's engines, about which I have collected information, are those of details that are apt to escape notice rather than those of the more striking novelties; such as the valveless engine, which everyone hears of and examines for himself. Engines generally are approaching more and more to one or two standard types, but in their details there are many points which show no tendency to standardise themselves. One of the most fundamental points of an engine is the shape of the cylinder, or the ratio of its stroke to bore, and about this there exists the widest divergence of opinion. The ratio varies from 0.73 in the Bollée and 0.75 in the 28-h.p. Lanchester to 1.67 in the 10-14-h.p. Renault, and 1.60 in the 10-14-h.p. La Buire. The average ratios diminish as the horse-powers increase. The variations in each case are very considerable between the different makers, and even the same maker seems to have formed a definite conclusion in only quite a few cases. Fiat, for instance, keeps more or less to a ratio of 1.2 for all sizes, while Bollée keeps to about 0.8. A large number of makers retain the same stroke for several sizes, which makes the ratio decrease with increase of horse-power, but this may be for reasons connected with machine tools and jigs rather than with the properties of engines. Several old makers, such as Mors and Darracq, appear to have no settled convictions on the subject.

Making a comparison between two engines having the extreme ratios, 0.73 and 1.67, the same bore has been taken, and the same piston speed, so that the rate of consumption of fuel is identical, the rate of flow of gas during induction and exhaust being the same in the two cases. The bore being the same, the maximum pressure on the piston



Three of the Brasier Motor-Cabs which have lately been put in service in Bordeaux.

and the connecting-rod and its bearings is alike, so that the weights of the reciprocating parts can be the same, the inertia force the same, and the frictional resistance more or less the same. There is, in fact, no salient point to say that the horse-power of the one engine would be greater than that of the other. Moreover, the two rating formulæ adopted by the R.A.C. and the A.C.F. would allot them the same horse-power, since both depend on the bore only.

Now, the A.C.F., before adopting a rating formula, made a series of measurements to determine the maximum horse-power of ninety-six different engines, and these measurements throw some light on the effect of different ratios. In a diagram of a number of curves, referring to four-cylinder engines of the same bore, the ordinates representing the maximum horse-power obtainable from the engine and the abscissæ the ratio of stroke to bore, practically all the curves tend downwards, showing that the power diminishes as the ratio increases, or that a short-stroke engine gives more power than a long one. The reason of this decrease of power with increase of stroke is probably that the time of the expansion stroke in the long-stroke engine is longer, and the cooling of the gases greater. As the loss of heat to the cylinder walls is the principal loss in a gas engine, the difference in efficiency from greater opportunity for cooling might well be considerable. The only difference apparent is that the torsional movement on the shaft is greater in the long-stroke engine than in the short, which means that a larger shaft is needed. The difference is not great, as the bending movement remains the same, but what difference there is in favour of the short-stroke engine. Moreover, the higher speed of rotation of the short-stroke engine is an advantage from the point of view of the fly-wheel, and the clutch, and other transmission mechanism.

So far everything points to a short-stroke engine being the better, but there must, of course, be a limit, and a limit is in fact indicated in the few curves which extend to small ratios. The limit is probably

determined by the cooling of the gases. For any design of cylinder there is a given ratio of stroke to bore which will give the minimum cooling surface for a given volume of gases. This ratio is generally well over one, so that as the ratio is diminished the cooling increases, because the cooling surface increases and at the same time diminishes because the time of cooling decreases. At a certain point will come the happy mean which should give maximum horse-power. There are several minor considerations which depend to some extent on the shape of the cylinder, but these are not sufficient to account for the very different shapes that exist in practice.

Coming now to the more visible characteristics of this year's engines one finds two very marked tendencies, the increase in six-cylinder engines and the increase in casting cylinders *en bloc*. Out of 144 makers sixty-nine build six-cylinder engines. It has been stated that there are over 120 different six-cylinder engines, but that number must include engines of different sizes by the same maker. By far the greatest number of makers cast the cylinders in pairs, and the number now casting them in blocks of four is nearly equal to the number casting separately. The figures are:—

Makers casting cylinders separately	...	...	34
Makers casting cylinders in pairs	...	...	88
Makers casting cylinders in blocks of three	...	...	4
Makers casting cylinders in blocks of four	...	...	29
Makers casting cylinders in blocks of six	...	...	2

The number casting in blocks of four is rather striking, as I can recall only one engine so cast at the 1906 show. Rolls-Royce started casting in blocks of three for a six-cylinder engine, and this year has been followed by Delaunay-Belleville and La Buire. The O.U.R.S. said to be the only three-cylinder engine at the Paris Show, is also cast in a block. The two makers who go the length of casting six cylinders in a block are Miesse and Beatrix.

Without entering upon the old question of the relative merit of cylinders cast separately or in pairs, the latter have two advantages; first, piping that is simpler and less effective; secondly, a shorter engine, if the crank shaft be allowed two throws without an intermediate bearing. But this arrangement brings one to the limit as regards shortness if plain bearings be used. There is, as a rule, no length wasted in the crank-shaft. Consequently, though the cylinders may be brought closer together by casting in blocks of four or six, the engine can be shortened only by sacrificing bearing surface or by the use of ball bearings. The two six-cylinder engines cast in a block, Miesse and Beatrix, both use ball bearings on the crank-shaft, and the engines are no longer than most four-cylinder engines of the same power. Several of the engines with four cylinders in a block also use ball bearings. Others, such as Aster and Unic, have only two bearings, one at each end. This, probably, is quite sound practice up to a certain small limit of power; beyond this the difficulty of providing a sufficiently strong shaft would be considerable.

The number of examples of *en bloc* casting now existing show that there is no real difficulty in the actual casting, and there can be no question that if it be practicable to shorten in this way the large-powered four, and more especially the six-cylinder engines, the advantage gained would be very material—there would be so much more room between the axles, i.e., in the right place, for the body. The question, however, seems to be bound up with that of ball-bearing crank shafts. Now that two makers—Mercedes and Hotchkiss—appear to have given up their use after extended trial, one feels inclined to suppose that they must offer insuperable objections. On the other hand, the makers adopting ball bearings are continually increasing, and it will be interesting to watch the fate of the many ball-bearing crank shafts now existing.

I gather that Miesse uses ball bearings only when he must, for his six-cylinder engine has the two outside bearings plain, and the next two from each end ball, while the two centre throws are without an intermediate bearing. There are thus two plain and four ball bearings on the shaft. The horizontal engine is becoming more and more scarce. All I found were N.E.C., a four-cylinder engine with cylinders opposed two and two; Pilgrim, and James and Browne, four cylinders side by side; Buick, two opposed cylinders; and Cadillac and Adams, with single cylinders. From the carriage point of view, there is no doubt that the horizontal engine in larger powers, as in the N.E.C. and Pilgrim, does offer very material advantages. The V-type engine has only two followers outside bicycle engines—the Antoinette eight-cylinder and the Riley two-cylinder.

The commonest type of engine has its valves arranged in chambers on each side. Sixty per cent. have this arrangement and 40 per cent. have their valves side by side in a single chamber. Other valve arrangements are becoming increasingly rare. There are five with the inlet valve vertically over the exhaust valve. Two, with the inlet valve in the centre of the engine head and the exhaust in a side chamber—Metallurgique and Motobloc. There is the Pipe alone with the two valves, one on each side, with their stems pointing upwards at an angle of 45 deg., and the Maudslay alone with all the valves in a line on the top of the cylinders. I think there can be no question that the Maudslay and Pipe arrangements, which avoid any side chamber to the compression space, must give the most efficient engine, but both constructions are more costly than the ordinary, and the Pipe is decidedly complex. On the other hand, the Maudslay type gives an engine extremely accessible in all its parts, and allows of doors in the crank chamber large enough for drawing a piston. It is difficult

* Abstract of paper read before the members of the Royal A.C. on January 23rd, 1908.

to see much advantage in having the inlet valve in the head or above the exhaust valve. It is a more complex construction, and the saving of cooling surface in the side chamber is small. The latter arrangement, however, is supposed to keep the exhaust valve cool by the inlet gases impinging on it.

The numbers of engines with valves in side chambers on the same and on opposite sides show that makers are fairly evenly divided in opinion on their relative merits. The valves together must make a rather more efficient engine, and only one cam shaft is needed. On the other hand, it is more troublesome to properly arrange the piping when exhaust and inlet pipes are together, and the carburettor is apt to make the valves difficult of access. Only one maker, Brasier, adopts this arrangement with low-tension ignition, and then a special cam shaft for the igniter tappets is employed. Exhaust, inlet and igniters have all been worked off a single cam shaft, but it makes a very cramped arrangement.

Nearly half the engines with valves together take the carburettor over to the other side. The Lancia engine has its inlet ports in the top of the valve chamber, thereby making the piping much neater. The Delaunay-Belleville saves considerably in length of piping by taking advantage of sufficient space between the two centre cylinders. The Gregoire and Hotchkiss, each with four cylinders cast in a block, have the inlet passages cast with the cylinders, and have a single port at the back. The Iris does the same thing for each pair of cylinders, the carburettor piping being bolted to the inlet ports at the back.

The piping and accessory apparatus belonging to engines must be one of the most awkward problems for the designer. Many of the solutions indicate clearly the difficulties he has struggled with and not overcome. The accessories are becoming more and more numerous, and it becomes increasingly difficult to fit them all satisfactorily. The full complement numbers seven, omitting self-starters—magneto, high or low tension distributor, water pump, oil pump, governor and fan; several engines indulge in all of them. It is generally the accessory apparatus that gives more trouble than all the rest of the car, and it is important that each item should be easily accessible, easily removable without disturbing other parts, and should not render the valves difficult of access. This is not difficult to arrange if each item has its own special shaft and gear wheel; but a multiplicity of shafts means a multiplicity of wearing parts, and a more expensive engine. What increases the difficulty is that each part is subject to certain limitations. The water pump is preferably at the end of a shaft, so that only one gland is needed. The magneto also must be at the end of a shaft, as no magneto that I know of is constructed with a through shaft. The oil pump, if it has to draw from a sump in the crank chamber, is preferably near the level of the oil in the sump. Commutators and H.T. distributors are usually so constructed as to be accessible only from one end, not from the side. Consequently, they cannot be fixed on the ordinary shafts running along the engine, unless the front is free of the radiator.

The 16-20-h.p. Hotchkiss, with four cylinders *en bloc*, is one of the neatest designs I have seen, and this neatness is all the more creditable as it has adopted the simplest arrangement of a single accessory shaft. All the ports and passages are formed in the casting, which has merely four holes, one for the exhaust pipe, one for the carburettor, and two for the water. An eccentric on the back end of the cam shaft drives the lubricator on the dash. The system may have its disadvantages in other directions, but there is no question as to its neatness, simplicity, and accessibility.

Of eighty-eight engines with two cam shafts only twelve are content with a single horizontal shaft for accessories. The Armstrong-Whitworth has its exhaust cam shaft and the magneto shaft which is driven off it continued to the front, and the water and oil pumps are on the ends of these two shafts under the radiator, accessible from the front. There is also a commutator on a vertical shaft. Of the other engines most take the shaft through the water pump. The Belsize, Minerva and O.T.A.V. avoid this, by having no pump, and the Maja by having the gear to the middle of the auxiliary from the middle of the cam shaft.

(To be concluded.)

A 12-16-H.P. Vauxhall car has recently been supplied by Vauxhall Motors, Ltd., to Admiral Sir John Fullerton.

THE MIDLAND RUBBER COMPANY, LTD., of Ryland Street, Birmingham, are adopting the principle of taking discarded tyres, covers or tubes in part payment for new ones.

MR. W. T. LORD has been using Shell spirit in India and travelled from Bombay to Calcutta at an average of twenty-three miles per gallon. His 14-16-h.p. Argyll is fitted with Dunlop tyres.

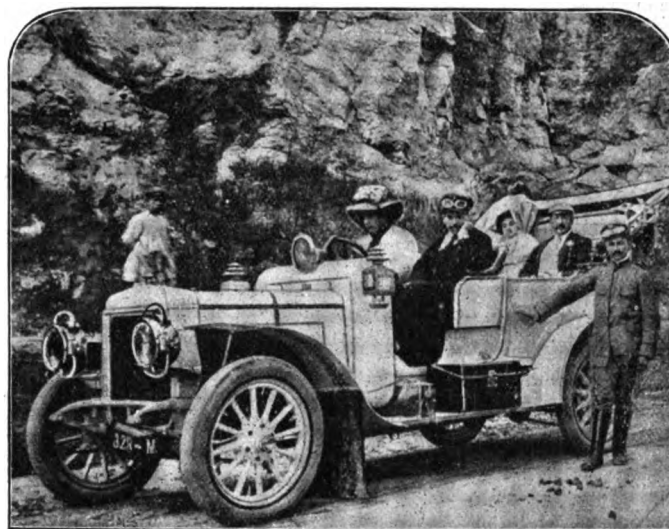
FROM the Simplex Motor Company, of 165, Fenchurch Street, E.C., we have received a very complete catalogue of the Simplex Stanhope car they are putting on the English market. This is an American-built vehicle of 10-h.p., its principal feature lying in the use of a horizontal single-cylinder 2-cycle valveless engine.

THE new "Ilo" oils being put on the market by Messrs. Easton and Melville are worth, at least, the close investigation of motorists. The oils are being blended by the well-known firm of Dick and Co. and are offered at prices which compare more than favourably with current figures. Messrs. Easton and Melville are prepared to submit "Ilo" to the closest investigation by practical motorists. A postcard to 85, Shaftesbury Avenue, London, W., will bring all details of the new oil by return.

THE AUTO-CYCLE TRIALS.

THE trials organised by the Auto-Cycle Union on Saturday were carried out in weather that was cold, dull, and misty. The roads throughout the entire route of 125 miles were covered with mud. The trials, which included the climbing of Dashwood Hill and Gore Hill (Amersham), started from Uxbridge at 9.20 a.m., and the course was to Banbury, via Wheatley, Islip, and Bletchington, and then back again through Bicester, Aylesbury, Berkhamsted, Chesham, Amersham, and Beaconsfield. There were twenty-six starters out of an entry of thirty-three, and of these only thirteen got through in accordance with the schedule times, while there are only four whose performances are likely to rank as non-stop runs. There were only five who failed to reach the summit of Dashwood Hill. The best time was credited to Miss Muriel Hind, who, on a 5-h.p. Rex, ascended the hill in 1 min. 14½ sec. Mr. F. W. Applebee, on a similar make of machine of the same horse-power, was second, with 1 min. 16 sec., while Mr. J. Marshall, whose mount was a 3½-h.p. Triumph, was third, his time being 1 min. 17.45 sec. Other creditable climbs were made by Mr. E. J. Browning (4-h.p. N.S.U.), Mr. G. Lee Evans (3½-h.p. Rex), and Mr. W. G. McMinnie (3½-h.p. Triumph).

The return journey was accomplished under equally trying conditions, the machines being thickly coated with mud. Fourteen only negotiated Gore Hill, Amersham, and again Miss Hind secured premier honours, her time of 1 min. 37.45 sec. ranking in point of view of merit with her previous climb. Mr. J. Marshall was second (1 min. 33.35 sec.), and Mr. F. W. Applebee (1 min. 39.15 sec.) third, the Dashwood order, therefore, being reversed in the case of these two riders. Mr. W. G. McMinnie (3½-h.p. Triumph) was fourth, with 1 min. 41.45 sec. Shortly after five o'clock the competitors began to arrive at the finishing garage, where the officials inspected the machines and received signed reports. The following were the thirteen riders who completed the course in



The enterprise of the Daimler Company in opening a Depot in Spain is having good results. The photo reproduced herewith shows the car of one of their Spanish customers, Senor Obregon, taken near his home in Santander.

schedule times: W. Smith (1½-h.p. La Motosacoche), G. L. Fletcher (2-h.p. Moto-Reve), J. Marshall (3½-h.p. Triumph), W. G. McMinnie (3½-h.p. Triumph), A. D. Draper (3-h.p. Triumph), F. W. Applebee (5-h.p. Rex), G. Lee Evans (3½-h.p. Rex), J. Stuart Shaw (5½-h.p. Phenomen), M. Geiger (6-h.p. N.S.U.), E. W. Brighten (2½-h.p. Ariel), H. Newey (3½-h.p. Lloyd), E. W. Haswell (N.S.U., with side car), and Miss Muriel Hind (5-h.p. Rex).

Of the above only Messrs. Marshall, McMinnie, Stuart Shaw, and Miss Muriel Hind are likely to be credited with non-stop runs, and in each instance the performances will have to be considered by the Executive Committee.

THE St. Vincent Motor Company, Ltd., North Street, Glasgow, have been appointed agents for Glasgow and the West of Scotland for the B.S.A. cars.

MR. W. S. LIDDIE writes that he has just completed a tour of 11,000 miles through Australia, New Zealand and Tasmania, and that Miraculum has carried him successfully through this without the slightest symptom of tyre trouble.

MR. P. R. LAMB has now joined Ariel Motors, Ltd., as their general travelling representative. Mr. Lamb has had many years' experience and fully comprehends the requirements of probable purchasers; he will consequently be able to give prospective customers practical information as to the type, power, &c., most suitable for each individual case.

CLUBS AND ASSOCIATIONS.

THE AFFILIATION QUESTION.

NEARLY forty clubs have now decided their policy with regard to the controversy raging as to affiliation with the central organisations. So far sixteen clubs, with an aggregate membership of 1,756, have decided to remain affiliated to both the R.A.C. and the M.U. during the current year; eleven, with an aggregate membership of 2,949, have agreed to associate with the R.A.C., and eleven others, with a membership of 1,365, will be affiliated with the M.U. Included in those that adhere to the R.A.C. are the Ladies', Scottish and Irish clubs, with memberships of 398, 1,004 and 514 respectively.

The voting by postal ballot of members of the Midland A.C. has again resulted in a dead heat—107 to 107.

The Cardiff M.C. is in favour of affiliation with the M.U. and the Auto-Cycle Union. The Commercial Motor Users' Association "proposes to retain its membership of the Motor Union, and does not intend to adopt the associates' scheme of the Royal A.C., nor is it affiliated with that body."

ROYAL.

THE Technical Department of the Royal A.C. is being strengthened in view of the Club's new scheme for association and the consequent development of the work.

MOTOR UNION.

THE Highways Protection Committee of the Motor Union are considering private bills to be introduced to Parliament during 1908, so far as they contain any provisions affecting motorists. So far attention has been given to thirteen bills promoted by railway companies, five others which will come before the Light Railway Commissioners, twenty-one brought forward by local authorities and twenty-three relating to tramway undertakings.

AUTO-CYCLE UNION.

THE Sheffield and Hallamshire M.C.C., the Bradford M.C.C. and the Worcester M.C.C. have decided to affiliate to the A.C. Union, and the Newcastle and District M.C.C. have decided to re-affiliate.

THE INCORPORATED INSTITUTION OF
AUTOMOBILE ENGINEERS.

A MEETING of the Council of the Incorporated Institution of Automobile Engineers was held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., on the 22nd ult., when the following were elected members of the Institution:—Messrs. H. G. Burford (London), R. S. Currie (London), B. T. Hamilton (London), N. M. Marshall (Bombay), C. Opperman (London), R. Selz (Luton), W. Truslove (Colchester) and J. A. Wilding (London), and Messrs. W. J. Barker (London), J. W. Haddow (Bedford), W. E. Hicks (Truro), C. A. V. Roper (London), R. R. Seward (Southern Nigeria), E. Stafford (Reading) and F. C. Whitehouse (Birmingham), were elected associate members.

The report of Mr. F. W. Lanchester as to the Conference on Screw Threads of the Engineering Standards Committee was deferred.

KENSINGTON.

THE second annual report of the Kensington Automobile Club refers to the gratifying progress during the past year, the membership having risen from forty-eight to seventy. During the season several pleasant social gatherings were held, that at Chiswick House, by invitation of Mr. C. Molesworth Tuke, being specially successful. On the vexed question as to affiliation with the R.A.C. or the M.U. the committee believe that the time is not yet ripe for making a choice, but recommend that the present affiliation question be postponed until the close of the present year.

CARDIFF.

MR. W. J. HILBORNE (president) took the chair at the fourth annual meeting of the Cardiff Motor Club, which was held at the Queen's Hotel, Cardiff. A large number of members were present. The officers for the year were elected as follows:—President, Lord Ninian Crichton Stuart; vice-presidents, Mr. J. W. Courtis, J.P., Captain D. Hughes Morgan, J.P., Messrs. F. C. Shackel, William Jones (Maindy), G. F. Mason, C. J. Thistle, C. F. Peaty, Herbert Lewis, and W. J. Hilborne, and the Rev. F. W. Hassard-Short; chairman of committee, Mr. Sidney Hill; hon. secretary and treasurer, Mr. H. B. Jotham, Whitechurch. The report and statement of accounts for the year ended December 31st, 1907, showed a balance of £34 17s 9d. in hand.

The question of association with the Royal Automobile Club or affiliation with the Motor Union was fully considered, but it was resolved that the present agreement, which remains in force to December 31st, 1908, be adhered to.

The meeting expressed their appreciation of the services which Mr. H. B. Jotham has rendered to the club as its hon. secretary during the past year, and also to Messrs. H. Haddon and E. Owen, who had undertaken the duties of handicappers at the hill-climbs held during the season. A small sub-committee was appointed to arrange a tangible way of expressing the club's appreciation of these gentlemen. The 1908

programme will include hill-climbs, speed-judging competitions, petrol consumption trials, reliability run, &c. Medals will also be given for the best attendances at the club meets.

LIVERPOOL.

MR. T. CLARK has been appointed captain for 1908, and Mr. R. P. Rutherford sub-captain. The duties of hon. secretary and hon. treasurer have been entrusted to Mr. E. L. Fehr, of 22, Piesons' Row, Liverpool. During the season several interesting competitions will be held.

NORTH WALES.

THE situation arising from the action of the Royal A.C. in terminating its agreement with the M.U. was discussed at a largely-attended meeting of members of the North Wales A.C., held at the Station Hotel, Llandudno Junction. Mr. H. R. Davies (secretary of the club), who, with Mr. E. A. Young, had been appointed to attend the conference of the affiliated clubs held in London to consider the situation, reported upon what occurred. Ultimately, a resolution was passed declaring that the North Wales A.C. should adhere to the M.U., but expressing the hope that the efforts now being made to bring about a reconciliation would be effective.

NOTTINGHAMSHIRE.

THE annual meeting of this club was held on the 24th ult., at the Black Boy Hotel, Nottingham. The president, Mr. Charles Hardy, was in the chair, and the members present included Mr. B. Granger (hon. treasurer and secretary), Dr. R. G. Hogarth, Dr. P. E. Tresidder, Dr. T. D. Pryce, Messrs. A. Barlow, W. D. Wells, H. Bircumshaw, A. N. Lee, H. Belcher, J. Mather, A. E. Dowson, P. L. Huskinson, J. J. Spencer, A. P. Stevens, H. V. Stevens, S. Harvey, C. L. Stevens, R. A. Young, R. Hutchinson, jun., C. E. W. Lucas, A. R. Atkey, F. Mitchell, and M. Ross Browne.

Mr. Granger presented the eighth annual report, which stated that they had maintained their position as one of the most important provincial clubs. The chief factors in keeping the club together were sociability and combination in view of legislation. The number of members on December 31st, 1908, was 205, and on December 31st last 232. The question of the action of the M.U. was thoroughly discussed by the committee. When it was mooted that the R.A.C. intended to terminate their agreement with the M.U., the club welcomed the proposal and decided to stick loyally to the R.A.C., as they were the first provincial club associated with the old A.C.G.B.I.

The Chairman moved the adoption of the report, and, Mr. Atkey, in seconding, remarked that a number of the members of the club knew about the division between the R.A.C. and the M.U. He hoped members would support the committee in their loyalty to the R.A.C. The report was adopted unanimously.

Mr. Charles Hardy was unanimously re-elected president, and Mr. B. Granger hon. treasurer and secretary.

The other officers were appointed as follows:—Vice-presidents, Lieut-Colonel R. L. Birkin, Dr. R. G. Hogarth, Messrs. G. H. Kirk, A. R. Atkey, B. W. Winter, and W. D. Wells; committee, Messrs. A. Barlow, J. J. Spencer, W. D. Foster, A. N. Lee, R. L. Jones, H. D. Snook, H. Bircumshaw, P. Huskinson, H. Rimington, and M. Ross Browne; hon. timekeepers, Messrs. C. Perry, A. Osborne, J. H. Scothern, and G. Butcher; hon. auditors, Messrs. C. L. Stevenson and R. Hutchinson, jun.; hon. solicitor, Mr. C. E. W. Lucas.

SOUTHEND.

THE annual meeting of the Southend and District Motor Club was held on Wednesday at the Hotel Victoria, Southend-on-Sea, when a balance-sheet showing an income of £43 was submitted, and the officers for the year elected.

SUSSEX.

THERE was a large attendance at the annual meeting of the Sussex County A.C., held on Saturday at the Old Ship Hotel, Brighton. Mr. A. Searse Dickins, of Horsham (Chairman of the Committee) presided, and moved the adoption of the third annual report. The committee stated that the club continued in a very satisfactory state. There was only a small decrease in the membership this year, and it was hoped that the members would do their utmost to encourage their friends to join the club and so form a stronger body to protect their interests. The club had again been instrumental in having warning boards erected in dangerous places throughout the county. The most important event of the year affecting the club was the division between the R.A.C. and the Motor Union. The facts had been thoroughly investigated by the committee, and while regretting the precipitate action of the R.A.C., it had been decided that the Sussex County A.C. should tender to the M.U. its loyal and continued support. By taking this step members, it was urged, would be afforded greater privileges than hitherto. The financial statement showed receipts amounting to £454 3s. 7d., including £195 7s. in members' subscriptions, and there was a balance of £142 7s.

The Chairman having briefly commented upon the sound financial position, of which, he said, the members ought to be very proud, the

report was adopted. It was resolved that the annual subscription be £1 1s. instead of £2 2s. as formerly. Earl Russell, Mr. Scrase Dickens, and Mr. Myddelton Gavey were elected to represent the club on the general committee of the Motor Union, and a donation of £2 2s. was voted for the Sussex County Hospital.—Replying to a vote of thanks, the chairman expressed a hope that there would be no diminution in the number of members, especially now the subscription had been reduced. He thought that in such a large county as Sussex more interest should be displayed in the work of the club. There was no doubt that it had done and was still doing a large amount of good in the county. The club's funds and influence were at all times available for members when they had any grievances or legal difficulties or when they required any information.

YORKSHIRE.

THE officers of this club for 1908 have been elected as follows:—President, Earl Fitzwilliam; vice-presidents, Messrs. A. W. M. Bosville, W. Penrose Green, H. R. Kirk, A. H. Briggs, D. H. Thornton; committee, Messrs. A. Exley, A. Farnell, E. H. Hepper, L. Hey, H. A. Jones, J. L. Kirk, S. Rumbold, P. D. Thomas, A. Towler, R. Winn, Guy Barrett, and J. Mortimer; hon. secretary and treasurer, Mr. Charles P. Wilson; hon. solicitor, Mr. Alf Masser.

In the annual report mention was made of the fact that the membership had risen from 260 to 295, and in addition the clubs affiliated, viz., Huddersfield, Cleveland, Harrogate, Bradford, Barnsley, and Halifax, had continued to prosper. The numerical strength of the Yorkshire Automobile Club with its affiliated branches is nearly 800, making it the largest provincial automobile organisation. There was a surplus on the year's working of £188 1s. 2d. after writing off depreciation and carrying £50 17s. to the reserve account. The capital account of the club now stands at £346 11s. 2½d. as against £178 10s. 0½d. on January 1st, 1907, a satisfactory position, which it is hoped will be maintained. Reference was also made to the Saltburn speed trials, which are to be repeated during the present year. At Greenhow Hill, Pateley Bridge, a successful hill climb was carried out with the assistance of the local authorities.

The committee has carefully considered the split between the R.A.C. and the M.U. and its bearing upon the Yorkshire A.C., and came to the unanimous conclusion that the best interests of the club and the members would be served by taking neither one side nor the other, but continue the present affiliation agreement, which neither the M.U. nor the R.A.C. can terminate until December 31st, 1908, and look to both bodies to carry out their duties and obligations to the Y.A.C. under the agreement at present in force.

SCOTTISH.

THE annual dinner of the Scottish Automobile Club was held on Friday, the 24th ult., in the North British Station Hotel, Edinburgh. There was a company of about 250 gentlemen. Sir J. H. A. Macdonald, K.C.B., Lord Justice-Clerk of Scotland, president of the club, occupied the chair, while Mr. John Wilson, of Liberton, vice-president of the general committee, acted as croupier. There were also present:—Lord Provost Gibson, Edinburgh; Lord Salvesen, Rev. Dr. Mitford Mitchell, Moderator of the Church of Scotland; Mr. Alexander Ure, K.C., M.P., Solicitor-General for Scotland; Lord Ardwall, Mr. J. A. Clyde, K.C., Lieutenant-General Sir E. P. Leach, Very Rev. James Cameron Lees, C.V.O., V.D., Lord Provost Longair, Dundee; Mr. James M. Ewing, the Master of the Merchant Company of Edinburgh; and Mr. R. J. Smith.

The loyal toasts having been pledged, Sheriff MacLennan gave "The Imperial Forces," and Lieutenant-General Sir E. P. Leach replied.

Lord Salvesen proposed, "The Houses of Parliament." To the question whether the House of Commons was going to harass what had become a great industry, and what was certainly a most legitimate and delightful sport, he said he did not have very great fear of the present House of Commons, because if one was to judge from the use the members of the House made of the automobile as to their attitude towards it, he would say the vast majority of the members of the House of Commons must be in sympathy.

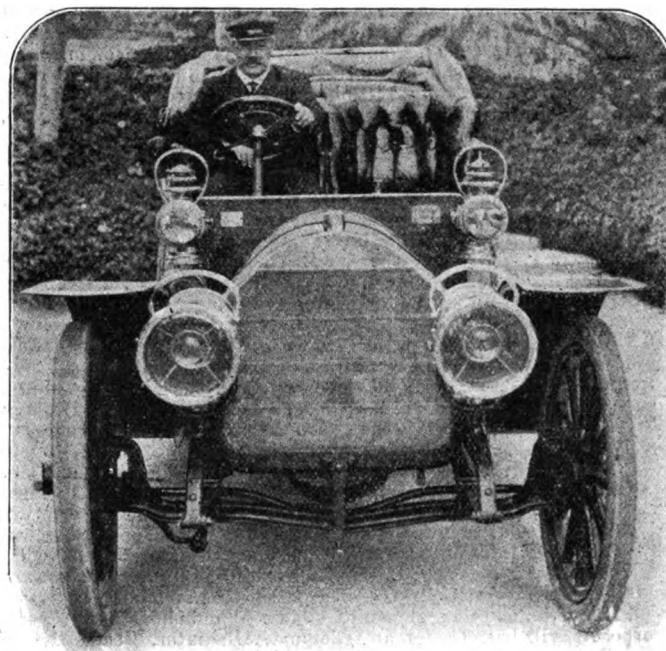
The Solicitor-General for Scotland responded.

Mr. J. Avon Clyde, K.C., proposed the toast of the evening, "Automobilism." There was no doubt about it that automobilism had been subject from its birth to something which could only be described as repressive legislation. One of the most melancholy results of this legislation was that automobilists had had the misfortune to find themselves unexpectedly in the position of, should he say, potential law-breakers. The automobile had another aspect for them, and for him it had become a practical necessity. Neither they nor he, when they looked back, could realise how they got on when there was no automobile on the road, and if they looked to the future neither they nor he could foretell the uses which the automobile might yet serve, and social problems even which the automobile might not help to solve. He did not pretend that at the present moment the automobile was entirely capable of filling the breach, but the marvellous results which could be attained by the petrol engine, the wonderful practical efficiency which these results had achieved with the assistance of that doubtful element the pneumatic tyre, were, after all, only stepping-stones to greater things, and it seemed to him that in doing what they could to help the cause of automobilism they were doing something to help forward an instrument

which might well have predicted for it the fate of playing no small part in the development of the country and its society.

The President, in replying, said he thought they must all remember that they still had a great many enemies, and a good many people who had not sense enough to see what automobilism meant, and what it must become in the future. Speaking of the difficulties that had to be faced on the road he said there was a good deal to be said against some of them. He heartily rejoiced to see in the papers lately that there had been sentences passed. The only thing he congratulated himself about was that there was no doubt it would do a great deal of good where it was needed. He was glad to see none of these cases happened within the circle made by the Automobile Club of Scotland. Let them consider how the thing was spreading. Who would not have been considered a madman if he had told anybody seven or eight years ago that people would have been collecting money to make a gift to a Bishop of a motor-car? It was spreading in other directions. The motor-car had always been looked on hitherto as a source of sport and enjoyment. The automobile was becoming the ordinary carriage for use in town.

At a meeting of the committee of the Scottish A.C., held in Edinburgh on Friday of last week, the unanimous recommendation of the executive, that the club should cancel the present agreement with the R.A.C. and the Motor Union, and should enter into a new agreement of association with the Royal Club, was unanimously adopted. The draft of the new agreement repeated the terms of the former treaty acknowledging the supremacy of the Scottish A.C. in Scotland in all



The Duke of Oporto on his Fiat Car.

[L'Automobile, Milan.]

matters relating to the movement, while among the advantages conferred upon the members of the Scottish A.C. for the first time are the benefits of the foreign customs arrangements made by the R.A.C., known as the "Tryptique System," and the use of club rooms in London specially set apart for associates of the Royal Club.

The committee in arriving at this resolution had in mind the fact that the Royal A.C. is acknowledged as the supreme governing body, and that it is only proper, having regard to the fact that the Scottish Club is the National Club of Scotland, and controls the movement therein, and having regard also to the many matters which call for united action with the Royal Club, and to the necessity for alliance and co-operation with it in respect of competitive and sporting events and disciplinary matters, that the S.A.C. should be in closest alliance therewith. The committee in thus terminating their present agreement with the Motor Union had before them the consideration that in special matters of legal defence, the attendance at public inquiries under the Motor Car Act, negotiation with road and public authorities, and other kindred matters, they have all along undertaken for Scotland all the matters arising under them as well as under other heads of the Motor Union's work. At the same time the committee agreed to record and convey to the Motor Union their view that, notwithstanding this change in relationship between the Scottish Club and them, they saw no reason why the cordiality and co-operation existing between them in the past should not continue, or why the work which has been done by the Scottish Club for the members of the M.U. in the past should not be made available to them, in so far as in their power, in the future.

THE EDINBURGH MOTOR SHOW.

THE eleventh annual Scottish Motor-car Exhibition, held in the Waverley Market, Edinburgh, was opened on Friday, the 24th ult. The show has been very well supported by the trade, examples of all the leading makes being on view. As practically the whole of them have already been fully dealt with in these pages it is hardly necessary for us to go over the ground again. A brief summary of the exhibits is, however, appended.

Considerable interest is being taken in the chassis of the Sheffield-Simplex 45-h.p. six-cylinder cars shown by Messrs. Middleton and Townsend, Edinburgh. A description of the vehicle has already appeared in the *M.C.J.*, while the other day we had an opportunity of taking a run on it, when we were much impressed with its sweet running. At this stand is also to be seen the magnetic clutch made under the Ravenshaw, Middleton and Townsend patents. One of the largest stands is that of Messrs. Thos. Shaw, Ltd., Dundee, the exhibit comprising Napier, Siddeley, Humber, Ariel and De Dion cars. A range of Siddeleys and Napiers is also shown by Messrs. Rossleigh, Ltd., Edinburgh. The Caledonian Motor Car Company, Ltd., Aberdeen, exhibit both Standard six-cylinder and Peugeot four-cylinder cars. Fiat Motors, Ltd., are present with examples of the 15-20-h.p., 28-35-h.p., and 35-40-h.p. Fiat vehicles, the latter being fitted with a double-phaeton body, front glass screen, and Cape cart hood by Maythorn. The Maja Concession Company, of London, exhibit for the first time several of the 28-35-h.p. Maja cars with both chain drive and cardan shaft transmission. Messrs. John Croal and Sons, Ltd., Edinburgh, have a large stand, on which is shown an array of the latest types of De Dietrich, De Dion, and Rolls Royce vehicles. The exhibit of St. Vincent Motor and Cycle Company, Ltd., Glasgow, comprises a 24-30-h.p. St. Vincent side-entrance car, a 14-16-h.p. landaulet, a 10-12-h.p. touring vehicle and a 14-16-h.p. twelve-seated char-a-banc for public service work. The Sinclair Rubber Company, Edinburgh, display the Motobloc cars, for which they are agents in Scotland and the North of England. The Ariel Motors, Ltd., are showing one of the new 20-h.p. broughams, of which we gave an illustration a fortnight or so ago, as well as a 30-40-h.p. car and a 40-50-h.p. limousine landaulet. The Humber Company's exhibits range from a 10-12-h.p. car to one of the latest 30-h.p. six-cylinder vehicles. The Daimler cars on view at the stand of the Scottish Automobile Company, Ltd., Edinburgh, include examples of the 30-h.p. and 42-h.p. types with different bodies; the Siddeley and Panhard cars are displayed by Messrs. Rennie and Prosser, Ltd., Glasgow; two sizes of the Itala cars, 35-45-h.p. and 20-30-h.p., are shown by the Itala Automobiles, Ltd., the former being in chassis form and the latter fitted with a handsome limousine body by Messrs. Morgan and Co.; the Kennedy Motor Company, Ltd., Glasgow, show Austin, Minerva, Thornycroft and Darracq vehicles. A large display of both the 20-h.p. and 30-h.p. White steam cars is made by the White Steam Car Company, including one with a double phaeton body and Victoria hood and another finished as a limousine. Messrs. Croal and Croal, Edinburgh, show examples of four sizes of Porthos cars and one of the Passe-Partout light vehicles, of which a description was given in a recent issue of the *M.C.J.* Two well-finished specimens of the Vulcan and Hotchkiss cars are on view at the stand of the London and Parisian Motor Company, Ltd.; while the 16-24-h.p. Vinot cars are shown by Mr. D. Drover, Leith. Other cars on view include the Alldays, Martini, Riley, Lanchester, Renault, Albion, Arrol-Johnston, Sunbeam, Calhorne, Argyll, Iris, Cottereau, Clement, Gladiator, Deasy, North British (Druumond), Dennis, Adams, Belhaven, Mass, Gregoire, Nordenfelt, Ford, Rover, Clement-Talbot, Westinghouse, Decauville, and S.C.A.T. Among the industrial vehicles on view are a 20-h.p. two-ton lorry by Messrs. Durham, Churchill and Co., a five-ton steam wagon by Messrs. D. Stewart and Company, Ltd., Glasgow, and one, two and three-ton lorries by the new Arrol-Johnston Car Company, Ltd.

In the accessory section notable displays are made by Messrs. Alfred Dunhill, Ltd., the Scottish Motor Supply Company, Glasgow (Vandervell accumulators, Samson non-skids, F. and S. ball bearings, O.S. speedometers, &c.), the Union Rubber and Chemical Company, Ltd., the County Chemical Company, Ltd., Messrs. W. Barton and Sons, Edinburgh, Messrs. F. S. Nickells and Co., Blackheath (Universal valve connectors, tyre gauges, &c.), and Messrs. J. Thomson and Son, Edinburgh (Bleriot headlights, H.F. vulcanisers, Smith's speedometers, Stepney spare wheels, &c.). The exhibitors of tyres include the Palmer, Continental, Dunlop, Moseley, Goodrich, Elastes, Clincher, Gaulois, Michelin, and Shrewsbury and Challiner companies. Price's Patent Candle Company, Ltd., and Messrs. Moebius and Son, Stoke Newington, N., display their usual wide selection of motor lubricants, while among the petroleum spirit firms represented are the Anglo-American Oil Company, Ltd. (Pratts), the British Petroleum Company, Ltd. (Shell), and the Gas Lighting Improvement Company, Ltd. (Carburine). The Show closes to-day (Saturday).

THE NATIONAL MOTOR ACADEMY, LTD., of Boundary Road, Holland Park, W., have acquired a number of the more important components of the six-cylindered Napier car which may now be added to the list of those in which complete technical instruction can now be given at the academy. Special arrangements have been made for equally thorough technical teaching on the F.I.A.T. cars, with driving lessons around the private track.

CHAUFFEUR-VALET'S CLAIM.

WALTER H. DARK, who described himself as a chauffeur-valet, of Lavender Sweep, S.W., brought an action at Brompton, before Sir William Selve, on Monday, in which he sought to recover a month's wages and a month's wages in lieu of notice from Lord Rossmore. A certain sum had been paid into court with denial of liability. Plaintiff's counsel stated that his client was claiming for two months' wages, for railway fares, &c. Plaintiff said he was in Ireland when he received a telegram from his employer summarily dismissing him. He journeyed to London and endeavoured to see his lordship, but Lord Rossmore would not see him. He understood from a gentleman who did see his employer that the latter had said if he could clear his character he would be taken back. The accusation was that he had hired his master's motor-car out in Armagh. He had taken a gentleman for rides and received tips from him, but he had been told that he could take the car out whenever he liked. The defence was that on several occasions plaintiff had been unable to attend to the smallest defect on the car, and as a result had had on many trips to have it fetched back from miles out in the country. He had had to be taught how to drive and attend to the car by a motor-car engineer in Armagh. Mr. McBride, a civil engineer, said he had on five occasions ridden in Lord Rossmore's car, but each time he had given plaintiff 10s. 6d. for the trip. His Honour said he did not think plaintiff's incompetence had been proved, or that he had been guilty of anything which would warrant his summary dismissal. He found for plaintiff for £11 10s., less the £2 10s. received from Mr. McBride.

THE CROYDON MOTOR FATALITY.

DUNCAN BROWN, chauffeur, of Hayes Court, Kenley, was remanded at Croydon on Wednesday week in connection with the death of Arthur Borer, Kenley, who was knocked down by a motor-car on the night of Saturday, the 11th ult. The circumstances of the affair have been previously reported. Brown was remanded for a week and allowed the same bail as previously, himself in £200, and two sureties of £100 each.

Dr. Jackson resumed the inquest at Croydon, on Tuesday, into the death of Arthur Borer. Two witnesses gave evidence as to seeing a motor-car on the Godstone road just before the accident occurred. Arthur Butler, a night watchman, stated that on January 11th he was on duty at some sewer works that were being carried out in the Whyteleaf road, leading to Caterham. A chain was drawn across, with a red light as a signal, and a notice board, bearing the words "This road is closed." Lights were shown for some distance as an indication to pedestrians. When sitting in the watchman's box he heard a crashing of glass, and saw a motor, L.N. 2,011, backing to get out of the way. The driver was Brown, who gave his name and number very readily. The witness Ford, who was with the deceased man, was cross-examined by Mr. Lunge, and he admitted that if he and the deceased had been walking on the proper side of the road the accident would not have taken place. The Coroner: There is no proper side of the road legally. Pedestrians are entitled to walk on either side, but they ought to exercise common sense in the use of the road.

The coroner, summing-up to the jury, observed that no doubt they had made up their minds that the car which travelled down the Godstone road and killed Borer was going at a dangerous rate. The case seemed to be one of manslaughter. The jury would say whether Brown should take his trial on that charge, on their commitment, or should the matter be left in the hands of the police to make further inquiries. This was the second motor-car fatality that he had investigated this year, and last year he held five inquests on victims in motor accidents. In this case there were some aggravating circumstances, especially in regard to the manner in which the driver of the car left the man he had knocked down to shift for himself, when he must have known that he was badly injured. The jury, after a brief deliberation in private, returned a verdict of "Manslaughter against some person or persons unknown." The coroner said he agreed with the verdict, as he did not consider the evidence which had been given against Brown was sufficient.

THE STORAGE OF PETROL.

RECENTLY the British Petroleum Company were prosecuted by the Gainsborough Council for storing a quantity of motor spirit, being petroleum within the meaning of the Acts 1871 and 1879, without having the necessary licence, and which resulted in the seizure of 250 gallons of spirit by the Council's Inspector, Superintendent Wilkinso. For the defence it was urged that the licence held by Mr. Edwin Baines, upon whose premises the seizure was made, covered the storage, also that 200 of the gallons were only placed in a yard prior to immediate removal to customers. The remaining 50 gallons were in a building for which Mr. Baines held a licence.

In view of the importance of the case, the Bench reserved decision, and this has now been delivered by the chairman (Mr. Embleton-Fox).

After reviewing the evidence, Mr. Fox said they felt compelled to inflict the full penalty of £20, together with £5 as costs, and the 50 gallons of spirit in the possession of the inspector became forfeited.

At the request of Mr. Tweed, for the defendant company, the Bench agreed to state a case.

CASES UNDER THE MOTOR CAR ACT.

EXCEEDING LEGAL LIMIT.

At Kingston on Thursday last week twenty-one motorists were each fined £5 and costs for exceeding the speed limit on the Portsmouth road. During January considerably more than £300 was received from motorists in fines at that court.

Several motorists have been fined at the Newmarket Petty Sessions for exceeding the legal limit.

A TRIO OF SUMMONSES DISMISSED.

Mr. Oscar Cupper was summoned at the Marylebone Police Court, on the 20th ult., for the following offences:—1, Exceeding a speed of twenty miles an hour; 2, Failing to stop when requested; and 3, Failing to produce his licence. After a lengthy hearing the matter was in the first instance adjourned until Monday.

At the resumed hearing, after hearing Mr. Woner for the prosecution and Mr. J. S. Blankensee for the defendant, the magistrate (Mr. Paul Taylor) decided to dismiss all the summonses.

COMPANY NEWS.

NEWCASTLE BENZOL COMPANY.—£10,000. Agreement with Priestman Collieries, Ltd.

COVENTRY CHAIN CO., (1907) LTD.—The annual meeting of the Coventry Chain Co. (1907), Ltd., was held in the offices of the new works at Spon End last week. Councillor A. S. Hill (managing director) presided. The first annual report showed that the profit for the year, after providing for depreciations, bad and doubtful debts, and all charges, amounted to £8,545 3s. 3d.; deducting bonuses due to employees of £1,057 2s. 6d., left a net balance of £7,488 0s. 9d. Of this amount £4,094 5s. 6d. represented the profit made from August 31st, 1906, to the date of the incorporation of the company, viz., March 26th, 1907. The Chairman, in moving the adoption of the report, said the increase of turnover in the past year as compared with the previous, when the business was in the hands of the private company, was approximately 80 per cent. The foreign business had more than doubled. The present popularity of the live axle drive amongst automobile manufacturers had affected the business, but he thought a new patent which they were getting out would considerably help. The cycle department was doing well. Mr. Percy Martin seconded the adoption of the report. He said the stock items were large, but season fashion did not apply to this business. The report was adopted. The retiring director, Mr. N. Hill, was re-elected.

PRODUCERS' PETROLEUM COMPANY.—£200,000 (£10). To carry on business of producers, refiners, storers, and suppliers of petroleum and its products, &c. Sir W. D. Pearson, Bart., M.P., is one of the directors.

SOCIÉTÉ FRANÇAISE DES PNEUMATIQUES DUNLOP.—The directors of the Société Française des Pneumatiques Dunlop, Ltd., report that the net profits upon the trading of the company for the year ended July 31st last, including dividends on investments and transfer fees, amounted to £16,087, which, with the balance from last account of £26,721, is increased to £42,808. From this sum deductions have been made leaving a balance of £37,767. Out of this sum the directors recommend dividends at the rate of 6 per cent. per annum on the preference shares, amounting to £2,994, and 6 per cent. per annum on the ordinary shares, amounting to £6,183, leaving a balance of £28,590 to be carried to next account. The motor tyre trade has not developed with sufficient rapidity in France to make up for the loss in volume in the cycle tyre department. The directors are adopting every means which, in their judgment, are best calculated to improve conditions and make developments more in accordance with the anticipations of the company.

SPANISH MOTOR TRANSPORT COMPANY.—£12,000. To establish services of motor-cars and wagons between Almeria and Huerca Overa and between Almeria and Berja, Spain. Agreement with Francisco de Lazaro y Ruiz y Castellon. Crown Buildings, 2, Watling Street, E.C.

THE NORTHERN AUTOMOBILE COMPANY, LTD.—At a board meeting held on Friday, the 24th ult., the accounts and report of the auditor (Mr. Albert E. Stringer) for the half-year ended December 31st last were considered. The accounts showed satisfactory progress had been made during the period under review, and that the sales and garage receipts were steadily increasing. The profit earned, after providing for all charges, and depreciating plant, &c., was equal to 16 per cent. per annum on the share capital.

MR. W. S. JAMIESON, of Stowlangtoft Hall, Bury St. Edmunds, has just acquired a 60-h p. Spa car.

THE FOREGROVE MACHINERY COMPANY, LTD., of Admiral Street, Dewsbury Road, Leeds, have lately put on the market a new tyre vulcaniser in which the necessary heat is obtained by means of hot air, obtained by either a charcoal or gas burner.

A **FOUNDRY** has recently been added to the already complete repair works of Messrs. Panhard-Levassor, Acton Vale, W. The new addition will enable the firm to cast a facsimile of any part of a motor-car with a minimum of delay.

Messrs. D'YNE AND WILLANS, LTD., of Gillingham Street, Belgrave, S.W., have just received the first Piccard-Pictet 28-40-h.p. six-cylinder car. This Swiss-built vehicle comprises a number of interesting features and will well repay close inspection.

SPEED LIMIT INQUIRY AT BELFAST.

ON the morning of the 22nd ult., in the City Hall, Belfast, Mr. E. A. Sanderson, one of the Inspectors of the Local Government Board, opened an inquiry regarding the proposal of the Corporation to obtain sanction for an order restricting the speed of motor vehicles within the whole borough boundary to a maximum speed of ten miles per hour. To this bye-law strong objection had been entered by the Irish Automobile Club, the Motor Cycle Union of Ireland, and a mass meeting of Belfast motorists. Hence the inquiry. Mr. Overend, B.L. (instructed by Sir Samuel Black, Town Clerk), appeared for the Corporation; Mr. Wm. Moore, K.C., M.P., and Mr. H. Hanna, B.L. (instructed by Mr. McMillan, J. C. White and Co.), appeared for the Automobile Club, other bodies, and several ratepayers; and Mr. James Moles, B.L. (instructed by Mr. P. T. Brady), represented the Motor Cycle Union of Ireland and several ratepayers.

Mr. Overend, for the Corporation, said representations had been made to various members of the Corporation in November last, and a letter was written by the Lord Mayor to the Police Committee suggesting an application to the Local Government Board under Section 9 of the Act for a special reduced speed limit. The Police Committee looked into the matter, and made the present application with the approval of the Council. Lord Shaftesbury, Dr. J. D. Williamson, chairman of the Police Committee, Mr. Cutler, the city surveyor, and Mr. Hill, the city Commissioner of Police, were examined in support of the application. The latter said he had caused a record of the reported cases of accident to be prepared, and a record of the prosecutions. The total prosecutions since 1902 were thirty-three. There were eleven convictions; and one case was dismissed. In 1904 the number reported was three; 1905,



The 30-cwt. Motor-Van recently supplied by the Industrial Motor Company, Windsor, to Mr. Harry D. Sillito, Baker, of Golden Hill, Staffordshire.

three; 1906, eight; and 1907, eighteen. The police so far proceeded under Section 1 of the Act. If proceeding under a speed limit, it would require special constables stationed at given measured distances with stop watches to prove excess of the speed limit, in order to secure a conviction. He thought the powers under the Act were most ample, because all that was necessary was to prove driving to common danger, even if this was only one mile an hour, so that in this respect the new bye-law was weaker.

For the opposition, Mr. Moore pointed out that the proposed restriction was over an area of twenty-three miles. Dr. McKisack said he had been using motor-cars in his practice for nearly five years and had covered about 45,000 miles, mainly in Belfast. He could give instances of life being saved by the doctor being at liberty to travel at a greater speed than ten miles, and he had been informed of numerous other cases where life had been saved similarly. The Very Rev. the Dean of Belfast could see no reason for the restriction, nor could Dr. J. J. Austin and Dr. Dempsey, both of whom regard the motor-car as indispensable to the medical man. Their evidence close the inquiry.

THE South Wales agents for the Star and Starling cars are Messrs. C. J. Richards and Co., of Pontypridd.

MOTOR-CARS were requisitioned for the delivery of newspapers in Manchester last week on the occasion of a strike among the carters employed by the wholesale newsagents.

For some time past Messrs. Panhard and Levassor, at their Acton Vale works, have been devoting special attention to the packing and shipping of automobiles, and their equipment for this work is now at the disposal of purchasers and manufacturers of any make of car. On the occasion of a recent visit to the works we noted cars crated for dispatch to Italy, the United States, Brazil, Russia, Ceylon, and Denmark.

FORTHCOMING EVENTS.

FEBRUARY.

- 1st (Sat.).—Annual meeting of the Lincolnshire A.C.
 2nd (Sun.).—Reliability Trial of the Motor Union of Western India.
 4th (Tu.).—I.I.A.E., Dr. Hele-Shaw's address to graduates' section.
 5th (W.).—Annual dinner of the Bradford A.C.
 6th (Th.).—R.A.C., Mr. Philip Dawson on the Electrification of Railways.
 7th (F.).—N.W. London M.C.C. annual general meeting.
 7th-15th.—Motor Show, Manchester.
 12th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 13th (Th.).—R.A.C., Mr. Wyatt on Magnetos.
 15th (Sat.).—Auto-Cycle Union annual dinner at the Hotel Cecil, London.
 19th (W.).—Annual dinner of the Cardiff M.C.
 20th (Th.).—Meeting of the Essex M.C.
 21st (F.)-29th (Sat.).—Manchester Motor-Car Show at Belle Vue.
 24th (M.).—Motor Show opens at Bcmby.
 27th (Th.).—Mr. Mervyn O'Gorman at the R.A.C. on "Gear Transmission."

MARCH.

- 5th (Th.).—Paper by Dr. W. Watson at the R.A.C.
 11th (W.).—Annual meeting of the Incorporated Institution of Automobile Engineers.
 18th (W.).—Annual dinner of the A.A. at the Hotel Cecil, London.
 21st (S.)-28th (S.).—Cordingley's Thirtieth International Motor-Car Exhibition at the Royal Agricultural Hall, London.

APRIL.

- 18th and 20th.—First meeting of the Brooklands A.R.C. for 1908.

MAY.

- 10th (Sun.).—Targa Florio Race.
 11 (M.)-16 (S.).—Reliability Trial of the Irish A.C.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

- 11th (Th.).—Probable start of the International Touring Car Trial of the R.A.C.
 15th-19th.—Scottish Reliability Trial.

LIGHTING-UP TIMES—LONDON.

Feb. 1st—5.45	3rd—5.50	5th—5.54	7th—5.56
" 2nd—5.48	4th—5.52	6th—5.55	8th—5.58

POLICE TRAPS.

LOAMPIT VALE, Lewisham, is again the scene of police activity against motorists.

RETFORD and Bawtry, on the Great North Road, are danger zones at the week end.

AUTOMOBILE ACCIDENT.

A SERIOUS motor-car accident has occurred in Coventry. A car which had been driven from London was proceeding to the Daimler Company's works for repair, and when turning the corner of Much Park Street into Earl Street headed for a shop, but was checked by the kerbing. Then the car twisted and crashed into the wall at the side of the Old Star Inn, doing much damage to the front of the vehicle, besides smashing the lamp on the car.

THE MOTOR UNION.

A STATEMENT has been issued by order of the committee of the Motor Union showing a comparison of the advantages it offers as against those of the R.A.C. It declares that the financial backbone of the Union has been the subscriptions of individual members, who last year contributed over £4,000.

AUTO-CYCLE UNION.

THE Auto-Cycle Union has decided to sever its connection with the M.U. and affiliate itself directly with the Royal A.C. The chief point involved in the change now made is that the Auto-Cycle Union will in future have complete autonomy and the absolute control of its own finances.

ARIEL MOTORS, LTD., have appointed Mr. J. Fryer, Progress Motor Works, Kingston, agent for Ariel cars in the county of Herefordshire.

THE Albany Automobile Company, Ltd., of 106, Albany Street, N.W., have opened fine new show rooms at 110, Albany Street, N.W. They have also started a new department for instruction and driving of cars, and have made great headway in the second-hand car trade.

As an instance of how the motor trade is growing in Portugal, it may be mentioned that one morning last week the Stepney Wheel Company received orders for twenty Stepney spare wheels to be despatched to that country. Altogether during the past six weeks sixty Stepney wheels have been despatched to Portugal, while during the past two months over 100 have been despatched to New Zealand.

RACING AND TOURING CARS.

ON Friday of last week Mr. S. F. Edge read a paper before the Coventry Engineering Society on "Experience in the design of motor cars gained from racing." It was illustrated with lantern slides which recalled many interesting incidents in the progress of the automobile. Enquiring as to what constitutes the modern touring car so far as the chassis is concerned, the lecturer gave a list of a dozen points which he regarded as important, as follows:—1. The engine to be non-existent so far as the occupants of the car are concerned. 2. The functions of the engine to be performed automatically with as little assistance from the driver as possible. 3. That the engine shall be kept cool without the necessity for stopping or adding cooling material. 4. That either going up or down hill neither the accelerating nor the retarding forces shall be noticeable by the occupant, and whichever is required to be capable of application by the driver without strain or effort. 5. If the road conditions or lack of adaptability of our motive power require change of gear, that the change of gear or deceleration shall be unnoted by the occupants. 6. That the method of conveying the power to the driving wheels shall be done without noise and without appreciable wear. 7. That the method of conveying the power to the road wheels shall be independent of weather conditions. 8. That a minimum loss of power shall occur between the engine and the road wheels. 9. That the suspension of the vehicle shall be such that the minimum of vibration from road surfaces shall be conveyed to the occupants. 10. That every point previously mentioned shall be obtained with the minimum of weight. 11. Wheels strongest possible for a given weight. Rapidly detachable for tyre attention. 12. Lightness to touch and strength of parts of steering.

In summing up, Mr. Edge traced many of the improvements he had enumerated to experiences with racing cars, particularising in almost every instance. He ascribed the large success of the touring car of to-day to the contests on tracks and in hill climbing competitions, and concluded with a plea for British cars.

BUSINESS NEWS.

THE COVENTRY CHAIN COMPANY (1907), LTD., have issued a series of motto cards, the obverse side of which will serve to draw attention to their well-known specialities.

IN the recent Reliability Test held under the auspices of the Automobile Club of Victoria, and extending over a period of three days, the 40-h.p. six-cylinder Napier was awarded the maximum number of marks, viz., 300, and also a gold medal.

WE learn that Messrs. Colin Defries, Ltd., 2, Denman Street, W., have acquired the British agency for the Passe Partout cars, of which a description was given in the M.C.J. of the 4th ult.

THE Council of the Borough of Lambeth has altered the numbers of the premises of the Automobile Carriage Builders, Ltd., to 66 and 68, Wandsworth Road, Vauxhall, S.W.

MESSRS. J. E. HUTTON, LTD., have secured an order from Mr. John C. Connell, of the Scotstoun Shipbuilding Yard, Scotstoun, Glasgow, for a Berliet 40-h.p. six-cylinder car, with special phaeton body.

WE learn that Messrs. Monnet Plasse and Co., of 20, Store Street, London, W.C., are the sole agents for the United Kingdom for the Nieuport magnetos described in our last issue.

THE important question of "under-tying" a car is one that has received but little attention. It is unfortunately a common failing to see cars which should unquestionably be fitted with 5 in. or 5½ in. covers shod with 3½ in. tyres. The initial cost is, of course, with some a very important and deciding factor, but when increased mileage, durability, comfort and economy, both as regards petrol consumption and the wear and tear of machinery, are taken into consideration, the larger tyres amply compensate for any additional expense. The theory, moreover, that large tyres are unsuitable for high speed is disproved by Mr. Clifford-Earp's recent successes at Brooklands on a 60-h.p. Thames car, fitted with 6 in. Palmer cord tyres. Not once during his record breaking runs was Mr. Clifford-Earp worried by the tyres, the covers used showing little or no sign of the hard work accomplished. Further, the Palmer Tyre Company claim that increased speed is obtainable by the use of large covers, and, so far from being difficult, the steering with the larger tread is as easy, if not easier, than with smaller tyres. In connection with the latter the question of inflation must be considered; the pressure required in 6 in. Palmers fitted to the front wheels of a car weighing, say, 26 cwt. should not exceed 60 lbs. We need hardly say that on the question of durability large tyres give by far the greater mileage; on a car of 18-h.p. or 24-h.p., for example, quite 14,000 miles should be obtained, after which they can be re-treaded.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

THE Motor-Car Journal.

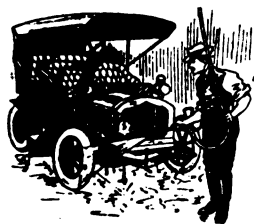
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COMMENTS.



THE fine weather of this week has led to a feeling of optimism in many trade circles, and the gloom which has hung about the motor-car showrooms for some weeks has a prospect of dissipation. Last season the full and early rains did much to harass the industry at a time when it should have promised well. Now we are hopeful that the climatic conditions will not run counter to the interests of the industry, and that an early buying will be the current note.

That agents for touring and pleasure cars have a more buoyant feeling is seen from the growing interest that is being shown in the Spring Show at the Agricultural Hall, London, which takes place next month. This always opens the selling period of the year so far as automobiles are concerned, and is not likely to be an exception in 1908. Manufacturers freely recognise the value of the display in disposing of stocks, and the quickened concern with regard to the spaces now available at that Exhibition indicates their appreciation of its importance to the industry. On the other hand, many prospective motorists will not make up their minds as to their ultimate possessions until they have visited the Show. This year it occurs from March 21st to the 28th—coming sufficiently long before Easter to give them an opportunity of becoming acquainted with their cars before enjoying a holiday motor tour.

Proposed Speed Limit in Lincolnshire.

A LOCAL Government Board enquiry was held on the 28th ult. at Spittlegate, Grantham, as to the application of the Kesteven County Council for the restriction of the speed of motor-cars passing through the village of Colsterworth, on the Great North Road, to ten miles an hour. The length of highway to which the limit was proposed to apply is 770 yards. For the R.A.C., the M.U., and the Lincolnshire Automobile Club Mr. Rees Jeffreys appeared, and, having expressed his recognition of the sympathetic manner in which the County Council had administered the Act, withdrew opposition on behalf of the bodies he represented. Dr. Godfrey Lowe mentioned the fact that complaints of furious driving through the village generally arose in connection with vehicles driven at night by hired drivers. It was the paid driver and not the owner who was responsible for such dangerous practices in rural districts.

Views of Estate Agents.

ESTATE agents are naturally interested in the development of locomotion, having regard to the important part it plays in the appreciation of property; hence the interest aroused among those dealing with land and house property in the paper read by Mr. S. J. Chesterton before the members of their Institute a few evenings ago. Electric tramways, he pointed out, have opened up many outlying suburbs, and have considerably increased the value of large areas of land. With regard to motor-buses he was less optimistic, although recognising that the disadvantages associated with them in the early days were now not nearly so marked, and that during the last few months steady improvement in the running of this type of vehicle had

been observed. That being so, the depreciation which had followed their introduction in some districts would in time disappear to a considerable extent. There is little doubt that an enormous number of people will come to town in such vehicles when experience has given something approaching finality to the design. Speaking generally, the estate agents present who took part in the discussion seemed to agree that, however inconvenient and irritating some of the effects of the new locomotion may have been in the first flush, the ultimate result will be to enhance the value of property and generally benefit the whole country.

Road Reports.

ONE of the new activities of the Royal Automobile Club has been to circularise the county and borough surveyors with regard to the condition of the roads under their control. This seems a modified form of the special feature that we have made during the last two or three years of publishing regular reports showing where roads are under repair, and where motorists are likely to be inconvenienced from such a cause. Our efforts in this direction have been uniformly successful and of general value to motorists, and now that they are being supplemented by the official organisation of the movement, those who drive cars will have no lack of information during the coming season.

In the Balance.

THE question of affiliation to the R.A.C. or the M.U. still disturbs the settled order of many of the provincial clubs, and it will be some time before the decision of all the organisations is arrived at. One curiosity of the position has occurred in the Midlands, where the General Committee of the Midland Automobile Club were so evenly divided on the subject that it was decided to obtain a postal vote of the members. This has now taken place, and the result shows that out of 272 members 214 voted, of whom 107 were for the R.A.C. and the same number for the M.U. Under such circumstances the most obvious conclusion seems to be that the club should continue its association with both bodies until the end of the present year—a decision which, we learn at the moment of going to press, has been adopted.

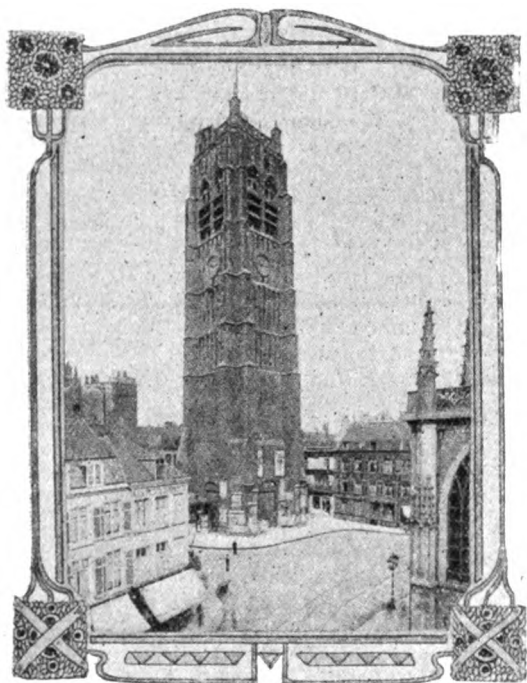
Trials at Bombay.

ON Sunday the Reliability Trials of the Motor Union of Western India commenced with the run from Bombay to Kolhapore and back, via Mahabaleshwar, which was to continue until Wednesday. This is to be followed with a motor gymkhana and show on the 24th inst. As we have already announced, the entries numbered twenty-five when last advised. Among the competitors was the Maharaja of Tikari, who entered two cars, and was to compete personally in the Trials. He also presented a valuable cup. On the last occasion on which he took part in these trials he lost, by only two points, the chance of being the joint winner in his class with the 50-h.p. De Dietrich. The Rana of Porbunder has also given the Championship Trophy, and H.H. the Maharaja of Cooh Behar has presented a valuable

Championship Cup, so that there will be fifty valuable trophies for competition. It has been decided on this occasion that small cups, to be kept, will be presented with the Championship trophy, and that both the owner of the car and the driver will receive diplomas and gold medals, so that there will be some lasting satisfaction in taking part in the Trials.

The Fiat Company's Extensions.

WHEN proceeding North the other week, *via* the L. & N.W. R., we noticed that at the side of the Aster Company's works at Wembley, between Willesden and Harrow, had sprung up a large new building bearing in big letters the word "Fiat." Strangely enough, a few days later came an invitation from Fiat Motors, Ltd., to inspect the new works on Tuesday last, an invitation which we promptly accepted. The new departure of this enterprising concern is an outcome of the popularity of Fiat cars in this country, the fact that, although the first vehicles were only introduced about the beginning of 1903, there are now upwards of 700 in use in Great Britain rendering it necessary that some special provision should be made for the efficient carrying out of any necessary



Touring in France.—The Belfry at Dunkirk.

repairs and for the prompt supply of spare parts and replacements. For a time the work was carried on at Willesden, but more convenient premises being found desirable, about five acres of land were acquired at Wembley, and in March last the erection of the necessary buildings was put in hand. So far only about 1½ acres have been covered, so that there is ample scope for extension as necessity arises. The buildings that have so far been put up include a large garage capable of accommodating eighty cars, a machine shop, body and painting department, stores, engine room—in which a 50-h.p. gas engine, using producer gas, and dynamo are installed—offices &c., while in addition there is a large yard, with concrete paving, for trial purposes. A feature of the works is the well-arranged storeroom, from which duplicates of any part of a Fiat car can be supplied on the shortest notice from the smallest bolt even to a new frame or a complete engine. The machine tools installed are of the very latest type, and are kept busily employed under the direction of Mr. A. Preen, the work's manager, in keeping up the supply of the smaller spare parts, the larger duplicate components being furnished by the factory in Turin. The general idea has been to so equip the works that no

matter how badly damaged a car may be, it can be repaired and renewed so effectively that in every respect it may be said to be exactly in the same condition as when first manufactured, while one feature likely to give confidence in the company is that no repair work is put in hand without an estimate being first given to the owner of the vehicle. Altogether the new establishment is laid out on thoroughly practical lines, and forms another tribute to the enterprise of those at the head of the Fiat Motors, Ltd.

Lights on Vehicles.

LAST week we gave some interesting information with regard to the attitude of the local authorities towards the new Lights on Vehicles Act. That these bodies should recognise the value of the measure is important; that the police should realise their duty in enforcing its provisions is even more desirable. Already they have commenced their campaign in some parts of the country, and at the Bromley (Kent) Police Court several cases have already been heard in which those in charge of horse-drawn vehicles have been magisterially warned as to the consequences of neglect in the matter of lights. Fines have also been inflicted.

The Present Discontent.

IN our issue of the 25th ult., referring to the present controversy among the various organisations concerned with Motorism, we expressed the hope that steps would quickly be taken to bring about some amicable understanding, as the prevailing position could only result in ultimate harm to the general welfare of the movement. Reference was also made to the leaders of the Manchester A.C. having expressed a strong desire to secure such a result. The efforts that have been and are being made are being generally welcomed. At a meeting of provincial clubs which have not yet decided upon their future course of action, held last week, it was resolved to approach both the R.A.C. and the M.U. to this end, and it was resolved that both bodies should be invited to appoint a special committee to attempt to find the solution of the differences now existing. We understand that the club has accepted the suggestion, and proposes that the conference shall be held on Monday next, its representatives including Mr. C. D. Rose, M.P., and other members skilled in diplomacy, whilst in addition Sir John Macdonald, K.C.B., and Sir W. Goff, Bart., have been invited to attend as representatives of Scotland and Ireland respectively. In this connection it is interesting to note that the election of Mr. Joynson-Hicks to the chairmanship of the Motor Union was proposed by Mr. T. W. Grace, who has taken a prominent part in the attempt to secure a working arrangement between the two bodies as opposed to the open hostility which is now a dominant note. The statement that "peace in motordom" is to be the object which the new chairman of the M.U. will endeavour to obtain, is accepted in many quarters as giving a possible clue to the measure of success likely to follow the present well-intentioned and well-directed efforts towards reconciliation.

Proposed Motor Road.

THE proposed Motor Road from London to Windsor was opposed by the London United Tramways Company before the Examiner for Standing Order Proofs, who pointed out on Tuesday that the Bill raised a novel proposition. While there was no real physical difference between a motor road and an ordinary road, yet there was a difference in the use to which it was intended the road should be put. The novelty was in the attempt to combine in one scheme two works belonging to different categories, *i.e.*, roads and terminale, to each of which different Standing Orders applied. It might be that they were at the beginning of a new chapter of industrial activity in regard to motor roads, and it was very important that this should be considered by the authorities. Further, questions of public safety, and so on, might be raised, on which different views might be taken, which rendered it all the more important that the fullest informa-

tion should be supplied to persons locally interested in the methods by which the promoters proposed to carry out their scheme. He did not think the centre line on the deposited plans did convey sufficient information of the intentions of the promoters to construct a motor road with a tram line on either side; and while it was no part of his duty to say how plans should be prepared, yet sufficient evidence had been given to show that they might have been treated in another way. Under those circumstances he considered it his duty to report the Bill for the further consideration of the Standing Orders Committee.

Changes in Car Ownership.

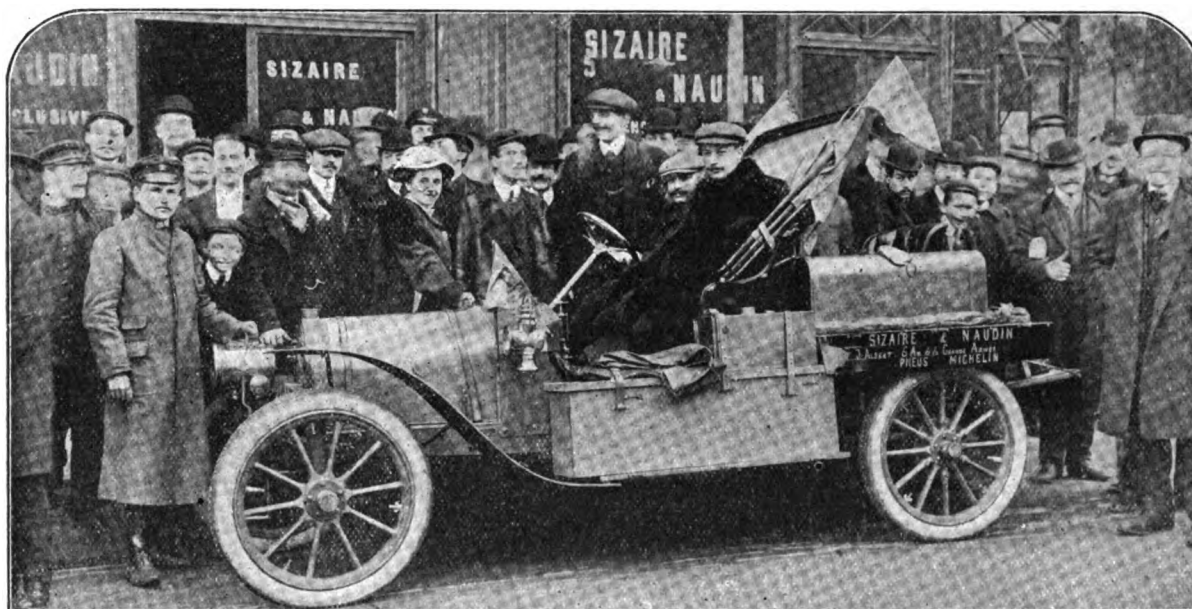
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In a report presented to the Warwickshire County Council the county treasurer has acknowledged the sum of £96 paid in connection with registration and licensing fees under the Motor-Car Act, 1907. The details may afford an index to those interested in the sale and purchase of cars as to the trend of trade. During the last three months of 1907 thirty-seven cars were registered and no fewer than thirty-two were notified as having changed owners—an indication of the extent to which the business in second-hand vehicles has grown in proportion to the trade in new cars. The owner of a small-powered car of one

cially after weeks of rain and much traffic. Its duration will not be more than two years, whereas considerations of economy seem to require a greater degree of durability. Hence the many "binders" which have been introduced to go down to the very root of the evil. These are almost as plentiful as non-skids, and many will find practical demonstration on the great highways during the coming season.

Petrol into Drains.

WITH vigour and alertness the Public Control Committee of the London County Council is prosecuting a campaign against all who they discover contravening the regulations with regard to the discharge of petrol into drains connected with the sewers. The dangers of such a practice have been set forth to our readers from time to time, so that we need not now do more than mention that in a case just heard at the Marlborough Street (London) Police Court petrol mixed with paraffin had been used for cleaning a motor-car, and that it was also allowed to run into a drain. No defence was raised, and a fine was duly inflicted. It would be more economical, however, to remember the risks to others that are involved in such practices—often the result of thoughtlessness. In our issue of August 17th last we



Pons on the Sizaire-Naudin Car with which he is taking part in the New York-Paris Run.

year is a potential owner of one of greater size and power in the following season. This has become a truism, and is largely responsible for the number of alterations in registrations, almost reaching that of new cars in such typical counties as that of Warwickshire.

Dust and the Roads.

By common consent it is agreed that the tarring of road surfaces is the most successful of the temporary palliatives now available for the reduction of the dust nuisance. It is also recognised that the cost of treatment can, by the employment of mechanical means, be brought down to a very small amount. These two facts have not prevented the introduction of a number of special systems, some of which have merits sufficiently distinctive to warrant a close study of their claims to the recognition of the authorities. Probably the present year will see many new preparations brought forward; for, although tar when applied hot under favourable circumstances gives good results during the dusty season, it is not forgotten by many authorities that tarred surfaces often result in disagreeable, black, muddy roads during the winter months, espe-

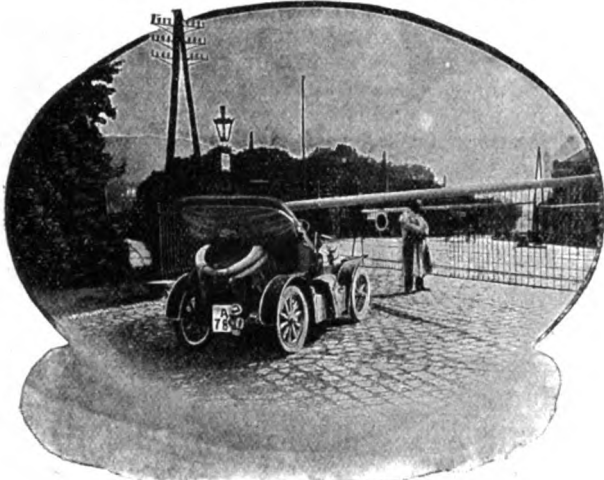
dealt very fully with the efforts made by the L.C.C. to deal with the matter and trust that their endeavours will be thoughtfully and thoroughly supported by the trade.

THE London and North Western Railway Company is arranging to start a service of motor-buses between Boxmoor Station and Hemel Hempstead, a distance of about two miles.

THE reliability of the motor-car needs no demonstration to motorists, but there are still many doubting spirits who hesitate to believe that a car can be relied upon for a place-to-place journey as thoroughly as a train. As an instance of what can be done Captain Ainsworth, of Hazlemere, Bolton, left Hurstpierpoint, in Sussex, on his 30-h.p. Beeston-Humber, after breakfast one morning recently, and, travelling by way of Leatherhead, Aylesbury, Coventry, Lichfield and Warrington, arrived at Bolton the same evening, having covered the whole distance without a halt save such as were necessary to satisfy the requirements of the inner man. Moreover, Captain Ainsworth adds that he had only to come off the top gear once, and that he has run his car upwards of 7,500 miles, during which time he has never had any mechanical troubles.

FROM PARIS TO VIENNA BY MOTOR-CAR.

THE following lines are simply a brief record of a motor trip on a 8-10-h.p. Darracq two-cylinder voiturette, made between the two great cities of Paris and Vienna. The trip was taken by two Austrians, one a writer on the "Allgemeine Automobil-Zeitung," the other a well-known motorist, Herr Koch, of Vienna. The object of the tour was to demonstrate in a conclusive manner that such a trip could be easily and comfort-



The Level Crossing at Parkersdorf.

ably accomplished on a car of the smallest size, and, moreover, completed within four days without any undue exertion or fatigue to those on the vehicle. Hitherto such a journey would not have been undertaken on any car of less than about 16-h.p., as the total distance between the two capitals is 890 miles, and the road winds up and down mountains which demand most careful handling of the vehicle. In fact, much surprise was expressed *en route* that so small a vehicle as an 8-10-h.p. Darracq could satisfactorily overcome such hill-climbs, still maintaining a very good average mileage per day. Nevertheless, this was done, and the little car sailed into Vienna four-and-a-quarter days after leaving Paris—none the worse for its long trip and long daily runs.

A start at sunrise was made from the French capital, and, though Parisians are not early risers, a small crowd soon collected round the vehicle as it stood at the front doors of the Grand Hotel. Fuel tanks were filled up, supplies taken on board, and substantial portmanteaus strapped on behind, and then the inevitable photographer made his appearance, and we made our peace with him by submitting to the ordeal of being "taken." A hearty shake of the hand, the waving of hats and handkerchiefs, and we were soon on our long journey, with light hearts and determination to get there *coute que coute*. We nearly came to grief, however, within the first thirty minutes of our start, as a large car in front of us slewed round in an alarming manner and without any warning. Mr. Koch, however, skilfully avoided the car, and we saw the vehicle side-slip into the kerb and smash a front wheel. Further on two men in blue had stopped another vehicle and were taking the necessary notes for a prosecution for the emission of too much smoke at the rear.

It took us a long time to really get away from Paris, as the fear of losing our way made us go cautiously, and frequent stops were necessary to ascertain the route. We finally struck the main road to Belfort, and were glad to get off the *pave*, which shook us up a good deal. We were, of course, now going fairly fast, as we had arranged to sleep at Vesoul that night, a distance of 360 kilometres (about 225 miles), and had no time to waste. We were thankful, therefore, to reach one of the *routes nationales*, which are undoubtedly the finest roads in the world. We passed through Champigny before the town was up, and here really began our run to Vienna over the same road as that taken by the racers in the Paris-Vienna race. The solitary inn in this

town was the starting-point of that historic event in automobilism, and as we flew by we recalled the early morning of 1902, when the monsters were sent off on their mad rush to Vienna from 3.30 a.m. onwards.

We hardly saw any horse traffic between the towns and villages *en route*, as these ancient means of locomotion are fast dying out. Motor-cars and cyclists monopolised the roads—large and small vehicles, of varying horse-powers and dates, passed and repassed us all the time. Some, indeed, were old stagers, dating back some six or seven years at least; but even these old types had modern luxuries attached, such as wind screens, Cape cart hoods—in fact, they had been brought up to date in every respect, with the exception of the engine and coach work. Their day's work was not yet done, although they were out of fashion as far as design is concerned.

The French Touring Club is worthy of some special mention, if only for the admirable sign-posts it has had erected all over France. To lose one's way on the main road is a difficult feat, as the direction-posts give the desired information, and no more. The first sign-post, pointing to Belfort, is exactly on the outskirts of Paris, and the last, which refers to Paris, is practically on the French frontier. The intermediate ones are five kilometres apart (about three miles) and the inscription is on both sides of the direction-arms. The arm pointing to Paris gives the distance to the city, and the other arm the distance from Belfort, and we saw at a glance how we were progressing, and were able to take the time of each five-kilometre run. The danger signals also are not to be despised, although many of them are erected at the expense of motor tyre firms, and thus serve a dual purpose—a warning about a level-crossing or sharp turn and also an injunction to buy and use so-and-so's pneumatic tyres. Level-crossings are undoubtedly dangerous items which one meets with on the Continent, the gates across the road being shut a long time before the train is really due to pass, and if one is driving fast over a difficult and twisty road it is easy to crash through one of these gates, which, unfortunately for the motorist, are usually made of iron.

Troyes was the next large town we passed through, and here we had a sample of the dust nuisance. A large car raced



The Gateway at the Entrance to Salzburg.

past us at great speed and literally smothered us with mother-earth. We were not the only ones to suffer, as there were plenty of pedestrians around, dressed in their Sunday best. Motor-cars themselves are cheerfully tolerated in France, but dust is not, and something will have to be done to put a stop to this nuisance. A steep ride to Langres, which the car easily accomplished, was a test for the motor, and a long descent on

(To be concluded.)

The first time the vehicle was taken up this hill on top gear it was driven by the well-known motorist, Mr. E. Campbell-Muir, and from the fact that this was the first occasion on which he had handled a Sheffield-Simplex, an idea may be gathered of the simplicity of control that has been incorporated in its design. We may add that the engine comprises six cylinders $4\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke, giving, according to the R.A.C. rating, 48.6-h.p.

The Coltman 20-h.p. Car.



SOME few particulars of the new car lately introduced by Messrs. H. Coltman and Sons, of the Midland Iron Works, Loughborough, have already appeared in the *M.C.J.* A few days ago we had an opportunity not only of making a trial run on one of the new vehicles, but also of visiting the works in which they are being built. Messrs. Coltman are an old-established firm of engineers and boiler makers, and their object in taking up the construction of automobiles has been more with the view of building a car that shall earn a reputation for reliability of the various parts, than one which shall contain a large number of departures from what may be termed the standard design.

At present attention is being confined to a single model of 20-h.p. The frame is of a special section of pressed steel, manufactured by Messrs. Coltman in their own works, and so arranged that the protecting undershield can be readily fitted or detached. The side members on which the engine and gear-box are directly supported are straight throughout their entire length.

Although rated at 20-h.p., the four-cylinder engine (Fig. 3) has been tested to develop 23-h.p. at a speed of 1,000 revolutions per minute. The cylinders, which are cast in pairs from a specially hard quality of iron, are 4 in. bore by $4\frac{1}{2}$ in. stroke. The inlet and exhaust valves are all located on one side, and operated off a single cam shaft. An interesting feature of the engine design is the ease with which the valve tappets can be taken out. The tappet guides are formed in pairs with

without the use of special tools; the lower ends of the valve stems are screw-threaded, as is also the small disc interposed between the lower end of the spring and the cotter pin, so that by screwing up the disc the pin can be withdrawn by the fingers. The cams, which are formed solid with the shaft, are of such design that the valves are rapidly opened to their full extent, allowing, in the case of the inlets, a full charge of gas to be drawn in, and, as regards the exhaust, permitting the burnt gases to be quickly dispelled. The half-time gear wheels and the pinion which drives the magneto are enclosed in an extension of the base chamber. The inlet and exhaust pipes are so arranged as to allow of free access to the valve springs, spindles, &c. As will be seen from Fig. 4, the crank shaft is slightly *desaxe*, that is, set slightly out of the centre line, towards the cam shaft, this offsetting being claimed by many designers to reduce the friction between the cylinder walls and the pistons. The crank shaft is supported on three long bearings of a special

quality of phosphor bronze, for which the makers claim a much longer life than usual, reducing the necessity to dismantle the engine for re-bushing purposes to a minimum. The big ends of any of the connecting rods can also be inspected by removing the corresponding section of the cam shaft cover. The pistons, which are $5\frac{1}{4}$ in. long, are provided with four rings. The heads of the pistons are concave in shape, with the view of increasing the piston area.

The water circulation is on the thermo-siphon or gravity

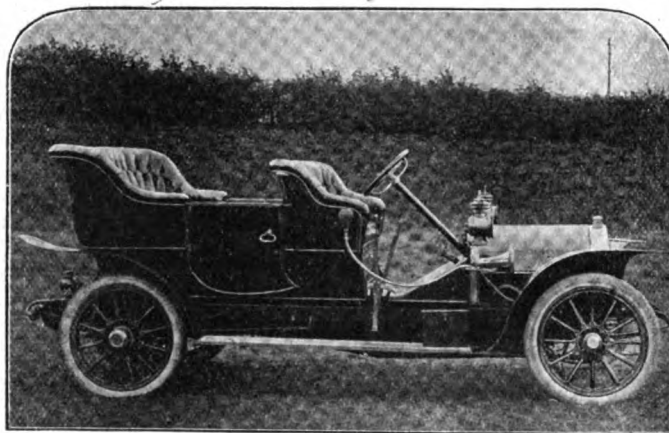


Fig. 1.—General View of Coltman's 20-h.p. Car.

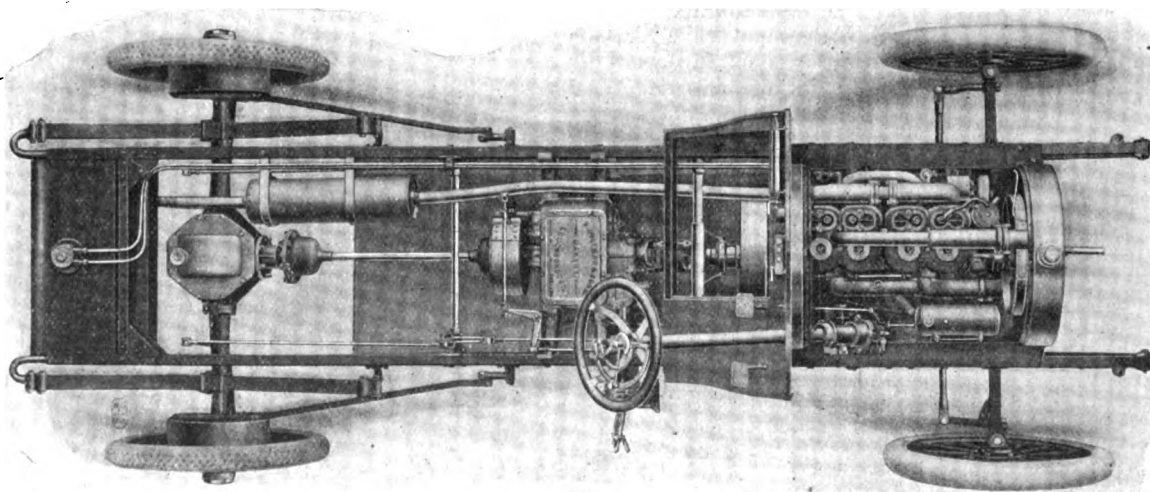


Fig. 2.—Plan of Chassis of Coltman's 20-h.p. Car.

a plate which constitutes part of the cam shaft cover, and is held in place by a single set screw. There are four detachable plates, which, when all are in position, entirely case in the cam shaft. In addition to the tappet guides the plates have pivoted to their lower side the short levers which are interposed between the cams and the tappets. The valve springs are so arranged that they can be detached

system, no pump being employed. The water-circulating pipes are of extra large diameter, and a noteworthy point is that no rubber hose is used in making the joints. The radiator, which is furnished with a belt-driven air-inducing fan, is of the framed ribbed tube type, while the bonnet is built up of two panels, which can be readily removed and replaced in position. The lubrication of the engine is maintained by the pressure of the

exhaust gases acting on the oil contained in a small tank located under the engine bonnet. The engine is, however, so arranged that a positive system of pump lubrication can be fitted if this method is preferred.

The carburettor is of a special type designed to give a perfect mixture at all engine speeds; the automatic air valve is provided with a mercury-glycerine dashpot. Two systems of ignition are provided—high-tension magneto and coil and accumulators. The magneto is one of the smallest we have so far seen on a four-cylinder car; in fact, it is a single-cylinder one, the current generated being sent to the different cylinders by the same high-tension distributor as is used in conjunction with the accumulator system. The distributor and contact maker are mounted on the upper end of a vertical spindle just behind the radiator, and driven by worm gear off the cam shaft. The ignition is advanced and retarded by a lever mounted, like that controlling the throttle valve, above, but not turning with the steering wheel. The petrol tank is located at the rear of the chassis, the fuel being supplied to the carburettor under pressure.

The clutch is of a new metal-to-metal design, having very large wearing surfaces and mounted on ball bearings. It comprises five cast iron shoes, the outer surface of which is of a

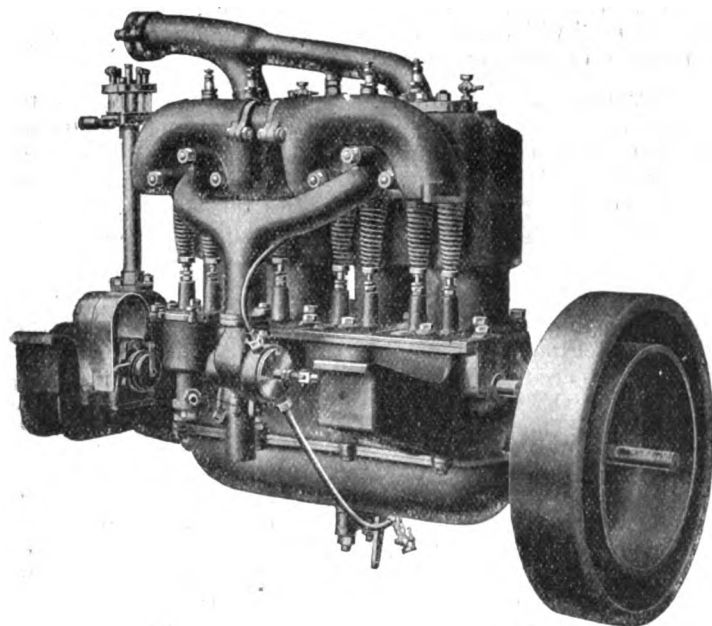


Fig. 3.—General View of Coltman's 20-h.p. Motor.

curved shape corresponding to the drum formed in the flywheel, the shoes being forced outwards by means of a cone operated by the pedal. A universal joint is introduced in the shaft between the clutch and gear-box to allow for any want of alignment of the two parts, and to permit of either being dismantled without interfering with the other.

The change-speed gear (Fig. 5) is adapted to give four speeds forward and a reverse with direct drive on top speed; it is controlled by a lever working in a "gate," a special locking device, in which no springs are used, being provided in connection with the controlling bars, so that it is impossible for any two gears to get into mesh at the same time. The whole of the controlling mechanism is contained in the gear-box, while the reverse pinion only rotates when the reverse gear is being used. The shafts are extra large in diameter and very short in length, and are fitted both with ball thrust bearings and ball journal bearings, the latter being of very ample proportions. The construction of the gear-box is such that, if necessary, the two shafts can be taken out from above.

From the gear-box the power is transmitted to the rear axle through a cardan shaft and bevel gear. The live axle (Fig. 6) is enclosed in a special steel casing from end to end, built up without any brazed joints; the sleeves are also fur-

nished with webs at their outer ends to give greater strength. The construction is such that the whole of the differential gear may be lifted out without removing the axle or the road wheels from the car, it being simply necessary to remove the hub caps

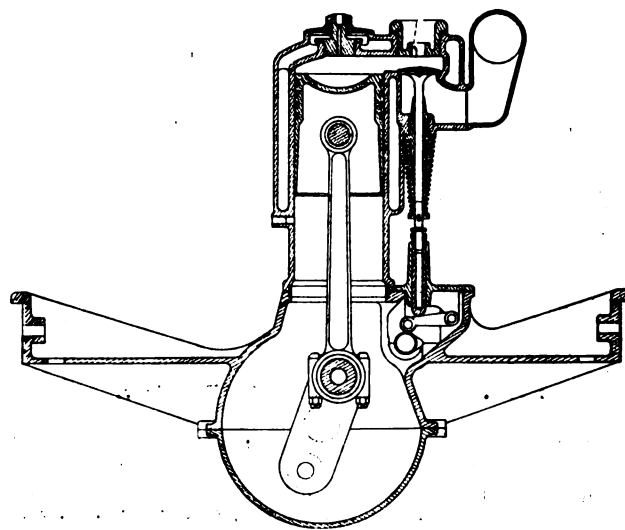


Fig. 4.—Transverse Section of Engine.

and slightly withdraw the two halves of the axle. The differential casing is provided with a large horizontally-arranged detachable cover. The axle proper and the gears are made of nickel steel and fitted throughout with both ball-thrust and journal bearings. The power is transmitted to the road wheels through dog clutches in the hubs, so that the weight of the car is not carried by the rotating axles, but by the casing surrounding it. The torque of the rear axle is taken by two special radius rods fixed to and extended from the axle casing, near the brake drums, to the frame, the forward connection being through a joint which allows movement in all directions, and is on the same centre line as the universal joint behind the gear-box. The front axle is of H-section forged steel. The steering gear (Fig. 7) is of the worm and quadrant type, fitted with double thrust ball bearings; it is so designed that all adjustments can be made at the top of the steering lever. The latter works on a ball journal bearing, this being mounted inside the steering box, the whole arrangement being dust proof

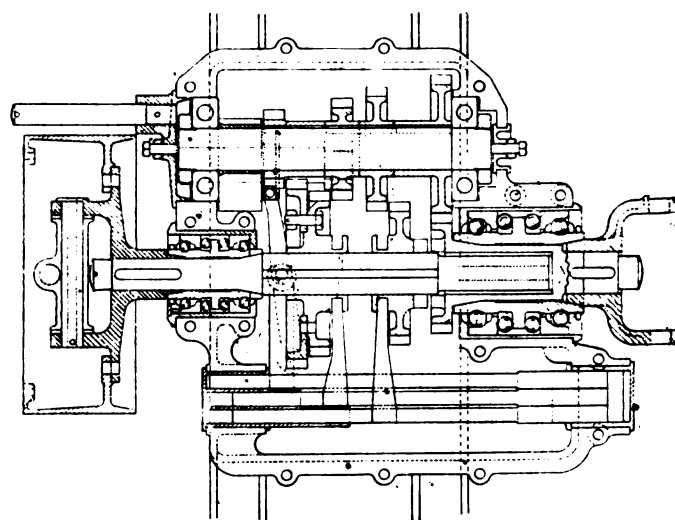


Fig. 5.—Sectional Plan of Gear-Box.

and working in oil. A useful feature lies in the fact that the steering column can be fixed at any angle to suit the driver. As regards the brakes, which are all of the double-acting metal-to-metal type, the usual arrangement is, in the Coltman car, reversed,

a pedal actuating internal expanding brakes working inside drums attached to the hubs of the rear road wheels and the hand lever a wide contracting brake at the rear of the gear-box. The rear brakes are provided with a compensating device, so that each

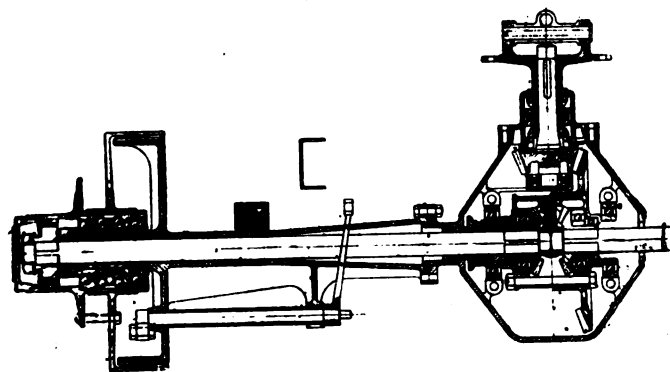


Fig. 6.—Sectional View of Half of Rear Axle.

is equally applied. The brake drum is made of special cast steel and the expanding friction bands of special spring steel with cast iron linings. All the parts of the car are made to gauge on the interchangeable system; while another good point is that few, if any, castings are employed in the chassis, the makers preferring to use forgings, which, although more costly, give much greater satisfaction both to the builder and user. The chassis complete and ready for the body turns the scale at 16 cwt. 2 qr.; the wheel track is 4 ft. 7 in. and the wheel base 9 ft. 4 in., enabling any type of side-entrance body to be fitted.

In the course of a short run on the car we had ample evidence of the general quiet running of the vehicle as also of the flexibility of the engine and the satisfactory operation of the clutch. The streets of Loughborough are extremely narrow and render progression at anything exceeding a crawl practically impossible; notwithstanding this, however, our journey to and from the station was done entirely on the top gear. Unfortunately time did not permit us to test either the speed or the hill-

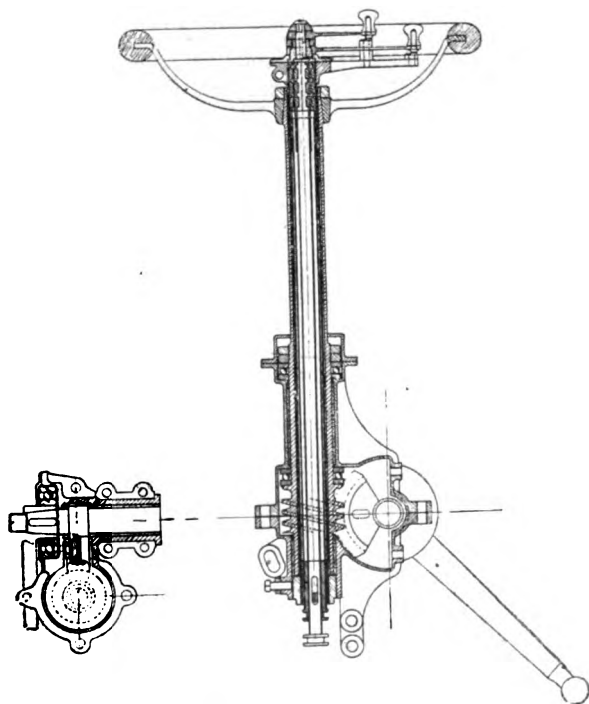


Fig. 7.—Details of Steering Gear.

climbing qualities of the car, but we understand from Mr. W. Wilson, the designer, that several extended runs on the hilly roads of Derbyshire have proved the vehicle to be quite satisfactory in both these respects.

SOME USEFUL NOTES.

IN the event of a stoppage in the petrol pipe from the tank to float-chamber of the carburettor, the union may be unscrewed and the rubber end of the tyre pump connection pushed over the end. A few sharp strokes of the pump will usually remove any grit or debris in the pipe.

CARBURETTORS in which adjustment is provided for the amount of petrol supplied to the jet very often require readjustment when a different grade of petrol is used. This should be carefully noted, as frequently erratic running arising on this account has been wrongly attributed to other causes.

MECHANICAL lubricators occasionally strike work, although nothing deranged can be found in their mechanism. In these lubricators, where a gauze is used to filter the oil to the suction pipe of the little pump, close inspection will generally reveal that the gauze has become choked, and that little or no oil is reaching the pump.

IN the case of a slipping leather cone clutch a little Fuller's earth will prevent the trouble for the time being; when the car reaches home a good dose of castor oil well rubbed in will make all good. If no Fuller's earth can be procured, a little dust or very fine sand will do, but care should be taken to clear away all traces of the same on getting home.

A VERY simple way to keep the feet warm on a car is to simply wrap them in a rug. Those who have not used them should try side doors in front of their cars, they prevent an immense amount of draught, and are inexpensive to fit. Wool-bordered cocoanut mats, about 1½ inches thick, add greatly to the comfort and appearance of a car; they also deaden all noise of the transmission gear.

POPPING in the carburettor indicates a weak mixture; that is, not enough petrol for the amount of air introduced into the vaporising chamber. Explosions in the silencer indicate that the cylinders are firing irregularly and the unfired charges pass through the exhaust pipe into the silencer, being ignited there by the heat of the next explosion. A weak battery is sometimes also the cause of this.

ABOUT the last thing on a car that is apt to be considered in need of attention is the silencer; yet obstruction of this necessary device with soot and carbon deposits is a fruitful source of reduced power. A cutout is a good check on silencer condition, for if the increase in power occasioned by its opening is unduly marked, choking of the exhaust box passages is clearly indicated. Ever so often a silencer should be cleaned, careful observation of the car being sufficient to give an indication as to when this should be done.

ONE of the inconveniences of the spring washer so commonly used in automobile construction is its short lease of usefulness. As the nut is screwed down upon it, it gradually loses its elasticity, and finally snaps, and is then little better than nothing. However, no motorist need despair if he has any twine with him. The twine should be formed into a loop just smaller than the washer, and the end wrapped over this loop, forming a grommet. Put it in place, screw down the nut, and you have a washer that will hold the nut and cannot be broken or split.

IN some cars rubber hose is employed in the connections of the water-cooling system, and some of the turns which the hose is forced to make are quite sharp. Oftentimes it is almost impossible to prevent the rubber pipe from acquiring a kink at these points and very much contracting or nearly closing the tube, thus causing a sluggish circulation. An effective method of distributing the bending and preventing the tendency to kink and close the passage is by rather tightly winding the hose with moderately fine tinned steel binding wire for some little distance upon each side of the point where the kinking tendency is manifested. Quite a number of cases of faulty circulation have been cured by improving the rubber connections by this treatment.

THE ELEMENTS OF THE FLYING MACHINE.

BY H. WAYMOUTH PRANCE, A.I.E.E., A.M.I.A.E.

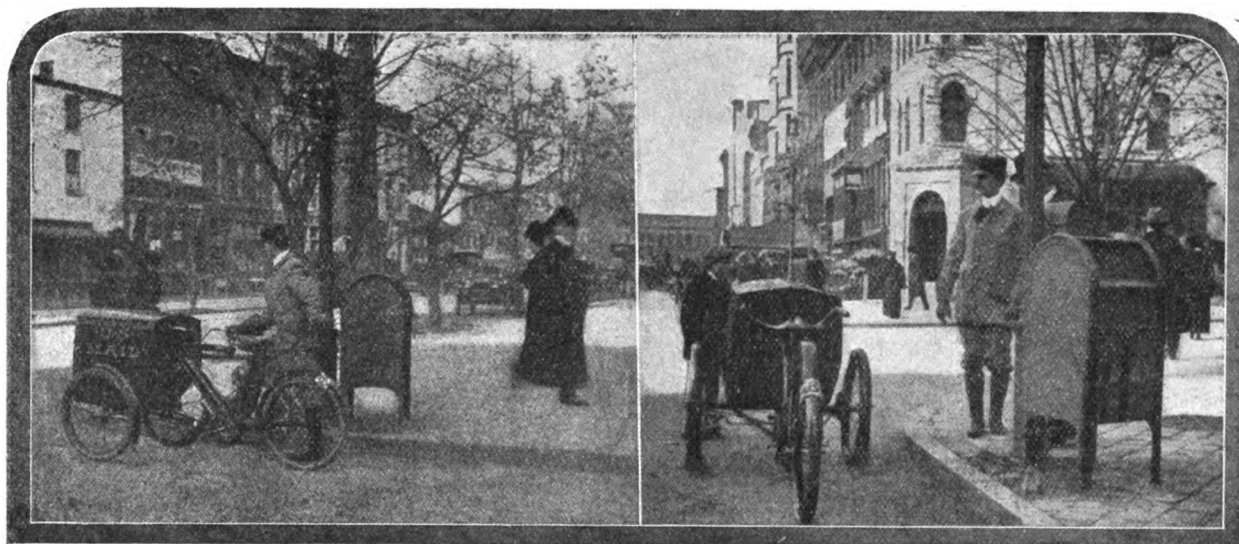
THE advent of the successful flying machine is being awaited with interest by many people, but with the constant announcement of the production of such a machine, which never seems to really materialize, one is apt to become sceptical, and even, in the case of a large number of people, to doubt if the problem of aerial navigation will ever be solved. Fresh interest has of late been aroused by the recent success of Mr. Henry Farman, and those motorists who would be thoroughly up-to-date must needs consider these early struggles of the sport of the future—which may now be said to have reached the “toddling” stage—struggles which call for the assistance of the automobile engineer in the design and construction of the light-weight motor, in which assistance the experience gained with the motor-car is of inestimable value.

In order to appreciate the difficulties which beset the path of the would-be flyer, it is necessary to consider the elements of propulsion through space, and bearing these in mind, the lines upon which experimenters are working to overcome these difficulties will readily be understood. In flying, two efforts

sented by the propelling force in the form of screw propellers mounted on horizontal axes, and the weight of the mechanism necessary to drive them. It should further be remembered that the reaction of the wind pressure upon a flat surface inclined to that pressure at a slight angle is at right angles to the surface, from which it will be seen that a very small horizontal effort will procure many times its value in vertical or lifting effort.

This method of sustaining a body in the air by the reaction of the air pressure upon a plane surface requires, as do the other methods, motive power, and it is this question of power that has placed a great stumbling block in the way of experimenters since the earliest attempts at flying were made.

Certain devices have been constructed wherein human power was relied upon to provide the necessary propulsive and even lifting effort, but such were foredoomed to failure, and resort is now universally made to mechanical power in some form or other. In the case of the apparatus under consideration it is, perhaps, more necessary than in any other self-propelled vehicle that every attention should be given to the compactness, reliability, disposition of weight, and lightness of motor, and thus it is that the experimenter of to-day has great advantage over his predecessors. I have before me some early literature upon the subject, wherein this matter is particularly mentioned, and wherein is stated the desirability of a light, compact and easily



Motor Cycle Carriers for Mail Collection Purposes.

The above illustration depicts the motor-cycle carrier which is at present being experimentally tried in the collection of letters from pillar-boxes by the U.S. postal authorities in Washington.

have to be maintained—a lifting effort and a propulsive one; the former of these may be obtained either by means of a gas balloon, screw-propeller blades, bird-like wings, or by the action of an aeroplane, of which the first might almost be said to have proved its unsuitability for practical use in any but the stillest atmospheres. Hence we have to resort to the “heavier than air” apparatus, in which mechanical movement is required to overcome the force of gravity, and thus we require a motive power of some sort or other. As regards propulsive effort, bird-like wings and screw propeller blades are the principal devices that have been employed, and for this purpose also we require a source of power, and it is here that the motor-car, with its light and compact petrol engine, has done so much in paving the way for the practical flying machine.

It is upon the aeroplane that many inventors base their hopes; and certainly, judging from the results of the experiments which have been carried out during the last few years, the greater possibilities appear to lie in this field of operation. In order to understand the principle of this apparatus one should bear in mind the kite, in which a practically flat surface is caused to oppose the wind by a string, the pull upon which may be resolved into forces acting in a horizontal and vertical direction, these forces in the case of the aeroplane being repre-

handed motor, the description thereof, indeed, being in closer resemblance to the petrol engine of to-day. In the past, steam engines have been employed in one or two notable instances; Maxim's machines were driven by this form of energy, the power plant in this case weighing some 10 lb. per horse power, with an engine developing 360-h.p.—as against the 3 lb. per h.p. of the specially constructed modern petrol engine—but, although these engines were marvels of engineering ingenuity, they cannot be compared in the all-important features of compactness and lightness with the petrol motor. Thus it is that with the advancement of aerial navigation a new field is opened up for the internal combustion engine—a field of vast proportions and unlooked-for possibilities, which serves to give a personal interest in the matter to every professional motorist, whether he be a motor-bus driver or an engine designer; and whilst progress in such a science as aviation must necessarily be slow, the ultimate success is undoubtedly assured.

ELSEWHERE in the present issue we give some extracts from the pamphlet recently issued by Messrs. A. Darracq and Co., describing an interesting run from Paris to Vienna on an 8-10-h.p. Darracq car.

CONTINENTAL NOTES.

Military Motor Vehicle Trials in Germany.

The Experimenting Section of the Prussian Transport Service are about to carry out some trials in the neighbourhood of the Harz mountains with a number of motor vehicles designed for the transport of both passengers and goods. The machines to be tested include several five to six-ton German Daimler wagons, a lorry, and an omnibus, a Siemens-Schuckert motor road train, and a Fowler steam tractor with a couple of trailers.

A Hill Climbing Competition in Algeria.

The Algerian Automobile Club is organising a hill climbing contest for February 9th; it is to be held on the Medea Hill, on the road between Algiers and Laghouat; the average gradient is one in twelve and the distance to be covered 12 kilometres. The competitors will be divided into classes on a cylinder bore basis. The Algerian Club also proposes to hold a speed trial in March next, and a consumption test in April.

Motor Scouts in Paris.

The Association Generale Automobile inaugurated its service of motor scouts in Paris on Saturday last. At present

circuit as last year. Three Panhard cars have been officially entered for the race; the vehicles will be driven by Messrs. Heath, Cissac and Maurice Farman. The number of cars which have now been definitely entered for the event is twelve. It is reported that the Westinghouse Company have decided to take part in this year's race.

Public Services in France.

A public motor-car service is to be established during the coming season between Briangon and Bourg d'Oisans, France. The vehicles to be employed will be of the De Dietrich type. A company has also just been formed in St. Raphael (Var) with a capital of £12,000, and the title of La Société de Traction Automobile du Littoral, to run motor vehicles in the public service in that district.

Motor-Car Builders and Flying Machines.

M. Leon Bollée, one of the oldest motor-car builders in France, is reported to be engaged on the construction of a flying machine at Le Mans. The Clement-Bayard Company are also stated to have secured an order to build one for a Russian gentleman.



Three of the Motor Scouts who have just been placed on the roads round Paris by the Association Generale Automobile.

a dozen men dressed in a suitable uniform and equipped with bicycles are patrolling the principal thoroughfares warning motorists who are travelling too fast, and whose cars are emitting smoke, the latter being an offence to which the Parisian police are just now paying considerable attention.

Motor Vehicles for Military Purposes.

The French military authorities have, it is announced, just placed an order for five Mathian-Cobendet petrol motor-lorries. The vehicles, which are to be despatched to Morocco for use by the Commissariat Department for the transport of supplies between the military railway station of Turenne and the Oujda outposts, will have a capacity of from 2 to 3 tons.

The A.C.F. Grand Prix Race.

As was announced in the *M.C.J.* last week, the Seine Interieure circuit has again been adopted for the A.C.F. Grand Prix race. The starting point is, however, to be altered, and will this year be located on the other side of, and about half a mile from the fork near Dieppe, on the way to Euverne and Londinières. According to the present plans the grand stand and car enclosures are to be inside and not on the outside of the

Miscellaneous Items.

It is reported from Madrid that arrangements are being made to organise a race for voiturettes between that city and Lisbon, to be held during the coming summer.—A 40-h.p. Fiat motor-bus has just been placed in service in Prague, Bohemia, by the municipal authorities of the town.—The annual automobile meeting at Cannes is to be held from the 8th to the 15th March next.—The French Chamber has adopted a bill the object of which is the reduction of the price of denatured alcohol for commercial purposes.—Last year's Herkomer Touring Trophy competition resulted in an addition of £1,000 to the funds of the German Imperial and Bavarian Automobile Clubs.—A 15-20-h.p. Werner car driven by M. Lelouvier left Paris last week on a tour round the world, *via* Alaska and Siberia.—The Roumanian postal authorities are making some trials with a motor-van in connection with the collection of the mail in Bucharest.—It is proposed to organise an automobile meeting at Naples during the coming summer.—A service of Darracq-Serpellet steam omnibuses has just been inaugurated between the Lyons and Saint Lazare railway stations in Paris.—The French Automobile Club is considering a proposal to establish a permanent motor-car racing circuit of about fifty kilometres in length.

THE Dundee Lifeboat Committee have decided that the Broughty Ferry station is a suitable centre for a motor-lifeboat to be placed.

THE receipts taken on the Eastbourne motor-omnibuses for the week ended 25th January were £104 5s. 8d., the number of passengers carried being 19,693.

AN Employers' Association for the engineering trade in Coventry is being formed, and twenty firms interested in motor and general engineering have expressed their willingness to join.

HAROLD COLLINGE, a young man who figured in the Cambridge card case, came into a fortune of £22,000, much of which has gone in motor-cars. He is now said to be acting as a "gentleman chauffeur."

ACCORDING to a newspaper man who has been visiting Mexico, there is likely to be a good market for British automobiles in that country—when British makers more adequately realise its needs than is now the case.

HIS ROYAL HIGHNESS PRINCE ALEXANDER OF TECK has placed an order with Clement-Talbot, Ltd., for a 25-h.p. Talbot limousine. The body, which will be built by Rothschild, will be carried out in dark green with upholstery to match.

THE first 10-12-h.p. Fiat motor-car was officially passed by the Scotland Yard authorities on Tuesday last. The vehicle, which is fitted with a four-cylinder motor cast *en bloc*, has an exceedingly wide lock, it being capable of turning in a circle 23 ft. in diameter.

A NEW amusement of some lads engaged in the City of London has been brought to light at the Mansion House Police Court. In Cannon Street they take the numbers of passing motor-omnibuses and bet with each other according to the numbers—whether high or low.

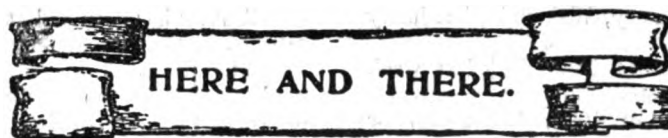
A MOTORIST has been summoned at Nottingham to recover the alleged value of a dog which was run over by his motor-car. Giving judgment His Honour said the motorist ought to have exercised more care, but he did not agree with the estimate of the value of the animal and gave judgment for 15s.

EXPLANATORY of the Lights on Vehicles Act, 1907, to which we made reference in our last issue, is a pamphlet published by Messrs. Sealey, Bryers and Walker, Dublin. This is entitled "When to light up," which has been compiled by Mr. D. O'Leary, setting forth the provisions of the Act, with explanatory notes, and a lighting up table for the year.

A NOVEL motor race took place on Saturday, from Leagate, near Preston, to Lytham, to test the slowness of motor-cars. There were eleven entries, but seven dropped out before half the journey was covered, only four finishing. Mr. Fred Halsall, of Fleetwood, was declared the winner, covering a mile and three-quarters in one hour and thirty-four minutes.

ONE of the most attractively-pictured books that has lately come to our office is that entitled "Six weeks and the Mediterranean," just to hand from Messrs. George Philip and Son, Ltd. This tells of leisurely travel by steamer, camel, donkey, rail, and, in fact, every form of locomotion except the motor-car. It suggests new ground for the venturesome motorist, and tells of delights of travel along the Italian coast, over the roadways of Pompeii, in the classic land of Greece, and then to Turkey, with the accompanying dogs of Constantinople, finishing by way of the Nile into the historic scenes of Egypt—altogether a delightful tour, delightfully described, and delightfully illustrated.

AN excellent specimen of commercial literature is the new catalogue of Napier motors issued by Messrs. S. F. Edge, 1907, Ltd. This comprises a history of the Napier car, an argumentative chapter on the merits of the six-cylinder Napier, some interesting illustrations showing various official tests in which the engine has done well, descriptions of the numerous special features of the cars, some snapshots of the Glidden tour, and a list of owners of the vehicles, in which Parliamentarians as well as Society people figure largely. We note that Mr. A. J. Balfour has had no fewer than seven Napier vehicles, a conspicuous example of loyalty to his first automobile selection.



IN the George Hotel yard, at Burntisland, N.B., Mr. Andrew Maxwell has an excellent motor garage with facilities for repair work.

AT Teddington and also at Godalming the local authorities

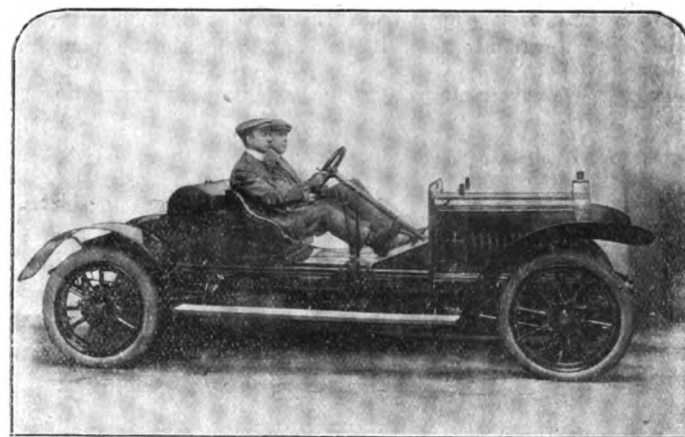
are putting up signs near schools warning motorists of the presence of such establishments in the vicinity.

THE Danish Automobile Club has applied to the secretary of the Royal A.C. for particulars of the method of examination for drivers, and the necessary forms and record books.

THE cab proprietors in the city of Newcastle-upon-Tyne have petitioned the Watch Committee of the City Council asking them not to sanction the use of passenger motor-cars in the city.

A MOTOR Vehicles Bill is being introduced into the Legislative Council at Adelaide (Australia), by which it is sought to reduce the speed of motor vehicles to ten miles per hour in the town and four miles per hour over any level crossing.

THE Bridgwater Motor Company are extending their garage in Eastover and erecting a new building, which will be devoted solely to repair work. Mr. Harry Carver is the managing director of the company, which is doing a large business even beyond the borders of Somerset.



The new two-seated Standard Car which is being used by the Standard Motor Company, Ltd., in visiting motor-car agents in different parts of the country.

THE magistrate at Woolwich Police Court has advised a firm who employ several motor vehicles in their business to have speedometers fitted to enable the drivers to ascertain the speed at which they are driving.

A DEPUTATION from the Parliamentary Committee of the Trade Union Congress has waited upon Mr. Herbert Gladstone, the Home Secretary, to urge that the inspection of public carriages should be carried out by experts who are not only skilled with regard to vehicles generally but particularly in motor matters. The Home Secretary replied that he was not aware that the case for a change had been made out. In London inspection was efficient and satisfactory, and with regard to motor-vehicles the difficulty in giving effect to the proposal was too great to admit of its being adopted at present.

A PARTY of five motorists returning to Blackpool in the fog were saved from a serious disaster through the timely intervention of a Garstang girl. Just below St. Thomas's Church, Garstang, an open space leads to the canal wharf, and the chauffeur, mistaking the road in the darkness and the fog, steered his way down this at a good speed. Hearing the car approaching Miss Singleton rushed out of the buildings adjoining the wharf, and with lantern in hand ran in front of the car and screamed to the driver to stop. The brakes were jammed on and the party then realised that with a few more revolutions of the wheel they would have been thrown into eight feet of water in the canal basin.

LORD ST. OSWALD, of Nostell Priory, Wakefield, has lately acquired a 35-45-h.p. Maudslay car.

A PROTOS 30-h.p. car left Berlin for New York last week to take part in the New York-Paris motor run.

DURING the last three months of 1907, 102 motor-car drivers were licensed and 142 drivers' licences renewed by the Warwickshire County Council.

SEVENTEEN horse-drawn sixpenny taxi-cabs were put on the streets of London on Saturday, and daily additions to the service have been made throughout the week.

ONE urban, seven rural and forty-seven parish councils in Warwickshire have complained to the County Council of the excessive speed of motor-cars, and also of the damage done by them to the highways of the county.

MR. A. WILLIAMS' motor garage has been removed from 348, High Street, Lewisham, S.E., to 363 in the same thoroughfare. Not only is the new establishment well equipped for repair work, but there is a good stock of accessories, &c., while tyres are vulcanized and accumulators charged on the premises.

IN connection with the increasing use of industrial motor vehicles, Mr. J. Alderson, steam motor haulage contractor, of Stanley Road, Bootle, informs us that he uses two Mann steam motor wagons in connection with his business. They are designed to carry six tons, and are used with a trailer carrying a load of two tons, not only for removing furniture, within a sixty miles radius of Liverpool, but for various other work, such as transporting frozen meat from Liverpool to Manchester, and timber, hardware and general goods. As a rule the machines



are engaged the week through, making three journeys to Manchester and district, and conveying general goods back to Liverpool. Taking into consideration wages, repairs, fuel, &c., Mr. Alderson considers that the cost of transport by steam wagon is about 30 per cent. cheaper than by horse-drawn vans. The accompanying illustration depicts one of the motor-wagons with furniture van waiting for a trailer outside Mr. Alderson's premises preparatory to starting for Blackpool.

MR. CHARLES JARROTT was announced to make an attempt on the world's record for fifty miles, one hour, and 100 miles on his Lorraine-Dietrich car at the Brooklands track on Wednesday.

THE great variety of rubber goods manufactured by the Continental Tyre and Rubber Company, Ltd., is further emphasised by the fact that they now make a speciality of scientific india rubber balloons for meteorological purposes. Great efforts have recently been made to investigate the conditions of the upper atmosphere, and these balloons are manufactured of rubber sheeting specially prepared for this purpose. They have a diameter of two to three yards, and are provided with the necessary scientific apparatus and instruments to measure the atmosphere, humidity, direction and velocity of wind in miles per hour, and have attained in some cases altitudes of 60,000 feet. The self-recording instruments tell exactly the conditions of the atmosphere and give all the above particulars. Balloons manufactured by the company have been delivered to the Manchester University, Birmingham University, Royal Meteorological Office, and other institutions.

A FIRE has occurred at the motor repair works of Mr. Hugh Wright in Main Street, Auchnacloy, Dublin.

THE West Penwith Rural Council has obtained a dozen road signs from the Motor Union, which are to be put up to indicate concealed turnings in the district of Penzance.

THE Duke of Oporto, brother of the late King of Portugal, has just ordered a Stepney wheel for his 60-h.p. Fiat. An illustration of the Duke on his car was given in our last issue.

THE Ayr District Committee of the Ayrshire County Council has recommended that motor-cars should be mechanically controlled in such a way that they cannot exceed twenty miles an hour.

HITHERTO the Wandsworth Borough Council has had two Borough engineers, one for the Eastern and one for the Western divisions. The work is being reorganised and in future will be entirely controlled by Mr. Peter Dodd. To facilitate the carrying out of his duties the Council last week had submitted to it a proposal, that Mr. Dodd shall be allowed a sum of £250 per annum, in return for which he is to provide and maintain a motor-car. The Council, however, agreed that the figure should be altered to £300.

FROM the Standard Motor Company, Ltd., Coventry, comes a copy of the new catalogue of Standard cars that has just been issued. This is one of the most interesting lists we have received for a long time; not only are the different parts of the factory all illustrated by photographs, but the various types of chassis are similarly treated; in fact, so numerous are the illustrations that there is scarcely a part of the car that is not pictorially depicted. Two models are being made, 20 and 40-h.p., both being fitted with six-cylinder engines. Since Mr. C. Friswell took up these vehicles they have sprung into popularity, and are likely to be largely seen on the roads during the coming season.

"EVERY MAN'S OWN LAWYER" is a standard work of tried value which has stood the test of long publication. The new edition, just published by Messrs. Crosby Lockwood and Son, has been revised and brought well up to date. The last two or three years have been singularly prolific in legislation—a fact which has given the new volume special significance. The sections referring to excise licences, the regulation of highways, personal rights, and remedies, and certain commercial practices will be of particular interest to our readers, while an admirable index facilitates easy reference. The book will be of value to all who may ever be involved in litigation, or who desire to avoid that luxurious practice.

"THE best anti-freezing solution which we have found," states Mr. Howard E. Coffin, vice-president of the E. R. Thomas Detroit Company, "is composed of wood alcohol and water. The proportion of these will depend upon the temperatures to be encountered, but a mixture of 30 per cent. alcohol and 70 per cent. water will be very safe in any ordinary temperature. The alcohol-water solution has been found to be of greater value than the other mixtures, because it not only is capable of maintaining its liquid state at a very low temperature, but it is not harmful to any of the metal or rubber surfaces with which it comes in contact, as is the case with the many salt solutions in common use."

RECENTLY the Chicago Motor Club held a reliability run, in which ten contestants lost no marks. To ascertain the winner from that number a series of hair-splitting distinctions were made for the elimination of nine competitors. One of the perfect score cars lost because a judge put his hand on the brake drum and discovered it a trifle warm; another car lost its position because a bullseye in the lens of a lamp had fallen out; still another had its score soiled because it had been bumped by another car, and showed a slight dent as the result; while a fourth was marked less perfect than others because a speedometer bracket had become loose. But probably the most remarkable evidence of this critical discrimination was apparent in the case of a car fitted with a canvas under apron. After finding nothing against the car in any other respect, one of the officials discovered that a lacing to this apron had been slightly chafed. This was thought to be sufficient evidence against its "reliability" to put a black mark against it.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-28, Charing Cross Road, London, W.C.]

THE RULES OF THE A.C.F. GRAND PRIX RACE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice that a great deal of fuss has been made by the representative of an English firm in regard to the rule in connection with the Grand Prix event for this year, forbidding changing the wheels during the race. It has been made to appear that the rule in question has been passed with the sole intention of handicapping British entrants. Leaving aside the point that the firm in question is the only one which has used detachable wheels in connection with racing, I would like to point out that the rule to which objection has been taken has always been in operation in connection with the big French races. For instance, in the Paris-Berlin, Paris-Vienna and Paris-Madrid races the cars were always examined and stamped by an official of the Automobile Club de France before the start, and amongst the parts which were marked were the four road wheels, cylinders and axles, and it was not allowed to change those parts during the race, therefore the suggestion that the rule complained of is a new one, put in to handicap British entrants in the Grand Prix race for this year, is untrue and unsportsmanlike.

After all, racing has served, and no doubt is serving, a useful purpose in improving motor-cars, but if firms are to be allowed to change their

travelling. The detachable wheel could not be considered as an improvement, for I can hardly see the convenience of carrying two or three spare wheels about with one whilst travelling. The covers of the detachable rims are nuisance enough as it is. There was, therefore, no need to encourage a new accessory, which, although it may be interesting, is not practical in application.

I repeat that I do not know what reasons have guided the Automobile Club of France in making this prohibition, against which Mr. Edge has cried out so quickly—he is perhaps pleased to find an excuse to avoid crossing the Channel—but, whatever may be the reason for their decision, the A.C.F. were quite right. If one commenced on the principle which pleases Mr. Edge so much, why not also authorise changes of motor, of gear-boxes, or of differentials? Last year, when Duray on his Lorraine-Dietrich was stopped at the victorious moment by the breaking of a ball-bearing, he no doubt would have been pleased to have had a spare gear-box to hand in five minutes. No doubt it would be a mechanical improvement of considerable importance to be able to change any one part of the car in a few minutes, but it would be a useless improvement because not practical. We could not carry a spare motor or a gear-box about with us, any more than we could carry detachable wheels. The improvement imagined by Mr. Edge is of that



Motoring in Sumatra.—Crossing the Lau Tenga River.

[De Auto.]

wheels, I see no reason why they should not change other vital parts of the machinery. Let us have more racing and less protesting on the part of British firms alleged to be anxious to take part in foreign events. I am sure that the entry of British cars in the Grand Prix would be welcomed in France, and I am equally sure that each car would have an equal chance with its French competitors. What I cannot understand is, why this old racing rule should be specially held forth as being particularly detrimental to the British industry in general, and one British firm in particular.—Yours truly,

CHARLES JARROTT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The arrangements being made by the Automobile Club of France with regard to the Grand Prix to be held in the month of July next are being subjected to attack by some of the English constructors, against which I consider it my duty to protest personally. Mr. S. F. Edge, amongst others, has made it known with much fuss that he will not enter for the Grand Prix because the rules do not permit the use of detachable wheels. I do not know whether the Automobile Club of France has had any after-thought in making this decision, but I consider that in principle it is fair and reasonable.

As a matter of fact, the end in view for this race is to lead to improvements, which will then be applicable to the cars which we use for

kind which practical industry cannot adopt, and for that reason alone the A.C.F. has done well not to allow it in the Grand Prix.

I trust, sir, that you will receive this disinterested protest, which has no other end in view but to courteously discuss a question which is at the same time both sporting and industrial, with favour.—Yours truly,

PAUL MEYAN.

Editor "*La France Automobile*."

THE SETTING OF VALVES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With further reference to this very interesting question, and also in answer to one or two letters in your issue of the 1st; in the first place, I do not dispute the accuracy of a spirit level, what I dispute is that one setting is correct for every engine. Looking through your description of the timing device mentioned, and noticing the very interesting fact that the exhaust valve is opened early and closed very late—so late, in fact, that the inlet valve has commenced to open, reminds me of an instructive episode. About two years ago, in a fairly large garage and repair works in Brussels, a single-cylinder engine was being assembled, the timing of which was marked. As a discussion was going on concerning the timing, I was interested and had a good look at it. According to the maker's marks the inlet valve opened 4 mm. down and closed 6 mm. up; the exhaust opened

12 mm. before the dead centre, and closed 1 mm. over. One of the mechanics stated that the exhaust valve should have a longer period, and suggested opening it earlier and closing it later. The manager was appealed to, as the other mechanic thought it best to assume that the manufacturers of the engine knew the best position. It appears that the car had been losing power before it came in (for worn bearings only) and the manager thought the idea of increasing the extension period quite sound, so it was done, and the next day the owner came and tried the car. The result was disastrous: he said (in my hearing) that it was worse than he ever knew it, and they told him they had made a slight alteration in the timing, and would put it back to its original position, which they did, and the car ran quite as well as when it came in, the loss of power being found elsewhere.

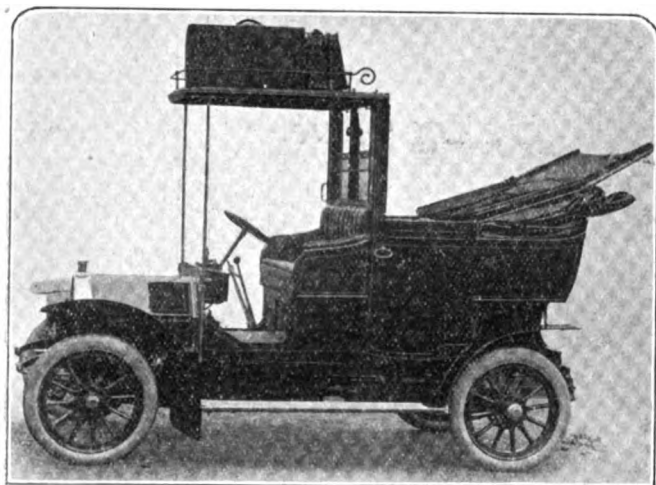
I shall be glad to see the diagrams of the various other manufacturers as promised. I much regret that I am unable to bring the two engines mentioned to the gentleman who wished to prove that the fault was elsewhere; they are not my property, as a matter of fact. I saw the whole thing illustrated in this way at a large works (in England), and it was conclusively shown that whereas one engine ran perfectly and gave over its power (electric test), the other one would not give the same reading with the same valve setting. When they altered the valves they were as alike as no matter, and the engines were identical. If your correspondent has had any experience of engine testing practice as applied to internal combustion engines, he will know that the engines are run several days to get them properly adjusted as regards compression, ignition, carburation, &c., before taking a brake test.—Yours truly,

INTERESTED INQUIRER.

MOTORS AND ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see by your journal that you have thought the suggestions contained in my letter to the "Scotsman" worthy of notice, and you



The Coventry-Humber 10-12-h.p. Motor-Cab just introduced by Messrs. Humber, Ltd.

The chassis of the cab is identical with that of the standard 10-12-h.p. car, except for a few alterations made to comply with Scotland Yard regulations. A feature of the vehicle is the special luggage-carrying capacity on the canopy over the driver, which will take up to 3 cwt. of boxes, trunks, &c.

will, no doubt, as all would, be glad to receive further suggestions that might lessen the risks now encountered, not only by pedestrians and equestrians, but by motorists as well.

If the accumulated sweepings were removed, there would still remain a danger from telegraph and telephone posts, and the wires acting as their supports. In some cases such posts, or their supporting wires, encroach yards on the road, and a wire is really more dangerous than a post, being less easily seen and quite as capable of doing mischief. In some parts of the kingdom such wires are being buried, as they ought to have been at first, which prevents them, not only from doing any harm, but makes them safe from storms, and consequent interruption of their usefulness. If, then, it were decreed that all such wires should be buried, our roads would be, not only safer for any traffic, but more sightly. We have someone in this district, who seems to think that our roads should be reserved for local traffic only, complaining, as he does, of tourists visiting the many attractions of our country. That, surely, is not a spirit to cherish in regard to strangers, whom we ought rather to welcome and receive with open arms. A story is told of an old Scottish farmer, who, on being informed that trains were going to be introduced which would run at the rate of twenty miles an hour, asked "What is all the hurry?" I have much sympathy with that old farmer's question; but we have trains now running sixty miles an hour quite safely, and unless motor-cars can be permitted to run fast, their very *raison d'être* is done away with. Our object, then, ought to be to make our roads

safe and sound for the new traffic. If macadam will not do, perhaps the exigencies of our time will produce some other Mac, whose ingenuity will render our roads fit for any kind of traffic. Remembering the pleasure and comfort of driving in Manchester when the wheels of my cab ran so smoothly along the tram lines, I see no reason why some such lines might not be laid for motors, and, if of a good width, they might be used for horse traffic as well. Iron lasts long, is comparatively cheap, and its use in that way would, in a few years, save as much expense in macadam as would pay the cost of laying down such lines. If such an experiment were begun on our main roads and found satisfactory, it might become universally adopted, and, after all, it would only be following the example which towns have set. Some, no doubt, of selfish spirit, whose ruling idea in Local Government is economy, might object to the initial cost of such durable lines, but if such lines, either of iron or of any other durable material, proved good for motor traffic, they might prevent the need for the only alternative, if motors are to run at a decent rate of speed, viz., a separate track.—Yours truly,

JOHN HADDON, M.D.

GRAPHITE IN MOTOR CRANKCASES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Being alive to the many theoretical advantages of graphite as a lubricant, I have in the past made many experiments on its use in the crankcase, but always with the same result, i.e., however small may be the quantity used it gradually accumulates behind the rings and spoils their "spring," and the results are bad compression, breakage of rings, uneven wear. But lately I have again used graphite in the crankcases in order to observe its effect on the cylinder deposit, a subject to which I am devoting myself. I have found that with graphite the deposit forms far more rapidly than is the case when oil alone is employed, and an examination immediately reveals to the eye (without a magnifying glass) the presence of a large proportion of shining particles of graphite.

It is obvious that as graphite will not distil or evaporate, it must, just as road dust, be caught by the oil on the walls and piston head as on a fly-paper, the oil continually distilling away, whilst the graphite and dust accumulate, becoming gradually bound into a solid mass by the carbonaceous residue, which is a product of the decomposition of that small proportion of the oil which will not distil.—Yours truly,

A. DUCKHAM.

DRY BATTERIES FOR IGNITION PURPOSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, Mr. L. Bentley, need have no anxiety about adopting dry cells for ignition purposes, always providing he uses large enough cells, and has a double set in his car connected to a two-way switch, so that the last used set can be rested and allowed to recover its voltage. The writer has tried three of the best known makes of dry cells, but the Obach dry cell made up in 6-volt sets have given by far the best results. The first set of Obach cells was put into constant use in October, 1904, and ran a double-cylinder car about 1,200 miles, including a short tour. These I labelled No. 1. The voltage having dropped to four, another set (No. 2) was purchased and put into circuit in May, 1905, and the No. 1 set allowed to recuperate. No. 1 and No. 2 were used alternately until March, 1907. When No. 1 would only run the car about an hour, and then commence misfiring, it was then pensioned off, and is still doing useful duty on the house-bell circuit. I have just tested it, and it shows over four volts. No. 3 was then purchased and put in circuit. The whole secret lies in getting large enough cells, and using each set alternately. A medical friend of mine had one set of Obach cells in every day use in a busy practice for seven months, with no spare set in the car. As nearly as I can estimate my No. 1 set ran my car about 3,000 miles, about half of which would be in London and suburbs; No. 2 set about 2,500 miles. The cost was 13s. per six volt set. I wrote to the makers, Messrs. Siemens Bros. and Co., explaining that I wanted to try the Obach cells on my four-cylinder car, and they suggested that I should have slightly larger cells, so I purchased four single cells, 3½ in. square by 6½ in. overall; they have just arrived, but I cannot say how they will do on a four-cylinder engine. For single and double cylinder cars I cannot imagine anyone being troubled with accumulators. Of course my friends say dry cells are more expensive. I do not think in practice they will be found so, as two sets costing 26s. should run a single-cylinder car about 6,000 miles, or say two years' use, and if after that they are no good, and have to be thrown away, well, how many motorists have accumulators running two years without having to have them repaired? Myself, I would not return to accumulators even if dry cells were twice their present price, and, if Mr. Bentley purchases good dry cells, ignition difficulties will trouble him no longer.—Yours truly,

W. B. NICHOLSON.

SOME NOTES ON RADIATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to "Engineers'" letter taking exception to part of my article on radiators, healthy criticism is always good, but I fear I can hardly bring his remarks under that heading. "Engineers'" knowledge of condensers must be very limited and confined to marine practice that has come under his immediate notice. With the general

type of engines used on land the description, except in special cases, is correct. I may mention a rather interesting experience. An engineer who held an appointment some years preceding my own conceived the idea, instead of water cooling, to let the air do this work, by swinging the condenser on two centres, and revolving it at a quick speed. The condensation was right, but the power it took to drive was greater than the steam saved.

I thank "Engineer" for giving me the opportunity of making my article, if possible, more clear than before.—Yours truly,

E. T. HUMPHRIES, Capt.

THE A.A. TRIPTYQUE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The Press have kindly given a considerable amount of publicity to the arrangement by which the Automobile Association issues "tripptyques" for the purpose of enabling motor-cars to enter foreign countries on payment of the necessary deposit at the Association's offices in London. Many of the writers, however, appear to imagine that this department is a profit-making concern. I feel sure, therefore, you will allow me to state that such is not the case. The A.A. neither makes nor desires to make any profit on the issue of tripptyques. It simply wishes the provision of these documents to be an additional advantage to members.—Yours truly,

W. J. BOSWORTH, Col.
Chairman Automobile Association.

WHERE GARAGES ARE WANTED ?

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter of "L. S. M." in your issue of January 23th, "What Towns need Garages," I have been endeavouring to obtain this information for the past two years, both by personal investigation by motor-cycle over at least four counties and also by advertisement. So far, I have failed to find a suitable location or opening. There seems no demand for such outside the large centres.

Here and there one finds a man with one or two cars doing a fair hiring trade in the summer, and this seems about the best thing to cater for, provided expenses are reasonable.—Yours truly,

HECTOR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "L. M. S.," in a recent issue of the *M.C.J.*, re a good district for a garage and repair depot, I can say that for a go ahead man the town of Dorking (2½ miles from London) should prove an excellent position. From constant association with the town I know that a capital hiring-out trade can be done, not to speak of the prospective custom of the hundreds of cars passing through the town, especially at week-ends, en route to Eastbourne and the South Coast generally. Many motorists also make the town their headquarters when touring in the beautiful country abounding in the neighbourhood, and, in addition, there are a very wealthy class of residents in the district. In conclusion, "L. M. S." must be prepared to be rung up at all hours of the night by motorists passing through Dorking, which, however, should be pleasant music to the energetic proprietor.—Yours truly,

W. G. W.

ADJUSTABLE RIMS AND WEAR OF TYRES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Do tyres wear out much quicker with adjustable rims? Last season I had fixed on my new car a well-advertised make of adjustable rims and tyres. My experience has been very unfortunate as regards the wear of these tyres; they do not last long enough to puncture or wear out, they invariably burst after running about half the distance ordinary tyres would. I have five good burst covers in my motor-house at the present time. As the makers generally ignore their customers' complaints, I should like to know from your readers if other users of adjustable rims have had similar experiences. It appears to me the chief point to be remembered in selecting adjustable rims is: Are you tied to one make of tyre? My tyre expenses for the last season are over double per mile any previous season using ordinary Dunlop or Clinchers. It has become so expensive that I am now thinking of scrapping my stock of tyres and changing the wheels back for ordinary covers (this would cost me over £50), but, before doing so, I should like to know what is the experience of others using adjustable rims.—Yours truly,

NELSON.

SEVERAL correspondents have replied to "L. S. M.," who asked as to towns where a garage might be started with likelihood of success. Their letters have been forwarded to our correspondent.

MESSRS. EASTON AND MELVILLE, of 85, Shaftesbury Avenue, W.C., have taken up the sole agency for Mottord and Co., the well-known New York and Chicago motor accessories firm, and are making arrangements to push their productions strongly on this side of the water.

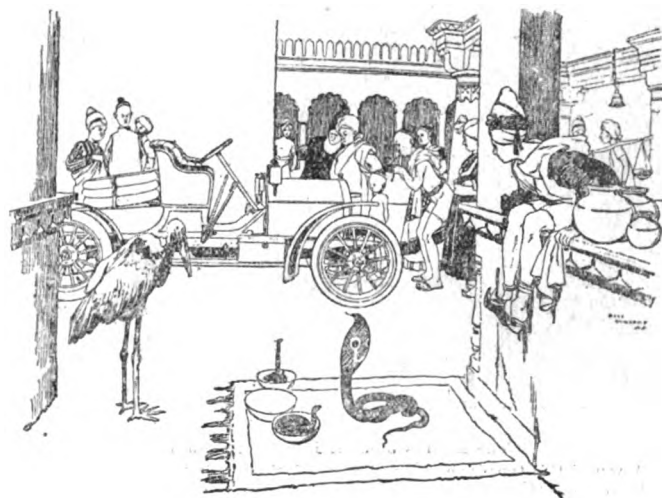
SOME FEATURES OF 1908 ENGINES.*

(Concluded from page 1075.)

Two engines only have neither carburettor nor accessories on the valve side, and one horizontal and one vertical shaft on the other side. The Alpha adopts this arrangement to enable cover plates which are easily removable to be fixed over the valve stems. An arrangement with a cross shaft only is a favourite with engines that are economical in accessories. Where a magneto and water pump or a magneto and commutator are sufficient, it makes a very neat job to put them on the ends of the cross shaft. They are in the most accessible position possible, are independent of each other, and leave the engine quite free for fitting large inspection doors and for access to the valve stems. Disadvantages are the extra length of engine and the use of skew gear, which cannot be regarded as quite so durable as spur gear. The Thornycroft drives its cross shaft through an intermediate wheel, and thereby gets it high up, and both magneto and water pump in very accessible positions. The commutator and oil pump are at the two ends of a vertical shaft.

By far the commonest arrangement is that with two auxiliary shafts—one on each side, the magneto being on one and the water pump on the other. Forty-four engines are of this type, nearly all of them with a vertical or inclined shaft driven by skew gear off one or the other cam shaft, for the commutator or oil pump, or both. Out of 134 engines of which I have taken particulars, twelve have four shafts and twenty-four three shafts solely for accessories, and this is not counting fans or mechanical drives to lubricators on the dashboard. It is particularly noticeable that the use of many shafts does not lead to the engine or the parts being more accessible, and some of the arrangements must be very costly in construction. The arrangement of the accessories seems to be a point in which a little more standardisation would be of benefit.

There is one point in connection with magnetos which is worth mentioning. I saw a magneto fixed upside down on a Unic engine,



Motoring in Bombay.

From a Caricature Sketch

[Published by the B.riet Company.]

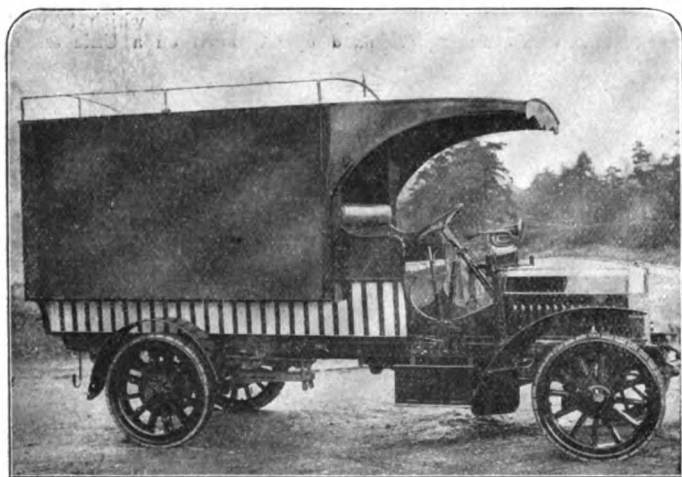
and it looks to be obviously the right position. The business portion of a magneto—the part that wants attention—is in most cases at the bottom. The magneto therefore has to be placed high enough to give access to this, with the result that the magnets hinder access to the valve stems as well as to the moving parts of the magneto. It is not practicable, of course, to take a magneto constructed for standing on its bottom and stand it on its head, but I suggest that if it were constructed for standing on its head, the magnets would be well down in the frame, and out of the way of everything.

Water circulation is another feature in which practice varies very much. Thirteen per cent. only of the makers adopt thermo-siphon cooling. Twenty-seven per cent. of the engines have their water inlet into the exhaust valve chamber. Fifteen per cent. have it into the water-jacket below the valve chamber. Nineteen per cent. have it on the opposite side to the exhaust valve. One has always supposed that the exhaust valve required especially careful cooling, and that the nearer the inlet was to the valve seat the better. A lower place for the inlet has, however, the advantage that if the water pump fails there is a better chance of getting sufficient circulation by thermo-siphon action. Where the inlet and outlet are both on the top of the cylinder or valve chamber, there is no chance of this, but this again has the advantage that a leak in the circuit will not run the engine dry and lead to damage before it is found out. Fourteen per cent. of the cars adopt this arrangement. All the blocks of four cylinders with a pump have one inlet in front and the exit at the top.

* Abstract of paper read before the members of the Royal A.C. on January 23rd, 1908.

The inlet and exhaust piping shows some interesting features, especially in the six-cylinder engines. Of these the great majority have a single straight exhaust pipe with end connection to the silencer, and in the Delaunay-Belleville with connection in the middle. I noticed only six of these (but there are probably some others) which had any expansion joints in the pipe. As the difference in length of the pipe between the two extreme parts when it is hot and cold is about $\frac{1}{8}$ in., I wonder what happens where there is no provision. Nothing can stop the pipe from expanding, and as something must give, the provision for expansion seems to me of considerable importance.

As in a six-cylinder engine two cylinders are exhausting simultaneously, the back pressure is reduced by sub-dividing the pipe. Where, as is not common, the exhaust is alternatively from one of the front three and then from one of the back three cylinders, it is sufficient to divide the pipe into two. Three separate pipes are used by the Britannia, Fafnir, Hillman-Coatalen, Lanchester, Simms, and Thames. One car only, the Scout, indulges in a separate pipe from each cylinder, going directly down to a collecting-box below the frame. The double pipe seems quite enough for the purpose, and does not interfere with accessibility so much as three or six pipes. Turning to the inlet pipes, only one car, the Porthos, has a single straight pipe with the carburettor connected to one end of it. One cannot help thinking that this arrangement must lead to the cylinders getting unequal charges, since, apart from the very different lengths of tubing to the cylinders, while one cylinder is sucking a second cylinder starts work on the same column of gas at different distances off. Many more cars have a straight pipe with connection to the carburettor in the middle. In this, if the suction is alternatively from the front three and back three cylinders, the effect of the two simultaneous suction is always the same, and the difference in the lengths of piping to the different



The Dennis 30-cwt. Demonstration Van.

A van of this type is now located at Birmingham, Leicester, Norwich, Nottingham, Manchester, Bradford and Bristol, where its commercial value can be tested by local firms.

cylinders is not great. The Hispano-Suiza, Humber, and Maudslay, which have their cylinders cast in pairs, and only three inlet ports, employ a pipe with three branches, an arrangement which, when the carburettor is low down, gives a very equal length of piping to the different cylinders. Nearly all the six-cylinder cars with cylinders cast in pairs, and having only three inlet ports, have a double-branched pipe. When there are six inlets the arrangement is difficult unless a straight or a very complex pipe be adopted.

Nearly all the engines have a straight exhaust pipe descending at the end. About 6 per cent. of these use expansion joints. A very few have the descending pipe in the middle. Five engines have two separate pipes, the Arrol-Johnston has three, and six engines have four separate pipes. Of the engines with four cylinders in a block, Aster, Demeester, and Hotchkiss have the exhaust pipe formed in the casting and a single connection to the silencer. Apart from these *en bloc* cylinders, the single straight exhaust pipe, descending at the end, is very simple, and leads to the most accessible engine, and it would be interesting to know how much advantage the more independent methods of exhaust do give, or, in other words, how much reason 15 per cent. of the makers have in departing from the single pipe. In the inlet piping, uniform distribution of the charge is much easier to obtain than with six-cylinders. With cylinders cast in pairs, uniform distribution is attained by each pair having a single central inlet port, the two ports having merely to be joined by a pipe, and the carburettor joined to the middle of this pipe. Practically every engine with cylinders cast in pairs adopts this arrangement. A very few have a straight pipe, with four separate inlets, and I cannot conceive the reason for it. The B.S.A., Itala, and Weigel sacrifice a little in uniform distribution for the sake of the beautifully simple device of bolting the carburettor between the two pairs, one side to the end of each valve chamber. This

does away with all piping. Of thirty-three engines with separate cylinders, twenty adopt the simplest arrangement of a straight pipe connecting the four ports, with the carburettor at the centre, while thirteen arrange the piping for uniform distribution. Ten engines adopt, in different forms, the double-branched pipe, and here again one wants to know whether the simplicity of the single straight pipe does not compensate the gain to be derived from a complex system of piping—one which gives the gas some nasty corners to turn.

Lubrication shows a considerable increase in pumps and mechanical lubricators over last year.

The following table shows statistics of the lubrication of 113 engines; in this "Mech. lubricator" means a device with one or more pumps and sight feeds or regulators, generally on the dash. "Exh. Press." means that the oil is forced to a sight-feed lubricator on the dash by exhaust pressure, and flows to the engine by gravity.

Pump	...	52	89	45 forced feed	{ 24	21 no splash
Mech. Lubr.	...	37	44	68 gravity feed	{ 92 splash	
Exh. Press.	...	24	...			

The forty-five cases of forced feed can be divided as follows:—

Forced into crank chambers only	...	...	5
Forced into main bearings only	...	...	13
Forced also through shaft to big ends	...	...	19
Forced also up connecting-rods to gudgeon pins	...	...	3
Forced also through gudgeon pins to cylinder walls	...	...	2
Sprayed on to big ends only	...	...	1
Sprayed on to big ends and forced to main bearings	...	...	2

Only two engines have forced lubrication for every part. The objection to forcing as far as the cylinder walls is that if a really effective pressure is maintained the cylinders get too much oil. Of the three engines which force as far as the gudgeon pins only, one has separate pipes supplying oil to the cylinders by gravity from sight feeds. This seems to me to be the most perfect system of lubrication; a considerable pressure of oil can be maintained, so that if the oil pump is working—and this can be seen by the sight feeds—a stoppage in any pipe is practically impossible. It will be seen that only twenty-one engines carry the forced feed far enough to dispense with splash, and very few fit any convenient means of ascertaining the level of oil in the crank chamber.

ARMY MOTOR RESERVE.

ALTHOUGH the Army Motor Reserve, which evolved from the late Motor Volunteer Corps, was created in July, 1906, its formation was not completed until almost the end of that year. The total number of demands for cars made by the military authorities throughout last year was 123, and included requisitions for various numbers of cars from a single car for an inspection duty to thirty cars for extensive manoeuvres. Very varied descriptions of duties have been performed, such as staff tours, tactical examinations, siege operations, mobilization of land defences, reconnaissance schemes, &c., and in carrying out these duties a total of 343 officers, with their cars, were employed, and performed between them an aggregate of 1,729 days' duty—in which number is included 237 days occupied by officers in making outward and homeward journeys to and from the scene of their actual military work. During September, which is the month usually devoted to the extensive manoeuvres which close the training of the land forces each year, no less than sixty-five officers were employed, and an aggregate of 437 days' duty was performed in that month alone. The distance covered by the cars was 122,505 miles, being an average distance per diem for each car of 70.82 miles, and for each officer for the year 887.71 miles. From statistics which have been compiled, it is found that, exclusive of the contingent allowance for office purposes, the actual cost of the corps to the public for the entire year was £3,947 14s. 3d.; this amount, however, includes £798 15s. in respect of nightly detention allowances. Omitting the latter allowance, the actual cost for each car for a day's duty works out at £1 16s. 4d.—or a trifle over 6d. a mile.

THE KENLEY MOTOR FATALITY.

DUNCAN BROWN, a chauffeur, of Hayes Court, Kenley, was again brought up at the Croydon County Police-court on the 29th ult., on the charge of the manslaughter of Edward Borer, under circumstances already reported in our columns. Mr. Frayling, outlining the case for the prosecution, contended that the evidence clearly proved that the car, driven by the defendant, No. LN 2,011, and owned by Mr. Stewart, of Hayes Court, was the car which knocked down Borer. The defendant's employer said that Brown was to have called for him at 11.30 p.m. with the car, but he did not turn up. The witness saw him in the garage about a quarter past twelve, and was told that the car had been damaged through running into a chain. The car was not washed but was very dusty. There was no blood upon it. Brown was perfectly sober, and the witness had never known him to be the worse for liquor. He was an exceptionally careful driver. After other evidence similar to that at the inquest the case was adjourned until Wednesday, when Brown was committed for trial.

THE CALMON ASBESTOS AND RUBBER COMPANY, LTD., of 1, 2, and 3, Trinity Place, Tower Hill, E.C., have reduced the prices of their motor tyres and still guarantee them for 3,500 miles.

CLUBS AND ASSOCIATIONS.

THE AFFILIATION QUESTION.

NEARLY fifty clubs have now made known their decisions with regard to future policy. Twenty-one, with a membership of 2,482, are remaining affiliated to the R. A. C. and the M. U. for the present year; twelve, with a membership of 3,113, are associating with the R. A. C., and fourteen, with a membership of 1,580, are affiliating with the M. U. The Scottish, Irish, and Ladies' clubs will continue with the Club; the Commercial Motor Users' Association has thrown in its lot with the Union.

ROYAL A.C.

THE Royal A.C. has issued a statement controverting the assertion that the club is dominated by trade influences. No members of the industry are on the competitions and technical committee. The Club's motor houses cost from £500 to £1,000 a year, this being drawn from the funds of the organisation.

THE MOTOR UNION.

THE monthly meeting of the Motor Union of Great Britain and

The Motor Union has agreed upon signs for issue to approved hotels and repairers, and in the task of approving of the establishments the aid of the affiliated clubs and individual members has been secured.

MOTOR CYCLING.

THE annual general meeting of the Motor Cycling Club was held at the Tudor Hotel, London, W., on the 27th ult. Mr. S. J. Sewell was in the chair. Mr. S. H. Fry, on the subject of the London to Edinburgh run, pointed out the great advantages cars had over motor-bicycles in the Schulte Cup Competition, and offered a donation of £5 towards a cup for motor-cycles only in this run. Messrs. C. J. Seed and E. Gwynne immediately promised donations of £5 each, so that in the next Edinburgh and back run the motor-cycles will have a cup, value £15, for competition. The balance-sheet was then adopted *nem. con.*

Mr. Chas. Jarrott was elected president of the club. Vice-presidents:—Messrs. Victor Abraham, Albert Brown, S. F. Edge, J. Van Hooydonk, J. A. Jackson, E. Perman, and S. J. Sewell. Captain: Mr. C. L. Marshall. Hon. secretary: Mr. A. Candler, 1, Lime Grove, Shepherd's Bush, W. Hon. treasurer: Mr. R. C. Davis. Trials hon.



The Clergy and the Motor-Car.—Bishop Prince Skibensky entering Princess Coloredo Mansfeld's 40-h.p. Fiat at Prague, Bohemia. (*Allgemeine Automobil Zeitung.*)

Ireland was held on the 29th ult. at St. Ermin's Hotel, London, when Mr. Joynson-Hicks was elected chairman. The Duke of Newcastle, the Duke of Rutland, and Mr. J. F. L. Brunner, M.P., were elected additional vice-presidents. Twenty-seven new life members were elected, including Lord Iveagh, Sir M. Bromley-Wilson, Bart., Lord Elphinstone, Lady Wakeman, Mr. J. F. L. Brunner, M.P., Mr. G. Deas, J.P., and Mr. J. M. Barbour (Belfast).

It was reported that the renewal of subscriptions to date showed an increase of 30½ per cent. over the renewals for the same period last year.

Among the representatives of individual members on the general committee of the Motor Union just elected are the Rev. H. Harris, the Rev. F. W. Hassard-Short, the Rev. G. T. Ward, the Hon. Lionel Holland, Capt. Owen, Messrs. R. W. Brewer, C. H. Dodd, H. A. Humphrey, G. T. Langridge, J. Kennedy, J.P., G. M. Kenyon, R. A. McCall, K.C., A. E. Newton, A. E. Scarth, and A. M. White.

A county association is to be formed for Nottinghamshire.

Provisional arrangements have been made with a number of engineers to act for the Union on agreed terms.

Including the twenty-seven life members elected at the January committee meeting, there are now 149 life members. Individual members who had up till January 29th renewed their subscriptions totalled 2,752, the figures for the corresponding day last year being 2,089, an increase of nearly 700.

secretary: Mr. C. L. Marshall. Committee: Messrs. Victor Abraham, L. A. Baddeley, S. G. Frost, S. H. Fry, E. Gwynne, R. H. Head, J. Van Hooydonk, F. J. Jenkins, C. J. Seed, H. G. R. Slingo, W. H. Wells, and Dr. Clifford Gibbons. Hon. solicitors: Messrs. J. B. and F. Purchase. Hon. auditor: Mr. S. H. Pearce.

THE INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

THE first volume of the proceedings of the Incorporated Institution of Automobile Engineers comes to hand from the office at 1, Albemarle Street, W. This contains the papers read and the discussions arising thereon during the session 1906-1907, a list of members and the memorandum and articles of association. The papers attracted much attention at the time they were read, and their republication in this excellent form indicates the evident intention of the Institution to prove of real value to the technical side of the automobile movement.

At the meeting of the Incorporated Institute, held on Tuesday, Dr. H. S. Hele-Shaw delivered an instructive lecture on the subject of "How to Draw Teeth of Wheels," and gave a demonstration with his own apparatus, which he had first brought before the British Association in 1898. The apparatus itself was very simple, merely consisting of a board above and below which worked two pairs

of small rollers. The advantage of the method was that it made the problem of wheel teeth very easy to understand, and in proof of this the lecturer, by means of a piece of apparatus of this kind, drew a number of teeth of various sizes, from which the audience could see without any difficulty the actual operation of teeth in various forms in conjunction with each other, and the reasons why the form of some teeth was good and others bad.

The adjourned discussion on the papers on "Front-Driving," by Dr. H. S. Hale-Shaw, Mr. P. W. Harvey Bailey, and Mr. J. S. Critchley, will be resumed on Wednesday, February 12th, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., when the chair will be taken by Col. R. E. Crompton, C.B.

CYCLE AND MOTOR TRADES BENEVOLENT FUND.

MR. E. A. WILSON presided at the annual meeting of the Cycle Trade Benevolent Fund, held at the Holborn Restaurant, London, on the 29th ult., when the balance-sheet that was presented showed an excess of assets over the liabilities of £3,698. This had been increased so that at the present time the amount exceeded £8,000, including £2,000 received from the Society of Motor Manufacturers and Traders. It was announced that the Society of Motor Manufacturers had nominated Messrs. S. F. Edge, F. Lanchester, E. Lisle, Harry Smith, and W. G. Williams as their representatives.

The first meeting of the new council took place at the conclusion of the annual general meeting, Mr. Harry Smith being voted to the chair. Directions were given to the trustees to invest a further £3,000 in certain stocks, and Mr. A. J. Wilson, 154, Clerkenwell Road, London, E.C., was elected hon. secretary, with Miss E. M. Sayer as hon. assistant secretary. The following were elected to form the Executive Committee: Messrs. F. B. Bale, Albert Brown, G. Cooch, S. F. Edge, Geo. Holland, E. F. Johnson, E. A. Lamb, F. Lanchester, E. M. Mayes, F. W. Shorland, W. A. Staudring, and W. G. Williams.

The Manchester motor trade is invited by the committee of the local centre of the Cycle and Motor Trades Benevolent Fund to give their support to a concert to be held at the Midland Hotel, Manchester, on Tuesday next, when Mr. Albert Brown will preside, and Mr. Harry Tate, who is a motorist as well as an artiste, will be present.

AERO.

ARRANGEMENTS have been made by the Aero Club for holding future aeronautical contests at Hurlingham, where private ascents may be made any day between 6 a.m. and 6 p.m.

A challenge has been sent on behalf of the club to compete in the Gordon Bennett Aeronautical Race in Berlin, in October, 1908.

Additional premises have been taken at 188, Piccadilly, London, W., and next month a room will be set apart for the use of members.

MOTOR YACHT.

At the invitation of the Motor Yacht Club, an International Conference of clubs and organisations interested in motor-boat racing was held on Wednesday of last week, at the Royal A.C., when delegates from the following clubs were present:—The Royal Belgian Yacht Club, the Motor Yacht Club of Belgium, the International Sporting Club of Monaco, the Automobile Club of France, the Société de la Voile et de l'Automobile d'Arcachon, the German Motor Yacht Association, the Marine Motor Association, the Motor Yacht Club, the British Motor-Boat Club, the Scottish Marine Motor Club, the Motor Yacht Club of Ireland, the Sussex Motor-Boat Club, the Royal Netherlands Yacht Club, the Royal Italian Yacht Club, and the Dutch Motor-Boat Club. Lord Montagu of Beaulieu was voted to the chair, and welcomed the delegates on behalf of the British clubs.

Mr. F. P. Armstrong, on behalf of the Motor Yacht Club, moved the following resolution:—"That it is advisable, in the interests of the sport of motor-boat racing, and particularly with a view of facilitating the holding of international contests, that international measurement and racing rules be formulated, as has been done in the case of the kindred sport of yacht racing." After discussion the resolution was carried.

Professor Busley, of the German Motor Yacht Association, moved:—"That it is advisable that an international association be formed on a national representative basis, for the purpose of drawing up and administering such international rules." This was carried.

Mr. F. P. Armstrong then moved and Count Recoape seconded:—"That all properly constituted clubs and organisations which take an active part in the encouragement of marine motoring be asked to consider resolutions 1 and 2 adopted by this meeting, and to signify within a period of three months their intention of giving their support to the proposed international association, and that a further meeting be held early in May next, to receive such replies, and, if deemed advisable, to proceed with the formation of the International Association."

On the suggestion of the French delegates the preliminary work in connection with the formation of the International Association was left in the hands of the Motor Yacht Club.

NORTH LONDON.

At a recent meeting it was decided to change the title to "North Middlesex," and in view of the extended sphere of influence the number of the committee has been raised to eighteen.

An invitation has been received from the Hon. Rupert Guinness to

a garden party at Pyreford Court, Woking, in June, while Capt. Cecil Banbury has offered to present another cup. This, together with the trophies to be put up by the North Middlesex Club, should be the means of increasing the membership.

The secretary, Mr. Barber, had the misfortune to fracture his wrist while starting a car, so the kindly forbearance of correspondents, should they not receive early replies to their communications, will be esteemed.

CAMBRIDGESHIRE AND ISLE OF ELY.

THE annual general meeting was held at the University Arms Hotel Cambridge, Mr. G. D. Newton in the chair. Two new members were elected, bringing the membership up to sixty-three. The balance at the bank is £49 17s. 3d.

The following officers were elected:—President, Col. Duncombe, Wareley Park, Sandy; vice-presidents, Viscount Clifden, Wimpole Hall (Lord Lieutenant), Mr. C. D. Rose, M.P., Newmarket; committee, Messrs. G. D. C. Newton (chairman), H. E. Hughes, F. R. Harding Newman, S. G. Howard, S. W. Graystone, H. W. Lewin, W. W. Wingate, M.D., F. L. Nicholls, A. Hall, C. Dunn-Gardner, M. V. J. Wedder, G. S. Wilkinson; hon. treasurer, Mr. G. R. C. Foster; hon. secretary, Mr. E. F. Bindloss; representatives on Motor Union General Committee, Messrs. G. D. C. Newton and E. F. Bindloss.

HERTFORDSHIRE.

At an extraordinary general meeting of the Hertfordshire County Automobile Club, which was held immediately following the annual general meeting at the Euston Hotel on Friday of last week, it was decided that the club remain affiliated to the Royal A.C. and the M.U. during 1908.

At a subsequent meeting of the 1908 committee, Mr. S. Saker was elected chairman, Mr. S. J. Ellis was elected hon. secretary, and Mr. Arthur J. Salmon was re-elected hon. press secretary.

SOUTHEND AND DISTRICT.

THE annual general meeting of the Southend and District Club was held at the Hotel Victoria, Southend-on-Sea, on Wednesday of last week, Mr. J. B. Carruthers being in the chair. About thirty members attended or were represented. The committee's report and accounts were read and approved. The club had at the 31st December last, after its first year of working, seventy members, divided into one-half car members and one-half motor-cyclists.

The club has decided to support the Motor Union solely and has cancelled its former affiliation to the Auto-Cycle Union. The meeting decided to increase the annual subscriptions to £1 ls. per annum for car members, and 15s. per annum for motor-cyclists. The rules were considerably added to and altered and the meeting terminated after a hearty vote of thanks had been passed to the chairman.

SOUTH WALES AND MONMOUTHSHIRE.

THE annual dinner of the South Wales and Monmouthshire A.C. will be held on the 15th inst. and will be an important social event for Cardiff. The business affairs of the club have just been considered at the annual meeting, when Mr. H. M. Gregory presided. The statement of accounts showed that the income had exceeded the expenditure by £98, and that the debt on the motor house, which cost more than £300, had been cleared off. Recognition was given to the consideration shown to motorists by the police magistrates of Cardiff and Glamorgan, and it was decided to continue association both with the R.A.C. and the M.U.

Mr. J. Thompson Willows and the Rev. M. Whiteside were re-elected hon. secretary and hon. treasurer respectively, and the following new members were elected on the committee:—Messrs. E. England, W. Eastabrook, F. Shearman, T. Butt Ekins, W. H. Brain, and Ralph E. Morel. Mr. B. H. Trinpe and Mr. J. M'Faggart were appointed hon. auditors. Captain D. Hughes-Morgan, Dr. Tenison Collins, and Mr. J. Thompson-Willows were appointed representatives to the Motor Union, and Mr. F. C. Shackel, Church Street, Cardiff, was appointed hon. solicitor.

SCOTTISH.

THE Committee of the Scottish A.C. have entered into an arrangement with the Car and General Insurance Corporation, Ltd., under which that corporation will allow a rebate of 10 per cent. (with a maximum rebate of £2 2s.), from all premiums for comprehensive policies of not less than £6, effected with them by members of the club. That corporation will in such cases issue a special "S.A.C." policy, including a clause providing that any matter of dispute arising thereunder be referred to the arbitration of the executive committee of the club or of any arbitrators to be named by them.

The membership of the club now exceeds 1,000.

SCOTTISH MOTOR TRADE ASSOCIATION.

At the annual dinner of the Scottish Motor Trade Association, Mr. Thomas Shaw presided, being supported by several well-known English motorists as well as by all the representative traders north of the Tweed. The funds now amount to £278 from annual subscriptions, and Mr. Shaw was able to point to a membership of more than two

and a half times what it was a year ago. Mr. J. H. Paterson, of Aberdeen, proposed "Our Guests," and Mr. Frederic Coleman, of White steam car fame, responded. Other speakers included Messrs. W. L. Sleigh and J. S. Napier.

THE Midland A.C. held a ladies' night at the Grand Hotel, Birmingham, on Saturday.

MR. T. F. TURNER, 389, South Road, Walkley, Sheffield, is the secretary of the Sheffield and Hallamshire M.C.C.

MR. M. J. CHAMBERS, 15, Edenvale Road, Ranelagh, Co. Dublin, is the secretary of the newly-formed Dublin and District M.C.C.

MR. W. J. BROOKE, 2, Cliff Gardens, Frodingham, Doncaster, is interesting himself in the formation of a centre of the Lincolnshire M.C.C. for Scunthorpe, Frodingham, Kirton-Lindsey and Brigg.

THE annual dinner of the Blackheath A.C. was held at the Art Club, Blackheath, on Friday of last week, Col. H. C. L. Holden, R.A., F.R.S., in the chair. About fifty members and friends were present, and after dinner enjoyed an excellent musical programme arranged by Mr. F. G. Nichols, a member of the club.

THE LIABILITY OF REPAIRERS.

A CLAIM arising out of a motor-car accident near Arundel has come before Judge Gye and a jury at the Portsmouth County Court. It was brought by Messrs. Vosper and Co., of Portsmouth, against Mr. G. de Castro, of London, the amount in dispute being £23 10s. Mr. Harvey, in opening the case, said that on September 13th and 14th Mr. de Castro's motor-car was in a disabled condition at Horsham, and the owner sent a communication to the plaintiff for a man to tow the disabled vehicle to his works. The plaintiff's foreman Caley was sent next day in another car, but he found that the damaged vehicle was in such a bad state that it could not be towed to Portsmouth, and accordingly Caley took certain parts of it to Portsmouth to put them sufficiently right to enable him to drive the car to the works. On the 18th Caley, accompanied by an electrical engineer, left Portsmouth by train for Horsham, and put the car in order to drive home, and they proceeded from Horsham, driving slowly. When they were coming down a hill on the way to Portsmouth, at the junction of another road, they came into collision with a car owned by Mr. Parsons, and the result of the collision was that the repairs now being sued for were necessitated. Counsel alleged that the driver of Mr. Parsons' car was in the wrong, and read correspondence which, he declared, established the fact that the motor-car was repaired by Mr. Vosper in respect of the smash with the full consent and agreement both of the insurance company, which was really the defendant in the action, and of Mr. de Castro, and as far as the repair work was concerned that the work was admittedly satisfactory. Counsel's view of the law was that where a car was delivered into the hands of any person to be repaired, the repairer from the moment he took it to the time it was returned was under the obligation to take as much care of it as he would of his own property, and in the event of anything happening then the owner must be responsible, with the power to recover from any negligent person who may have caused damage. The question in this case was whether the £23 10s. should be paid by Mr. Vosper, by Mr. de Castro or the insurance company. If, as a fact, they found that while the car was in Mr. Vosper's possession it met with the damage by Mr. Vosper's servants not taking ordinary care of it, Mr. Vosper must pay. If, on the other hand, they found that the damage was in no way due to want of care on Mr. Vosper's part, but from the negligent act of some third person, then the plaintiff must not be made to pay it.

No witnesses were called for the defence, and Mr. Harvey having addressed the jury, Mr. Shakespeare submitted his arguments for the defence. He contended that the correspondence clearly showed that the order was given to do the work of repair on the understanding that it should be settled afterwards who was responsible. The car was not damaged under any conditions over which Mr. de Castro could have any control, while before the repairs were commenced the plaintiff was informed by letter from the insurance company that he would be held responsible for the repairs, but he, apparently, had a good claim against Mr. Parsons.

The Judge, in summing up, pointed out that there was no denial of liability by the defendant in his evidence, and also laid stress upon the fact that no evidence had been called, or suggestion made, of any negligence on the part of the plaintiff's men. The jury found a verdict for the plaintiff, and judgment for the amount claimed, with costs, was entered accordingly.

JUDGE DODD, of Belfast, has just bought a 20-h.p. Beeston-Humber landaulet through the Belfast agents of the company, the Ulster Motor Works.

FROM Messrs. Geipel and Lange, Vulcan Works, St. Thomas's Street, London, S.E., we have received samples of their Okonite motor-car ignition cable both for high and low tension circuits. The original cost of these cables may be somewhat higher than the ordinary vulcanised rubber, but it is claimed that they will be found the cheapest in the end. The advantages claimed for the cables are that they do not deteriorate on exposure; the toughness resists abrasion by foreign substances; they are not susceptible to changes of temperature, and resist chemical action; easy and reliable joints can be made without vulcanization; and finally they have an extremely high insulation resistance.

CASES UNDER THE MOTOR CAR ACT.

A DISMISSAL AT KINGSTON.

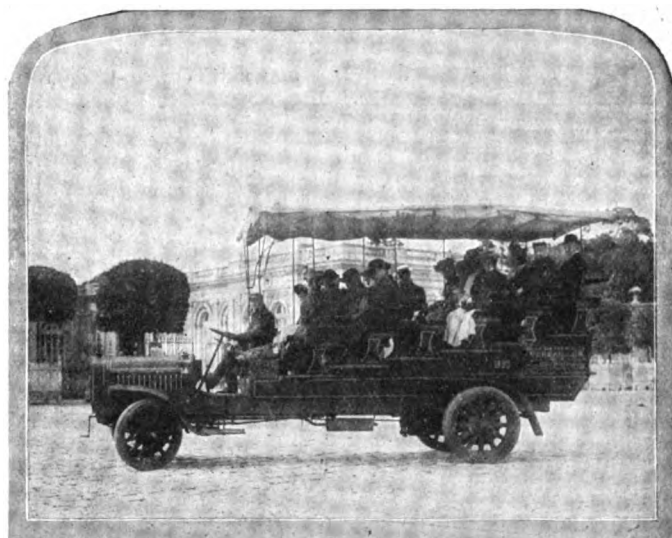
At Kingston, on the 31st ult., James Wickins, of Finborough Road, S.W., was summoned for exceeding the twenty-mile speed limit at Walton-on-Thames. The Bench thought that there was a doubt in the case, and dismissed the summons. Seven other motoring defendants were, however, fined £5 each.

ROAD REPORTS.

LINCOLNSHIRE.—The Roads and Bridges Committee of the Holland County Council have decided to try an experiment on a mile of the Spilsby Road, with a view to solving the dust problem. The road is the principal residential one leading into Boston, and the dust caused by the motor-car traffic has been a source of annoyance to the residents.

SAWBRIDGEWORTH.—At a meeting of the Herts County Council, Mr. E. B. Barnard, M.P., directed attention to the state of the road near Sawbridgeworth Station, which, he said, was becoming dangerous. Mr. Stride, chairman of the Highways Committee, promised that an attempt should be made to remedy the evil.

WARWICKSHIRE.—The County Surveyor for Warwickshire has drawn attention to the bad condition of the Birmingham and Coventry and Coventry and Birmingham main roads. In order to bring those portions which lie in Warwickshire to a standard sufficiently good to carry the new motor traffic he has had to strengthen the foundation and put on



Sightseeing by Motor-Vehicle.—One of Messrs. T. Cook and Sons' Motor Char-a-bancs at Versailles.

a thicker coating of granite. The extra material for this purpose cannot be provided out of the current year's allowance, and a special committee has been appointed to view the road and make suggestions with regard to the financial aspect.

CAMBRIDGE.—In the Histon district of the county repairing patching will be proceeding on most of the roads until the end of next month.

AUTOMOBILE ACCIDENTS.

A SERIOUS mishap between a motor-car and a cab took place outside Edinburgh the other night. At the Craigleith Station end of Barton Terrace a motor-car, occupied by the chauffeur and two passengers, dashed into a cab which was driving in front. A wheel of the cab was knocked off, and some of the woodwork was splintered, while the passengers sustained severe shocks.

A MOTOR-CAR belonging to Sir Arthur Vivian, of Bosahan, St. Anthony, when returning from Helston on Friday morning, ran back over one of the Rosevears Hills and turned turtle at the bottom, pinning the driver underneath. Help was fortunately forthcoming from Mr. Cooke's blacksmith employees. The car was set right and was but little damaged. The driver was not severely injured.

FROM the H. H. Franklin Manufacturing Company, Ltd., of Syracuse, U.S.A., we have received a copy of the very artistic catalogue they have lately issued; it gives full particulars of the various types of Franklin cars—16-h.p., 28-h.p. four-cylinder, and 42-h.p. six-cylinder, all fitted with air-cooled engines, while the illustrations of the cars and the main component parts are a notable feature, being of an unusually clear character.

FORTHCOMING EVENTS.

FEBRUARY.

7th (F.).—N.W. London M.C.C. annual general meeting.
 7th-15th.—Motor Show, Manchester.
 13th (Th.).—R.A.C., Mr. Wyatt on Magnets.
 15th (St.).—Auto-Cycle Union annual dinner at the Hotel Cecil, London.
 19th (W.).—Annual dinner of the Cardiff M.C.
 20th (Th.).—Meeting of the Essex M.C.
 21st (F.)-29th (Sat.).—Manchester Motor-Car Show at Belle Vue.
 24th (M.).—Motor Show opens at Bcmabay.
 27th (Th.).—Mr. Mervyn O'Gorman at the R.A.C. on "Gear Transmission."

MARCH.

5th (Th.).—Paper by Dr. W. Watson at the R.A.C.
 11th (W.).—Annual meeting of the Incorporated Institution of Automobile Engineers.
 11th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 18th (W.).—Annual dinner of the A.A. at the Hotel Cecil, London.
 21st (Saturday)-28th (S.).—Cordingley's Thirteenth International Motor-Car Exhibition will be held at the Royal Agricultural Hall, London.

APRIL.

18th and 20th.—First meeting of the Brooklands A.R.C. for 1908.

MAY.

10th (Sun.).—Targa Florio Race.
 11 (M.)-16 (S.).—Reliability Trial of the Irish A.C.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

11th (Th.).—Probable start of the International Touring Car Trial of the R.A.C.
 15th-19th.—Scottish Reliability Trial.

LIGHTING-UP TIMES—LONDON.

Feb. 8th-5.58	--	10th-6.1	--	12th-6.5	--	14th-6.8
" 9th-5.59	--	11th-6.3	--	13th-6.7	--	15th-6.9

COMPANY NEWS.

MERCEDES ELECTRIC MANUFACTURING COMPANY.—£50,000. Manufacturers of motors, cycles, and vehicles. Agreement with Mercedes Mixte, Ltd. No initial public issue. 11A, Regent Street, S.W.

FOUNTAIN'S COACH AND MOTOR COMPANY.—£3,000. To acquire business of coach and motor builders, &c., carried on at 25, The Grove, Ealing, as H. L. Fountain and Son.

H. TALBOT BELL, LTD., 38, East Street, Farnham, Surrey.—Capital £2,000. Under agreement with S. A. Marples and H. Talbot Bell to carry on business of storers and manufacturers of motors, cycles, &c.

OLDHAM MOTOR COMPANY, LTD.—Capital, £5,000. To carry on the business of manufacturers of, agents for, dealers in and letters-to-hire of motor-cars, &c. 36, Manchester Road, Oldham.

THE Arno Motor Company has been registered with a capital of £2,000.

PNEUMATIC SYNDICATE.—£7,500. Agreement with Pflaumatische Gesellschaft mit beschränkter Haftung and Seymour and Gordon, Limited, manufacturers of tyres, Grosvenor Mansions, 82, Victoria Street, Westminster.

LIMITED PARTNERSHIP.

J. G. MOODY AND COMPANY.—Motor cycle engineers, Harpenden. Partnership for five years from January 1st, 1908. General partner: J. C. Moody, Harpenden. Limited partner: C. T. Part, The Hyde, Harpenden, contributing £750 cash.

PUBLIC MOTOR SERVICE.

SWANSEA.—With reference to the proposed motor services from Swansea to Mumbles, Mr. Monger, solicitor, who is one of the chief movers in the matter, says that it is proposed to put on a service of six cars, which will commence to run about Easter next. The arrangement is that certain gentlemen will guarantee to use them for the twelve months, and if the project pays the service will be handed over to a local syndicate at a certain figure. It is also proposed to have cars available for parties to Bishopston and Parkmill.

A NEW petrol filter specially designed for motor-cycles has just been introduced by the E. M. Bowden's Patents Syndicate, Ltd. Assembled, it is but 2½ in. long by 1½ in. diameter, and it weighs only 8 oz. It is attached between the tank and the carburettor, the petrol flowing upwards through the straining gauzes, effectually intercepting any solid matter that may pass from the tank.

BUSINESS NEWS.

THE COVENTRY MOTOR WHEEL CO. have removed to larger works in Spon Street, Coventry.

MESSRS. ROBERT CALLOW AND SONS, Westland Row, Dublin, have taken up the agency for "Standard" cars in Leinster.

MESSRS. W. T. FLATHER, LTD., the makers of the "Ubas" steel, have opened a warehouse at 15, Osnaburgh Street, Euston Road, N.W., and offices at 14, Mortimer Street, W.

THE METALLIC MOTOR CAR WHEEL COMPANY, of Milford Road, Nottingham, has sent us a circular illustrating the "Crawden" detachable rim and the "Hiley" detachable wheel they are introducing for use on motor-cars.

By arrangement with the Acetylene Illuminating Company, Ltd., of 268, South Lambeth Road, S.W., the Dissolved Acetylene Company has ceased to trade in dissolved or compressed acetylene gas and motor-car lighting outfits, cylinders and apparatus used in connection therewith.

MESSRS. DENNIS BROS., LTD., Guildford, have sent us a copy of the 1908 catalogue of Dennis cars they have just issued. This is a very complete production, the full detailed descriptions of the various models—20-h.p., 28-h.p., 35-h.p.—being supplemented by half-tone illustrations of the different types, and also line drawings of the main components, notably the worm drive, which is one of the special features of the Dennis cars.

FROM MESSRS. DEAN SMITH AND GRACE, LTD., of Keighley, comes a copy of their catalogue showing the latest types of lathes made by the firm. These have been designed for taking advantage of the largely increased working capacity of the various high-speed steels, and have been supplied to many of the leading automobile engineers in France as well as in this country. The firm specialise in this class of machine tools.

FROM the Swift Motor Co., Ltd., Coventry, we have received a copy of their latest catalogue, which gives full particulars of the various models of Swift cars—10-12-h.p. two-cylinder, 18-24-h.p. and 25-30-h.p. four-cylinder. In addition to illustrations of the complete vehicles the main components are also clearly depicted by half-tone blocks, while the several pages devoted to testimonials bear evidence of the popularity of the Swift cars.

THE 1908 catalogue of the E. M. Bowden's Patent Syndicate, Ltd., comes to hand in the most complete form. All those interested in the Bowden patent wire mechanism will find the illustrations and explanations of their various adaptations of particular value as well as of interest. The specialities are too numerous to enumerate, but attention may well be drawn to the Bowden patent strainer, which has been improved with a view to insuring that it is absolutely petrol-tight. It is now made entirely at the firm's works.

POLICE TRAPS.

A POLICE trap is in frequent operation on the Coventry road at Exhall.

THE Portsmouth road, Walton, and the Portsmouth road, Esher, are both the scenes of police traps, which are being energetically worked.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-28, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case, otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

THE Motor-Car Journal.

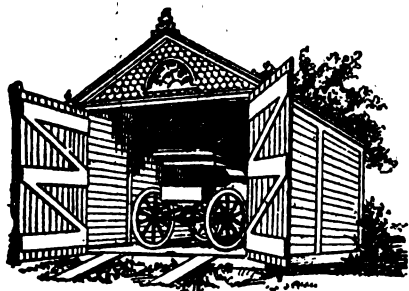
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COMMENTS.



NOT only are cars changing in power and form from the earlier designs, but preconceived notions with regard to their care and keep are also veering round to a more settled view. At one time, for instance, little regard was paid to the housing of automobiles, and even in such a work as the Badminton volume on motoring we find an expression as to the ventilation of a motor-car house being almost unnecessary owing to the constant opening and shutting of the large doors. This idea was dispelled on Friday of last week by Mr. Harrison Townsend in the excellent paper he read before the members of the Architectural Association. The ventilation of the garage is not only now recognised as an important factor in its safety, but it is one of the problems that present some difficulty to the architect. The gas resulting from the evaporation of petrol is heavier than the air, and its escape is a matter all the more difficult as no principle based on upright extraction shafts can be of any avail. Mr. Townsend has evidently considered the subject in all its aspects, and his paper, summarised on another page, will be helpful to those who intend to own, as well as to those who have to design, a motor garage.

The Conference.

ON Monday, with a view to a full understanding of the present situation, a committee of the Royal Automobile Club received a number of representatives of provincial automobile clubs at the club-house in Piccadilly. A meeting of the Executive Committee of the Motor Union was held on the same day, Mr. W. Joynson-Hicks presiding. The committee also received the deputation from provincial clubs, desiring consideration of the possibility of a new agreement being entered into between the R.A.C. and the Motor Union. The deputation was composed of Messrs. J. E. Hodgkin (North Eastern A.C.), T. W. Grace (Manchester A.C.), R. W. Buttemer (West Surrey A.C.), H. A. Watson (North Yorkshire A.C.), A. Armitage (Somerset A.C.), and S. F. Harris (Northamptonshire A.C.). In both cases the proceedings were private, but it is understood that no decision was arrived at.

International Touring Car Trial, 1908.

THE regulations for this Trial have now been approved by the Committee of the Club, and a table of touring-car standards has also been adopted for the purposes of classification. It has been decided that the Trial shall start from a point in or near London at 8 o'clock on the morning of Thursday, June 11th. All competing cars will have to be within the gates of the first depot by noon on Monday, June 8th. A fine will be required in respect of any competing car arriving after that hour and up to 12 midnight. After 12 midnight no

car will be admitted. The cars will proceed to Glasgow by a short route; from Glasgow they will follow the routes of the Scottish Trial and be under the management of the Scottish A.C. until the end of the Scottish Trial; thereafter they will finish on the Brooklands track. The Club will award a cup to the winner of each class, and a certificate will be given in respect of the performance of every car, whether it completes the Trial or not, and the Club reserves the right to publish any certificate. The entry fees are:—Class 1, £51; Class 2, £52; Class 3, £53; Class 4, £54; Class 5, £55; Class 6, £56; Class 7, £57; Class 8, £58; Class 9, £59; Class 10, £60. A car may be entered by its manufacturer or by his authorised agent or nominee, but, where two similar cars of one make have been entered, entries by the manufacturer, his authorised agent, or nominee, shall have priority should elimination be necessary. Cars will be considered similar unless their R.A.C. horse-power rating varies by at least 15 per cent. In determining such variation 15 per cent. shall be deducted from the larger.

Mr. Jarrott on Racing.

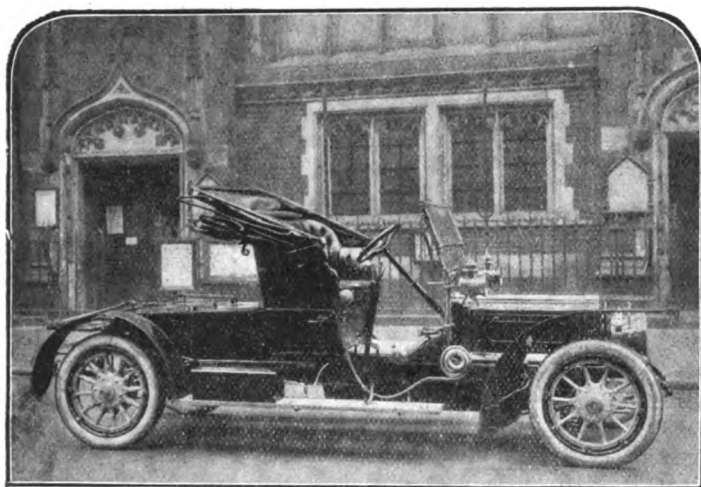
THOSE who were fortunate enough to hear Mr. Charles Jarrott give his reminiscences of the early days of motoring to the members of the Coventry Engineering Society, on Friday of last week, had a most interesting evening. Mr. E. M. C. Instone was in the chair, and Mr. Jarrott, fresh from his record breaking at Brooklands, dealt with the perils as well as the pleasures of those early days. The earnestness with which he pleaded for the motor-cycle recalled his early exploits with "great" machines of 1½-h.p. He has always been an advocate of the smaller form of the automobile, and even now, when cars of large power seem a commonplace in the streets of London, it is interesting to hear Mr. Jarrott suggesting that makers should still strive to catch the favour of the great majority of people by producing a motor-cycling machine simple in construction, easy to control, and reasonable in price. A reference to his racing career led to the remark that in early days motorists raced because they enjoyed the experience, but the commercial conditions which now prevail in the industry had entirely altered the old view of the sport.

The Organisation of Drivers.

THE fact that more than 2,000 certificates of efficiency have been issued by the Royal A.C. in connection with their various examinations has doubtless influenced Mr. C. D. Rose, M.P., in suggesting that something might be done to weld those paid drivers who have obtained certificates into an organisation for their mutual benefit. On his initiative the general committee of the Club have resolved to take action, and an association solely for drivers and mechanics is now being formed. Towards the expenses of the formation the R.A.C. will probably contribute a substantial fund. Doubtless the society will be registered under the Friendly Societies Act, and further details will be awaited with considerable interest. Several attempts have been made towards a similar end, but the difficulties in the way have apparently been almost insurmountable up to the present.

The Outlook.

A PESSIMIST has been writing about the motor trade of Coventry in the "Economic Review"—a quarterly journal which has a reputation for dealing with facts. Not all its contributions are written so modestly as that of Mr. G. B. Carlisle in the current issue, who says that "this article will only touch the fringe of the problem; and if it is inaccurate in any part the writer's want of exact knowledge must be taken as his excuse"—a declaration, the *naivete* of which is delightful. Reference is made to the dulness in the industry, which is ascribed to a great excess of production, which is caused by (1) too many firms being engaged in the trade, and (2) the enlargement of buildings, the plant in which has to be kept going. The bad weather of last year is blamed, for the author regards the motor-car as a luxury and as only a seasonal industry. He hopes better times will come, but is apparently not over-sanguine, for "the abnormal popularity of the motor has begun to wane." Such statements seem to show the need of the author's apology already mentioned, and probably the point in the article that will find most acceptance in the industry is that "the November Show has failed to elicit as large an amount of orders as was confidently expected." Fortunately the trade has another chance—towards the end of next month.



The 15-h.p. Mors Live Axle Car just supplied to Mr. Gerald P. Fitzgerald by Mors (England) Ltd.

The vehicle is fitted with a two-seated body and an extra seat at the back for two other persons, which, when not in use, neatly folds away. There is also a large space at the back fitted with drawers, &c., for tools and spare parts. The car is also fitted with Vinet detachable rims, Victoria leather hood and "Ideal" glass screen, which makes it a perfect touring machine.

Motoring Bishops.

RECOGNISING the many difficulties which the Bishop of Southwell (Dr. Hoskyns) has to contend with when visiting distant portions of his extensive diocese, a committee of Nottinghamshire and Derbyshire Churchmen recently issued an appeal for subscriptions towards the purchase of a motor-car for the Bishop. Nearly £900 has been subscribed, and a car has been purchased which Lord Scarsdale presented to the Bishop at Nottingham on Saturday, along with a small balance in hand towards the erection of a motor-house near the Bishop's palace at Southwell. It is interesting to note that a movement is afoot in the diocese of Winchester to present Dr. Ryle with a motor-car. It would seem that the time is not far distant when every Bishop will have his car—the orthodox gift of generous admirers. On this point we may assure those good bishops who have not yet obtained an automobile that the possession of such a desideratum does not mean they will have more work to do, but that they will be able to perform their offices with greater ease and comfort. We have it on the authority of the motoring Bishop of Lichfield, he does no more work now he has a car, but by its means he is far fresher when he arrives at his des-

ination and keeps his appointments. The weariness that came from railway journeys and waiting in the cold was intensely trying. This he is now freed from.

The Bishop's Motoring Policy.

EVIDENTLY the Bishop of Southwell intends to maintain the reputation of motorists, for he told his friends on Saturday that he felt he was joining a great brotherhood of the road, with all the rules and courtesies which are due from those who rode on the road in motor-cars. He had received a letter from a member of Parliament in which he said some things which it was well he (the Bishop) should remember. The member said he hoped the car would carry Dr. Hoskyns thousands of miles without a smash or accident to himself or anyone else, and that he might get hold of a driver who understood that the lamest old body who crossed the road had as much right to it as the finest motor-car that was ever built. Those were wise words, Dr. Hoskyns added, from one of their statesmen, because he thought a good many of those who had either been in cars or outside cars on the road were realising that those who drove motors were not all loved, and it was quite possible that his day of popularity was over, and that in the future he should be looked upon as rather a nuisance to a good many of those he should meet on the road. He did, however, intend to resist the temptation which they said ladies were constantly urging drivers to fall into—to go at a tremendous pace. We hope the Bishop will be able to live up to his good intentions in this respect.

The Passenger Duty on Railways.

INCIDENTALLY one of the results of the way in which the vehicles on the roads are competing with those on the rails is to bring into new prominence the 5 per cent. passenger duty which is levied on railway companies. At the meeting of the Brighton and South Coast Railway Company a shareholder brought forward a motion against the tax, "having in view the fact that other companies, conveying passengers in competition with them in carriages or vehicles propelled or drawn by motor power, electricity or other mechanical means on public roads, pay no duty." He naturally declared against the alleged preference which motor vehicles obtained, and Lord Cottesloe, the chairman, added that the tax should either be taken off or motor-cars should be made to pay a similar duty. We believe that the meetings of bus companies have been equally as discouraging as those of the railways of late, and doubt whether the anxiety of the railway shareholders for uniformity would find an echo in such circles. But the railway managers should not attempt to solve the problem by making difficulties for other means of locomotion. They must improve their own organisation to meet the changing circumstances of the time.

The Travelling Public.

IN the course of the paper which he read to the members of the Royal A.C. last week on London traffic and railway electrification Mr. Philip Dawson had something to say which should be comforting to the managers of the railways who are now bewailing the loss of revenue through the competition of other forms of traffic. Indirectly, the tramways and motor-omnibuses may be of great benefit to the railway, for undoubtedly they are teaching the public to travel, and that this habit, when once acquired, constantly increases is well known to all those who have devoted any study to traffic problems. Thus, in 1867, the numbers of journeys per head of population in London were twenty-three, whereas now they are over 200, the greatest growth having taken place since 1890, when the journeys per head of population only amounted to ninety per annum. This great increase is small when compared to what has taken place in New York, where in 1860 the population travelled forty-seven times per annum as compared to over 400 times per annum to-day. The great increase in this case has taken place since 1880, when

the population only travelled 180 times per annum. And in this connection it must be borne in mind that not only does the number of times the population is carried per annum increase, but the population itself is constantly and rapidly growing.

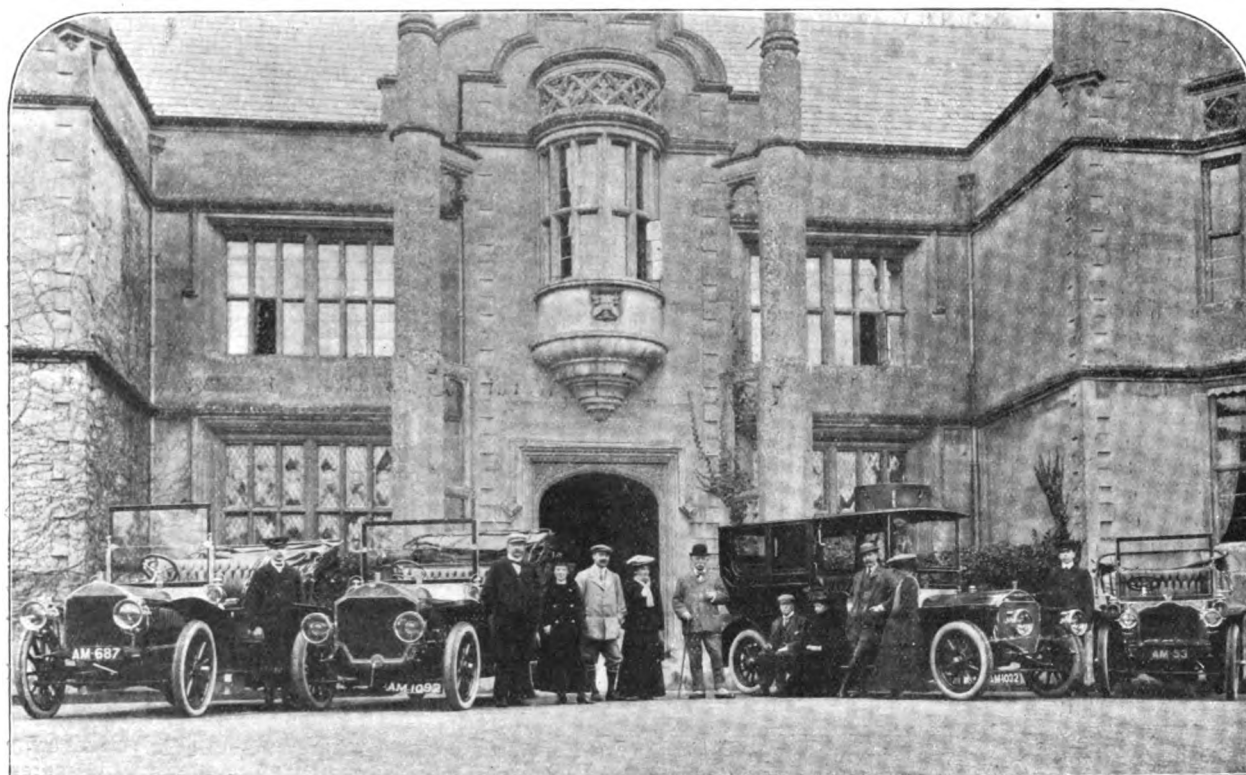
The King at Brighton.

OUR Royal motorist the King went to "Dr. Brighton"—as Thackeray loved to describe London-by-the-Sea—on Monday. Of course he went by car, doing the journey in rather less than two and a half hours, thus disproving the assertion of anti-motorists that the Brighton road is simply a motor racecourse. During the days of the Georges this famous highway was the most fashionable of all the coaching roads, the record being three hours twenty minutes by stage coach. Now it is certainly one of the most popular roads among motorists of the south, who have made the numbered car so familiar to the police that the absence of the identification mark on the King's

spondence columns indicates that the methods of the operators have not substantially changed from those which aroused early antipathy. Perhaps it would be well if the Automobile Association, which we notice is now extending its organisation along the main roads of Lancashire and Yorkshire, were to make a special point of circumventing the policy of the southern police, who are apparently expecting to catch motorists napping.

Motor-car Imports and Exports.

COMMENCING with the first issue in 1908 an interesting and useful alteration has been introduced in the monthly import and export returns issued by the Board of Trade. Hitherto the automobile industry has been dealt with under two headings, complete cars and parts thereof, the chassis having been included among the latter. In future, however, separate classification is to be given to chassis, so that the returns will afford a better indication of the nature of the imports and exports than



Sir John Millar—a familiar figure in the automobile world—with a party of guests and four of his Napier Cars, at his Wiltshire home at Heywood.

Sir John purchased his original car in 1903; this was a 12-h.p. four-cylinder, which is still in active use, and may be seen at the extreme right of the photograph. In addition to the 12-h.p. and a 40-45-h.p. four-cylinder, he now owns a 40-h.p. six-cylinder limousine and also a 60-h.p. of the latest type, on which is mounted a most luxurious and up-to-date shooting brake.

car led to an amusing incident on Monday. The King motored to Portslade-on-Sea, where an observant constable, noticing that there was no number-plate on the car, peremptorily called upon the royal party to stop. The occupants of the car meeting this request with a smile, the police officer promptly boarded the vehicle, with the evident intention of vindicating his authority. He was introduced to his Majesty, upon which he politely bowed and dropped from the footboard with the utmost alacrity.

Police Traps Again.

THE police in the Crawley district have been so consistent in their activity against motorists that their recent absence on certain main roads has been regarded as but temporary by those who are acquainted with their ways and methods. The advent of a few fine days has again brought the police trap into play, and a letter which we publish in our Corre-

has hitherto been possible. So far as the import branch is concerned the new year has opened somewhat disastrously, as, in place of the usual increase, a decrease, as compared with the first month of 1907, of no less than £93,690 has to be recorded. Of complete cars only 297 were imported during the month, of a value of £105,967, these figures comparing with 447 and £181,250 respectively in the same period a year ago. The number of chassis imported was 142, valued at £46,014, while parts were responsible for £99,306, giving a combined total for January last of only £251,287, as against £344,977 in January, 1907, and £311,990 in the first month of 1906. Turning now to the section relating to the exports of British automobile productions, these show a slight advance—from, in the aggregate, £103,149 in January, 1907, to £107,152 last month. Altogether 172 complete cars (£66,289) and 29 chassis (£11,169) were despatched from this country in January, as well as parts to the extent of £29,694.

Motor Traffic at the Docks.

SADLY, yet none the less truly, has the chairman of practically every great railway company lamented the fact that the steam engines that run on tracks have no monopoly so far as conveying the people from place to place is concerned. Motor-buses have seriously threatened their suburban popularity and prosperity, and the modern railway manager has to face a set of circumstances very different to those which affronted the locomotive experts in the last century. Denunciation will not meet the case; those responsible for the traffic must look around for some means of meeting the new facts. Similarly we would advise the authorities at the docks. In several places motor traffic is now beginning to make its appearance at the harbours, and, as yet, the superintendents generally are unprepared for the innovation. Consequently complaints are rife of delays, which efficient organisation might obviate. How little has been the attention given to the matter by the dock authorities is shown in the "Industrial Motor Review," just published, which gives the regulations enforced at the leading docks and also reviews the whole country to prove that much has yet to be done.

Chief Constables and Drivers.

THE question of the welfare and qualification of drivers is attaining considerable importance in view of the remarks at several recent coroners' inquests, where drivers have been reprimanded for not exercising sufficient caution when on cars. On Saturday such an instance took place at Hammersmith, and after being reprimanded by the Coroner the driver in question intimated that he had decided to give up motor driving. The general subject has, however, gone much farther than this, for, on the authority of the Chief Constable of Manchester, Mr. R. Peacock, we are able to announce that the Chief Constables of the country have petitioned the Local Government Board to have some test for drivers before licences are granted. Such an intimation coming from the men who have to bear the burden of the administration of the Act will doubtless have considerable weight. The ill-favour into which the isolated acts of a few incompetent, or impertinent drivers may bring the whole body of motorists is well known, and now that the Chief Constables and the Clubs are giving the matter their serious attention leads to the hope that a great step forward may shortly be made.

'Bus v. Tram.

THE good people of southern Essex are appreciating the institution of a motor-bus service from Stratford to Seven Kings. Hitherto the traveller by road has had to go by the West Ham Borough electric tram to Forest Gate. Then a change for a half-mile ride by a horse tram to Manor Park has been necessary. The journey had then to be continued by an electric tram belonging to the East Ham Corporation as far as Ilford, when another tram conveyed the weary traveller to Seven Kings. The cost of travel by the four conveyances was fourpence; now the motor-bus takes the passenger right through for three-fourths of the fare in half the time—a distinct advantage which is much appreciated in the locality. Certainly it affords a demonstration of the advantage of the motor-bus over the tramcar.

Another Injustice to Motorists.

MOTORISTS journeying in districts where motor-cars are restricted to a ten-mile limit, or, it may be, prohibited altogether, are often at a disadvantage owing to the obscure manner in which the restriction or prohibition is indicated. Such an injustice has recently been brought to our notice. At Llandudno a London motorist was summoned a few days ago because he, in June last, exceeded the restricted speed limit in Mostyn Street, in that pleasant town. In the course of his

defence he pointed out that the notice as to the reduced speed limit of ten miles an hour was very indistinct, and in this one of the magistrates entirely agreed. In fact, he, a local man, had been unable to see the notice. His fellow-magistrates, however, did not regard this as an excuse for the defendant, who was fined 20s. and costs. If such limitations are to be respected it should certainly be the duty of the local authority to see that the notices under the Act are prominently and clearly set forth, otherwise considerable injustice will result. And where those directly responsible neglect their duty the motoring organisations should call attention to the matter.

The Production of Licences.

ANOTHER case has occurred where the magistrates dismissed a summons brought by the police against a motorist whose alleged failure to produce his licence was a mere quibble. The gentleman in question was stopped near Kingston for exceeding the legal limit, and when asked by the police to produce his licence showed them only that part containing his name and address, refusing to allow it out of his hands. For this they summoned him for "failing to produce his licence." The Bench decided to dismiss the summons, the chairman remarking that they did so because there was a doubt as to the obligation of the motorist in the matter. We are somewhat surprised at the latter remark, seeing that the Act is clear as to the word produce, and we cannot see why the police should endeavour to convert this into a detailed examination as to any previous endorsements that may have been entered. Sufficient instances have now been decided to give such cases the appearance of needless irritation.

No Warning Signs for Derbyshire.

IT is one of the curiosities of local government that those who know least about the subjects upon which they vote often decide important issues. Committees which have given time and thought to the consideration of important subjects discover that other people scarcely recognise facts and, often, light-heartedly reject proposals which are the fruits of experience and knowledge. Such a case has occurred in Derbyshire, where the County Council has rejected a proposal made by the Bridges and Highways Committee, who recommended the expenditure of £500 on the erection of danger-posts and signals in such places on the main roads as they considered advisable. They pointed out that most other counties were doing a similar thing, with the object of minimising the dangers of the road. Such a suggestion is not only reasonable but is strictly within the spirit of several circulars which the Local Government Board has issued to County Councils in connection with motor-car traffic. Hills and sudden corners on the roads cannot easily be flattened or straightened; and so the County Councils are erecting signs warning those who use the road of the risks in the vicinity. This is purely a precautionary measure, and it is a matter for surprise that the authorities of a county like that of Derbyshire should be disposed to take a narrow view of their obligations, not only to those who travel, but to those who walk as well.

FIAT MOTORS, LTD., have secured an order from the Marquis of Lansdowne for a 35-40-h.p. Fiat chassis, to be fitted with a limousine body by Hooper.

OF the 578 persons now on the unemployed register at Coventry, 386 are classified as belonging to the cycle and motor trade, as compared with 148 on the list at the corresponding period of last year.

WE are officially informed that the directors of the Liverpool Cycle and Motor Show have decided to make no allotment of space this year, and have returned the deposits to the firms who had already applied for space.

MR. LOVE, who is a vice-president of the Scottish Motor-Traders' Association, has a motor garage in Carlyle Road, Kirkcaldy. Love's Automobile Company is certainly well able to cater for the requirements of motorists journeying northwards.

Are Two Ignition Systems Necessary?



THE VIEWS OF SOME LEADING MANUFACTURERS AND AGENTS.

ONE feature of automobile construction in recent years has been the greatly increased favour which has been shown to the magneto as a means of furnishing the spark necessary to fire the explosive charge in the combustion chamber. At first the magnetos employed were all of the low-tension type, requiring some form of mechanical make and break device, but latterly a swing of the pendulum has taken place, with the result that the high-tension system is rapidly becoming the more popular form, enabling as it does the mechanical make and break device to be superseded by an electrical one, somewhat on the lines of that made familiar to old motorists by their acquaintance with the accumulator and coil method of ignition. While the makers of magneto machines claim that their productions have now reached such a degree of perfection that they may be safely relied upon to give satisfactory results in actual use, the practice of motor-car manufacturers for some time past has been—and in the majority of cases still continues—to equip their vehicles with two systems of ignition—magneto, high or low tension, and accumulator and coil. Notwithstanding this, however, there seems to be no question that the magneto is likely ere long to entirely supersede accumulators and coils, just as the latter displaced the tube ignition of the early days, an indication of which is seen in the fact that, despite the relatively high first cost of high-tension magnetos, they are now being adopted not only on four and six-cylinder engines, but on two and even single-cylinder motors. One advantage claimed for the provision of duplicate ignitions is the greater ease with which the engine can be started on the accumulators, it being possible, in the case of a multi-cylinder engine, with good compression, to put the motor in operation by simply switching on the current, and so saving the necessity of pulling round the starting handle. While this is an advantage to be by no means ignored, the similar object will sooner or later be achieved by an automatic engine-starting device; for, although so far the results of the efforts of engineers and inventors in this direction have not been altogether crowned with success, a really practical arrangement, with so many capable minds directed on the subject, cannot long be delayed.

Having in view the claims of the magneto manufacturers as to the reliability of their productions, it occurred to us that it would be useful and interesting to motorists if we endeavoured to secure from some of the leading motor-car makers and agents their reasons for fitting two systems of ignition, where this is done, and also, where only one method of ignition is employed, what has led them to this course. A ready response was made to the query we sent out, as will be seen from the replies appended.

Mr. P. Richardson favours a Duplicate System.

MR. PERCY RICHARDSON, the managing director of the Sheffield Simplex Motor Works, Ltd., considers that in a dual system of ignition, having two sets of sparking plugs, one set of the latter is superfluous. The usual form in fitting two ignitions is high-tension accumulator combined with high tension magneto, and when one has these two fitted it is generally found that the accumulator system is only used for starting, and the magneto for regular running, owing to it giving much better results, and, in consequence, if separate sets of plugs are used, those on the accumulator system are generally out of order when it is desired to use them.

"For my own part, I am strongly in favour of duplicating the parts of an ignition system that are liable to give trouble, and that whilst not in use are not inclined to require any attention to maintain in perfect order. The points that I think have been found by experience to require duplicating are (1) the primary source of current; (2) the coil. In the "Shef-

field-Simplex" dual ignition we use a high-tension magneto in combination with an accumulator, having separate high-tension coils, and low-tension distributors for each system. We use a common distributor for the high-tension circuit and one set of plugs. This distributor is so simple that we have found it never gives any trouble whatever, and, further, to make the high-tension wiring absolutely reliable we have all the conductors moulded in one multicore cable, the whole of which is vulcanised within an ebonite casing, making a perfectly sound job, and preventing oil or other deterrents from affecting the insulation. The terminals to the sparking plugs take the form of insulated switch handles, so that any of the cylinders can be instantly cut out, or the spark tested at the plugs, by merely lifting the switch handle. This makes a very simple arrangement for a dual ignition, and, as the low-tension distributor for the accumulator system is mounted on the distributing spindle of the magneto, it is very compact. In combination with this arrangement we have a self-starting switch on the accumulator system, which enables one to start the engine in this manner.

"There is no doubt that the modern high-tension magneto in the hands of the ordinary motorist has proved perfectly reliable, and gives much better running results in comparison with the amount of attention required to the accumulator system, but it has the disadvantages of not being able to be used as a self-starter, and also in cold weather it is not as easy to start on the high-tension magneto, hence the necessity for fitting, in connection with this, an accumulator system with a trembler coil, which, whilst not giving the same efficient running results as the magneto, makes up for the other defects mentioned, and at the same time forms a reserve ignition in the event of the magneto giving trouble at any time."

Mr. C. R. Garrard's Views.

MR. C. R. GARRARD, M.I.Mech.E., the works manager of Messrs. Clement-Talbot, Ltd., considers that the question as to whether a duplicate system of ignition is advisable depends to some extent upon circumstances. "If the customers who pay for the cars ask for two ignitions, then it would appear desirable to fit them. As for whether they are necessary, that is hardly the question. For general running I myself never make use of the accumulator ignition. I may do if I feel very lazy, in order to start up, but generally speaking, I prefer not to trouble anything about it, and I absolutely never look to see whether I have any accumulators on the car or not when I go out to try one, and the same remarks apply to several other officers at the Talbot works. If, however, I were a doctor making a number of calls I certainly should fit both ignitions. On the other hand, I never would run, without being compelled by stress of circumstances, on accumulator ignition, at any price. I may also say that we never use accumulator ignition in contests. Certainly, however, for doctor's work and town service give me the two ignitions, so that I may start off the switch nine times out of ten."

Mr. S. F. Edge in favour of a Single System.

"In my opinion," writes Mr. S. F. Edge, "duplicate ignition is not desirable on motor-cars. I generally find that the usual thing when there are two ignitions is that, whichever one is being operated, the other one is neglected, with the result that there is not a satisfactory stand-by if ever it is wanted. One good system of ignition seems to me to invariably meet the case; moreover, there is one particular part in each cylinder where a plug should be to get the most advantageous results, and with two systems of ignition, unless one has two sets of plugs, some of the benefits of the two systems disappear, while if two sets of plugs are fitted, then one set is always in a better position for firing the charge in the cylinder and causing the engine to run better than the other. My own opinion, therefore, is that one good system of ignition is best and sufficient for the purpose."

B

The Dennis Vehicles.

Mr. J. C. Dennis briefly sums up the views of Messrs. Dennis Bros. as follows:—"Although high-tension magneto machines have greatly improved of late, and can now be looked upon as absolutely reliable articles, yet we consider that where price is not being studied, a separate dual system of ignition is a valuable addition, especially when taking long tours."

The Brown Cars.

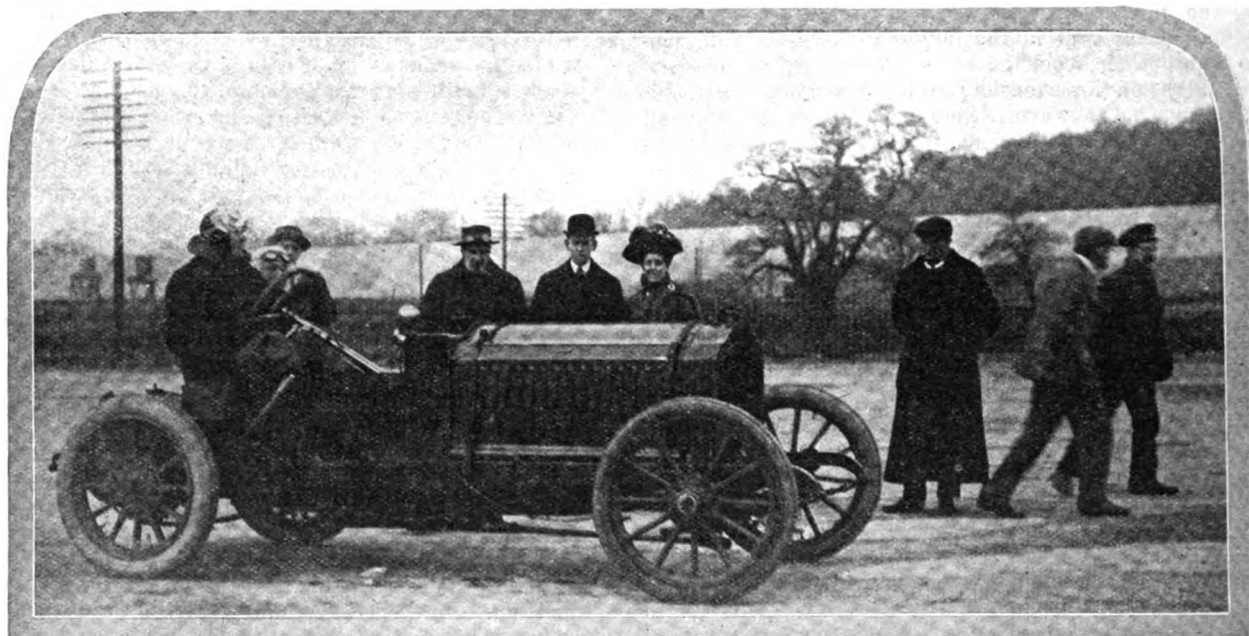
Mr. Albert Brown, of Messrs. Brown Bros., Ltd., replying to the question whether it is necessary to fit duplicate ignitions to cars, remarks:—"Our own experience has been that the two ignitions have certainly saved delay on the road. This, we think, is more specially so when the car is in a novice's hands. The latter can more readily locate a fault in accumulator ignition than he can in a magneto. Of this we have had numerous instances, trifling faults in the magneto having entirely baffled the owner's power of locating it, but having accumulator ignition he has been able to return home. We shall continue to fit two ignitions to our cars until we find that the public and the smaller repairers in the country have gained more experience with magnetos to allow them to be solely used."

The Aster Company.

Mr. S. W. Begbie, of the Aster Engineering Company, Ltd., thus summarises his views on the subject:—"We certainly think that it is necessary, where possible, to have an auxiliary stand-by in all machinery that is liable to trouble, and in the electric system of a motor-car—although it is more perfect to-day, and, in fact, we may say fairly reliable—the fact of having another ignition to fall back upon is not only a good insurance to the owner of the car, but is bound to be called into requisition at some period. We are fitting the majority of our engines this year for the complete independent double ignition, which clearly exposes our feeling on the subject."

Mr. D. M. Weigel's Views.

Mr. Weigel writes:—"I am not of the opinion that duplicate ignitions are necessary where magnetos are used. I, personally, cannot understand what they are fitted for, although my firm are continually fitting, by the desire of their customers, two ignitions. It is usually suggested, I believe, that if one breaks down the other can be used, but upon the same plea two back axles, two gear-boxes or two engines ought to be fitted to each car. It is quite true the magneto may go wrong, but it is suffi-



Mr. Charles Jarrott at the wheel of the 80'4-h.p. (R.A.C. rating) Lorraine-Dietrich Car on which he last week established a new fifty-mile record on the Brooklands Track, covering the distance in 36 min. 5 sec., equal to 83'1 miles per hour. [Campbell-Grey.]

The Brasier and Unic Practice.

Messrs. Mann and Overtons, Ltd., the British concessionaires for these vehicles, have never been advocates of a duplicate system of ignition. "Magneto ignition has," they state, "now reached so high a pitch of perfection that it is an extremely rare occurrence for the magneto to give trouble, and our experience tends to show that when trouble does occur it is almost always due to the magneto being allowed to become dirty through the negligence of the chauffeur. The ignition is by high-tension magneto in the case of the Uni, and by low-tension magneto in the Brasier; both systems have given the greatest satisfaction to customers to whom we have supplied these cars, and there is no question that magneto ignition gives far better results than accumulator ignition, and there is not the slightest difficulty in starting the engines."

The Fiat Company.

Mr. Sidney W. Lewis, on behalf of the Fiat Company, writes:—"The best answer we can give to the question is to state that Fiat cars have always been, and are still, fitted with magneto ignition only. The new live axle 28-35-h.p. and the new 45-h.p. six-cylinder cars, also the Fiat motor-cab, are fitted with high-tension magnetos, all the other models being provided with the low-tension type."

cient, in my opinion, to carry a spare magneto. We have arranged the fixing of the magnetos on the Weigel chassis as to permit of an exchange being effected certainly under five minutes. Other parts of the mechanism might break. They can all be exchanged and replaced in the space of a few minutes, and, therefore, it cannot be suggested that the difficulty in replacing a part necessitates duplicate ignitions. I have never known of trouble with the system of ignition applied by us to Weigel chassis, and have invariably found that customers have regretted the expense of having fitted two ignitions, and have in many cases been acquainted with the fact that the supplementary ignitions have been removed. I think that where a firm fixes a sufficient and satisfactory type of ignition it is all that is necessary."

The Ariel Company's Opinion.

Mr. E. Herington, of Ariel Motors, Ltd., informs us that for cars of 25-h.p. or under they consider the high-tension magneto ample, but for vehicles of 30-h.p. and over they recommend accumulator ignition in addition to magneto in order to facilitate starting, so as to obtain the additional advantage of being able to start off the switch.

Mr. W. M. Letts favours a Single Ignition.

"In my opinion," writes Mr. W. M. Letts, of Messrs.

Jarrott and Letts, "the day has gone by when it was necessary to fit two ignitions to any motor-car, that is, of course, providing it is fitted with the best magneto or coil and accumulator. We all know there are second-rate articles on the market, but my experience goes to show that all the first-class manufacturers fit the very best type of magneto or coil and accumulator. As far as we are concerned, the cars which we sell are always specified to be fitted with either low-tension or high-tension magnetos, and we never receive any complaints from our customers, nor are we ever asked to fit a dual ignition. Of course, if we were asked to do so we would fit it, but I think the last thing a customer now gets trouble with on his car is the ignition."

The Albion System.

Mr. T. Blackwood Murray, B.Sc., of the Albion Motor-Car Company, Limited, is a strong supporter of the single system. He considers that duplicate ignition systems are quite an unnecessary expense and complication, and, "in fact, the provision of a dual ignition appears to us to be a frank acknowledgment that the systems employed are unreliable and liable to a breakdown. We are, of course, staunch advocates of the low-tension magneto type of ignition, as such a system, if properly designed and manufactured, although more expensive in first cost, is undoubtedly the simplest and most reliable, and an experience extending over many years has amply proved that with such a system no stand-by system is necessary or desirable."

The Rover Company.

Mr. J. K. Starley, the works manager of the Rover Company, expresses the view of that concern on the subject by remarking that "both the high-tension magneto and the accumulator ignition with which we have experience are so reliable that there seems very little use in duplicating them. Seventy-five per cent. of the cars we sell are fitted with accumulator ignition only. Against that, all cars for foreign or colonial markets are fitted with magneto ignition as well, and from what we can gather they ask for accumulator ignition in addition solely for starting purposes, owing to the difficulty of keeping a magneto sufficiently well tuned to always ensure easy starting. When a magneto can be made which will start easily after some months of use in the hands of an ordinary inexperienced driver, or an accumulator be found which will hold its charge for several months, we think that only one ignition will be at all necessary."

The Vauxhall Company's Opinion.

Mr. T. Williams, of Vauxhall Motors, Ltd., in the course of a letter to us on the subject, remarks:—"We think that the question as to whether a reserve system of ignition is desirable or not is more a matter for each motorist to settle for himself according to his own particular opinion. In view of the fact that either magneto or coil and accumulator ignition are both very reliable and becoming better understood every day, we think that one system is sufficient, and an extra ignition may be looked upon as a luxury. Where the two are fitted the owner usually relies upon his magneto, and the other ignition falls into disuse for want of proper attention, so nullifying any advantage that may be gained by having both; but where the two-system advantage comes in, if both are properly looked after, is when driving in traffic the magneto can be switched off and the accumulators used, so obtaining a slower and quieter running engine."

THE delay on the part of the manufacturers of taximeters in supplying such instruments is held to be responsible for the slow development of the taximeter horse cab in the metropolis.

FROM Messrs. Beanland, Perkins and Co., School Close Works, Neville Street, Leeds, we have received a sample of Gre-Solvent. This is a preparation which should be found useful by motorists and motor-car drivers, it being designed for removing grease, as well as ink, paint, or other stains from the hands. It is claimed that the preparation contains no acids, but is in fact antiseptic. We have given it a trial and find that it certainly is effective in cleaning the hands, and as it is made up in tins of convenient size, one of them could usefully be found a place in the car tool box.

ROADS AND "EXTRAORDINARY" TRAFFIC.

IN the course of a paper which Mr. H. Howard Humphreys read on Monday before the Society of Road Traction Engineers, he gave some interesting figures from the returns of local taxation, which showed how much has been done to improve the main arteries of the country. Set forth in detail these show, taking urban and rural roads together, in the twelve months ending March 31st, 1896, the cost of 25,650 miles of main road was £1,778,791, or £68.34 per mile; ten years later, the cost of 27,380 miles of main road amounted to £2,478,481, or £90.51 per mile—an increase of 30.55 per cent. Now, these figures represent the average costs of urban and rural roads in the counties of England and Wales, but it will be useful, perhaps, to examine the returns rather more in detail, and it will then be shown that:—

- 1.—Between 1897 and 1905, 1,680 miles of road were added to the class known as "main roads."
- 2.—In 1905, county councils were directly maintaining 1,732 miles more main roads than they were in 1897.
- 3.—In the same period, urban district councils were maintaining 222 miles more main roads.
- 4.—In the same period, rural district councils were maintaining 274 miles less main roads.
- 5.—The increased cost of maintenance per mile in the case of the directly-maintained rural main roads was £17, or 30.9 per cent., whilst—
- 6.—The increased cost of the indirectly-maintained urban roads was £19 per mile, or 9.4 per cent.

Mr. Humphreys also referred to the subject of extraordinary traffic, for there is no doubt that the fear of incurring claims is acting as a deterrent upon many would-be purchasers of motor-lorries. County authorities seldom bring claims for damages of extraordinary traffic now, unless the circumstances are very unusual. The only county which has distinguished itself in the matter of these actions is Somersetshire, and the degree of success attained there has been extremely small; the real reason for these actions in that particular county is that the roads have been farmed out to local authorities, who persist in using soft local materials which crush readily, and are rapidly disintegrated by the weather. In a recent motor-lorry case at Bristol, the Judge, in giving judgment for the defendants, said: "In my opinion, as soon as a new form of transit has become usual, the road authority must bear the expense of maintaining the road, so as to carry traffic that must be reasonable."

The general trend of cases, during the last four years, appears to show that both High Court and County Court judges are increasingly unwilling to encourage local authorities in a policy of "passive resistance" to modern means of traction, and I look forward to a time when, as in the case of France, no extraordinary traffic action will be possible in reference to main roads of this country. On the other hand, the difficulties of local authorities should be recognised, and, so far as possible, highways should be studied as to time of travel, weight of load, quartering, &c., for an immense amount can be done to help the roads, if only owners and drivers of self-propelled vehicles will take the trouble to put themselves mentally in the position of those who have laid upon them the duty of upkeep. If surveyors, on the one hand, and owners of automobiles on the other, persist in regarding each other as natural enemies, the only people who will benefit will be lawyers and expert witnesses.

THE New Zealand mail just to hand brings the result of the largest motor-car reliability trial yet held in New Zealand. The course was from Christchurch to Dunedin and back, and in this the 18-24-h.p. Siddeley, driven by Mr. J. F. Hammersley, made a non-stop run, secured the full maximum of marks, and gained a gold medal.

UNDER the title "Monsieur, Madame, et l'Auto" M. Michel Corday has written, and M. E. Faquelle (11, Rue de Grenelle, Paris) has published, a volume of short stories in which the motor-car plays a prominent part. The tales range from grave to gay, but are all so interesting that one is loth to put the book down until the last page has been turned over.

THE BULLARD SPEED RECORDER.

WE illustrate herewith an extremely interesting combination instrument, consisting of a combined motor clock, odometer, and speed recorder, made by Mr. J. H. Bullard, of Springfield, Mass., U.S.A., which is being introduced into this country by the Universal Motor Imports, Ltd., of 10, Wilmington Square, Rosebery Avenue, London, E.C. The apparatus serves not only as a timekeeper and a distance

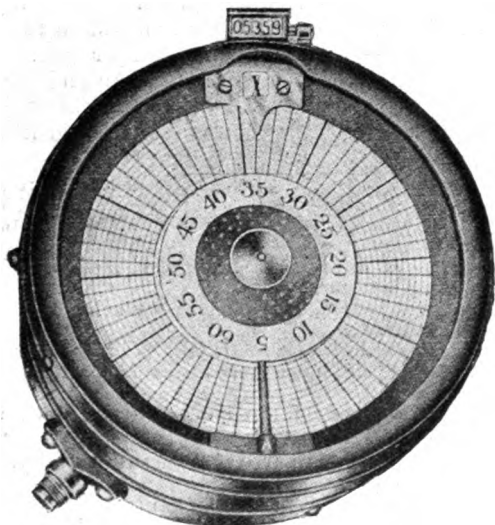


Fig. 1.—General View of Instrument.

recorder, but it makes a permanent and accurate record on a detachable card, about 3½ in. in diameter, of every quarter mile the car travels, at speeds of from 1 to 120 miles per hour, without any change in its mechanism, as also of what stoppages are made on the journey, and the duration of the same. Fig. 1 gives a view of the face of the instrument with the dial in place, while Fig. 2 depicts the interior mechanism of the apparatus, the cover

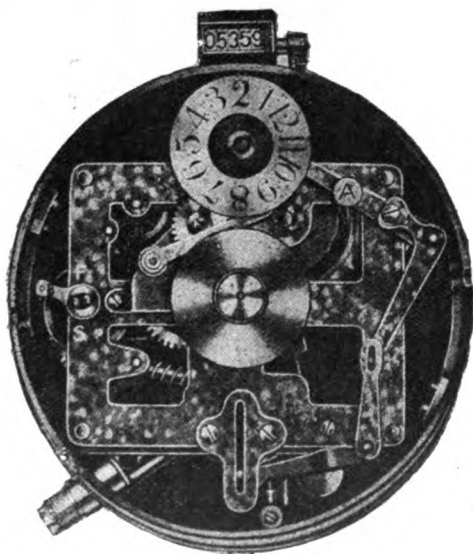
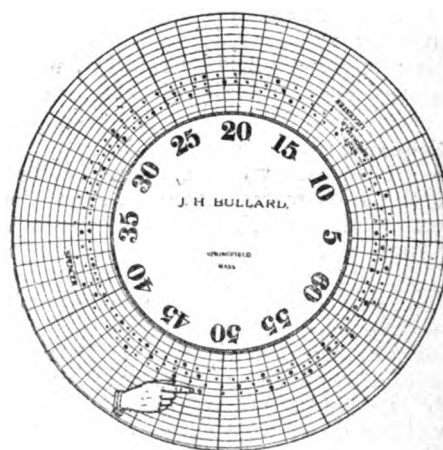


Fig. 2.—View of Interior Mechanism of Instrument.

dial, and recording card being removed. The latter, which is turned by a clock-movement and makes one complete revolution each hour in the same direction as the hands of a clock, is divided into sixty radial lines representing minutes, each fifth one being heavier than the others for convenience of reading, and also registering with the figures on the central dial. The time is shown by the Roman numeral seen at the top of Fig. 1, this denoting the hour, while the minutes are indicated by the

figure on the rotating central dial immediately below the pointer. The odometer is fitted at the top of the instrument.

Passing now to an explanation of the recording card, the anvil A (Fig. 1), at the bottom of the instrument has a stylus behind it which makes a dot or perforation in the paper for each quarter mile travelled, each fourth one being deeper to show the completed mile, no matter what the speed of the car may be. This stylus is operated both by the clock and the movement of the car, and is at the extreme outside space when the instrument is set for the beginning of a record, and moves towards the centre, one space per hour, being moved inward by the clock; it thus takes twelve hours for the stylus to move across the dial, and when this position is reached it is no longer operative until reset. The card is designed for records of an equal period, after which a new one must be inserted. The clock, however, will run for twenty-four hours. As already explained, the stylus makes a mark on the record at every quarter of a mile travelled by the car, no matter the time occupied; the space between the dots thus varies with the speed, being closer as the latter increases and wider apart as the car slows down. When the vehicle is at



Date Aug 20, 1905
 A.M. 2.47 P.M. 5.50
 From Worcester
 To Springfield Miles 49½
 Car Worcester
 Fuel used Gasoline per h.p.
 Roads Good most
 of the way
 Weather Fine
 Remarks Four passengers

Fig. 3.—View of Front and Reverse Sides of Indicator Card.

rest the record card continues to rotate, in consonance with the clock, but the speed mechanism is not in operation, so that no marks are made on the card. In this way the numbers of minute divisions in which there are no dots indicate the duration of any stoppage en route.

The instrument is of interest, especially in view of the fact that magistrates have recently shown a tendency to accept the evidence of speed recorders, and have even gone so far as to recommend their adoption on motor vehicles in order that the drivers may have some idea as to the speed at which they are travelling, and so reduce it as to be within the legal limit. The record of the time occupied in making a journey and the various speeds attained en route are, as will be seen from Fig. 3, so clearly given on the automatically recorded card as to be indisputable evidence. This illustration is a reproduction of a card giving a record of a trip from Worcester to Springfield, U.S.A.; starting at 2.47 p.m., the first impression on the card is 1½ minutes later; arrived in Springfield at 5.50, the last impression being at 5.49, and the indicated distance being 49½ miles (the odometer on the car showing 50 miles). Reading from the outside line to the right towards the centre, it will be noticed that

six miles from Worcester the village of Leicester was reached, where the card shows that for one and a half miles the speed was reduced to comply with the local regulations, and that six miles further on, when passing through Spencer, a slow speed was again shown; also at other points along the line, in one instance to assist in getting a pair of frightened horses past. The dots may also be plainly seen in Fig. 1; in the latter case the car shows a speed of fifteen miles per hour, the dots being at exact minute intervals, or a mile in four minutes; it also shows that the time the last perforation was made was at 10.34½, and that the start was made at 10.29½. On the reverse side of the card blank lines are provided, as shown in Fig. 3, in which to fill in the complementary information, such as date, journey, distance, &c., to render the record of permanent value.

The instrument, which is enclosed in a heavy brass case, dust and waterproof, with a heavy beveled plate glass over the card, appears to be most thoroughly made in every particular. The cover is attached by a bayonet joint, so that it can be readily detached to permit of a new record card to be inserted at the end of twelve hours, or when starting on a journey. The appara-

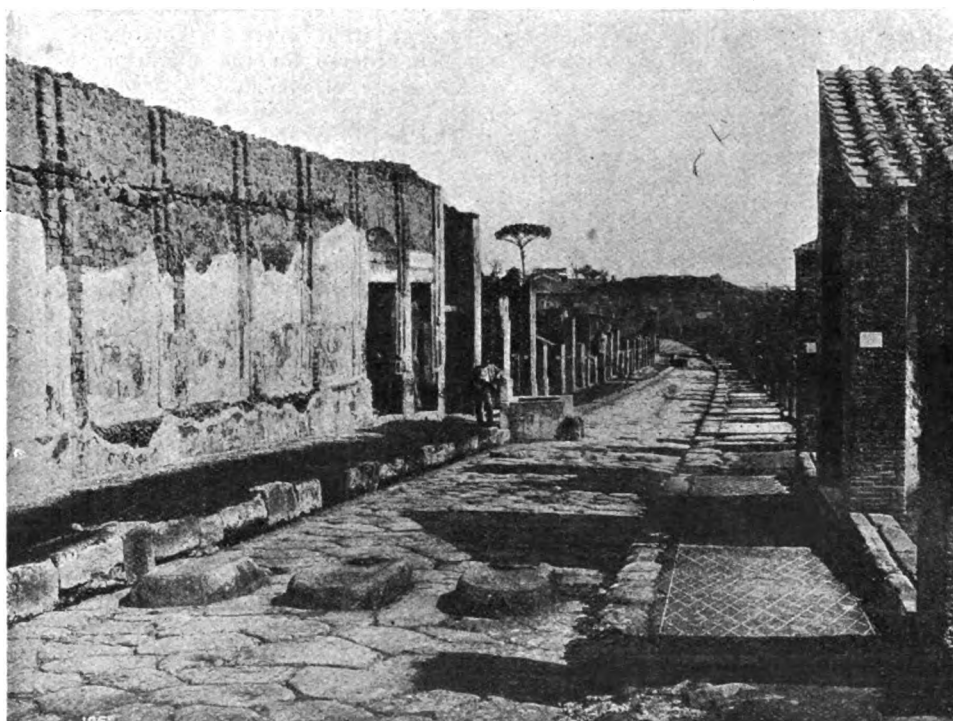
CONTINENTAL NOTES.

Motor Buses and Railways.

One of the tunnels on the railway between Saargemund and Trier, Germany, recently fell in, and traffic between Mettlach and Ponten-Besseringen had to be suspended. In order to maintain communication along the line, the Prussian State Railway authorities secured ten N.A.G. 26-30-h.p. single-deck buses from one of the Berlin omnibus companies. As the passengers arrive at Mettlach they are conveyed to Ponten-Besseringen, and *vice versa*, in less than half an hour, notwithstanding the fact that the route is an extremely hilly one.

French Motor-car Exports.

According to the figures just issued by the Ministry of Finance, the exports of motor-cars and parts from France during last year attained a value of £5,814,560, as compared with £5,514,240 in 1906, and £4,010,040 in 1905. The United Kingdom is far and away the leading customer, having taken £2,416,480 of the total; Belgium second, with £619,680; Ger-



A Street in Pompeii.

Strada della Abondanza is one of the main arteries of the city and is a continuation of the Via Marina, by which the tourist enters the place. The illustration is from "Six weeks and the Mediterranean," published by Messrs. George Philip and Son, Ltd.

tus, which measures about 4½ in. in diameter, is mounted on the dashboard; it is connected with a joint that allows it to be turned at any angle which suits the driver. It is operated through the usual flexible shaft connecting it with gearing attached to the off-side front wheel of the vehicle. Means are provided for regulating both the clock and the speed-recording mechanism, and for resetting the stylus to its extreme outward position.

A NEW 14-16-h.p. four-cylinder live axle car built by the Fabrique Nationale d'Armes de Guerre, of Herstal, Belgium, is being introduced into this country by the F.N. Motor Agency, of 106, Great Portland Street, London, W.

IN the four days' reliability trial organised by the Motor Union of Western India, consisting of a run from Bombay to Kolhapore and back *via* Mahabaleshwar, which finished last Wednesday, a 40-h.p. Siddeley completed the distance with a clean non-stop record.

many third, with £544,040; the United States fourth, with £434,840; and the Argentine Republic fifth, with £224,000.

Military Motor Vehicles in Germany.

Fifty-two lieutenants of the German Army Reserve have been transferred to the Motor Transport Corps, and will be employed in a periodical inspection of motor lorries and vans in private owner-ship, which might be useful in case of war. A vote of £40,000 in the present estimates is to be distributed as bonuses among the owners of such vehicles as will agree to place them at the disposal of the German War Office in case of mobilisation.

The A.C.F. Grand Prix des Voitures.

With the view of encouraging a large entry for the voiturette race which is to be held in July next, the day preceding or following the Grand Prix contest, the French Automobile Club has decided to reduce the entry fees to £20 for one car,

£36 for two vehicles, and £48 for three. It has been decided that the voiturette and heavy car races shall be held on July 6th and 7th. A separate prize consisting of an object of art will be presented by the Dieppe municipality to the winner, irrespective of nationality, of the contest for big cars.

Motor Vans for the Spanish Postal Service.

The Spanish postal authorities in Madrid are reported to be contemplating adopting motor delivery vans on a large scale, and are prepared to receive particulars of suitable vehicles from manufacturers.

A Trial of Motor-Cabs in France.

The French Automobile Club has just decided to organise a trial of motor-cabs, using carburetted alcohol as fuel, at the same time as the industrial vehicle competition in May next. The vehicles will be divided into categories—those having single-cylinder engines being permitted a maximum bore of 100 mm. and those with four cylinders 80 mm., and others, apparently, in proportion. The weight of the cabs will also be in relation to the engine capacity, being 1,000 kilog. for those with single-cylinder engines up to 100 mm. bore. The rules provide for a maximum speed of 30 kilometres per hour, and limit the number of spare tyre covers and tubes that the vehicles will be allowed.



The Petrol Motor-Wagon which an Asphalt Pavement Repairing Company in Berlin is now using for the transport of its material about the city.

For the final classification, the cabs which successfully complete the programme of daily runs will be subjected to a petrol consumption test—on a kilometre-ton basis—in which the speed will also be taken into account.

More Races in Italy.

The municipal authorities of Verona, in conjunction with the Venetian Automobile Club, are organising a motor race meeting for March 15th next. The event, which will be run over a 27 kilometre circuit, is open for three classes of cars, viz.:—(1), four cylinder vehicles, maximum bore, 110 mm., minimum weight of car, 950 kilog.; (2), ditto up to 120 mm. and 1,050 kilog. respectively, and (3), ditto up to 130 mm. and 1,100 kilog. Entries at £4 per car may be sent until March 5th to the Automobile Club Veneto, 19, Via Marsala, Padua.

Motor-Car Accidents in France.

The Commission of Judiciary Reforms of the French Chamber has adopted the recommendations in the report on automobile accidents. These provide that every driver of any species of vehicle who in case of an accident occasioned by the car he is in charge of fails to pull up, or endeavours to escape any responsibility, civil or criminal, he may have incurred, shall be liable to a term of from six to sixty days' imprisonment and a

fine of from 16 fr. to 200 fr. In the case of his having incurred a penal sentence the above punishment may be doubled.

A New Fuel for Motor Cars.

From Stockholm comes the news that two Swedish engineers have produced a new fuel for petrol motor-cars, which not only gives greater power than petrol, but can be produced more cheaply. The new fuel is to be known as "Autolin."

Garage Charges in Paris.

The French Chambre Syndicale de l'Automobile has just issued a standard scale of charges which is being adopted by garage owners in Paris. The rent per month varies in accordance with the length of the car, and ranges from 40 francs for a vehicle 10 ft. long to 60 francs for those up to an over-all length of 16 ft. 6 in. The charge for a single day's garage is 4 francs.

Public Services in Austria.

A public electric motor-car service is about to be established between Weidling and Klosterneuburg, a distance of 4½ kilometres. The line will be on the rail-less trolley system, that is, to say, the vehicles will run on the ordinary road and take their energy from overhead conductors. Three cars have already been ordered for the line from the Austrian Daimler Motor Company, of Vienna.

The A.C.F. Grand Prix Races.

M. Clemenceau, the French Minister of the Interior, has authorised the A.C.F. Grand Prix meeting, which will be held on the Dieppe circuit on July 6th and 7th. Three Motobloc cars have now been entered for the big car event, bringing up the total entries to date to fifteen, while for the Grand Prix des Voiturettes race thirteen entries have been received, viz., three Isotta-Fraschini, three Lion-Peugeot, three Rolland-Pilain, a Fouillaron, and three Le Gui vehicles, the latter being made by Messrs. Guillemin and Co.

Miscellaneous Items.

A syndicate of the manufacturers of non-skids in France has just been formed in Paris.—Owing to the bad weather the hill-climbing competition which was to have been held on the Medea Hill, Algeria, on Sunday last has been postponed until the 16th inst.—The scouts who have just been put on the roads in Paris by the Association Generale Automobile have quickly been nicknamed "les anges gardiens," or guardian angels.—An Adler petrol motor delivery van is being put in service by the postal authorities in Leipzig.—Four hill-climbing competitions will be held in Austria during the coming summer, including the Semmering event on September 20th and a joint meeting organised by the Austrian and German clubs in June.—During the first nine months of last year 344 motor-cars were imported into Russia as against only 242 during the whole of 1906.—The Automobile Club of Guipuzcoa (Spain) proposes to hold a hill-climbing competition near San Sebastian during the coming season.—The first 1908 Clement-Bayard racer left the works on Monday, Riga being at the wheel.

THE National Bank of Commerce of St. Louis, U.S.A., has recently put into commission a special electric motor vehicle built by the Studebaker Automobile Company, of South Bend, Ind., U.S.A. The chassis is of the standard type, while the body is built to the bank's specifications. A door opens on each side in the centre; just in the rear of the driver's seat, and extending under it is located a strong box made of wood and lined with heavy sheet steel. This is divided into five compartments and fitted with a strong lock. Inside the body in the rear, extending across its full width, is located a seat for the person in charge of the vehicle and the officer or guard. The van, which is used for carrying money between the bank and Sub-Treasury, and also between various offices in the city, has a capacity of 10 cwt., a radius of forty miles on one charge, and a speed of twelve miles per hour.

THE DAIMLER COMPANY have received an order from H.H. Maharajah Ranjitsinji Jam Navanagar for a 42-h.p. "Coombe" shooting brake.

THE retreading of tyres and fitting of non-skid bands is being undertaken by Messrs. H. Andrew and Co. at their depot in Athenæum Place, Plymouth.

MR. W. F. STROUD has accommodation for more than thirty cars at his motor garage at Woodhall Spa, a much-favoured resort of Lincolnshire motorists.

MR. H. NANCARROW has a motor garage in Truro which is well planned and equipped. In addition to the repair of motor-cars he undertakes the overhaul of motor launches.

THE Pendleton Radiator Company, of Pendleton, Manchester, are devoting special attention to the manufacture of radiators, bonnets, silencers, petrol tanks, and other sheet metal parts for motor-cars.

J. H. PATTERN has been sentenced at the Old Bailey to eighteen months' hard labour in connection with the conversion of a motor-car to his own use and benefit. He had previously been concerned in other motor-car robberies in London.

ATTENTION is drawn to the danger and expense of using motor spirit for cleaning motor-cars by the British Petroleum Company, Ltd., who suggest that for this purpose ordinary lamp oil is quite suitable; less dangerous, and more economical.

AMONGST the recent orders for Crossley chainless cars secured by Messrs. Jarrott and Letts, Ltd., are those from Mr. Charles Pincock, of the London Corn Exchange, Mr. H. V. Soames, of Kensington, and Mr. J. W. Harrison, of Sandwich, Kent.

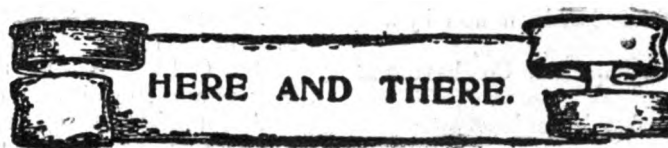
THE import duty on pneumatic tyres in Brazil has been reduced from 50 per cent. to 5 per cent. in order to encourage the development of the automobile movement in the country. The duty on automobiles was similarly reduced several years ago, when it was neglected to extend this reduction to extra tyres.

THE Simplex Engines, Ltd., Coventry, are now making a four-cylinder engine with the magneto drive contained in the crank case, bringing the magneto and pump alongside the motor. Owing to this arrangement and the use of ball bearings the engine is very short, and can be fitted into the space of an ordinary two-cylinder motor.

THE Botanic Gardens Motor Garage is one of the most complete and extensive establishments of its kind in and about the city of St. Mungo. It is situated in Vinicombe Street, Hill Head, Glasgow, and has been erected by Mr. Alexander Kennedy with a view to the accommodation of at least sixty motor-cars and the repair of any disabled ones that go that way.

It is stated that experiments with a view of determining the practicability of extending the use of automobiles are in contemplation by the Quartermaster-General of the U.S. Army. Motor vehicles have already been employed to some extent, such as for passenger transportation, for headquarters in the field, signal corps wagons and ambulances, but now the authorities have in view tests to demonstrate the efficiency of motor vehicles for the transportation of heavy stores in the field, under all conditions to be met in the service, such as hilly country, bad roads and long distances from sources of supply of fuel.

A FEW weeks ago we gave some particulars of the motor service which is being run by the proprietors of "The Eastern Daily Press" for the distribution of their journal in outlying districts. The figures were for the first eleven months in 1907. We have now received details of the complete record for the year. The number of days on which the car was sent out was 309, and on 299 of these every rail and mail connection was made. The total distance covered was more than 27,000 miles. Six of the failures were due to fog. On two days there were partial failures due to tyres, and on two other days partial failures due to machinery. As previously mentioned, a Siddeley car is used, and the record shown not only demonstrates the use of the motor-car for commercial purposes, but is also a standing testimonial to the efficiency and reliability of the vehicle employed.



UNDER the auspices of the Royal Sanitary Institute a conference on present-day road requirements is being held this week-end at Nottingham.

It is reported that a group of Spanish sportsmen intend to hold a motor-car race on the Island of Majorca, one of the Balearic Islands, in September next.

MR. J. R. STATHAM, who has a garage at Kilkenny, is doing good business in motor repairing of all kinds, being situated in a district where the bad roads are very trying to tyres.

THE petrol motor ambulance recently ordered by the Corporation of Salford has now been completed. The chassis was built by the Empress Motor Company, Ltd., Manchester, and the body by Messrs. Wilson and Stockall, of Bury.

MR. B. J. F. BENTLEY, who left England last summer with a view to motoring across Somaliland and Abyssinia to Khartoum, and then by the Nile Valley to Alexandria, recently reached Adis Abeba—the half-way house from Djibouti to Khartoum—after an adventurous journey of four months. The Siddeley 18-h.p. car which he is driving was the first vehicle of any kind to cross Somaliland, and he received many congratula-



tions on his feat, which is regarded locally as a wonderful one. H.M. Emperor Menelik showed great personal interest in the performance, and a day or two after the arrival at Adis Abeba accompanied Mr. Bentley for a trip on the car, subsequently driving it several miles. In the accompanying illustration Mr. Bentley is seen driving the vehicle, with H.M. the Emperor on his left, while the back seats are occupied by the British and American Ministers.

THE Contest Committee of the American Automobile Club announces that, owing to the fact that the trustees of the Dewar Trophy will not consent to the qualifying conditions laid down by the committee (that cars to be eligible to compete for said trophy should cover 100 miles at an average speed of sixty miles per hour), this race has been struck out of the programme of the forthcoming Ormond-Daytona (Florida) meeting. It is probable, however, that a one mile competitive race for a trophy will be substituted in its place. The conditions for the invitation race for gentlemen amateur drivers have been amended, so that any gentleman invited to drive in this event is not obliged to own the car, but can borrow or secure a car or chassis provided he drives it himself.

THE Mysore Cup in the Indian Trials has been won by a Fiat car.

AT Kirkcaldy Messrs. Eugene Descamps and Co. have a large motor garage.

It is reported that the Sultan of Turkey has ordered twenty motor-cars from a German firm.

PRINCE HENRY OF PRUSSIA has just placed an order with the Benz Company for a six-cylinder car.

LAST year 2,003 driving licences were granted, while 1,609 cars were registered in the city of Manchester.

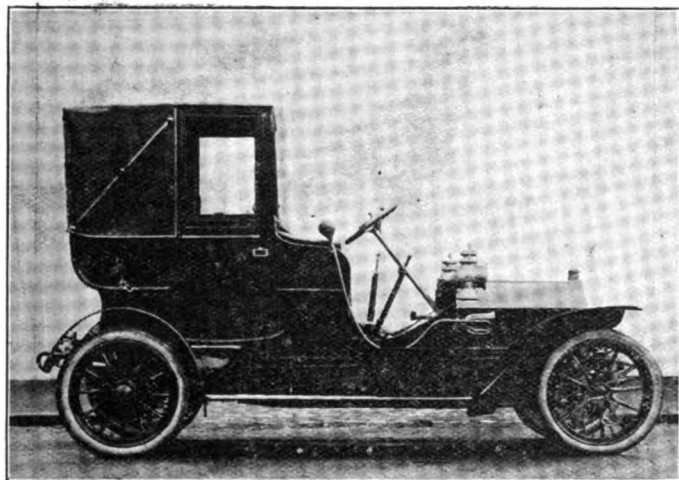
MR. B. R. THORNTON, Granville Lodge, Hove, is taking an active part in the opposition to the proposed motor roads.

A COACHBUILDING department has been added to the motor establishment of Mr. Gibbons-Brooks, in Queen Street, Cardiff.

THE leading paper of Amsterdam, "De Telegraaf," is using a number of Humber cars for the rapid conveyance of newspapers in the Dutch capital.

THE Star Engineering Company have appointed Messrs. George and Jobling, of Newcastle-on-Tyne, the agents for Star cars in the districts of Newcastle and Darlington.

WE illustrate herewith a 12-h.p. vehicle which has been specially constructed by the Star Engineering Company for motor-cab use in accordance with the requirements of the Metropolitan Police regulations. The car is fitted with one of the latest Star four-cylinder engines $3\frac{1}{2}$ in. bore by $4\frac{1}{2}$ in. stroke, with high tension magneto ignition. The cab body is high-class



in every respect, the head being made of enamelled leather, and the inside upholstered in leather with spring cushions. The vehicle is designed to carry two persons inside with an extra lift-up seat for a third passenger if required. The type illustrated has side chain transmission, but a similar one with live axle can also be supplied.

A MOTOR-BOAT race meeting will probably be held this year at Gravesend under the aegis of the Racing Committee of the British Motor Boat Club. The meeting will, doubtless, be strongly supported by the Essex Motor Boat Club.

It was reported at the Surrey County Council on Tuesday that during the past year 401 motor-cars were registered in the county and 244 motor-cycles, whilst 4,725 drivers were licensed. The total receipts under the Motor Car Act during the year were £1,732, excluding, of course, the fines imposed on motorists in the courts.

A DEMONSTRATION of a new device for curing puncture troubles was given in London last week. It consists of a special inner tube, to which the name "Sealomatic" has been given. The tube is provided with a double lining made of a patented material, and it is claimed that nails, flints and the usual impediments that puncture tyres will not cause these tubes to become deflated. We hope to refer more fully to the new tube in a future issue, but, in the meantime, may state that it can be seen at the premises of Messrs. Gillespie and Co., 226, Vauxhall Bridge Road, London, S.W.

MESSRS. GADSDON, HULBERT AND CO. have extended their garage in the High Street, Bognor.

MR. C. LEETE is the manager of the Hoylake Garage at the Quadrant, Hoylake, Cheshire.

ACCORDING to a report from Rio de Janeiro, Brazil, there are at present about 350 motor-cars in use in that city.

WE learn that the Lansdowne Motor Garage, of Norwood, is giving free garage to motor-cyclists visiting the Crystal Palace.

A PRIVATE service of motor-wagonettes is to be run between Darnall tram terminus and Swallownest, via Handsworth and Woodhouse Mill.

110, High Street, Marylebone, London, W., is now occupied by Mr. Walter Dickinson, who has opened the premises for the sale of high-grade motor bodies.

THE police in the neighbourhood of Birmingham have lately been extremely active in summoning motorists for driving cars without having the rear number illuminated.

AT the meeting of the Rugby Engineering Company on Thursday, Mr. Bernard Hopps read a paper on "The London Motor Omnibus Problem," with special reference to the petrol-electric system.

MR. J. GROSE, of the well-known firm of Messrs. J. Grose, Ltd., of Northampton, who has long been identified with non-skids for motors, is placing a number of motor-cabs in service in Northampton.

THE West Sussex County Council has authorised the purchase of a motor-car for the use of the County Surveyor at a cost not exceeding £250 net—i.e., after allowing for the price to be obtained for the old car.

COMPLAINTS have been made to the Motor Union of the erection of unauthorised speed restriction notices near Chippenham and Stratford-on-Avon, and steps have been taken to bring the complaints to the notice of the authorities concerned.

THE awakening of the motor season is apparent from the inquiries which seem to be about for non-skids, and the Durandal device is, of course, receiving attention in this connection. With tyres kept well inflated this speciality, introduced by Messrs. Stuart Morrison and Co., 199, Piccadilly, W., has certainly proved its value—both in durability and in the effective prevention of skidding.

A TRIAL under the official observation of the Scottish Automobile Club, extending over three days, of "Ross" Motor Spirit, a product of Scotch shale, manufactured by Messrs. James Ross and Co., Philipstoun Oil Works, Linlithgow, has been made on a 40-h.p. Berliet car. The route followed embraced Edinburgh, Abington, Carlisle, Newton Stewart, Ayr, Greenock, Glasgow and Stirling.

FROM the Slew Tyre and Wheel Company, Ltd., of 15, High Street, Manchester, comes a pamphlet illustrating and describing a new tyre and wheel for motor-cars they are introducing. The tyre is of a special construction, comprising an arch of solid rubber, supported only at the sides by a double grip, and consolidated by rubber bridges, provision being made to prevent both lateral and circumferential movement. It is claimed that the tyre compares in action and resiliency most favourably with pneumatics, without possessing any of the faults of the latter.

MR. CHARLES JARROTT, on his 80.4-h.p. (R.A.C. rating) Lorraine De Dietrich, set up a new record for fifty miles at Brooklands on Wednesday, the 5th inst., his time being 36 min. 5.75 sec., this being equal to a speed of 83.112 miles an hour. It was Mr. Jarrott's intention to secure also the hour record, but unfortunately his rear tyre collapsed when he had only about ten minutes to run and about eight miles to go to secure the record, consequently he gave up the attempt for that day, being satisfied with having made the record for the fifty miles. Mr. Jarrott will attempt both the 100 miles and the hour record in the near future. It is interesting to recall that Mr. Jarrott was the first arrival at Bordeaux in the heavy car class in the lamentable Paris-Madrid race. He was at that time driving the same make of car, namely, the Lorraine de Dietrich, and averaged over sixty miles an hour on the road from Paris to Bordeaux.

FROM PARIS TO VIENNA BY MOTOR-CAR.

(Concluded from page 1085.)

AT ROMANSHORN, on the Bodensee, more Customs and more delays, and, at the hotel, no garage. When will mine host wake up to the requirements of well-to-do motorists who have money to spend? Cleanliness, attention, and good food were quite exceptional, and the attitude all along is "If you don't like it, go without." We therefore went without these small necessities of life and made the best of things. The distance run during the second day was 190 miles, and no stop of any kind was recorded against the car.

At Reineck, the next morning, we left Swiss territory for good, and were now once more on Austrian soil. A detour of about twelve miles was made to Bregenz, where letters were awaiting us, and after passing Feldkirk we began the climb up the Arlberg mountains. For some reason or other the car went better this day than on previous days, and we were very seldom off the top speed. Perhaps the little motor knew what was expected of it, and put its best foot forward, and never faltered or hesitated for one moment during the long and arduous climb. Occasionally steep bits called for a lower gear, and at Stuben we halted for a few moments to replenish our water supply. Our arrival here was heralded with a chorus of surprise. The smallness of the car and the size of our bonnet depicted a tiny motor, and as many powerful four-cylinder vehicles had tailed at this ascent, the peasants would hardly believe that we had not been towed up by a team of horses. This, by the way, is a familiar sight in this district, and a good many of the inhabitants went back a few hundred yards to see if we had left our team behind a bend in the road. As nothing was in sight they concluded that the two-cylinder motor had done the work, and we were congratulated on all sides. The inhabitants along the route had lively recollections of the Paris-Vienna motor race, and we heard many exciting incidents repeated. We were pointed out certain horses which had dragged several racers up this formidable climb, and numerous points where narrow shaves occurred were carefully brought to our notice.

Once more *en route*, and a few miles further on we breasted the mountain, and our little voiturette had conquered the famous ascent. The descent extended over about nineteen miles, and a careful scrutiny and adjustment of our brakes was a necessary precaution before the start. Nearing Innsbruck several sharp ascents gave the motor all it wanted, and we were not sorry to reach Rattenberg, a charming little town of much historical interest in the Unterinntal, 190 miles away from our starting-point in the morning.

The mile and direction posts which are so admirably arranged in France were very much missed on the latter part of our journey. In the Tyrol and Salzburg districts, those at the roadside were worse than useless. Instead of giving the distance to the next town in kilometres, it was given in hours and minutes. This gave us little information as to the distance, unless one calculated on the basis, say, of walking six kilometres an hour. Civilisation in these districts wants much improving. The danger or caution boards are also worthy of a growl. In France, one can easily read the inscription and drive accordingly. In Austria, however, things are different. Ten or twelve lines of small type, which no man can read, give the desired information, and as the notice is perched on rather a high pole, telescopes are necessary to understand what it says. Otherwise, the trip was very pleasant, and as we drove very cautiously we took no risks and did not trouble much about the signs.

The country through which we travelled was really magnificent, and the population very well disposed to motorists. The children waved flags as we passed by, and we enjoyed every minute of the day. We reached Amstetten at seven o'clock, having travelled just under 200 miles in the day. As Vienna was only seventy miles away, we could easily have pushed on and reached it before midnight, thus completing the journey in four days. We were, however, not out for a race, and decided to

have a night's rest and complete the journey in daylight. Reliability was our motto, and not speed, although some of the days' travel, especially the first one of 360 kilometres, showed what the little car was capable of doing when running with throttle wide open. We were favoured with fine weather all the time, and experienced a most delightful trip through country which is not excelled from the scenic point of view by any in the world. The motor ran like a clock, and the only stop for mechanical trouble was to replace a joint in the water circulation, the rubber part of which had perished. This caused a few minutes' delay, as did also one puncture. We carried a cylinder of compressed air, which soon inflated the tyre, and the outer covers wore splendidly.



A View on the Strub Pass.

We did not keep an accurate record of the petrol used, but we must have averaged quite thirty miles to the gallon. Thirteen pints of lubricating oil were all that were required, and no other expense whatever was incurred during the trip.

THE motor engineering class previously held by the Eastbourne Education Committee having been so successful the Committee contemplate arranging another course of lectures, to be addressed by Mr. P. Ellison, providing a sufficient number of students can be got together. Prospective students should forward their names to the Town Clerk (Mr. H. W. Fovargue) not later than Monday next.

MR. T. BIGNALL, the London manager of the Acre Rubber Company, Ltd., is receiving satisfactory expressions of users' opinions of the new "Arco" combination non-skid band. In the improved pattern the rubber tread is as before, but the leather strip now extends over the walls of the cover, and while the utmost resiliency is retained, the wide leather tread is skid-proof and practically unpuncturable. Between the cover proper and the non-skid band are inserted strips of leather specially treated with rubber, so that the inner portions of the metallic studs cannot injure the tyre. When the non-slipping band, therefore, has been worn right down to the rubber, a new band may be fitted with perfect safety, the body of the tyre having been protected from injury. The new "Arco" band can be mounted on any maker's outer covers, and is particularly adaptable to covers formerly fitted with non-skid bands of other types.

Correspondence.

[Letters to the Editor should be addressed to the office, 27-28, Charing Cross Road, London, W.C.]

THE RULES OF THE A.C.F. GRAND PRIX RACE.

To the Editor of *The Motor-Car Journal*.

SIR,—I see a letter in a recent issue of yours from M. Paul Meyan trying to justify the French Automobile Club in allowing detachable rims in the Grand Prix but barring the British equivalent—the detachable wheel. M. Paul Meyan says the detachable wheel is bringing in a principle that, if allowed, would entitle people to change gear-boxes and other vital parts. He is evidently unaware that the detachable wheel in this country is considered by the highest in the land to be at least the equivalent to the detachable rim, as it makes a better motor-car, whereas the detachable rim makes a worse motor-car, as it adds weight in the part where it is the greatest disadvantage, viz., the revolving wheel.

The detachable wheel is used by, amongst others in this country, His Grace the Duke of Bedford, the Right Hon. Lord Londsdale, the Rt. Hon. A. J. Balfour, and Sir George Pilkington. Surely these names are sufficient to show that it is a device for the touring car and not primarily for the racing car. I think it exceedingly clever of the French Club to try and get the world to believe that the detachable rim is the best method of rapidly repairing a deflated tyre, but as I know it is not I do not intend to allow the French motor industry to trap me into a race with a device which I do not agree with, and

Napier ran equipped with the French device, it is, to people who do not know the facts, an admission that Great Britain has to go to France for its motor requirements and ideas.

These big races are held for the purpose of trying to place one country's manufacturers in the eyes of the world ahead of others. I will not, as one interested in British motor-cars, do anything which in my opinion jeopardises the British industry or places it in a false position.—Yours truly,

S. F. EDGE.

SOME FEATURES OF 1908 ENGINES.

To the Editor of *The Motor-Car Journal*.

SIR,—I have only just, owing to absence from town, seen your issue of the 31st ultimo, and the article therein concerning Mr. Baillie's paper entitled "Some Features of 1908 Engines." I notice what he says regarding the inlet piping on the "Porthos," and that he suggests that whilst we now use the single straight piping with the carburettor connected at one end of it, it would be just as easy to have the connection in the middle. May I inform Mr. Baillie, through the medium of your columns, and also the public, who no doubt read the article, firstly, it is not the carburettor which is fitted to the end of the



The Darraq-Serpellet Steam Bus which has just been put in service in Paris between the Lyon and St. Lazare Railway Stations.

of which a British inventor has already produced a far superior equivalent.

I also notice a letter in your last issue from a correspondent famous, amongst other things, for leading forlorn hopes, and championing the foreigner and his motor-car. In his arguments to try and make out that the present Grand Prix Rules are fair ones, although they allow a rapid French means of detaching the tyres, but bar the British equivalent, he is omitting one very important fact when dealing with the Paris-Berlin and the Paris-Vienna and other well-known races, and that is at this period not only were the hubs of the wheels stamped, but the rims. It is therefore quite clear that the rules standing at this time were departed from for the Grand Prix of 1906, when the fact that detachable rims were used by a few competitors gave the French constructor an enormous advantage over other competitors who had not the opportunity of using them in the race, and enabled the French to win the race, which might very easily, if the detachable rim had not been allowed, have gone to another country. His comparison of the changing of a tyre by the use of a detachable wheel is quite different to changing a gear-box, and he must himself realise that the parallel is not a fair or reasonable one.

My feeling in the matter is purely a personal one. I have not a penny piece of financial interest in the Rudge Whitworth detachable wheel, but from experience I know it to be the best device at present known for coping with tyre troubles. Therefore I have no intention that the six-cylinder Napier shall assist the French industry by using a device which allows for replacement of tyres when there is a British equivalent far in advance, and which, if used in a big international road race, would become known world wide through its advantages and thus place the British industry in this particular well in front of the French, whereas if the French have their way and the six-cylinder

exhaust pipe but it is the mixing chamber; secondly, last year we used to fit the mixing chamber in the position kindly suggested by Mr. Baillie, i.e., the centre, but we found that very much better results are obtained by fitting it at the end. When doing this we fully realised that we should lay ourselves open to hostile criticism, and you can, therefore, quite readily understand that we should not have made this radical alteration unless we were fully satisfied that an advantage must be gained from it.

Mr. Baillie kindly remarked that he could not help thinking that the end connection had been made for some reason which escaped his intelligence. Naturally there was a reason for it, and I doubt very much if anyone but Mr. Kieffer, the inventor and patentee of the Porthos carburettor, and ourselves are aware of this reason, and you can quite understand that we do not propose to give the trade the benefit of it.

I should very much like, however, to take anyone who read and was interested in this article for a run on one of our last year models, and then immediately afterwards give him a run on one of the new models, when he could observe the difference for himself, although I much doubt if he would know the cause.

On the subject of exhaust piping Mr. Baillie gave the names of several cars which are fitted with expansion joints. I would like, in the interest of my company, to mention that the Porthos has been fitted with expansion joints for the last three years, Mr. Baillie having omitted to mention this fact whilst naming the other cars that are similarly fitted.

Apologising for the length of this letter and trusting that as you have inserted Mr. Baillie's opinion on the points enumerated above, you will allow my reply to him to be inserted.—Yours truly,

COLIN DEFRIES.

HILL CLIMBING IN EDINBURGH.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The account given in the last number of the *M.C.J.* of the performance of a car driven by my friend Mr. Percy Richardson is rather misleading. Frederick Street, in Edinburgh, is quite a short street—not more than a quarter of a mile, and half of it is up hill and half down hill, as shown by the section given in the notice. The section shows Comely Bank, Raeburn Place, Stock Bridge, N.E. Circus Place, and Howe Street in addition to Frederick Street. It is quite a mistake to say that there are "two bad turns" on the route.

The performance on Ramsey Lane deserves all praise. That is really a stiff and difficult ascent.—Yours truly,

J. H. A. MACDONALD.

POLICE TRAP AT CRAWLEY.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Once again I am sending you particulars of the latest dodge the police have in this (Crawley) district. The last few Sundays they have secreted themselves in various places from the Sun Inn, the London side of Crawley, to Hoggs Hill, going from Crawley to Brighton. They now conceal themselves behind the Sun Inn buildings and a barn about 220 yds. nearer Crawley, both situated some distance back from the road, therefore it is impossible for the scouts or anybody travelling through to see them before they are pulled up, as one found out to his cost yesterday. Motorists must also drive cautiously every day of the week from the county boundary, two miles London side of Crawley, to

open class. The prizes for this class will be gold, silver, and bronze medals and certificate. The winner of the gold medal will also be awarded a free insurance for twelve months on his motor-car up to an unlimited amount, which policy will be given by the Car and General Insurance Corporation.—Yours truly,

WILFRED GROOM.

THE SETTING OF VALVES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to the letter from "Interested Enquirer" in last week's *M.C.J.*, he is quite right in noticing that we have our exhaust valves open a long time, and, as he remarks, so late that the inlet has commenced to open. Now will he carefully work out from your article how soon the inlet valve opens before the exhaust has closed, and explain what the results will be on different engines? He says he is sorry he cannot produce the two engines he wrote about, but cites another instance that he cannot prove; in fact, he can go on producing—on paper—several instances to prove he is right. Well, we might argue the same way till doomsday, but an ounce of facts is worth a pound of theory. Now we will make him a sporting offer, so that it will be worth his while, or anyone else who doubts our claim. We are prepared to deposit with the Editor of this paper the sum of £50, to be paid to anyone who will produce two petrol engines, one high and one low speed, that we cannot make run better, set to our standard setting, than they will with any other. All we ask is that some impartial umpire shall witness the test, which can take place on the track here at Bexhill, and after it has been proved that we are right, then your correspondent shall pay



Touring in Spain.—A couple of Daimler Cars at the Level Crossing, Escorial.

half a mile Brighton side of the level crossings, otherwise they may fall victims to these underhanded traps.

Trusting you will insert this that the police tactics may be laid low, especially now that the objections re speed limit ten miles per hour is advertised by the Local Government Board to be lodged by end of this month.—Yours truly,

JUSTICE.

FROME'S HILL CLIMB.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—With regard to the decision of the Royal Automobile Club not to grant any permits for hill climbs on public roads this year, I shall be very glad if the competitors will communicate to me their wishes with regard to the holding of the above contest, taking into consideration the way in which the Herefordshire people welcomed them and the manner in which the contest was conducted.

Although I have ceased to act as hon. secretary of the Herefordshire Automobile Club, they have requested me to act as hon. secretary for the contest in the event of our being successful in getting a permit. Will the competitors kindly communicate with me to the office of the Car and General Insurance Corporation, 29, St. Andrew Square, Edinburgh?

It is proposed to use the same formula as last year, but some of the rules will be altered, namely, the one requiring an observer, and that requiring the competitors to be at Hereford the day before. We propose to do away with observers and to have the cars weighed the morning of the contest, and hold the contest itself in the afternoon. It will not be necessary to declare the weight on the entry forms. The classification will be the same, but, in addition to last year's class, there will be another for strictly private owners, the competitors in which will be eligible for the

the cost of setting, which will be very little compared with the £50 he stands to win.—Yours truly,

LARRAD'S PATENTS SYNDICATE.

ADJUSTABLE RIMS AND WEAR OF TYRES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of February 8th there is a letter from "Nelson" headed "Adjustable Rims and Wear of Tyres," and on the same points there has been through the motor Press a considerable amount of correspondence. It has been suggested that as each type of adjustable rim, or as it is more generally known "detachable rim," is associated with a particular make of tyre, the maker of the tyre trades on the fact that the possessor of a car so fitted is bound to him for tyres and therefore eases up in his efforts to produce the best possible article. This is probably an erroneous explanation, because the motor tyre trade is far too wide awake and long-sighted to embark upon so suicidal a proposition. Another explanation that appears to me more probable is, that the detachable rim adds weight at absolutely the worst part of the car, because not only is the rim travelling twice as fast as the rest of the car, but it is entirely uninsulated from road shocks.

A tyre is the cushion which is placed between the sledge hammer of the wheel and the anvil of the road. The detachable rim practically doubles the rim weight, or, in other words, adds something like 15 lbs. to the weight of the wheel, and this increased hammering is having its effect on the durability of the tyres. It is a little surprising, however, that detachable rims in the short time they have been on the market should have brought out this trouble so strongly as to make it a matter of Press correspondence. The case of the detachable wheel is rather different as compared with the ordinary fixed wood wheel, it reduces the weight on each tyre by about 10 lbs., and is doubtless engaged in the benevolent undertaking of

prolonging the life of the many tyres which are fitted to it. But we human beings are much more prone to cry out when we are hurt than when we are benefited; for this reason your correspondent "Nelson" writes to you.—Yours truly,

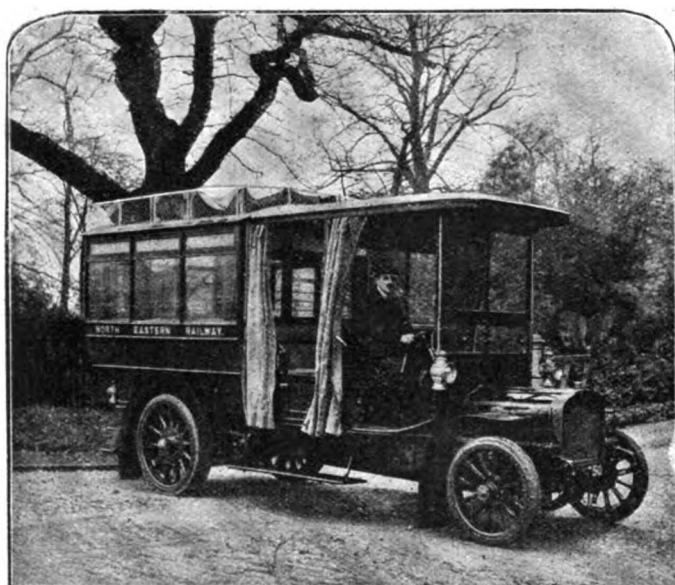
JOHN V. PUGH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, "Nelson," in the last issue of the *M.C.J.* asks, "Do tyres wear out much quicker with adjustable rims?" I presume he means detachable rims, and the obvious answer seems to me to be that it entirely depends on the kind of rim used. I have run several thousand miles on detachable rims which, as far as the fitting of tyres is concerned, do not differ in any respect from the ordinary rim used to hold any kind of standard beaded edge covers, such as Dunlops, Michelin, Continental, &c. Why should tyres, under these conditions, wear more because the rim is detachable instead of being shrunk on to the wheel as in the ordinary case? Although in use it is fixed just as securely without a possibility of moving, I can change it for another rim with tyre fully inflated in three to four minutes, and the rim itself is exactly the same as those that are usually shrunk on.

My advice to "Nelson" is not to give up using detachable rims, but to exchange those he has for others properly constructed to carry the every day tyre of commerce.—Yours truly,

MARTIN.



The Saurer Motor-Bus employed by the North Eastern Railway Company.

THE A.C.F. GRAND PRIX RACE.—Mr. W. M. Letts sends us a copy of a letter he has written to Baron Adrien de Turckheim, of the De Dietrich Company, in which he states that "It seems to me it would show a very fine spirit if the De Dietrich firm would write to the Automobile Club saying that so far as they are concerned they are willing for Mr. Edge to take part in the Grand Prix with his Napier cars on his own terms, i.e., that he shall use detachable wheels."

MR. G. DOWNARD-JACQUES, of 4, Egerton Road, St. Jude's, Plymouth, has sent us a photograph of a "sectional model" of a steam engine which he has constructed to show, among many other points, the following: The working of the piston, "Dee" and trick valves; the effect of "lap" and "leads," (+ and -) on the steam and exhaust edges of valves, and how indicator cards are affected thereby. By following a pointer fixed to the piston, running over scale (graduated) 360 divisions (degrees in a circle) all the points of the indicator card may be followed on squared paper fixed to desk in front of the cylinder, viz., lead, admission, cut off, expansion, exhaust opening, exhausting, closing and compression. By a slotted quadrant fixed to the shaft, the eccentric may be advanced or retarded to alter all these points on the card. On the shaft fixed in line with the crank pin is another pointer, working over a graduated dial (360 deg.) to correspond with scale in front of the cylinder, the idea being to show the angle of obliquity of the connecting rod when the piston is at half stroke. The necessity of giving more lead is to overcome this angle, on the outward or return stroke, as the case may be; so that the power on each side of the piston shall be nearly the same. Mr. Downard-Jacques is at present constructing a sectional model of an internal combustion engine in which he is trying to show some of the points described above, and if possible with variable cams, &c. He offers to send to any reader of the *M.C.J.* interested in the matter, photographs or drawings, with descriptions of the models, and at the same time he is open to receive any hints and suggestions on the same as specified above.

COMPANY NEWS.

MOTOR-UNION INSURANCE.—The net premium income of the Motor Union Insurance Co., which held its meeting on Tuesday, after allowing for reinsurance, amounts to £36,365. In addition there has been earned as interest and dividends upon investments the sum of £556, making a total net income of £36,922. The claims and commissions paid and outstanding on December 24th, 1907, amounted to £15,756. To meet the liabilities upon unexpired policies the directors have set aside the sum of £12,121, which they are advised is fully adequate for the purpose. Out of the available balance the directors recommend the payment of a dividend of five per cent. upon the paid-up capital, and the balance to be carried forward. The company has invested the sum of £20,000 in Trustee Securities. The first annual meeting of the company was held on Tuesday, Mr. C. H. Dodd being in the chair and congratulating the shareholders upon the fulfilment of the hopes held out in the original prospectus. He dwelt upon the various sections of the report, concluding by moving its adoption. This was seconded by Mr. W. Rees Jeffreys, who said they had been able to give a better policy than any other company, and their action had had considerable effect on the conditions of other companies. This resolution having been carried unanimously, Earl Russell was re-elected a director, and a vote of thanks to the officers concluded the proceedings.

MOTORIST v. BOROUGH COUNCIL.

IN the case of *Macnaughton v. the Holborn Borough Council*, heard on Tuesday, the plaintiff was Mrs. Tom Macnaughton, better known as Miss Alice Lloyd, who sued defendants for personal injuries and damage to her motor-car, owing to the negligence of the defendants in allowing a street lamp to remain unlit, or, alternatively, allowing a nuisance to be in the roadway. Mr. Doughty, for the plaintiff, said that she and her husband were proceeding, on a night in January, to the Trocadero. At the top of Drury Lane there was a lamp-post in the middle of the road, unlit, and plaintiff's chauffeur collided with it. A policeman had noticed the incandescent gas mantle was broken, and told the Council's foreman, who turned the light out altogether. Miss Lloyd had to be taken to the hospital, as she was badly cut on the forehead. After hearing the evidence Mr. Mackenzie, for the defendants, submitted that there was no case to go to the jury. Judge Woodfall agreed. There was no evidence that defendants were negligent, or that the foreman acted otherwise than rightly in turning out the lamp. The plaintiff must be non-suited, with costs.

ALL FOR A POUND A WEEK!

A GOOD story is told by Mr. Frank Morris, of King's Lynn. A clergyman and his wife requested Mr. Morris to provide a suitable, reliable, and thoroughly experienced driver for a new car, and it was arranged that a man should meet them on the following day at a certain place with the car, and Mr. Morris was also to be present in order to advise as to the man's capabilities for the post. On arriving at the appointed place the clergyman explained that his better half was unable to be present, but that she had a few written questions to be put to the man, and that if he was agreeable to undertake the post they would pay him £1 per week for a start.

The list was as follows:—

MOTOR DRIVER'S DUTIES.

Be at the rectory from 6.30 a.m. till seven at night.
Take entire charge of the car and clean and polish it.
Manage the pony.
Milk the cow.
Feed the chickens, pig, &c.
Clean the boots and knives.
Mow the lawn and garden.
No meals here.
Touch his hat to us.
Ride a bicycle.
Must work on Sundays, and wear decent clothes and a billycock hat.
Mr. Morris concludes sarcastically, "and the man refused the place."

MR. G. HUBERT WOODS has been appointed general manager of the Kempshall Tyre Company of Europe, Ltd., whose offices are now at Trafalgar Buildings, Northumberland Avenue, W.C.

AT the recent Amsterdam Motor Show, the Prince Consort spent some time in examining the Dunlop detachable rim, and asked that the fullest particulars should be sent to him.

In order to encourage the participation of private owners of Rover cars in hill climbing and similar competitions during the season 1908, the Rover Company, Ltd., inform us that they will undertake the "tuning up" of privately owned Rover cars entered for such competitions free of charge. They realise that many owners are deterred from entering hill climbing competitions by a feeling that their vehicles have no chance against the specially "tuned up" cars of professional drivers, and so they make this offer in order that Rover owners at least may not suffer this supposed disadvantage. They do not, of course, include free repairs in this offer.

INTERNATIONAL TOURING CAR TRIAL, 1908.

THE object of the trial is to provide a test of touring cars with a view of displaying the capabilities of the modern motor vehicle. In the new regulations just issued a departure has been made from those which have governed previous touring car trials. The advantage to be derived from the system adopted is that the successful competitors will be known as soon as the Trial is finished, since the first car in each class to pass the winning-post at Brooklands, in the 200 Miles Race which will conclude the Trial, will have won the prize in its class.

BASIS OF COMPETITION.—The Trial will take the form of a tour of not less than 2,000 miles on the road, followed by a race of not more than 200 miles on the Brooklands Track, and the basis of the competition is time lost under any of the following headings:—(a) In excess of the maximum running time allowed for each stage. (b) In advance of the minimum running time allowed for each stage. (c) In adjustments, repairs, replacements, lubrication, replenishments of oil and water, or involuntary stops, except on a hill whilst being officially timed. (d) In excess of three minutes for petrol cars and ten minutes for steam cars allowed for starting-up each morning, during which no other work may be done. (e) In excess of the one minute starting allowance after compulsory stops on the road. (f) In filling in petrol, each gallon put into the tank will be reckoned as one minute lost. (g) In climbing the timed hills. (h) In covering the required distances on the Brooklands Track, including any involuntary stops.

MINIMUM AND MAXIMUM SPEEDS.—(a) Every daily distance (except at Brooklands) shall be apportioned into stages. (b) There shall be a maximum running time fixed for every stage. (c) The time occupied by all stops shall be added to the maximum running time in order to arrive at the car's actual maximum time for the stage. (d) If the number of minutes occupied by a car in completing a stage is in excess of the car's actual maximum time for the stage, the car shall lose minutes to a number equal to the excess minutes. (e) A car which does not arrive at the end of a daily distance by 5 a.m. on the morning following shall be disqualified. (f) There shall be a minimum running time for every stage. (g) The time occupied by all stops shall be added to the minimum running time, in order to arrive at the car's actual minimum time for a stage. (h) If the number of minutes occupied by a car in completing a stage is less than the car's actual minimum time for the stage, the car shall lose a minute in respect of every minute of prior arrival. (i) If the prior arrival is due, in the opinion of the Club, to deliberate intention on the part of the driver, the car shall be disqualified. (k) Any car arriving at the end of a stage before the expiration of the car's actual minimum time shall be stopped and kept standing with the engine running till the car's actual minimum time for the stage has expired, and during this period no work may be done. (l) It is intended that the average speed implied by the minimum time for a stage shall be approximately maintained throughout a stage. Any car which may pass other cars (which are maintaining the average speed) in such a manner as to inconvenience other competitors and to necessitate the car loitering in order to prevent its arrival at the end of the stage before the expiration of the minimum time, may be disqualified.

ROUTES.—All cars in each class shall cover the same route each day. The daily road distance will not exceed about 170 miles.

DESCRIPTION OF CAR.—The cars shall conform to the requirements of the British law, shall have not less than four road wheels, and shall comply with the conditions given in the Table of Touring Car Standards published in the *M.C.J.* of November 18th, 1907.

Every entrant shall supply to the Club, not later than March 31st, 1908, on a form to be provided by the Club, a complete specification of the car or cars entered by him. Should he enter after March 31st, 1908, the specification shall accompany the entry. If the entrant be the manufacturer of such car or cars, or his authorised agent, he shall supply, not later than fourteen days prior to the start of the Trial, on a form to be provided by the Club, a signed undertaking to accept orders at the price stated for cars conforming in every respect to such specification for a period of six months from the commencement of the Trial, for delivery within a reasonable period; if the entrant be not the manufacturer then the undertaking shall be signed by the manufacturer.

PASSENGERS.—Each car must at all times carry its full complement of male passengers, or equivalent weight (see Table of Standards): provided that mechanics need not, and other passengers must not, be carried at Brooklands, but in their place ballast must be carried. In cases where ballast is taken 140 lb. shall be considered the necessary equivalent per passenger. For Brooklands (only) such ballast will be provided by the Club. Tools, luggage, fuel, oil, parts, and the like shall not be reckoned as ballast. If the mechanic be not carried at Brooklands the driver alone may do any work.

OBSERVERS.—Every competitor shall provide throughout the Trial one competent Observer per car entered by him. Every Observer shall be subject to the approval of the Club, and the competitor shall be in every way responsible for his actions, his remuneration and expense. Every entrant shall supply the Observer nominated by him with a single chronograph approved and supplied by the Club to the entrant at cost price.

REPAIRS, &c.—Except at Brooklands, no driver or mechanic, or in the case of a two-seated car, the Observer, shall be allowed to leave his seat or to make any adjustment or repair, or use any oil can, while the car is running, but the use of a pressure-feed pump, or the adjustment or manipulation of any fittings on the driver's side of the dash-

board and above the floor boards will be permissible. The gear ratio shall not be changed during the Trial under any circumstances. All parts replaced (except outer tyre covers and inner tubes) must be carried throughout the Trial, except such detachable wheels or rims as may be replaced at Brooklands, provided that stores and parts may be replaced by equivalent ballast for the purpose of the Brooklands Race, and provided that extra outer tyre covers and inner tubes, in exchange for those on the car at the start, lubricating oil, and water may be acquired during the Trial, and ignition batteries may be recharged. New batteries may be purchased en route, but all batteries must be carried on the car to the end of the Trial. It is evident from the above regulations that:—(a) During a stop for repair or adjustment any work may be carried out; (b) During the filling in of petrol, no other replenishment, repair, adjustment, uncovering or inspection of parts, may be made to the car.

FUEL CONSUMPTION.—One minute will be accounted as lost in respect of every gallon filled into the petrol tank of the car throughout the Road Trial. The fuel taken on board at Brooklands before the race (and during the race) will also be taken into account, i.e., one minute per gallon. No vehicle shall carry fuel or water, other than that contained in the tanks, except the remainder of a tin of fuel partially used, and which remainder shall be emptied into the tank before the Observer leaves the car in the evening, and one two-gallon tin of fuel bearing the seal of the Club, which shall be used only in cases of emergency, and which shall be supplied to each car. Such spare tins must be emptied into the tank at the termination of the Road Trial.

ENGINE STARTING ALLOWANCE.—An allowance of three minutes for petrol cars and ten minutes for steam cars for starting up at the depot each morning will be given. No further starting allowance will be made during the day except one minute for re-starting after all compulsory stops. During this time allowance no lubrication, repair or adjustment, or any operation other than the following is to take place:—Petrol cars—turning on petrol tap, pumping up pressure feed, flooding the carburettor, actuating the half-compression device, switching on the current, turning the starting handle, operating self-starters (no petrol or paraffin to be injected into the cylinder heads); Steam cars—turning on the fuel, pumping up pressure, lighting the pilot light, pricking vaporiser nozzle, turning on the main burner, opening and closing blow-off cock, starting and reversing engine.

BRAKE ADJUSTMENT ALLOWANCE.—A total of five minutes will be the allowance each day without penalty for adjustment of brakes, as and when desired by the driver or when required by the Observer.

TYRE DELAYS.—Delays due to tyres will be counted both on the road and on the track. In view of the importance of devices to allow of the rapid change of tyres, detachable wheels and rims will be permitted, and tyres may be fitted to spare rims and wheels outside of running time, but under observation; provided that such wheels and rims are carried on the car throughout the Trial except at Brooklands. At Brooklands tyres, detachable wheels, or detachable rims complete with tyres fitted, may be picked up or discarded by the driver at a place appointed by the Club as often as required during the Brooklands race.

The other regulations are mainly of a general character, including the finality of the Club's decisions and other matters of real interest to competitors; while in a Comment we give particulars of entrance fees and dates assigned for the receipt of the same as well as the times of the trial.

In connection with the regulations for the International Touring Car Race those for the Scottish Reliability Trial are also issued. This trial will be a portion of the 2,000 miles Trial, but remains, notwithstanding, a separate and independent event. Competitors in the 2,000 miles Trial desiring to compete in the Scottish trial must separately enter for the latter, and during the period of the Scottish Trial will be observed under the rules and conditions of both. The entries for both trials will open and close simultaneously. The Scottish Trial is open for entry, apart from the 2,000 Miles Trial, to vehicles taking no part in the longer Trial.

While all vehicles covering the ground of the Scottish Reliability Trial shall be under the control and jurisdiction of the Scottish Automobile Club, only those specially entered for the Scottish Trial will be eligible for the awards and certificates of the Scottish Club. Not more than 500 miles of the 2,000 Miles Trial will be covered before the commencement of the Scottish Trial.

The proposed Trial is largely on the same lines as those so successfully carried out during the past three years. The minimum times will be fixed with due regard to the legal limit of speed, while the maximum time will be determined with some regard to the nature of the roads and the towns and villages to be traversed, and to the reasonable requirements of the buying public in the matter of speed of cars. The Trial will comprise about 750 miles of road and detachable wheels and rims will be permitted. There will be a maximum number of marks for the run, and marks will be deducted for every minute or part of a minute during which the vehicle is at rest from the time of starting to the conclusion of the run (except for tyre troubles, which are separately dealt with, or as otherwise provided for, on the following basis:—(a) For each stop not exceeding five—two marks for every minute or part of a minute. (b) For each stop exceeding five minutes and not exceeding fifteen minutes—ten marks for the first five minutes, and three marks for each succeeding minute or part of a minute. (c) For each stop exceeding fifteen minutes—forty-five marks for the first fifteen minutes, and four marks for each succeeding minute. Where two or more stops from a like or similar cause take place within short intervals the Committee reserve power to determine that such shall be reckoned as one stop under above rule.

GARAGES AND MOTOR HOUSES.*

BY C. HARRISON TOWNSEND.

It is a commonplace that an architect's first consideration should be to provide himself with the data of his problem. Dealing as we are with the home of an automobile, the length, breadth and height of this are the all-determining factors. Here we are in a not very assured state of certainty. The height of car, and the breadth of wheel-base, chassis and body have, indeed, shown little change since the early days of their manufacture, and do not, in most makes, differ very widely. As regards the length, however, matters are not so simple, and two things have to be considered. In the first place, it is, undoubtedly, the tendency of the man who invests in his first car (for the first is never the last) to "begin small," and to be satisfied with one which is less expensive and smaller than its successor; and, secondly, the disposition on the part of makers has been, year by year, towards increased length. Indeed, I know of one garage where the lift has had to be lengthened (not widened, though) twice already in a few years since the place was built. The following table, prepared by one of the largest manufacturers, gives the dimensions for the different kinds of vehicles of their make:—

Type.	Wheel Base. Ft. in.	Length. Ft. in.	Width. Ft. in.	Height. Ft. in.
14-16-h.p. Side entrance	8 4	12 6	5 2	5 3
" Side entrance with hood up ..	8 4	12 6	5 2	7 5
" Side entrance with hood folded ..	8 4	12 6	5 2	5 6
" Single landaulet	9 0	13 0	5 2	7 0
" Limousine	9 0	13 0	5 2	7 0
" City carriage	6 10	10 8	5 6	7 4
16-20-h.p. Side entrance	9 0	13 0	5 3	5 5
" Side entrance with hood up ..	9 0	13 0	5 3	7 7
" Side entrance with hood folded ..	9 0	13 0	5 3	5 8
" Seven-seater side entrance ..	9 9	14 10	5 8	5 6
" Three-quarter landaulet ..	9 9	13 10	5 8	7 7
" Limousine	9 9	13 10	5 8	7 7
26-30-h.p. Side entrance	9 3	13 4	5 7	5 5
" Side entrance with hood up ..	9 3	13 4	5 7	7 7
" Side entrance with hood folded ..	9 3	13 4	5 7	5 8
" Three-quarter landaulet ..	10 0	14 1	5 7	7 8
" Limousine	10 0	14 1	5 7	7 8
40-h.p. Side entrance	9 8	13 8	6 0	5 6
" Side entrance with hood up ..	9 8	13 8	6 0	7 8
" Side entrance with hood folded ..	9 8	13 8	6 0	5 9
" Seven-seater with side entrance ..	10 4	14 4	6 0	5 6
" Three-quarter landaulet ..	10 4	14 4	6 0	7 8
" Limousine	10 4	14 4	6 0	7 8

N.B.—In some cases the head-lamps mean a further increase in length.

For giving the car proper attention space should be arranged between it and the walls at each side and at each end. This should be at least 2 ft. 6 in. where a pit is provided, but if the latter does not exist, and the car is raised for underwork, the space should be 3 ft. or 3 ft. 3 in. In the case of several cars standing side by side, there need only be 2 ft. 6 in. or 3 ft. between them. So far, then, we have reached the internal size of a one-car house 16 ft. + 2 ft. 6 in. or 3 ft. 3 in. + 2 ft. 6 in. or 3 ft. 3 in. = 21 ft. or 22 ft. 6 in. for the length, and 6 ft. + 2 ft. 6 in. or 3 ft. 3 in. + 2 ft. 6 in. or 3 ft. 3 in. = 11 ft. or 12 ft. 6 in. as the width.

The height of the doors should be sufficient to pass in a car with the hood up, plus its luggage-rail, and, possibly, tyres on the roof, or, say, 9 ft. They should be at least 8 ft. wide in the clear, and may be either steel revolving shutters or they may be hinged—opening outwards, of course—and preferably under a pent-roof. Finally, sliding doors may be employed—sometimes the most difficult arrangement to provide for.

For the motor-house for one or two cars not much height is required to the roof-plate, and 8 ft. will be found a good minimum to start from.

The walls should either be faced—at all events, to a height of about 4 ft. from the ground—with glazed bricks, or lined with tiles. They should have a coved brick or tile at their junction with the floor, to avoid the harbouring of grease and dirt. All angles to recesses—such as that for the hydrant of the radiators—should be rounded, and there should be as few projecting features as possible. Just above the floor-level in each external wall should be inserted air-gratings. They should, where possible, be placed behind the small radiators.

In the larger number of garages cement is laid to a smooth finish and to falls. I do not, however, think this a very efficient material. The action of the dropped oil on its surface tends to rot and "take the virtue" out of the cement, and granolithic distinctly offers less opportunity for this. Stone flags, laid not on a concrete bed but on sleeper walls for the advantage of the air space beneath thus obtained, seem to add still further to the risk of the dangerous sparks that may result from the car coming in or going out with a chain or stud anti-skid appliance fixed on the tyres. Again, unless the space beneath is of considerable size—a cellar, in fact—there would be the danger of its forming a chamber where explosive gas could collect as the result of leakage.

The drains should not be underground pipes, but open, half-round channels.

In cases where it is incumbent to make use of the pit, the best size for

this is 6 ft. by 3 ft. by 4 ft. 6 in. or 4 ft. 9 in. deep. Its sides should be lined either with glazed bricks or tiles, and it will be found convenient to form in them a recess on each side in which the chauffeur when at work can place his tools from time to time. Iron ring steps afford access to it. An American expert strongly advocates the extension of the pit beyond the outer wall of the garage, as tending towards a certain amount of ventilation at all events, and as giving means of escape for the chauffeur, who would otherwise be shut up in a trap in case of fire. It will be found well to lay on the floor coarse sand, which should be constantly removed when impregnated and foul, and of course the proprietor will see to a liberal provision of drip-pans.

It is not of great use placing a skylight above the pit, since the car, when standing over the latter, naturally blocks out the light. A long bow window quite near the floor is a better arrangement by far, and can be made also to help in the ventilation so desirable.

A garage should be of fire-proof construction, the roof no less than its other portions.

Exterior to the motor house proper a covered washing place should be provided, to allow of a thorough washing down, whatever the weather may be.

The petrol store is a highly important feature of the garage. In case of a small garage petrol would be kept in 2-gallon cans, the store of which should, wherever possible, be at least 20 ft. away from any other building, and should be of fireproof materials, with iron door and its walls provided with ventilators having gauze protection. The floor of concrete, coated with cement, should be sunk below the ground level, and the door should have a raised sill. This sunk space is filled with sand. The cans should be close to the doors in order that they may be easily accessible, and that the chauffeur need never stand inside.

It is of importance that there should be no risk of the temperature of the motor house falling to freezing point. As regards, however, the heating and consequent drying of the atmosphere of the motor-house, there are two conflicting claims to be satisfied. Expert carriage builders plead on behalf of the painted body and wheels for a house "which cannot be too dry"; while Dr. C. O. Weber, the authority as far as rubber is concerned, states that tyres are likely to "keep distinctly better in a damp than a dry room." Keeping a balance between these two claims we find that the motor-house is best when dry but not unduly so. Its temperature should be about 60 deg. F. The heating apparatus, of course, should have no opening from the motor-house, but be arranged with external access, and a low pressure system with radiators will be found the best. These may be placed as found advisable, but in a garage of any size there will be a considerable advantage if a cupboard be provided containing a small radiator, to be made use of when drying rugs or cushions, and with ventilation to allow the escape of the resultant steam.

Provision against fire should be attained by means of hydrants and chemical extinguishers.

The day-time lighting should be effected by windows which do not admit south sun, and if by skylights, these should have the usual studio northern aspect. The Dunlop firm, by the way, recommend as the best light for the tyre-store the same yellow light as photographers prefer.

For artificial light there is none obviously that can compare with an electric system. This, however, is not always available, and in that case when either gas or oil is employed the lamps should be on the outside of the windows, through which their light plays into the inside of the house.

Some of the rain-water may well be gathered either into a butt or tank, and will be found valuable for washing purposes.

The storage place for tyres, testing apparatus, pumps, and spares generally should be distinct from that in which cloths, cleaning oil, brushes, waste, &c., are kept on metal-covered shelves, and with proper ventilation. There should be rack or shelf accommodation for rugs, extra cushions, and the like.

The workshop is a feature as to which the owner of the car always has his own views. He may merely wish to have simple repairs carried out there, or he may be himself, or else employ as chauffeur, a skilful engineer whose pride is that the car need never go back to its maker in case of mishap and consequent repair. In the latter instance, a lathe, a drilling machine, a forge—perhaps an anvil—would be asked for, and if heavy parts have to be dealt with, a portable crane, or a differential hoist would be found of much use. Of course, when forge or blow-pipe work is done, it should not be in any part of the building directly accessible from the motor-house itself. In any case, a full-size work-bench will be needed, so placed in front of a window as to be well-lighted, and provided with a good vice, preferably of the swivel type. Proper drawers, shelves, and tool racks must be arranged for.

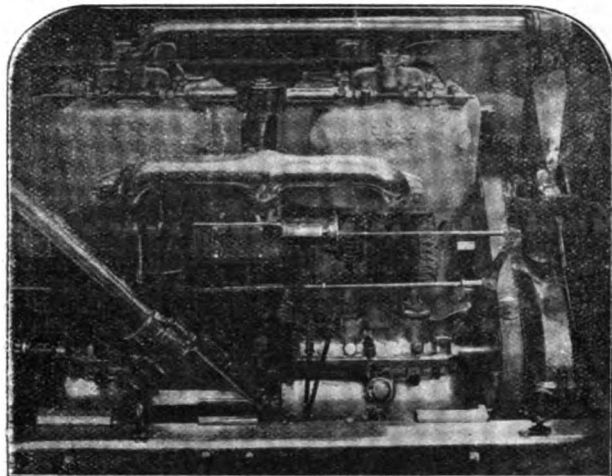
The principles and conditions which obtain with regard to the smaller home of the automobile are, in the main, applicable to the larger and generally public motor-house generally called the garage. A garage may be built for one of two purposes. It may be meant for some special use, such as housing a number of motor-cabs or omnibuses belonging to one particular company or proprietor, or it may be meant to receive and house cars of various descriptions and sizes placed there for a longer or shorter time by their owners. In the former case, what has to be kept in view—and with motor-omnibuses especially—is the fact that the vehicles come in and go out in some special rotation or order, and that the earliest to leave in the morning should have facilities for being so stabled that in order to do so they disturb as few as possible of those placed in front of them.

* From a paper read at a meeting of the Architectural Association, February 7th, 1908.

THE MANCHESTER MOTOR SHOW.

THE fifth motor show organised by the Manchester Motor Trade Association was opened in St James's Hall, Oxford Street, Manchester, on Friday, last week, by the Lord Mayor of the city, Mr. Alderman Holt. The show has been extremely well supported by the trade, every inch of space being occupied, reflecting the greatly increased interest which is being taken in the automobile in the North of England.

Briefly reviewing the car exhibits, we may mention that the Holling-drake Automobile Company, Ltd., Stockport, display both the Talbot and



The Motor of the Maja 28-35-h.p. Four-Cylinder Car.

La Buire models, two sizes of each being on view. Messrs. S. F. Edge, Ltd.'s, exhibit comprises three six-cylinder Napier cars, two of 40-h.p. and one of 60-h.p., the latter being fitted with the Rudge Whitworth detachable wire wheels. The major portion of Messrs. Jarrott and Lettis' stand is devoted to Crossley vehicles, the exhibit comprising a 40-h.p. live axle chassis and a 40-h.p. limousine. A 9-h.p. Sizaire-Naudin two-seated car is also to be seen. The exhibit of Argylls Manchester, Ltd., includes the new 40-h.p. vehicle, a 16-20-h.p. three-quarter landaulet, a 14-16-h.p. touring car and a 14-16-h.p. doctor's car arranged to be driven from the inside. Three cars are staged by the Daimler Motor Company, Ltd., two being of 42-h.p. and one of 30-h.p. The latter is the new live axle model, while of the former one is fitted with an "Aston" landaulet body. Mr. A. E. Crowdy presides at the stand of the Wolseley Tool and Motor Car Company, Ltd., where the chassis of the 14-h.p. Wolseley-Siddeley vehicle is attracting attention. Two examples of the 18-h.p. car as well as a 30-h.p. limousine are also on view. Examples of both the Beeston and Coventry Humber cars are to be seen at the stand of Messrs. Humber, Ltd., prominent among them being a 30-h.p. six-cylinder vehicle from the Coventry factory. An extensive display of the well-known Star cars is made by Messrs. J. G. Looker and Co., Manchester, the district agents for the Star Engineering Company. The models on view include a 30-40-h.p. six-cylinder live-axle car with a side entrance double phaeton body, a 30-h.p. four-cylinder chain-driven chassis, a 16-20-h.p. touring car, a 12-14-h.p. touring car, and a 9-h.p. two-cylinder two-seated vehicle. The Star cars are all fitted with ball-bearings throughout, except the engine, and have earned an excellent reputation for reliability.

One of the largest stands is that of Messrs. Joseph Cockshoot and Co., who are showing Renault, Rolls-Royce, Austin and the new Maja cars. The latter vehicles are the production of the Austrian branch of the Daimler Motoren Gesellschaft. We give an illustration of the engine of the 28-35-h.p. car herewith. As will be seen, it comprises four cylinders, 110 mm. by 130 mm., cast in pairs. Ignition is by low-tension magneto, simplification being introduced by working the make-and-breaks from a single vertical shaft, having a cam at the top controlling two horizontal spindles in either direction. Another new feature is the lubrication, in which all springs are avoided, the pump being worked through a small cardan shaft from the half-time shaft. Four speeds forward and a reverse are provided, with direct drive on top speed. Belsize Motors, Ltd., in addition to a 20-h.p. car and a 28-h.p. vehicle, have on view a 14-16-h.p. four-cylinder machine, this being a new model for the 1908 season. The four-cylinder engine has a bore of 3½ in. by 4 in. stroke. The three-speed gear-box is "gate" controlled and the final transmission, as in all Belsize cars, is by cardan shaft and bevel gear to a live axle. Motors and Repairs of the Harrington Garage, London, S.W., show for the first time the M.P. 30-h.p. car; this is fitted with a Barriquand and Marre four-cylinder engine, 112 mm. bore by 140 mm. stroke. The transmission is through a Hele-Shaw clutch, gate-controlled four-speed gear-box and cardan shaft to a live axle.

The Swift cars displayed by Halley's Motors, Manchester, Ltd., include examples of the 10-12-h.p. and 18-24-h.p. models. At this stand is also to be seen a 12-16-h.p. Vauxhall. Mr. F. Wilkinson, in addition to a couple of the Stanley steam cars, illustrated and described

in a recent issue, is showing a chassis of the 20-h.p. Valveless car. Fiat Motors, Ltd., are present with examples of the 15-20-h.p. and 28-35-h.p. models of these well-known vehicles. Mr. T. Garner, Manchester, shows the Singer, B.S.A., and Darracq vehicles, and Messrs. J. Fraser, Hay and Co., of the Great Central Motor Garage, Manchester, a 12-16-h.p. Thames landaulet, of the type recently illustrated in the *M.C.J.*; the Ariel cars on view include a 25-30-h.p. chassis, a 30-40-h.p. touring car, and the new 20-h.p. brougham; the White Company show through their Manchester branch examples of both the 20-h.p. and 30-h.p. White steam cars; while the Vulcan cars are displayed by Mr. H. H. Timberlake, Wigan. Other cars on view include the Sunbeam, Rover, Scat, Aries, West-Aster, Lanchester, Rothwell, Bell, Mercedes, Deasy, Ford, Dennis, Alldays, Riley, and Motobloc.

In the accessory section, Messrs. Brown Bros. have a big display of "Duco" specialties as well as Renold and Brampton motor chains, H.F. vulcanisers, Stepney spare wheels, Larrad's motor-timer, E.I.C. ignition devices, and Continental, Clincher and Dunlop motor tyres, &c. The Manchester Motor Supply Company have a large range of accessories, prominent among which are the Imperial Odometer and the Phœbus projector lamp. Oils and lubricants are shown by Price's Patent Candle Company, Ltd., Messrs. Marshall and Co., Ltd., Mossley, Messrs. John S. Morris and Son, Salford, and the Auto-Lubrine Company. Biley's Motor Microscope Company, Salford, exhibit a new device known as a miloscope, which shows the speed of the car in miles per hour at a glance, and indicates the total mileage. They also display a useful arrangement for carrying spare tyres or wheels, an improved lubricator, and an air compressor for use in garages. Messrs. Finnigans, Ltd., have a big display of motor trunks and other touring adjuncts. The exhibit of the County Chemical Co., Ltd., includes the G.B. and Chemico tyre vulcanisers, carbide, lubricants, &c. Motor carbide solution, &c., as well as the new electric tyre vulcanizer are to be seen at the stand of the Union Rubber and Chemical Co., Ltd.; while Mr. J. Leadbitter-Smith demonstrates the merits of the Ara method of tyre vulcanisation. Pettett's Patent Safety Filler Company, Brighton, are present with their ingenious and useful safety filler for transferring petrol from the tins to the car tank.

The tyre exhibits include the Dunlop, Moseley, Continental Shrewsbury and Challiner, Elastes, Michelin and Collier. The ingenious Palmer cord-laying machine, which caused such a sensation at last year's Cordingley Motor Show, is shown in operation by the Palmer Tyre Company, Ltd. The cords as laid by this machine are, of course, of even tension throughout, which accounts for the immense strength and durability of Palmer Cord tyres. The Midland Rubber Company, Ltd., show the Midland motor tyres and Ajax detachable rim. Messrs. C. Macintosh and Co., in addition to the Macintosh motor tyres, include the new Kempshall non-skid tyre in their exhibit. Non-skids are also shown by Mr. W. S. Cort, Market Harborough.

Messrs. J. Frankenburg and Sons, Ltd., Salford, have a novelty in Frankon filling for motor tyres. This is an elastic material which can



An Episode of the Manchester Show.—A Sizaire-Naudin single-cylinder car scaling Junction Street with four passengers up. The steepness of the gradient is well shown in the illustration.

be injected into the inner tube in place of air after the tyre has been fixed on the rim. A novel tyre, designed to give all the advantages of the pneumatic without any of the drawbacks of the latter, is the Slea, made by the Slea Tyre and Wheel Company, Ltd., 15, High Street, Manchester. The tyre is of a special design of arched solid rubber, and is so arranged that all circumferential and lateral movement is prevented. A new detachable motor rim is the Seddon, made by Seddon's Duplex Detachable Motor Rim Company, of 29, Brown Street, Manchester. The arrangement is such that not only can the tyre and rim be readily removed from the wheel, but the cover can be taken off the rim without the use of levers. The show closes to-day (Saturday).

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

THE number of candidates elected to membership of the R.A.C. at the monthly meetings in January and February of this year is much greater than the number of candidates elected last year during the same period.

The first meeting of the General Committee, formed under the Club's scheme for association, and which is composed of delegates of the Club and bodies associated therewith, will be held on Wednesday next.

For the new committee of the Royal A.C., Mr. T. G. Chambers does not intend to offer himself for re-election. New candidates, other than retiring members of the committee, are Messrs. S. F. Edge, J. C. H. Grant, C. K. Gregson, E. Shrapnell Smith and H. W. Staner. Thursday next is the last day for the receipt of nominations.

At the last meeting of the Committee, Capt. Dyke Acland drew attention to the proposition of a motor firm that the Club should observe a 15,000 miles trial of regularity, efficiency, economy, and endurance. The firm proposed to challenge any car or cars which might compete in Class 9 in the international touring car trial of the Club. Capt. Acland informed the Committee that the Competitions Committee was strongly in favour of such a trial from a sporting point of view, and that Capt. R. K. Bagnall-Wild and himself, on their behalf, had amended and approved the conditions for the trial in consultation with the firm. The international touring car trial of 2,000 miles would form part of this 15,000 miles trial, and the records of the 2,000 miles trial were to be accepted

developed with the same energy which pervades Lancashire, Cheshire and Yorkshire.

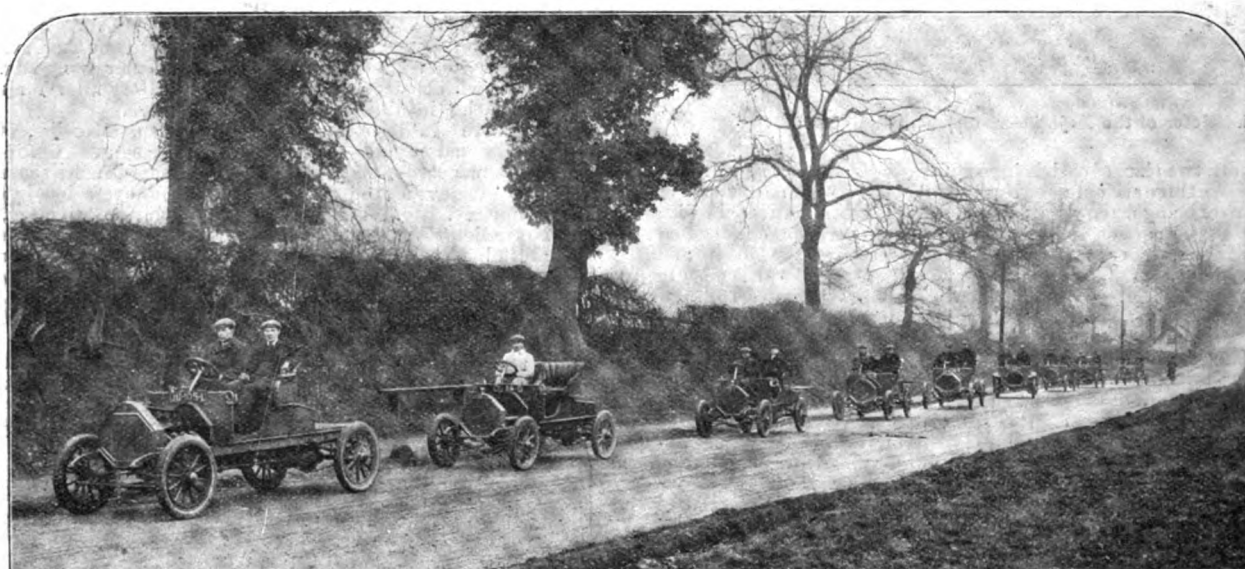
LINCOLNSHIRE MOTOR CYCLE CLUB.

It has been decided to ask Earl Brownlow to be president of the Lincolnshire Motor Cycle Club, of which Mr. G. J. Wilkinson is the enthusiastic hon. secretary. A hill climb is among the fixtures for the year. This will take place on Easter Monday near Lincoln.

Various centres are being formed so that the organisation may thoroughly cover the county, those at Grimsby and Grantham having had a most successful year; others are in contemplation for Louth and Scunthorpe. In connection with the club, an official organ is being promoted, the first number of which indicates originality and ability on the part of the editor.

LADIES.

On Wednesday, January 29th, and again on Wednesday of last week, Mr. R. Sedgwick Currie, club engineer, gave at the club his first two technical lessons on the internal combustion engine. These lessons were very well attended some twenty-five members being present each day. The first lesson was a concise description of the history and working of the Otto cycle engine—a two-cylinder engine being pulled down so as to thoroughly demonstrate the principle. At the second lesson a very detailed description of every part used to build up the engine was given, and also many particulars of the methods of manu-



The above illustration depicts a batch of 10-12-h.p. Coventry-Humber Cars being tested before being fitted with finished bodies.

The cars as they come from the factory are all tested on a hill about 1 in 16, which must be taken on top gear. At the least sign of a falter the vehicle goes back to be further tuned. [Campbell-Gray.]

by the entrants. The Committee of the Club unanimously approved of the view taken by the Competitions Committee, and endorsed its action.

New members of the Royal A.C. include the Marquis of Lansdowne, Lord Dunleath, Lord Hethfield, Lord Crawshaw, the Hon. Gerald Montagu, Mr. T. B. Morison, K.C., and Mr. C. N. Nicholson, M.P.

THE AUTOMOBILE ASSOCIATION.

THE fact that a small army of yellow armed cyclist patrols is now doing duty in Lancashire and Yorkshire does much to familiarise the northern motorist with the work of the Association, and he and his friends have signified their approval in the usual manner, namely, by joining in large numbers. Lord Tollemache is among the new members.

The Northern Patrol Committee, composed of leading local motorists, is doing good work, and the presence in Manchester of two members of the executive committee—Mr. Charles Jarrott and Mr. D'Arcy Baker—has enabled these gentlemen to attend a meeting of the Northern Patrol Committee, Mr. Councillor Kay, J.P., (Chairman) and Messrs. John Newton, H. Hollingdrake, Lawton Goodman, Alfred Thompson, Gerald Dugdale, and Walter Cawood. Mr. Stenson Cooke, Secretary of the Automobile Association, is making a long stay in Manchester, from which city several tours of inspection have been made on the roads now patrolled by the Automobile Association's cyclists. These extended as far as Carlisle, where the secretary drove on Sunday last from Manchester, meeting at luncheon several members of the proposed Scotch Patrol Committee, who had motored specially from Glasgow for this purpose. Scotland is being

facturing same. At both lessons a large number of interesting parts were shown, which had been placed at the disposal of the club by the kindness of Messrs. Aster, Ltd., Renault Freres, and the Itala Automobiles, Ltd.

On the 4th inst., the fifth annual general meeting of the members was held. The following ladies were elected to serve on the committee:—The Duchess of Beaufort, Lady Brassey, Hon. Mrs. Eric Chaplin, Muriel Countess De La Warr, Lady Viola Gore, and the Countess of Lathom. It has been decided to limit the membership of the club to 425; at the present time there are 394 members.

BRADFORD.

THE third annual dinner of the Bradford Automobile Club was held last week at the Great Northern Victoria Hotel. Mr. Tom Mitchell (president of the club) presided, and the company present included the Lord Mayor (Mr. J. E. Fawcett), Mr. David Wade, Alderman W. C. Lupton, Mr. Amos Crabtree, Mr. G. Kent (chairman of committee), Mr. E. H. Hepper (president of the Yorkshire Automobile Club), and Mr. J. Scriven (hon. secretary Bradford A.C.).

In giving the toast of "The Lord and Lady Mayoress and the city of Bradford," the President regretted that the Lord Mayor was not a motorist. He regarded him as a much-worked official and suggested that the remedy for this state of affairs was to be found in the purchase of a car. By this means the Lord Mayor would be able to save two hours a day.

In responding to the toast, the Lord Mayor expressed his pleasure that Bradford was so favourable to motoring. Seldom was it that any

of them came before the justices, and he was very glad to say that they did not possess those beastly traps, for those are, they would all agree, a very mean way of trying to catch people. It did not strike him as being at all satisfactory.

Dr. Veale presented the toast of "The Yorkshire Automobile Club." In responding, Mr. Hepper referred to the Lights on Vehicles Act, and expressed the opinion that it did not go far enough, for whilst white lights in front were certainly useful, what was wanted on every vehicle was a rear red light. He hoped that the various authorities throughout the country would pass bye-laws to that effect. Discussing the question of possible legislation, he said that motorists would not object to the payment of taxes if only the money were applied for the benefit of the public as well as themselves. The Yorkshire Automobile Club had done much to encourage considerate driving.

Other toasts included "The Automobile Association," proposed by Mr. Amos Crabtree and responded to by Mr. Stenson Cooke, and "Our Guests," given by Alderman W. C. Lupton.

THE CRYSTAL PALACE.

MORE than 140 members and friends of this Club (many ladies being amongst the number), patronized the Bohemian concert held at the Crystal Palace on Wednesday of last week. A happy combination was effected by Mr. J. van Hooydonk giving a lantern lecture between the two portions of a very enjoyable programme of musical items. Mr. Hooydonk recalled, by his photographs, many happenings of summertime on the road and track, his snap-shots of racing subjects at Canning Town and Brooklands being much enjoyed, as were his portraits of famous men and historic cars, dating back to the "Red Flag" days of 1895.

NORTH YORKSHIRE.

AT the annual meeting of the North Yorkshire A.C., held at the office of Mr. Francis Ware, hon. secretary, 6, New Street, York, it was reported that the East Riding County Surveyor had agreed to have a motor warning post erected at a dangerous corner of the road from Weston to Kirkham Abbey.

Lord Delamare mentioned that the East Riding County Council would probably be prepared to pay one third of the cost of the improvement of the corner at Staxton, whereupon the club decided to contribute another third of the amount.

The annual dinner of the club will be held at the Station Hotel, York, on the 23rd inst.

BARNSELY.

THE present membership of the Barnsley and District A.C. is thirty-eight, and at the annual meeting just held, with the Rev. T. T. Taylor in the chair, it was decided that monthly meetings should be held during the coming season. The club has resolved to affiliate with the Motor Union, and officers for 1908 have been elected as follows:—President, Rev. T. T. Taylor; vice-presidents, Mr. E. G. Lancaster and Dr. F. Sadler; hon. treasurer, Mr. J. Carrington; hon. secretary, Mr. Henry J. Wells; representatives on the General Committee of the Motor Union, Major Chas. Fox and the hon. secretary.

CYCLE AND TRADES BENEVOLENT FUND.

AT the first meeting of the new executive of this fund, held on Wednesday of last week, Mr. Albert Brown presided, when fifty-six subscribers, twelve members, and one life member were elected. It was decided that the boundary of the Midland Centre should comprise the counties of Warwickshire, Worcestershire, and Staffordshire, and instructions were given to the organising committee to cover the London centre by division into postal districts. It was agreed that Mr. Albert Brown should be recognized as the subscribers' representative. Several applications for relief were dealt with, assistance being granted in most cases. Mr. A. J. Wilson, of 154, Clerkenwell Road, E.C., is the hon. secretary.

THE SCOTTISH MOTOR TRADE ASSOCIATION, LIMITED.

The following officers of this association have been elected for 1908:—President, Mr. Thomas Shaw, Dundee. Vice-President, Mr. W. L. Sleigh, Edinburgh. Council, Messrs. A. C. Penman (Dumfries), J. H. Paterson (Aberdeen), Jas. Gibbon (Glasgow), A. G. Rennie (Glasgow), Wm. McLean (Glasgow), and John Love (Kirkcaldy). Representing associate members, Mr. Thomas Campbell, Glasgow, and Mr. Wm. Rutherford, Edinburgh. Solicitors, Messrs. Henderson and Mackenzie, S.S.C. Auditor, Mr. W. D. Stewart, C.A., Edinburgh. Hon. secretary and treasurer, Mr. David A. Fairley, C.A., 13, York Place, Edinburgh. Registered Office, 23, Rutland Square, Edinburgh.

THE Newcastle and District Motor Cycle Club has held its second annual dinner.

THE North Islington Conservative and Unionist Motor Club has been formed, with offices at 623, Holloway Road, N.

THE annual dinner of the Derby and District A.C. will be held on the 20th inst., with Mr. F. A. Bolton, J.P., in the chair.

ROAD REPORTS.

CRAWLEY AND IFIELD.—The West Sussex County Council have applied to the Local Government Board to put in force over certain portions of the main road at Crawley and Ifield the regulations authorised by the Motor Car Act, 1903, limiting the speed of cars to ten miles an hour. Objections to the making of the regulation asked for may be sent to the Local Government Board on or before February 27th, and copies should also be sent to the Clerk to the County Council.

ELTHAM.—Signs and posts are being erected at the London end of Eltham indicating the proper road to Folkestone. Similar notifications have also been set up at the cross roads at the further end of the district. Motorists who have hitherto suffered confusion when in the district will appreciate this thoughtfulness on the part of the Woolwich Borough Council.

MORAYSHIRE.—As directed by the Road Board of Elginshire, Mr. Alexander Hogg, County Road Surveyor, has drawn up a series of reports as to the damage caused to county roads by motor-car traffic. One of the alternatives before the Board is to widen and strengthen the roads most frequented by motorists. The surveyor estimates that the total expenditure would amount to the practically prohibitive sum of £79,085, made up of £20,325 on principal main roads, £52,660 on second class main roads, and £6,100 on loop roads.

CHIPPING SUDBURY.—The Surveyor of the Chipping Sudbury Rural Council has been instructed to prepare a list of places in that area where he would recommend the restriction of motor-car speed.

CADDER.—The Cadder (near Glasgow) Parish Council is seeking to secure a reduction of the speed allowed for motor-cars within their area to ten miles per hour.



The Garage at the Fiat Company's new Repair Works at Wembley.

MIDLOTHIAN.—The Suburban District Committee of Midlothian County Council has decided to request the County Council to make application to the Secretary for Scotland to issue orders restricting the speed of motor-cars to ten miles per hour on numerous pieces of road within populous places in the district.

BARNES.—It was stated at the meeting of the Surrey County Council on Tuesday that the L.G.B. has issued orders restricting the speed of motor-cars to ten miles an hour in certain thoroughfares in Barnes and East Molesey.

SLOUGH.—The Bucks County Council have decided to apply to the L.G.B. for a speed-limit of ten miles an hour for motor-cars passing through Slough, and the matter came before the Slough Urban Council on Tuesday, when Councillor Pike said that ten miles an hour was only a little over walking pace. The Council decided to support the Bucks County Council in their application for the limit of ten miles an hour.

THE 1907 diary of the six-cylinder Napier car comes to hand with a series of illustrated records of the events won last year by the vehicles with which the name of Mr. S. F. Edge is indissolubly associated.

THE Exors. of H. A. Hamshaw, of 37, Humberstone Gate, Leicester, inform us that the appointment which they have held for a number of years as coach builder to His Majesty, and which in due course lapsed upon the death of the late Mr. H. A. Hamshaw, has now been renewed. The firm have entirely rebuilt and greatly enlarged their works to enable them to cope with the growing business in high-class motor carriage work, and have laid down increased plant to deal in an efficient way with motor chassis and motor repairing, which is now an important part of their business.

FORTHCOMING EVENTS.

FEBRUARY.

- 19th (W.).—Annual dinner of the Cardiff M.C.
 20th (Th.).—Meeting of the Essex M.C.
 First annual dinner of the St. Albans and District Motor Cycle Club at the George Hotel, St. Albans.
 21st (F.)—29th (Sat.).—Manchester Motor-Car Show at Belle Vue.
 24th (M.).—Motor Show opens at Bcmabay.
 26th (W.).—Prof. H. S. Hele-Shaw and Mr. Douglas Mackenzie will read a paper on the "Problem of Road Construction" before the Society of Arts.
 27th (Th.).—Mr. Mervyn O'Gorman at the R.A.C. on "Gear Transmission."

MARCH.

- 5th (Th.).—Paper by Dr. W. Watson at the R.A.C.
 11th (W.).—Annual meeting of the Incorporated Institution of Automobile Engineers.
 11th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 12th (Th.).—Annual meeting of the Royal A.C.
 Annual dinner of the Royal A.C. at the Covent Garden Theatre.
 18th (W.).—Annual dinner of the A.A. at the Hotel Cecil, London.
 19th (Th.).—Monthly meeting of the General Committee of the Motor Union.
 21st (Saturday)—28th (S.).—
 CORDINGLEY'S THIRTEENTH INTERNATIONAL MOTOR-CAR EXHIBITION will be held at the Royal Agricultural Hall, London.
 31st (Tu.).—Last day for receiving entries, at ordinary fees, for the International Touring Car Race.

APRIL.

- 18th and 20th.—First meeting of the Brooklands A.R.C. for 1908.

MAY.

- 1st (F.).—The Frome's Hill Climb of the Herefordshire A.C.—provisional.
 10th (Sun.).—Targa Florio Race.
 11 (M.)—16 (S.).—Reliability Trial of the Irish A.C.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

- 8th (M.).—Cars competing in the International Touring Car Trial will arrive at the depot.
 Start of the International Touring Car Trial of the R.A.C.
 15th—19th.—Scottish Reliability Trial.

JULY.

- The Land's End to John o' Groat's Trial of the Auto C.C. will be held.

LIGHTING-UP TIMES—LONDON.

Feb. 15th—6.9	17th—6.14	19th—6.18	21st—6.22
16th—6.12	18th—6.16	20th—6.19	22nd—6.24

THE STORAGE OF PETROL.

DR. C. S. WELLES, of Old Brompton Road, S.W., was summoned at the West London Court, at the instance of the London County Council, for storing petrol in a storehouse which was used as a dwelling-house. Mr. Greenwood, who prosecuted, stated that on January 7th there were found in the defendant's garage twenty-one vessels containing two gallons each of petrol. The defendant said he understood that he was allowed to keep in his motor-cars such petrol as he required for them, and, as the cars had been sent away to be repaired, he was keeping the petrol tanks in the garage. The magistrate imposed a fine of 40s., with 21s. costs.

MESSRS. CHAS. JARROTT AND J. W. STOCKS both used "Shell" motor spirit when making their records on the Brooklands Motor Track last week.

"THE Cost of Running a Motor-car" is the title of an interesting pamphlet issued by the London and Paris Exchange, Ltd., motor agency, 55 to 59, Shaftesbury Avenue, W., in which are recorded the actual expenses incurred in running several types of petrol and steam vehicles.

MR. R. W. A. BREWER and Mr. F. Hastings Medhurst have entered into partnership, with offices at 13, Victoria Street, Westminster, S.W.

MESSRS. G. F. HEATH AND CO., 49, John Bright Street, Birmingham, have been accorded permission by the licensing authorities to place three Darracq motor-cabs on the streets of Birmingham to ply for public hire. They also propose to have a motor-van in the city for a week or so, which they will place at the disposal of any firms interested.

MESSRS. WELTE AND OWENS, LTD., 16-20, Colquitt Street, Liverpool, have been appointed retail representatives for H.F. vulcanisers for the district of Liverpool, and are now extending their premises in order to show a stock of the appliances and give demonstrations of the H.F. process.

POLICE TRAPS.

SHOOTER'S HILL ROAD is again the scene of police trapping—a fact of importance to motorists in the Woolwich, Blackheath and Eltham districts.

THE police are extremely active in preventing an excess of the ten-mile limit in Richmond Park.

A TRAP is in operation in the London Road, Morden.

THE Eltham Road, Eltham, has a police trap in almost daily operation.

AUTOMOBILE ACCIDENT.

MR. GAVIN BRYDON was knocked down and considerably shaken in Comiston Road, Edinburgh, by a motor-van belonging to the Health Department of the city, which emerged from the hospital road as Mr. Brydon had stepped off the pavement.

BUSINESS NEWS.

THE Chief Constable of Leicester has been provided by the county with a 15-h.p. Coventry Humber for use in the discharge of his duties, and reports that he has found it quite satisfactory in every way.

FOR the convenience of tourists the Hutchinson Tyre Company has arranged a brief telegraphic code by means of which instructions can be clearly conveyed at a minimum cost. This will be specially useful to those touring on the Continent, where the cost of telegraphing is an item for consideration. The code is contained in the Hutchinson list, which will be sent post free to any address on application to 13, Maddox Street, London, W.

ALTHOUGH some people say that January was a slow month in the trade, it is noteworthy that the Stepney Motor Wheel, Ltd., report that it was a record one for business in Stepney wheels for home, foreign, and colonial trade, each of these three departments showing the best on record.

DURING January Messrs. S. F. Edge, Ltd., delivered to actual users forty-six Napier cars, all, with two or three exceptions, being six-cylinder cars of 30-h.p. and upwards.

AT 104, Park Street, Gloucester Gate, London, W., Messrs. H. J. Chapman and Co., Ltd., have a garage for fifty cars, and are specialising in commercial vehicles as well as the conversion of tonneau bodies into those for side entrance. Mr. H. J. Chapman is the managing director.

THE new season's literature of the Coventry Chain Company, Ltd., comprises several interesting circulars which should materially assist the placing of their productions. One pamphlet gives a series of illustrations of leading types of cars, with suggestions as to the sizes of chains advisable to be used, and should be of general value for reference.

ONE of the latest productions of the Coventry branch of Messrs. Humber, Ltd., is a 10-12-h.p. four-cylinder, double-purpose vehicle so arranged that it can be converted without difficulty from a van to a pleasure vehicle or vice versa in two minutes by one person. Two bodies—a side entrance double phaeton and a cover van—built on the Windham system are supplied with the chassis. A similar chassis fitted with a commercial brougham for travellers' use is also being built by the Humber Company.

FROM Messrs. J. E. Hutton, Ltd., we have received a copy of the new catalogue of motor tyres they have just issued. The list is exceedingly complete, containing as it does the prices of the different sizes of all the leading motor tyres and non-skids at present on the market. It forms one of the sections of the great general catalogue that the company have in course of preparation, which will form a standard work of reference, not only for users, but also for the trade and consulting engineers, and will be particularly useful for export purposes. Sections dealing with Mercedes spare parts and Berliet spare parts have been issued. A feature of the catalogue is the special telegraphic code every item being given a distinguishing letter and number printed in red to facilitate telegraphic orders.

THE STAR ENGINEERING COMPANY, of Wolverhampton, who have always made a special line of Cape cart hoods, are now in a position, having so far extended their works, to supply these in any quantity to fit any type of car.

A NEW white paint for painting the rubber matting used on cars is being introduced by the Union Rubber and Chemical Company, Ltd., of Manchester.

FOR a long while used exclusively by owners of six-cylindered Napier cars, Messrs. S. F. Edge, Ltd., are now selling as many of the Napier sparking plugs for use on other cars as are sold for use on their own vehicles.

TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

THE Motor-Car Journal.

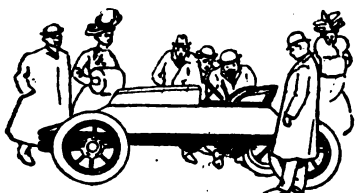
VOL. IX.]

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COMMENTS.



WHEN introducing his Budget proposals last year, Mr. Asquith rather definitely hinted that there was a probability of motor vehicles coming under his purview in connection with the financial arrangements of the Treasury for 1908, an anticipation which adds to the importance of the deputations which waited upon him on Tuesday, in order to represent the opinions of motorists before the introduction of this year's financial statement. Representatives of the Royal A.C. attended the House of Commons at the request of the Chancellor of the Exchequer, to afford him information on certain points, apparently in view of probable changes with regard to taxation. They were introduced by Mr. C. D. Rose, M.P., with whom was Col. Holden and Mr. Mervyn O'Gorman, Messrs. E. Manville, H. G. Burford and Claude Johnson, on behalf of the Society of Motor Manufacturers and Traders, and Mr. Robert Todd, who represented motor-cyclists with the Secretary of the R.A.C. Subsequently, Mr. Asquith saw a second deputation of motorists—this time from the Motor Union. The attendants included representatives from many of the provincial clubs, and each of the spokesmen dealt with some special aspect of the matter for the information of the Chancellor. Mr. Joynson-Hicks, the new chairman of the Union, submitted the views of the body he represented with regard to the general question of taxation, and urged that if new taxation was to be imposed it should be on the basis of the recommendation of the Royal Commission as to weight, and not on horse-power or cylinder capacity. The matter is fraught with difficulties owing to the wide range of interests involved. As will be seen from the report on another page, allowance must be made for the means of the majority of motorists; and they will be describable as "moderate." This is the growing tendency as the automobile increases in universal favour and use. Consequently, nothing should be done that is likely to restrict the industry and the growth of the motor movement. That is a point to be urged in the national interest.

A Comparison of Taxation.

THEN, too, it must not be forgotten that the users of motor-vehicles are at the present time taxed at a higher rate than the users of horse-drawn vehicles. For motor-cycles fifteen shillings is paid annually, for cars weighing up to one ton two guineas, and for cars weighing over one ton four guineas. In addition, there is the initial registration fee of one sovereign, and the annual driver's licence of five shillings. A one-horse carriage pays only one guinea, and a two-horse carriage, two guineas. There is no initial registration fee and no annual driver's licence. A doctor or a commercial traveller who substitutes for his gig a single-cylinder car, which causes less wear and tear to the roads, is already penalised for adopting the modern and more efficient method of locomotion (forty-seven shillings, as against fifteen shillings). If the damage done to the roads is to be taken as the basis of taxation, the

comparative injury caused by all classes of vehicles should be scientifically ascertained, and taxation fairly adjusted between them. It is not equitable to select one class of vehicle, and that the most efficient, and to place upon it a burdensome tax.

The Accuracy of Taximeters.

WHEN the taximeter motor-cabs first appeared on the streets, we drew attention to the need of securing official examination of the registering instruments so that the "fare" should have some assurance as to accuracy. We are now gratified to be able to announce that the authorities in London will, in future, decline to licence any motor-cab whose taximeter does not bear the seal of the Physical Laboratory at Kew. This innovation began on Monday last, and a limit of three months is allowed for existing taximeter motor-cabs to come into line. By the middle of May every taximeter in London will have to bear the hall-mark of the Laboratory inspection. The next step should be to secure annual inspection of the instruments.

The Irish Trials.

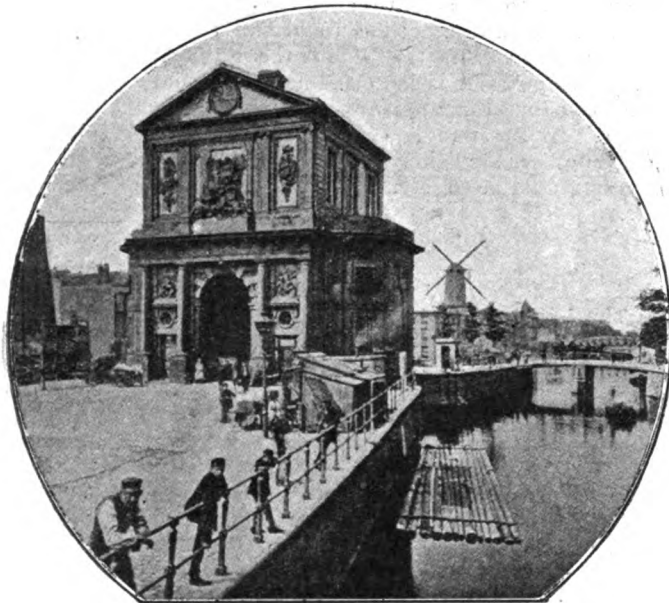
ELSEWHERE we give the itinerary of the Irish Reliability Trials, which should attract many sportive motorists to the Emerald Isle this year. We know the Irish police have a kind regard for motorists; the organisers of the Trials are rapidly gaining experience, and all things point to a very successful event. On the first day the run will be northward to Portrush, going through Drogheda and other towns visited by those who went to the Castlewellan meet in the memorable Irish Gordon Bennett year. Then will follow a run of 173 miles back to the Irish capital. The third day's itinerary will be of greatest interest. As far as Monasterevan, nearly forty miles from Dublin, the route will follow the way that gained international renown in 1904. Among the towns traversed will be Naas, where the weighing-in took place in the year just mentioned, and Jenatzy, Gabriel, De Knyff, and others astonished the natives at the way they lightened weight; Kildare, Abbeyleix, and Cashel, with its lovely and picturesque ruins; Tipperary, and its associations with historic events, and Killarney. And then a whole day will be spent in that delightful spot, the pleasures of the Lakes supplanting the car in favour for the nonce. The return will be via Cork, a journey of 161 miles—one of the most entrancing trips that could be taken in Ireland. Killarney will be left by the Killorglin exit, and the journey resumed by the tortuous road to Kilgobnet and Lough Acoose. Leaving Carranua, towering 3,414 ft. above the sea, the way will be to Waterville, Derrynane, along a perfect road to Parknasilla with its charming demesne, Blackwater to Kenmare and Glengariffe, where at Eccles Hotel will be found the splendid garage to which we referred when in course of building last year. Then comes the surprise of the tour, the Pass of Keimaneigh—one of the loneliest and wildest passages in the British Isles. The road then deviates to lonely Gougane Barra, with its shrine of St. Finn Bar nestling at the foot of precipitous mountains that rise a couple of thousand feet above the lake. Returning to the main road, the lakes of Inchigeela will be in sight for some time, and

then, after the clean little village of that name, there is a nine-mile run to Macroom, one of the most untidy Irish towns of the south. But after Coachford the scene will brighten, and Cork is reached via Carrigrohane and Inniscarra. The itinerary back to Dublin presents another varied impression of the country, and, regarded as a whole, the forthcoming Trial will give visitors a comprehensive view of Ireland. The rules and regulations will be issued shortly. Meanwhile we may mention that they are on similar lines to those of last year, with the exception that the petrol consumption will not be taken into consideration.

The Indian Trial.

THE official programme of the Reliability Trials of the Motor Union of Western India at the beginning of the month is a most interesting and complete souvenir of that important event.

Several photographs of persons and places associated with the Trials are given, while the list of donors, headed by the leading Maharajahs and most influential men of the Dependency, confirms our impression of the great hold that motoring has obtained on the chief men in India. Everyone joined in securing success, and the engineers of every district through which the route lay assisted the police in securing



Touring in Holland.—The last of the Watergates in Rotterdam.

the safe and certain progress of the cars. The road authorities, too, did much to improve the roads for the purpose of the Trials, notably from Bombay to Thana. The rules and regulations were couched on lines familiar to entrants in British trials, and the meetings of observers and opportunities for consultation showed how closely the organisers have followed the Scottish event of last year. The entries totalled thirty-four, and comprised the following cars:—Fiat (8), Siddeley (4), Richard Brasier, Sunbeam, Panhard, Peugeot, Rolls-Royce, Beeston-Humber (3), La Buire, Brown, De Dion, Adler, Belsize, Alldays, Stella, Argyll, Coventry-Humber, Wolseley (2), Otav-Milana, Clement-Bayard, Lacoste, and Battmann.

Is It Peace?

OBSERVERS in the automobile movement have noted that there is less truculence about than was the case when the New Year came in, and some even go so far as to hope that the Lion will soon lie down with the Lamb, without specifying in which of the rival organisations the attributes of the particular animals may be found. It will be remembered that Mr. Grace, of Manchester, and others have been striving to bring about a reconciliation. The committee appointed by some of the pro-

vincial clubs for this purpose has already interviewed the R.A.C. and the M.U. executive committee, and now the official notice convening the General Committee of the latter body for Wednesday next contains the following significant sentences:—“I am to take this opportunity of informing you that the Executive Committee of the Union received on Monday last a deputation of representatives of provincial clubs which had previously waited upon the Club Committee of the R.A.C. for the purpose of negotiating a friendly arrangement between the two bodies. The deputation did not put forward any suggestion from the R.A.C., but the Executive Committee intimated, on behalf of the M.U., that the Union would be prepared to accede to any reasonable proposition in order to put an end to the present conflict and secure a working arrangement between the two bodies. In order to give the ‘Peace Committee’ an opportunity of further continuing their efforts, it has been thought desirable to postpone the meeting of the General Committee, which is ordinarily held on the third Wednesday of the month to the fourth Wednesday, in the hope that they will then be in a position to place some proposals before the Committee.” We are not without hope.

Clear Roadways Wanted.

THE police in many parts of Sussex are taking action against farmers and others who have been leaving hedge clippings for a long and unreasonable time on the highway. In one case, heard on Monday, it was said that the defendant had finished the trimming three weeks earlier, and the clippings were placed by the side of the road. Defendant’s contention was that the opposite hedge had also been cut and that the clippings found were not from his side, or if they were they must have been purposely placed there. It was also suggested that the brambles fell from the cart when his neighbour’s clippings were being carted away. Not being a motorist he was given the benefit of the doubt; but the example should be a warning to others not to make thorny the way of those who travel on pneumatic tyres.

Speed Limits in Scotland.

THE Secretary for Scotland has received applications for the restriction of the speed of motor-cars in various specified streets and highways in Cowdenbeath, Helensburgh, Troon, and Dumbarton. On Saturday last an inquiry into a speed limit application by the burgh of Dunbar was held by Mr. Alexander Stewart on behalf of the Secretary of Scotland. Last week, too, Mr. R. J. Smith, the Secretary of the Scottish A.C., had a meeting with the streets committee of the Burgh of Dumfries with regard to the proposed application for the imposition of ten-mile limits within the boundaries of the town. The result was that the committee agreed to recommend the Town Council to abandon their proposal and to erect warning signals to be supplied by the club at various points in the town. These are a few instances of the activity which prevails in motoring circles north of the Tweed, and prove the value of unity in organisation.

Roads.

CONFERENCES with regard to roads are apparently the order of the day, and on Saturday last, under the auspices of the Royal Sanitary Institute, an important meeting took place at Nottingham. This was attended by many road authorities, before whom Mr. Arthur Brown read a paper, in which he pointed out that the only way to deal with the dust and mud nuisance was to adopt some kind of tar macadam road, which could be made cheaply if some of the heaps of slab and granite which were now regarded as waste material could be utilised for the purpose. He agreed that any taxation of motorists might well be applied to dealing with the roads of the country, seeing that their vehicles were responsible for a good deal of the damage. Mr. E. R. Purnell Hooley, who subsequently gave the experts

present a practical demonstration of this system of road-making which has been well appreciated by motorists passing through the county, said that within a radius of fifty miles from Nottingham there had been registered 328 motor-lorries, 9,000 motor-cycles, and 10,000 motor-cars. In addition, Nottingham was inflicted by the visits of 535 traction engines with a daily licence, the full licence being taken out elsewhere. If discrimination is to be paid with regard to the taxation of various types of motor-vehicles, the whole subject needs review and revision, for the influence of traction engines and heavy farm carts is far more detrimental than the motor-vehicle used for ordinary touring in this country.

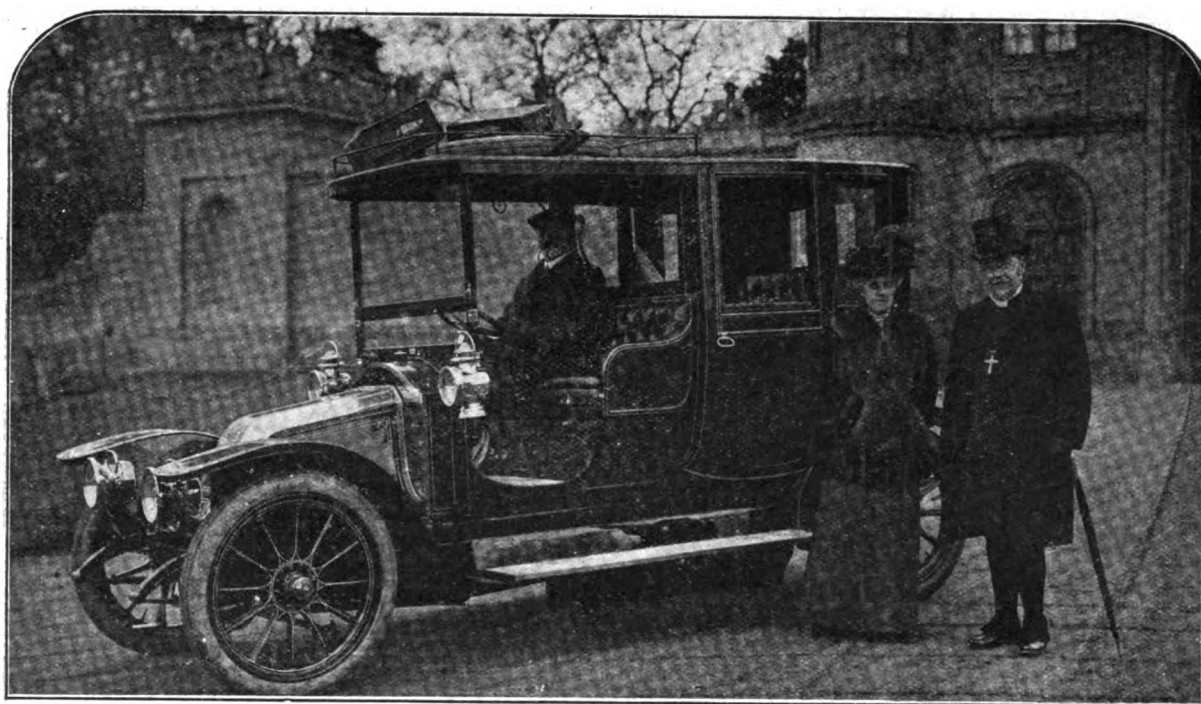
Motor Repairers.

AT the suggestion of the Touring Committee of the R.A.C., the question of the appointment of repairers has again been considered, and it is evident that the holding of the Club's mechanical proficiency certificate will play an important part in the appointment of official repairers in the future. Although a proposal to make it obligatory on the part of applicants

—either to cancel the existing registration or to continue the old number. Should he already possess a car in the circumstances mentioned by our correspondent he cannot transfer his existing number to the second car. Under such conditions his better plan is to communicate to the authority with which the latter was registered the change in ownership, and by paying a fee of five shillings secure the legal continuation of the number. So frequently have motorists omitted to take this simple precaution that the registration authorities of certain districts have been glad to avail themselves of the publicity of our columns to remind those who buy second-hand cars of their obligations to the authorities.

During Divine Service.

WERE new legislation in connection with automobilism to enact that the blowing of horns should be prohibited from cars when passing churches during service time—as has been frequently suggested by that ubiquitous person, "Constant Reader"—it would not be an innovation. As in many other matters concerned with the motor-car, it would be



The Bishop of Southwell, the Right Rev. Dr. E. Hoskyns, and the 20-h.p. Renault presented to him by members of the Church of England in the Southwell Diocese. (Howard Barrett, Southwell.

for such appointments that the principal of the firm or a leading employee should be the holder of such a certificate was not carried, it was agreed that those who now hold the appointments should be informed that the Touring Committee favours the idea of official repairers holding mechanical proficiency certificates. It has also been resolved that manufacturers who undertake repair work as a regular branch of their business might now be eligible for the Club appointment as repairers; and evidently efforts are being made to secure some sort of assurance that those who hold the title of R.A.C. repairers shall be proficient as well as have the necessary plant to do any work that may be required.

Change of Ownership.

THE point raised by our correspondent W. B. with regard to the numbering of cars on changing ownership is so frequently asked that we make no apology for giving it the prominence of these pages. Motorists should remember that the number assigned to a car is allocated to that particular vehicle and cannot be employed on any other. When, therefore, a vehicle changes ownership the new owner has two courses open

merely the revival of an old regulation which governed the mail coach drivers when the conveyance of postal matter was being organised in the early days of the last century. They were forbidden to blow their horns in passing through towns during the hours of divine service on Sunday—a prohibition much more necessary, however, in those stirring days than in the present times. At the same time, motorists must be credited with having, as a body, imposed such restraint upon themselves, as many vicars of impartial mind well know. Often, however, places of worship are located on corner sites, and the blowing of horns by motorists when nearing such points is generally out of concern for the public safety—a fact that is scarcely recognised by those who write letters of protest to the press.

ELSEWHERE in the present issue we give some interesting extracts of an article on motoring in the Hawaiian Islands recently published by the "Motor-Car," of New York.

MESSRS. FAIRE BROS., LTD., who have had a Dennis 2½ ton van in use for two years, have just placed an order for two 30 cwt. vans of the same firm's construction through the Midland Counties Motor Garage Company.

SOME NOTES ON MOTOR LAMPS AND HEADLIGHTS.

A GOOD artificial light is a necessity for night driving, but a powerful and really efficient light is a veritable luxury on the road, and one well worth the exercise of a little forethought and care in its attainment. To those motorists who have experienced the annoying delays which sometimes occur when lamps are unexpectedly wanted, the following practical hints are offered, in the hope that they may prove helpful in keeping the lamps of a car in the most efficient condition.

Commencing at the rear end of the vehicle there is the tail lamp, which, as many automobilists have found to their cost, is not legally accepted as a rear light. Paraffin is widely used for these lamps, and is more or less satisfactory according as one has secured a more or less efficiently designed lamp, and, furthermore, has got it well placed on the car. This latter point is of considerable importance; a variation in position of only a few inches will frequently suffice to bring a lamp into, or out of, a violent down or up draught when the car is travelling at speed. It frequently happens that a motorist will tenderly retain an old back lamp, that has served him faithfully in the past, to put on his new car; and lo! he finds his old favourite begin to play



The Halley 30-h.p. 12-seated Wagonette, recently supplied to Mr. John Wishaw, for public service work between Wishaw and Newmains, N.B.

This vehicle has been running since November 22nd last continuously, and Mr. Gibson informs us that since coming into his hands it has never been a single hour off the road through defects, and it has now covered a distance of about 3,600 miles. As a proof of the satisfaction which Mr. Gibson has received from the running of the wagonette, he has just placed an order for another vehicle of similar type.

him new tricks, owing to a slight difference in position, or to an altered shape of underbody, and resulting induced currents of air. An electric rear light is a great comfort, especially if the fitting is arranged within the body of a paraffin lamp. If, however, it is electric only, care should be taken to have a dummy holder within the lamp for the purpose of carrying a spare globe, for, unlike paraffin, these lamps cannot be obtained at the average country inn, and the parable of "the foolish virgins" has still a latter-day application. A small acetylene burner can easily be fitted within most lamps; this, with a length of copper tube along the channel frame, and a connection to the main generator, will give the motorist a rear light eminently suited for long runs. Almost invariably a fair proportion of the carbide is unused; and if there is gas for the headlights there will certainly be no need to worry about the tail lamp.

As to the other oil lamps one seldom seriously expects to drive after dark by their "dim religious light" alone, but they are principally useful for town work, as a graceful admission that it is past lighting-up time. They should, however, be regularly attended to even if they have not been alight, and it is for this

reason that the practice of tying them up in bags is not to be recommended; if they have to be cleaned, they stand a better chance of being kept filled and trimmed.

Now, as to the light: this may be from a single lamp, or more generally a pair of acetylene head lamps; in either case the position should be carefully chosen so as to throw the light on to the ground about twenty yards ahead of the car. Rigid brackets, well secured to the frame, should be insisted upon, both in order to increase the life of the lamp and the steadiness of the light, and also to protect the driver's nerves—a springy bracket will make the best of lamps rattle. Furthermore, let the front of the lamps be just behind the dumb-irons; many a skilful driver has been known to just "touch" things—even the blank wall of an awkward garage or motor-house, or an unfastened door—and a gust of wind will, under certain conditions, badly mark a pair of lamps in a few seconds, whereas a little paint off the dumb-irons is much cheaper to replace.

For head lamps a separate generator, conveniently situated in the car, is preferable, as this advantageously reduces the bulk and weight of the lamps and brackets. The gas is conveyed by the usual copper tube to the lamps, care being taken to make arrangements for the easy drainage of water at the lowest point in the piping, and to avoid loops or bends in which water can collect and cause a jerky light. The diving bell system of generator is the older pattern, but has nevertheless much to recommend it. Compared with many later types, it is less complicated internally and less liable to derangement, and is more easily and quickly cleaned. The pressure of gas being dependent on the height of the surrounding water, no gas-bags are required, which is a point worthy of consideration. In this connection it is worth noting that the water space should be filled, the lamps only getting the full gas pressure when this is the case. Although the newer types of generators permit of the water being cut off and the charge conserved, they do not on the whole score heavily over the type previously mentioned.

With the self-contained lamp—i.e., lamp and generator combined—care should be taken that the gas-bag is quite gas-tight in itself and at its connections; when lighting up, open the door wide and blow out any gas that has accumulated in the body of the lamp. Neglect of this precaution, coupled with a leaky gas-bag, will frequently give the lighter-up a busy few minutes, and if lucky it will do no more than put the owner in the market for a new lamp. Those motorists in particular who use their lights comparatively seldom should examine the lamps and fittings at regular intervals, and keep the rubber tube off the brass fittings as much as possible. A little black lead in the rubber tube end will prevent the same from sticking, and costing an inch of tube each time it is disconnected. The water container of the generator should be tested, for they spring leaks in the most unaccountable way when carried unused on the car, the fault being frequently discovered at a very awkward time, probably entailing a slow and risky drive home. Spares such as a length of rubber tube, gas-bags, burners, jointing rings, burner pricklers, &c., are supplied by the makers to suit their various products, and these should be on the car and easily to be found in the dark, for obvious reasons.

To sum up, my advice to motorists is, to equip the car with a full set of lamps, see that they are properly installed, and then look well after them. The advantages of a steady, bright light on the road 40 yards ahead, over a flickering semi-gloom, just showing up its insufficiency, will well repay in extra comfort for the little trouble and outlay involved, without considering the greatest and most important result, "security." CHOOK.

MESSRS. BOWEN AND CO. have opened a large showroom and garage at Shaw Street, in the centre of the city of Worcester. They have on show Talbot, Napier, De Dion, Siddeley, Humber and Rover cars, for which they are the local agents. Their workshop is replete with all necessary tools, driven by electric motor, and they can attend to motorists by night as well as day. Messrs. Bowen and Co. keep ten automobiles for hire, three of which are cabs. They have also just been appointed official repairers to the Royal A.C.

AN AUTOMATIC TYRE INFLATOR.

THERE have been many attempts during the past few years to introduce some means of inflating motor tyres to the requisite pressure without the laborious task of using the ordinary hand-operated pump. One that appears, by reason of its simplicity and efficiency, to be meeting with increasing favour is that known as Maxfield's Auto Tyre Inflator, which is made under Lord Tollemache's patents by Messrs. Maxfield and Co., of Victoria Road, Aston, Birmingham. We give a general view of the device in Fig. 2, and a sectional drawing in Fig. 1, from which it will be seen that it consists of an air compressor—the external appearance resembling to some extent that of a small motor-cycle engine—driven by friction direct from the flywheel of the motor, and actuated by a small lever from the dashboard. The apparatus really comprises two parts—an air compressor and an air chamber. The compressor consists of a cylinder F, 1 5-16 in. bore by 1 3-8 in. stroke, inside which is a piston P, fitted with three spring rings A, in a similar manner to an ordinary motor piston. This piston is operated by a leather faced friction wheel, not shown in the sectional view, and a balanced case hardened crank D; the bearings E are of phosphor bronze, as is also the connecting rod R. The cylinder and bearings are lubricated on the splash system. The air intake is fitted with a ball valve V; the outlet, which is similarly provided at V', is prolonged, and the end G screwed and coned for connection by means of a copper tube to the air chamber.

A small space just under the footboard, opposite the fly-wheel, can in most cases be found, where the inflator can be attached to the sub or main frame direct, or by interposing a small stiff bracket. The apparatus itself is bolted to the bracket by the swing back B so that the friction wheel can be brought into contact with the periphery of the flywheel of the motor by means of a flexible cable attached at one end to the lever L and

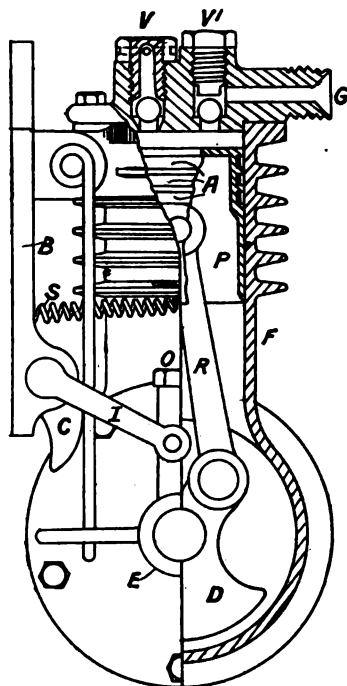
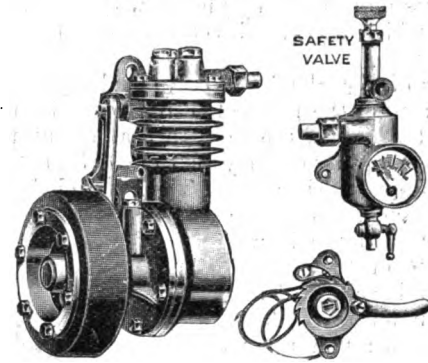


Fig. 1.

at the other end to the starting lever shown in Fig. 4, which can be fixed in any convenient position near the driver that gives a direct pull to the cable. There is thus no necessity to lift or remove the floor boards or engine bonnet to put the inflator in or out of action. All that it is necessary to do is to attach the tube from the air chamber to the tyre to be inflated, start up the engine and bring the friction wheel, by means of the lever provided, into contact with the motor flywheel. Care must be taken that the friction wheel is perfectly parallel with the periphery of the flywheel, and is fixed so that they clear one

another by about one-eighth of an inch when the inflator is in a normal position. The apparatus will work in practically any position, but preferably nearly vertical.

The air-chamber, Fig. 3, is made of gunmetal, and serves as an oil trap, thus preventing any lubricant from the cylinder being forced into the tyres. A drain cock, by which any oil that should collect can be drawn off, is fitted, as is also a pressure gauge registering up to 150 lb. per square inch. The top part of the air-chamber also serves as an adjustable safety valve, and can be



Figs. 2, 3, and 4.

set to blow off at any desired pressure, so that all danger of over inflating the tyres is obviated. It is intended that the air receptacle should be attached to the dashboard or the side of the car, with the adjusting screw of safety valve vertical. The cover of the pump can be placed in three positions by the removal of four set pins, to allow the connection between it and the air-chamber to be readily made. A 10 ft. length of flexible tubing with connections is supplied with the inflator, which weighs only 5 lb. complete; its dimensions are very small, viz., 7 in. high by 4 in. by 4 in. In addition to inflating tyres, the device can also be used for operating pneumatic jacks and raising the pressure in fuel tanks.

A NEW INNER TUBE.

IN our last issue we briefly alluded to a demonstration of a new puncture-sealing inner tube to which has been given the title of "Sealomatic," by Messrs. Gillespie and Co., at 266, Vauxhall Bridge Road, S.W. The leading claims made for these new tubes are that, owing to the fact that they contain no liquid solutions, their resiliency is in no way diminished, and that the net weight of the tyre as a whole is not appreciably increased. The tube is made in the usual mould, and is, in addition, furnished with two interlinings, neither being of the nature of a fabric, the expansive and contractive efforts of the rubber being, therefore, unimpaired. It is claimed that in the process of manufacture both linings become homogeneous with the rubber composing the tube, and in the perfected models are quite equally distributed over the inner surface. The innermost lining is of a "tacky" or sticky character, and it is to be presumed that this forms the sealing material. Inspection was invited of a number of tubes which had been run long distances and which had been punctured, both accidentally and purposely, a great number of times, notwithstanding which they stood up to their work perfectly. A short run over a bumpy road surface served to demonstrate that resiliency was not affected by the interlinings and that the behaviour of the tyres was quite normal. The new tubes are somewhat higher than usual in first cost, but the freedom from trouble and the satisfactory behaviour of the tubes under the worst conditions would appear to be ample compensation.

A TYPE of car specially designed for medical men has been introduced by Argylls London, Ltd. This is a two-seated vehicle fitted on a 14-16-h.p. chassis, and gives doctors a style of automobile well suited to their particular requirements.

MOTORING IN THE HAWAIIAN ISLANDS.

A TOUR of the Hawaiian Islands is not likely to suggest itself to the average motorist, but to the comparatively few who have tried it the experience will surely remain with them as one of the most pleasant in their lives. The group of magnificent little dots in the middle of the map of the Pacific Ocean which represents the Territory of Hawaii also forms one of the most delightful places for a vacation that the whole world affords, especially in view of the extent and excellence of the road system. Indeed, there is hardly a place on the mainland where the possibilities for enjoyment with a motor-car are not great, a fact which is yearly becoming more and more recognised by tourists.

The area of the islands is only small by comparison with the great spread of the Pacific Ocean about them; each of the four principal islands of the group are all so cut up with roads through such tempting country that one does not soon exhaust the novelty of touring the islands. There is probably no part of the United States where the roads are so uniformly well constructed and cared for as in the Hawaiian Islands; most of them are macadamised and have been laid out by skilful engineers with such care that even through the most mountainous sections a gradient of more than 1 in 12 is the exception. Six per cent. grades have come to be considered the best, and all new road work is based on this idea. Imagine a road over 250 miles in length, with no hills of over 1 in 16, yet rising from the sea level to an altitude of between two or three hundred feet in places, and constructed almost entirely of hard black lava rock macadam, or of white coral, as smooth almost as a floor. Such a road as this is the one which belts the largest island of the group, Hawaii. It is this island also which contains the two great active volcanoes Mauna Loa and Kilauea, and no one can have any conception of the diversity and magnificence of the scenery which this road makes easily accessible. A number of persons have established paying businesses in supplying motor-cars for the trip, and the several garages in Hilo, the principal town, always contain a number of machines owned by visitors who have brought them from the mainland.

In leaving Hilo for the run round the Island, one almost immediately begins to ascend by a most picturesque road until an elevation of 1,800 feet is reached. Here, on the brink of a most magnificent cliff, the road follows the north-eastern coast line of the island for some fifty-five or sixty miles, dropping down to the sea again at one or two places. This stretch of road is considered by many to be the most magnificent from a scenic point of view of any in the territory. As one drives along the top of palisades which drop almost vertically into the ocean hundreds of feet below, the panorama of sea and sky spreads out before one for about sixty miles in every direction. Words are pale and inadequate to describe the grandeur of the view, and it is one that once seen must always stand out vividly among all others.

Leaving the coast the road strikes across the north-western peninsula of the island, over a plain of between 2,500 and 3,000 feet elevation. At different points along the way long stretches of dense tropical forest arch above the road, shrouding everything in dim twilight gloom. Parts of this are the famous "fure forests," in which most of the vegetation is of giant ferns tower-

ing like trees to the height of from fifty to seventy-five feet. These forests are most beautiful and are one of the chief attractions of the islands. From the little town of Waimea, in the northern part of the island, the road swings away towards the south-west until the western coast is reached, when it bends with the coast line toward the south. A portion of the way is across immense barren plains of lava, poured out from the three great volcanic cones of Manua Kea, Launa Loa, and Hualalai, in ages past. Here the roads are formed of hard black lava rock, and are equal to almost any kind of road in the world. The scenery on these lava wastes, too, is attractive in its weirdness, and one has a feeling that he is traversing the surface of some strange planet, rather than a part of the earth's surface.

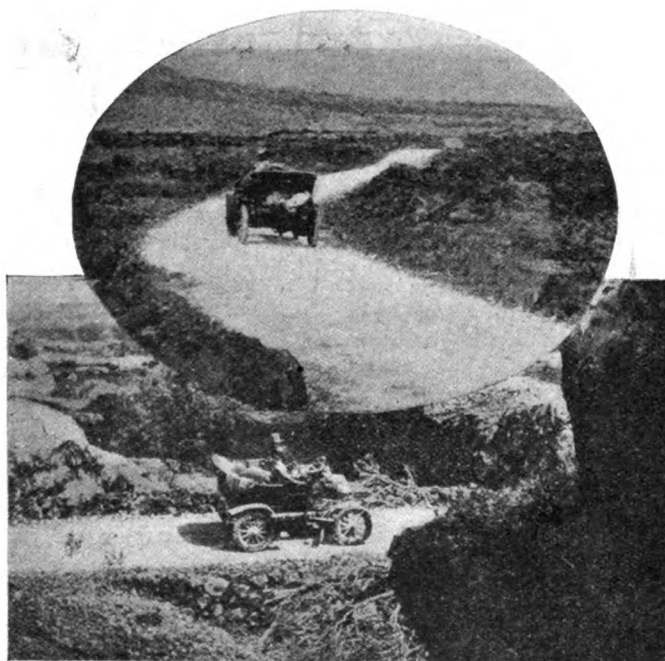
Always to the mauka, or landward side, as one whirls along, rise the imposing peaks of the volcanoes, like slumbering giants. Mauna Loa is the only one of the three that has been active in modern times. It rises to an altitude of 13,675 ft., which is a trifle less than the elevation of Mauna Kea. Their rise is not abrupt, being for the most part a comparatively gradual slope up from the sea to their craters. Almost mid-way of the west coast of the island, between the towns of Kealahou and Napoopoo, and almost opposite from Hilo, is located the monument marking the resting place of the famous explorer and discoverer of the Islands, Captain Cook. The tall graceful shaft stands in a little cove a short distance back from the shore of a beautiful indenture in the coast line known as Kealahou Bay, and visited by most tourists to the island.

Towards the extreme south of the island is the only poor piece of road encountered in the circuit, and this will not be so for long. It is five or six miles in extent, and is across the latest lava flow from Manua Loa. The road was entirely obliterated by the great mass of fluid rock which poured from a newly-formed opening in the side of the mountain and flowed toward the sea. The road was only recently opened across the flow at the expense of several thousand pounds. Although this

bit of the journey is rough, it is possibly the most interesting to the sightseer.

Fifty miles more of good road brings one to the Volcano House, a well-appointed and managed hostelry on the very brink of the great crater of Kilauea. This volcano is a great open pit between two and three miles across, and is the Mecca of all travellers to the islands. It is not greatly elevated and is easily accessible. It is always interesting, and at times its whole floor breaks up and the great molten cauldron of lava forms one of the world's most spectacular scenes. From the Volcano House back to Hilo is but thirty-one miles of perfect road, for the most part across lava plains. It can easily be traversed by a good car in an hour's time. The circuit of the island does not by any means constitute all the attractive drives in Hawaii. On the contrary, there are many others equally interesting though not so long. The great sugar plantations on the lowlands of the island and the coffee plantations in the higher districts are easily visited, and are of much interest. The same is true of the newly-developed rubber industry, and the pineapple district, all of which combine to make a most fascinating variety of drives for the automobile enthusiast.

What has been said of motoring in Hawaii is true of all the other islands, only in possibly lesser degree. Maui has a splendid system of roads and much to interest a tourist, including the great crater of Haleakala, which is the largest extinct volcano in the



Motoring in the Volcano District of the Hawaiian Islands.

world. Kauai, the "Garden Island," although comparatively small, is netted with good roads, and has many attractions of its own which make it well worth visiting also. But Honolulu, of course, and its surrounding districts, comprising the Island of Oahu, leads all the rest of the territory in the matter of motoring, and there is probably no community of its size, after eliminating the oriental population, where there are so many and such high grade cars in use. An active association of automobile owners keeps alive a keen interest in the sport, and several up-to-date garages make the keeping of the machines in the best condition an easy matter.

Almost every passenger on trans-Pacific liners, which stop at Honolulu nowadays, has an opportunity of taking a number of delightful short scenic drives while the vessel is in port. Like the other islands of the group, Oahu has a splendid system of roads, all of which traverse a most interesting country. One which is the most popular is about seventy-five miles in length and makes a short day's drive, allowing plenty of time to stop at the numerous places of interest. The island of Oahu is broken by two rugged mountain ranges. Six miles up the beautiful Nuuanu valley from Honolulu the road crosses a divide in one of these ranges through an artificially constructed pass down the northern side which is almost sheer precipice in some places nearly a thousand feet high. This point is recognised by travellers as being one of the most beautiful scenic views anywhere; and besides, it possesses the charm of great historic interest. It was here that, in the last century, Kamehameha I., called the Great, and often "The Napoleon of the Pacific," in his conquest of Oahu, drove the army opposing him, step by step, mile by mile up the Nuuanu valley until finally at the great Pali (cliff), unable to retreat further, a desperate conflict took place, resulting finally, however, in the entire force of Oahuans being driven over the awful precipice to meet death 400 feet below. It is said that 1,600 men thus perished. Human bones and weapons are still to be excavated from beneath the accumulation of vegetation and earth from the cliff, which, in course of years, buried the remains of the defeated army several feet beneath the surface.

Five miles further down a magnificent road carved out of the solid face of the precipice, winding down to the plain below at a uniform gradient of one in twelve, the north coast of the island is reached. Twenty-five miles along the beach, following the picturesque north-west coast line, much of the distance on the hard coral sands washed up from the reefs, and Kahuku Point, the northernmost point of land, is reached. All this distance the scenery is most fascinating, with its flanking of fantastically rugged mountains towering close on the left, while on the right the beautiful, calm waters of the lagoon lap gently on the beach, or where the reef barrier is not intervening the great swells from the North Pacific Ocean break savagely on the rock ribbed shore, with a roar that never ceases, while the strong steady sweep of the Trade winds from the north-east whips the salt tang from the wave crests and carries it with exhilarating freshness to the nostrils.

From Kahuku the run south along the west coast for fourteen miles is, for the most part, over a glistening white road of coral, where a machine runs with scarcely a vibration. At Haleiwa, the "Beautiful House" is one of the most charming little hotels to be found anywhere.

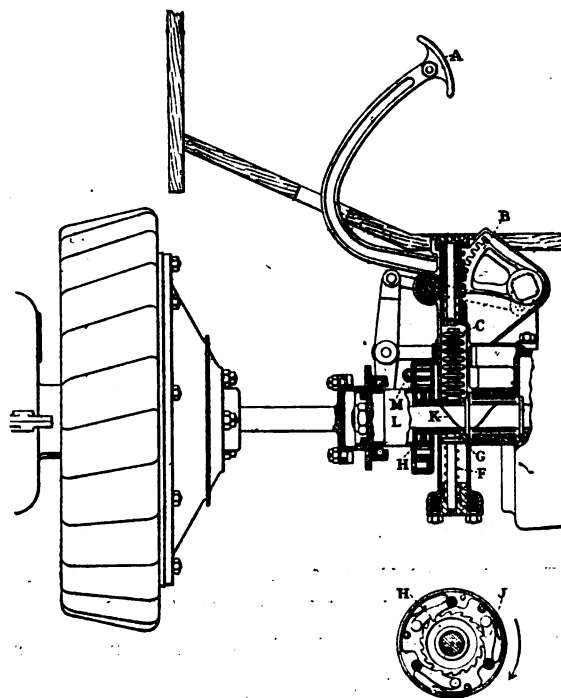
The run from Haleiwa back to Honolulu is thirty-one miles across the broad fertile plains that lie between the two mountain ridges. The road passes through thousands of acres of pineapple plantations and sisal fields, and is very interesting. This part of the territory has developed from open pasture lands to its present high state of cultivation within the past five or six years, and is steadily increasing.

The Honolulu Automobile Club has over one hundred members, and to it the whole country owes much in the way of road improvement and interest in motoring. The organisation has a number of wide-awake and energetic members, and a number of enterprises which they have undertaken and carried out have been unqualified successes, and have gained more than local recognition.

THE RENAULT PEDAL-OPERATED ENGINE STARTER.

SOME particulars of the novel and ingenious engine-starting device lately adopted by Messrs. Renault Freres on their 10-14-h.p. car have already appeared in the *M.C.J.* We are now able to illustrate the arrangement and to supplement the information already given. As will be seen, the apparatus is located between the gear-box and clutch and is operated by a pedal A, situated on the footboard near the usual clutch and brake foot levers. The pedal is connected with a toothed sector B, which in turn is in mesh with a toothed rack C, the latter also being in gear with a pinion G on the clutch shaft. The rack, which slides up and down in a bronze casing bolted to the end of the gear-box, is, after being forced down, automatically raised by the spring F. The lateral thrusts to which it is submitted by the effect of the sector and the pinion are taken up by friction rollers, which reduce to a minimum the power necessary to operate it.

The pinion G is mounted loosely on the shaft K, and is provided with a free-wheel ratchet device—shown separately in the



Sectional View of the Renault Foot-Controlled Engine Starting Device.

lower part of the illustration—so that when the speed of the shaft exceeds that of the pinion, which occurs when the engine is started, it simply overruns the free wheel.

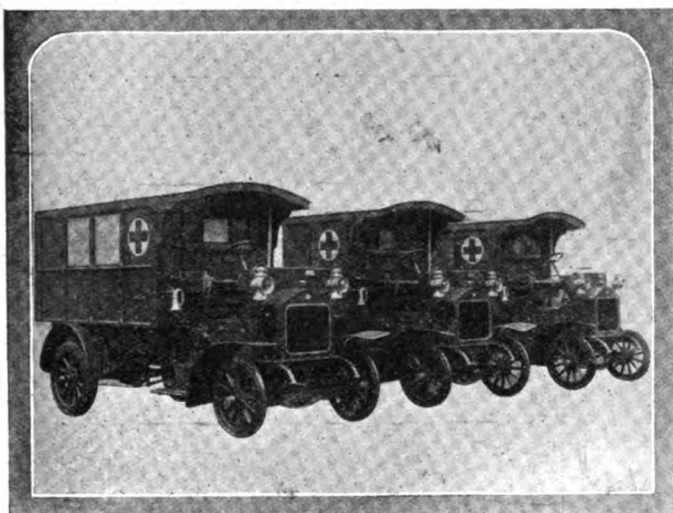
To start the engine, all that the driver has to do is to place the change-speed lever in the neutral position and then quickly press the pedal down several times; the result is that the clutch shaft, and through it the crank shaft of the engine—the clutch being engaged—is rotated, and, with the throttle and ignition levers in the proper position, the motor is soon started up. The whole arrangement is exceedingly simple and effective, and takes up an extremely small space, and that in a position where it can cause no inconvenience. We are indebted to our French contemporary, "L'Automobile," for the illustration.

RETURNS just to hand show that the exports of motor-cars and parts from the United States during last year attained a value of £1,151,384, as compared with only £881,837 in 1906 and £539,131 in 1905. England heads the list as being the best customer with £347,697, Canada being second with £233,471, Mexico third with £125,961, and France fourth with £119,290.

THE RATIONALE OF LUBRICATION.

By J. W. FRINGS.

NOW that the spring is nearly here, those on motoring bent begin to look eagerly forward to the speedy consummation of the pleasurable anticipations indulged in during the long and tedious winter. Even to those motorists cast in a sterner mould, to whom the joys of the pastime appeal with nearly equal force all the year round, the approach of summer heralds further pleasurable prospects. There is the new car to be tried, with all its unknown possibilities for keener enjoyment, or the old one, fresh from the hands of its skilled physician, with rejuvenated appearance and enhanced virility, to be humoured and cajoled into surpassing all its previous feats of exhilarating movement. This is, doubtless, one of the greatest attractions of motoring—the continual progress from point to point of advance, the constant evolution to fresh phases of comfort, economy, and efficiency. With it all there was never more need than at the present time for intelligent and thoughtful handling of motor vehicles. Every refinement of construction and adaptation, while making for perfection in the car itself, provides a wider field in which the differences of



The Fleet of three Siddleley 18-h.p. Motor-Ambulances just supplied by the Wolseley Company to H.M. War Office.

longevity and output, resulting from care or neglect, are most distinctly emphasised.

Take, for instance, the question of lubrication. The modern car of good class is usually fitted with a lubricating system that is assumed to be automatic—in which the necessity for intelligent observation has been entirely eliminated. There never was a greater mistake. Lubrication, to be absolutely effective, implies much more than merely filling the tank and setting the feeds in action when the engine begins to run. The special function of lubrication is to substitute for a solid bearing of very high frictional capacity a liquid one. To serve this end adequately there are many factors to be considered. The quality and quantity of the oil to be used, its continuous application upon, and its effective distribution to, the various bearings involved, are the principal. It may be as well to note first the characteristic differences between a solid and liquid bearing in their respective relationships to frictional losses. When two solid substances are in intimate mechanical contact there is a tendency for the motions of translation, or rotation, to be converted into molecular motion or heat. This is partly due to the cohesion which always exists when solid bodies, with their comparatively stable molecular constitution, are in close contact. This force of cohesion tends to resist the change from rest to motion, and produces, when work is done, a molecular motion, first appreciated as the expansion due to heat. The expansion causes adhesion between the bearing surfaces, and is accom-

panied, if the motion be continued, by a rending, shearing, or distorting action on their surfaces. This in turn gives rise to more intense molecular motion in the bearing, and ultimately the whole of the mechanical energy is transformed into heat energy, which finally arrests the motion of translation or rotation. Result—a seized bearing. On the other hand, when a liquid the molecular particles of which are much more free in their relative motion, is interposed, as a thin film, between the bearing surfaces, the moving parts are “floated” on the film of lubricant. There is, then, scarcely any appreciable tendency for the motion of translation or rotation to be converted into heat energy, because of the mobility of the oil. The freedom with which the oil molecules move from and return to their respective relative positions permits the rapid passage over their surface of a foreign body without more than a mere functional disturbance, which is immediately compensated by the inherent activity of the molecules, the latter being the result of the balance of the attractive and repellant forces which constitute it a liquid. So far, in considering this question of molecular motion, we have dealt only with the physical forces involved; but, as we shall see, there are also chemical forces to be taken into account, which have much to do with the efficacy of lubrication. These will be dealt with presently.

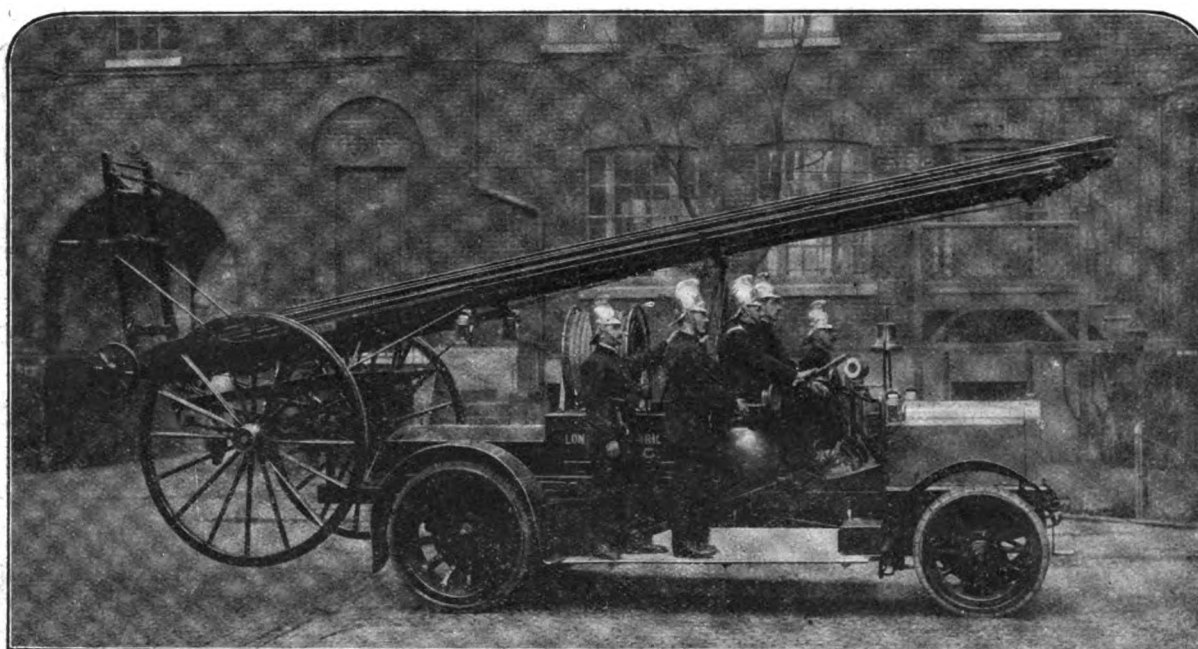
The primary function, then, of a lubricant is to provide a “floating” bearing for the moving parts. In this connection the quality of the oil is of vital importance. It must necessarily be of such a character that the gravitational, or weight, factor of stress, acting on, say, a revolving shaft, is more than balanced; that is, the oil must possess properties which will enable it to retain its physical characteristics, as a liquid, under the greatest pressure to which it is subjected. It must have a sufficient “body” to ensure that it is incapable of being pressed out of its film nature in every part of the bearing in which it is used. Failure on this point produces a dry, and unlubricated, bearing, with all its attendant difficulties and disadvantages. Most fair quality oils, it may be at once admitted, answer this primary requirement. Where many fail, however, is in resisting the chemical changes which invariably accompany the production of heat in a bearing. Nearly all oils are specific compounds of hydrocarbons. Some are particularly stable, where the atomic structure is simple, whilst some, owing no doubt to their complex structure, are particularly unstable in the presence of heat energy. It is, of course, the latter which are the cause of trouble. In dealing with the physical forces we saw that the integrity of the molecule as such, is not interfered with. Even if the last trace of oil were to be forced out from a bearing, owing to excessive and unbalanced pressure, the oil would still preserve unaltered its physical characteristics, and be suitable as a lubricant for some other purpose, because it is still a liquid, its molecular constitution remaining unaffected.

With the chemical changes induced by heat, however, there is an alteration in the structure of the molecules. The oil, which, before the application of the heat, was an apparently permanent combination, principally of hydrogen and carbon, now becomes fractionally vaporised, and at each successive change becomes less able to support its original intention. Its peculiar, and essential, properties as a lubricant are lost, and what is left of it tends to become a solid, or solids, with all the dangers of solid friction. These changes are constantly occurring in the cylinder of a petrol motor, and, in a lesser degree, accompany the evolution of heat, generated by frictional losses, in every bearing. These chemical changes are proportional to the rise in temperature, and to the specific atomic structure of the molecules of the oil. A lubricant of the best quality, therefore, should possess a physical and chemical constitution which will permit of a high safety factor over possible dissociation from rise in temperature, as well as presenting sufficient physical resistance to excessive pressure.

Coming now to the quantity of oil which is necessary to ensure the efficient working of a bearing, we have to consider the actions and processes which are constantly at work, and which render the renewal of the oil supply necessary. These may be briefly described as wastage, physical deterioration, and chemical changes. It is extremely

difficult to design and construct any bearing from which there shall be no leakage of oil, and absolutely no loss by unnecessary friction. At the best a compromise is effected, and the wastage reduced to the minimum without unduly increasing the friction in making the bearing quite oil-tight. Theoretically, the perfect bearing would be one in which the whole of the running gear was immersed in oil, and surrounded by an air-tight case. But even this would not effect an absolute cessation of wastage. The extreme mobility of the molecules of the lubricant, and the various forces which tend to disturb its relative state of rest, make it well-nigh impossible to avoid a loss on this score. And, even if it were possible to retain it for any length of time in its particular bearing, this is not advisable. Physical deterioration of the quality of the oil is produced by the wear of the moving parts resulting in a gradual admixture of the fine solid particles of the metal, abraded by friction. It is an axiom of physical science that no two atoms are ever in virtual contact, and in addition to this natural and inviolable physical separation, we take the precaution, by the use of a lubricant, the most suitable for the purpose, to interpose a further and yet more effective means of separation. And still we are confronted with the apparent paradox

their place those properties, or physical characteristics, of the respective elements which are the base of the compound appear instead. As, it has been noted, these changes, although perhaps not appreciably, are actually in progress, in some degree or another, all the time, it is necessary constantly to freshen and renew the lubricant, to preserve its essential qualities. In relative order of importance we may place these necessities for replacement as follows:—First and greatest, wastage; second, physical deterioration; and last, except in its relation to the cylinder, chemical change. It will have been observed that the expression “freshen and renew” was used in dealing with the question of the quantity of oil to be used. It is not possible to wholly renew the lubricant without considerable trouble. To accomplish this effectually it is necessary to wash out all the bearings with petrol or other oil solvent, and this, besides entailing much time, is sometimes a source of subsequent mischief, where the new lubricant has failed to effect its complete distribution before work has been restarted. Moreover, it is hardly ever necessary to wash out, when the motor is in constant action. The fresh oil, as it is added to that already in use, tends to replace it by a natural process of circulation, in



The 30-36-h.p. Petrol Motor First Aid Tender and Fire Escape recently supplied to the London Fire Brigade by Commercial Cars, Ltd.

of particles, never in actual contact, mutually altering their relative physical relationship. We know that this is caused by the law that all bodies tend to obey, and therefore move, in the direction imposed by the strongest force acting upon them at the time. Although the particles of the bearing, and the lubricant even, are not in actual contact, and usually obey the law of cohesion, the attractive force of which binds their adjacent particles together, yet when the greater force of friction, exhibited as heat or molecular motion, is acting, the particles of metal obey this, the stronger force. The continual dropping of water upon a stone will “wear it away.” That is, erode it, or even dissolve it. In the same way, but acting under the direction of another force, the continual friction between the solid of the shaft, say, and the liquid lubricant, and between the solid of the journal and the liquid, results in the “wearing” of these solids, by the separation from their surfaces of minute particles of their substance, which are held in suspension by the liquid, and when present in appreciable quantities soon begin to exercise a very active, and additional, attrition.

The chemical changes which occur in the constitution of the lubricant have already been referred to. Whenever chemical changes take place, whatever may be the immediate cause, the essential properties of the compound body disappear, and in

which such diverse forces as capillary attraction, gravity and centrifugal force, are actively at work. A proportion of the oil in use is lost by wastage, and this is, almost necessarily, that which has lost its initial viscosity and has been subjected to the greatest use. It is, moreover, the most heavily charged with metallic particles. Inferentially, it is most unwise to check this wastage, when it is seen to serve so useful a function

(To be concluded.)

THE garage of the Thornton Engineering Company at Belle Vue, Bradford, is now open day and night. There is special accommodation for cars to be washed during the night ready for next morning.

MESSRS. JAMES H. RANDALL AND CO. have opened a new metal warehouse at 31, Marylebone Lane, Wigmore Street, W. At their works in Green Street, Paddington Green, they have for a considerable time carried on sheet metal work of every description for the motor trade, making fittings for petrol tanks, bonnets, silencers, &c., as well as castings in brass, gun metal and aluminium. At their new place they have a large stock of solid drawn copper tubes, unions, petrol taps, screws, &c., all of which will be of special interest to the industry.

CONTINENTAL NOTES.

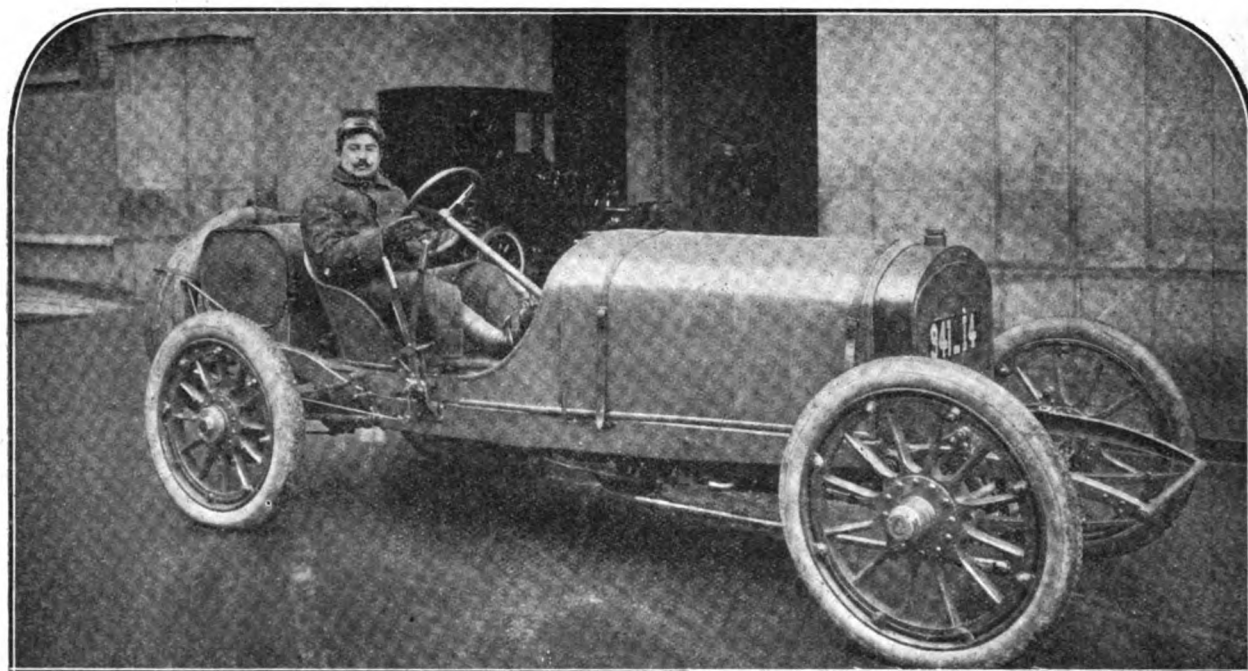
The A.C.F. Grand Prix Races.

The entries for the A.C.F. Grand Race (heavy cars) have received considerable additions during the past week, no less than forty-five cars being entered by Saturday evening last, when the list at single rates was closed. The vehicles which will compete in the event are three each Germain, Benz, Fiat, Panhard, Motobloc, Mercedes, De Dietrich, Austin, Renault, Opel, Clement-Bayard, Brasier, Weigel, and Itala, two Porthos, and a Thomas. There will thus be twenty cars in the contest representing France, nine on behalf of Germany, six for England, six for Italy, three for Belgium, and one for America. The Grand Prix des Voiturettes has brought forward an even larger "field," no less than fifty-eight vehicles having been entered for this event, viz., three each Isotta-Fraschini, Rolland-Pilain, Lion-Peugeot, Guillemin-Le Gui, Alcyon, Grégoire, Busson, Sizaire-Naudin, Martini, Le Metais, Delage, Werner, Corre, Ampere, and Aries, two each Bailleau, Demeester, and Monnier, and one each Fouillaron, Vulpes, Truffault, De La Roulière, Arion, Passe-Partout, and Stabilia. Three of the cars are of Italian and three

favoured, is that around the Puy de Dome mountain, in the department of that name, in the district on which the Grand Prix race was held in 1906. The track would consist of a double and parallel loop, each 12½ miles long, and crossing one another by means of a bridge. The total distance would thus be 25 miles. The double track, which it is proposed to light by electricity, will be about 80 ft. wide. The cost of construction is estimated at £80,000, and it is expected that the work could be completed within a year. The Boulogne section of the Automobile Club du Nord have also submitted a scheme to the A.C.F. relative to a proposed permanent circuit in the Pas de Calais district.

Motor-Cars for Military Purposes in France.

Official recognition of the value of the motor-car in warfare is implied by a legislative project submitted by the French Ministers of War, of the Interior, and of Public Works to the Army Commission. The scheme proposes taking a census of all automobiles in France and a classification of their details, so that in the event of hostilities the Army authorities should be able at a moment's notice to commandeer motor-cars required



Rigal at the wheel of one of the Clement-Bayard Cars for the A.C.F. 1908 Grand Prix Race. The vehicle is fitted with a four-cylinder engine 155 mm. bore by 170 mm. stroke.

of Swiss construction, the remainder being all built in France, a striking indication of the attention which is now being paid to the building of light cars in the last-named country. The entry fees for the heavy car race amount to £7,240, and for the voiturette contest £968, giving the not inconsiderable total of £8,208. The A.C.F. has definitely fixed the dates and distances for the races. The voiturette event will be held on Monday, July 6, and will consist of six circuits of the Seine Inferieure circuit, a distance of 462 kilometres, or about 288 miles. The big car race, or Grand Prix proper, will be held on the following day, Tuesday, July 7th, over ten circuits of the course, a distance of 770 kilometres, or about 480 miles. Practising has commenced on the Dieppe circuit, and already it has been found necessary to issue a warning against excessive speed.

A Proposed Permanent Racing Circuit in France.

Reference has already been made in this column to the scheme which is being considered by the French Automobile Club of establishing on some large estate a huge track on which races may be held under conditions similar to those appertaining on ordinary roads. One projected course, which is being much

for military service. The only cars exempt from mobilisation are those belonging to the President of the Republic, the Post Office, and other public departments. Fines will be imposed for non-compliance with the new law.

Miscellaneous Items.

Arrangements are in hand for the establishment of a public motor-car service between Sassari and Tempio Palua, on the island of Sardinia.—A service of motor-cabs is about to be inaugurated in Zurich by a newly-formed company.—The Austrian Automobile Club last week held a banquet in Vienna to celebrate the completion of its tenth year of existence.—It is reported that the Turkish postal authorities are contemplating establishing a motor-car service for the carriage of the mails between Fregli, on the Bagdad Railway, and Aleppo.—A motor-car race from Padua to Bovalenta, Italy, is to be held on April 5th next.—The Kaiser has ordered five Mercedes cars to be put in readiness for use during his stay in Corfu.—A hill-climbing competition is to be held on the 8th prox., over a two-kilometre course, near Toulon, France, by the Automobile Club of Toulon.

THE Santon Golf Club, which has links at Branton, Devon, is providing a motor house for the accommodation of the cars of members.

THE Brighton and Sussex Motor and Carriage Works, of 13A, Cannon Place, Brighton, have held their annual staff dinner and concert at the Grand Hotel, Brighton.

THE Maudslay Motor Co., Ltd., Coventry, have sent out a neatly designed copper ash-tray. The words "Maudslay Motors, 60, Piccadilly, W.," are stamped thereon.

UNSEASONABLE weather led to the postponement of Mr. F. Newton's attack on the world's records of 50 miles, 100 miles, one and two hours at the Brooklands track on Tuesday.

IN addition to agencies for cars, Hill's Garage in Westgate Street, Cardiff, which is managed by Mr. E. W. Bowen, carries stocks of accessories, such as the Kempshall tyres and other specialities.

A CORRESPONDENT in Moscow reports that there is an excellent opportunity for demonstrating the merits of industrial motor-vehicles among manufacturers in that district, particularly in connection with the textile industry.

As an illustration of the pains which are taken to obtain quiet and silent running in modern motor-cars, it may be stated that even radiator fans are subjected to careful balancing in order to reduce their hum to the lowest possible point.

FROM the Sheffield-Simplex Motor Works, Ltd., comes a photograph giving an interior view of their works at Tinsley, Sheffield. We recently had an opportunity of going over the new factory, and found it exceedingly well arranged and equipped for the production of high-grade cars.

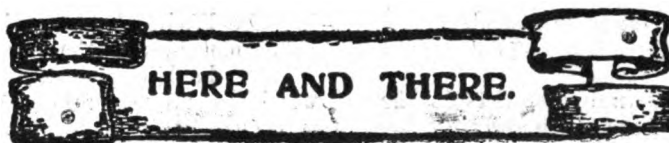
HALLEY'S INDUSTRIAL MOTORS, LTD., have secured an order from the Corporation of Clydebank for a 20-h.p. fire brigade first-aid machine. The vehicle will be supplied with the usual first-aid body, suitable for carrying six men, 1,200 ft. of hose, and a 40-ft. ladder, the body generally being built to the requirements of Mr. Whyte, the firemaster at Clydebank.

THE Bridgwater Motor Co., Ltd., send a copy of their new catalogue for the season, from which their clients will be able to gauge their capacity for the prompt supply of all motor-car accessories and the numerous incidental articles required by the motorist. Among the cars illustrated are the Rover, Argyll, Swift, Singer, and other well-known makes for which the company is agent.

THE Beaufort Works and Garage at Woodhall Spa have excellent accommodation for motorists. To the main road is a showroom and above that are rooms with accommodation for chauffeurs. To the rear is a drive, paved with tar macadam, leading to a garage 50 ft. by 40 ft., and works 117 ft. by 21 ft. Messrs. Campbell and Co., the proprietors, have every facility for repairing, as well as housing, cars.

WE recently mentioned that the proprietors of the "Sheffield Daily Telegraph" had a fleet of motor vehicles for the delivery of newspapers. These vehicles are fitted with "Durandal" non-skid bands, and in order to encourage the drivers in the careful handling of their vehicles Messrs. Stuart, Morrison and Co., the agents for the non-skids, have offered a prize to the driver who has the greatest mileage to his credit with the non-skids in serviceable condition.

THE mechanical branch of the American Association of Licensed Automobile Manufacturers some time ago took up the subject of the standardisation of tubing used in motor-cars. The object of the research was to secure a high quality of steel with a maximum of strength, and to reduce the number of sizes as much as possible, so that deliveries could be more quickly made by the tube manufacturers, who have hitherto been required to supply about 1,200 sizes of steel tubes of varying diameters and thicknesses. As the outcome of the conferences that have been held the number of sizes has been reduced to about 300. Charts have been made of these standard sizes and furnished to each member of the association, giving a schedule of the standard stock sizes of all steel tubing made.



OPPOSITE the new tube station at Hampstead a garage and motor repair establishment has been opened by Messrs. Rey and Pratt.

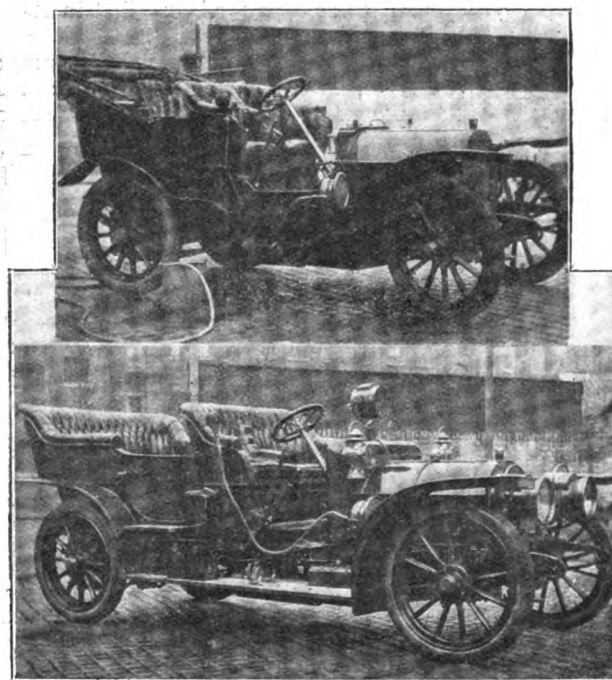
THE Park Road Garage at Ormskirk is occupied by Mr.

J. L. Balmforth, who is well able to be of service to motorists needing assistance when in that locality.

THE R.A.C. Competitions Committee has agreed to recognise records of speed obtained when using fluids auxiliary to combustion, such as oxygen, acetylene, &c.

A PROPOSAL is to be brought before the Hampshire County Council to devote the fees received from motor-car registrations and licences to the improvement of road surfaces and the erection of warning signals.

THE Motor Repair and Supply Company, of Bridge Road, Hammersmith, W., in addition to carrying out repairs of all kinds, are now making a speciality of modernising old cars by increasing the length of the chassis to enable a side-entrance body to be substituted for the old tonneau. The two illustrations given herewith depict an old 40-h.p. Mercedes which has



recently passed through the company's hands, the first one showing its original condition and the second its remodelled appearance. The firm inform us that they can effect a similar improvement in almost any make of car, and when we called on them recently we saw a Renault chassis undergoing similar treatment.

AMONG the cars which are popular in the Colonies are the Clement-Talbot vehicles, which have lately figured in several important trials and runs in Australia. Out of six cars of this make in the three days' reliability trials held by the Automobile Club of Victoria, five were awarded gold medals. In the hill climb in connection with the same event, the three fastest times were made by the 15-h.p. Talbot cars, whilst four cars attained speeds varying from fifty to fifty-nine miles per hour in the speed test. It is on a 20-24-h.p. Talbot car that Messrs. Duddon and Auger are making an attempt to cross Australia. The last news from them recorded that they were about halfway across the Continent. Another conspicuous performance of a Clement-Talbot vehicle has been a run from Melbourne to Sydney, when Mr. C. P. Kellow, on a 15-h.p. car, covered the 577 miles in 24 h. 40 min. The ordinary train takes twenty-four hours to do the journey.

A MOTOR-CAR service has been started in Liverpool.

In the recent Bombay Trials a Daimler car secured a gold medal and made a non-stop run.

MR. J. R. ORAN, who is well known to motorists in the Highlands, has motor depots at Dingwall, and also at Tain.

MR. W. F. POOLE, manager of the Cork Motor Company, Ltd., has a prominent location in the city, and looks forward to a successful season.

MR. DUGALD CLERK, M.I.C.E., has been elected president of the Engineering Section of the British Association meeting to be held at Dublin in September next.

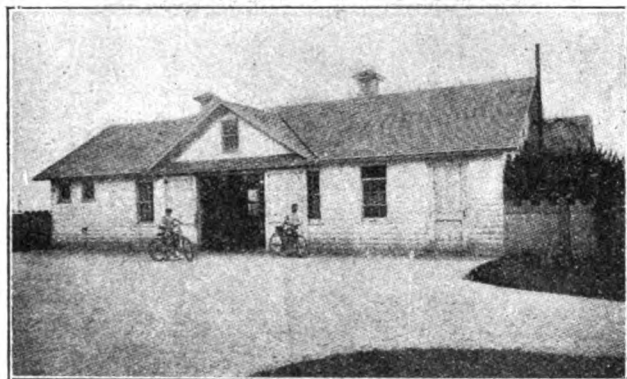
In the well-known Dublin suburb of Donnybrook, Mr. P. Breen has a garage with accommodation for a dozen cars and the necessary equipment for the charging of accumulators.

AMONG the orders for Siddeley 18-h.p. industrial vehicles recently secured by the Wolseley Tool and Motor Car Company, Ltd., are two for the India Office for famine relief work in India.

At the junction of the High Street and Portsmouth Road, Guildford, Mr. E. W. Steadman has opened an establishment for the sale of motor accessories. His postal address is 1, Mount Street.

MAJOR G. C. GLYN recently purchased an 18-24-h.p. Swift car, which he ran in the Reliability Trials of the South Indian Motor Union. It secured prize cups for being first in its class in (a) reliability, (b) hill climbing, and (c) speed. [Caption]

THE accompanying illustration shows the private garage of Mr. James Lawrence Breese, a well-known New York motorist. It is situated at Southampton, Long Island, Mr. Breese's summer



headquarters, where are stored and kept *au point* his three Mercedes cars—a 20-h.p., a 35-h.p., and a 40-h.p. The garage is an especially constructed building, and is equipped with every convenience for the repair of the cars.

WITH reference to Mr. Jarrott's record at Brooklands on his 80.4-h.p. (R.A.C. rating) Lorraine de Dietrich, we learn that when he had trouble with his tyre he was within four and a quarter miles of the distance standing for the hour record, with nearly ten minutes in hand.

SOME trials have lately been made with an Argyll 16-20-h.p. 2-ton petrol motor lorry in transporting cotton goods between the mill at Farnworth and the warehouse in Manchester. Starting at 7.50 a.m. the vehicle made three round trips by 5.20 p.m.; altogether the lorry carried 7 tons from the mill to the warehouse, the return journeys all being made empty.

THE Wolseley Tool and Motor Car Company, Ltd., have just supplied to the order of H.M. Office of Works a combined private omnibus or ambulance for the use of officers at the Convalescent Home at Osborne, Isle of Wight. The vehicle is built on a Siddeley chassis with chain drive and a wheel base of 11 ft. 1 in., and fitted with a 40-h.p. four-cylinder motor. When used as a private omnibus the vehicle is arranged with six bucket seats; when the car is required for ambulance work the seats can be removed and stretchers fitted in their place. The body is painted a dark green, and the seats are upholstered in dark green glazed leather. A luggage rail is fitted which is capable of carrying about 9 cwt. of luggage.

ON Wednesday next Mr. R. M. Wright, of Lincoln, will hold a motor-car auction in that city.

In the High Street, Rotherham, is a dangerous corner, at which motorists should exercise great care.

THE Soshin Motor Car Company recently inaugurated a public motor-car service in Nagasaki, Japan, with two American-built motor-omnibuses.

A MOTOR-CAR wedding at Accrington is made the subject of comment in a Lancashire paper. We had thought such events had become almost commonplace.

NEAR the King's Head Hotel, West Hill, Harrow, is the Harrow Motor Garage, where private motor houses are provided for clients. Driving is taught and all kinds of motor accessories kept in stock.

DURING last year 1,093 motor vehicles, valued at £631,433, were imported into the United States, as compared with 1,295 and £883,209 respectively in 1906. Four-fifths of the imports were supplied by France.

MR. GORDON USMAR and Mr. H. Ramoisy have joined the firm of Vinot Cars (T. J. Harman and Co., 20, Regent Street, S.W.), in partnership, and will introduce several new models, including a 12-16-h.p. (R.A.C. rating 16-h.p.) car.

SOME time ago we mentioned that a chapel on the London Road, St. Albans, had been transformed into a garage known as the City Motor and Electrical Works. This is now fully equipped, and those who travel on the main London and St. Albans road will find it possesses ample facilities for any mechanical assistance they may need.

THE Law and Parliamentary Committee of the Hammersmith Borough Council are making arrangements for holding a conference of metropolitan councils for the purpose of considering what further action it is desirable to take with a view to putting a stop to the nuisance arising from the motor-omnibus traffic. So far replies have been received from twenty-five authorities. Fourteen have agreed to send delegates to the conference, and eleven have decided not to be represented.

IN connection with the forthcoming Cordingley Motor Car Exhibition, at the Agricultural Hall, London, an aeronautical section is being organised by Messrs. Spencer Bros., the well-known aeronauts. The exhibition will be open from March 21st to the 28th, and the Aero display will include full sized airships, aeroplanes *a la* Farman, motors for flying machines, balloons, parachutes, scientific instruments, photographic cameras and other accessories, such as made the Aero Section such a popular feature at last year's show.

THE "Electary" motor appliances are attractively brought to our notice by Messrs. W. and R. Jacobs, of 39C, King William Street, E.C. These include accumulators in which a new form of incorrodible terminal is fitted, dry batteries, terminals, coils, garage lamps, combined hand and inspection lamps, switches, volt meters, and ampere meters, electric lamps, and other electrical accessories, to the excellent features of which we hope to refer in a later issue. Mention may, however, now be made of the accumulator controller, by means of which the state of the accumulator is easily ascertained.

THE start of the New York-Paris motor race took place in New York early on Wednesday, the 12th inst. The cars which started comprised three French vehicles, namely, a De Dion, driven by G. Bourchier St. Chaffray; a Motobloc, driven by C. Godard; and a Sizaire-Naudin, driven by Pons; one German car, a Protos; one Italian car, a Brixia Züst, driven by A. Scafoglio; and one American car, a Thomas, with Montague Roberts at the wheel. The race is an outgrowth of the Pekin-Paris run of last year. The route by which the cars will travel is as follows:—New York to Cleveland, Chicago, Ogden, Carson City, Mojave, Santa Barbara, and San Francisco—4,300 miles; San Francisco by ship to Valdez, 2,800 miles; Valdez to Fairbanks, Tanana, Kaltag, Unalakleet, and Nome, Alaska, 1,200 miles; Nome to East Cape, Siberia, by boat, 250 miles; East Cape to Nijni Kolinsk, Oustiana, Boulong, Yakutsk, Irkutsk, Nijni Novgorod, Moscow, St. Petersburg, Berlin, Aix-la-Chapelle, and Paris—11,450 miles. The total distance is, approximately, 20,000 miles.

Correspondence.

[Letters to the Editor should be addressed to the offices, 27-28, Charing Cross Road, London, W.C.]

HILL CLIMBING IN EDINBURGH.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have perused with much interest the article in your issue of February 8th on the Sheffield-Simplex car, and I have also read the letter by Sir J. H. A. Macdonald in your issue of 15th inst. I was one of the three passengers who accompanied Mr. Percy Richardson when he drove the car from Waverley Market, via Dean Bridge, Stewart's College, Raeburn Place, Comely Bank, Stock Bridge, and Frederick Street back to Waverley Market. Perhaps you were technically wrong when you stated that Frederick Street is just under one mile in length, and although my knowledge of Edinburgh is not sufficient to enable me to make a definite statement as regards the lengths of the different streets, I am certain that from Comely Bank, where the ascent begins, to the summit in George Street the distance cannot be much, if anything, short of a mile. I have a distinct recollection of at least one bad turn on the hill. The whole route was done on top gear, and, although I have been a motorist for several years, I was surprised at the ease with which the hill was "eaten up."

an Edinburgh gentleman who went up the hill with me to ascertain the exact length and also the various names of the thoroughfares on the incline referred to.

All I can say, however, is that the facts as stated in your issue of the 8th inst. are materially true, and in order to be careful of the accuracy of the gradients, I procured from Mr. W. M. Colam, the District Engineer of the Edinburgh Northern Cable Tramways, an exact contour of the hill with the gradients marked, and with his signature appended to the same, a blue print of which I am enclosing. The turns referred to on the hill I quite admit, if met on the open road, could not be considered as awkward ones, but, considering that there are trams the whole way, and also a sufficient amount of traffic up to the second turn to necessitate serious checks in the speed of the car, so as to prevent any possibility of rushing the hill, I think it perfectly justifiable to claim them as bad turns under these conditions. As regards the details of the actual performance of climbing this hill, I may say that I started the car on its top speed at the bottom, on the slight up gradient, and had to drive the same through the traffic and invariably at the last corner there was either a tram or its equivalent in the shape of carts or



MOTORING IN THE DUTCH EAST INDIES.

A 15-22-h.p. Spyker, a 40-h.p. Fiat Touring Car and a 40-h.p. Fiat Motor Lorry at Tosari.

[De Auto.]

It would be interesting to learn if any of the other cars represented at the Edinburgh Show succeeded in accomplishing the feat performed by the Sheffield-Simplex. I saw several making the attempt. I may state that I also accompanied Mr. Percy Richardson when he drove the same car up Ramsey Lane, and I am glad to see that your correspondent gives the car credit for that performance. I have no connection with the Sheffield-Simplex Company, but I hope soon to be the owner of one of their 45-h.p. six-cylinder cars.—Yours truly,

H. L. STOCKS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice the letter in your issue of 15th inst., from Sir John Macdonald, regarding the hill climbing trial performed by me with the Sheffield-Simplex car in Edinburgh, and as I supplied the information to you, I feel it my duty to reply to the same, and in doing so would like to mention that I rather appreciate being, as it were, corrected by such a well-known and highly-respected friend.

I was evidently wrong in stating the hill climb was up Frederick Street, but not knowing Edinburgh sufficiently well, I had to rely upon the information given me by one of my passengers who I presumed knew the thoroughfare. Besides this street there are apparently other thoroughfares included in the length of the climb, and I have written to

pedestrians to prevent rushing this before coming on to the steepest part of the climb. I was very careful not only to procure the actual gradients but also to give the names of gentlemen who had travelled up with me on the car, and who were above reproach, and these names I again am taking the liberty of repeating:—The Rt. Hon. The Earl of Mar and Kellie, Mr. E. Campbell Muir, Mr. T. Barclay, Edinburgh, Mr. H. L. Stocks, Mr. Sinclair, and Mr. T. Roland Onthwaite.

Finally, I would not like Sir John Macdonald to think that I am claiming that this gradient is an exceptionally stiff one for a car to climb on one of its low gears. I am not; but what I do say is that it is a very steep gradient for a car to climb with a full load of passengers on its top gear.—Yours truly,

PERCY RICHARDSON.

[It is evident from Sir J. A. Macdonald's letter and Mr. Richardson's explanation that the hill-climbing trial in question was not merely along Frederick Street, but along a thoroughfare of which it forms part, and which changes its name at different points. The mistake does not detract from the excellent performance of the Sheffield-Simplex car, which in making the ascent of the long rise, with its maximum gradient of one in thirteen, on top gear only confirms the good opinion we formed of the hill-climbing capabilities of the vehicle in the course of a recent run from Nottingham to Sheffield.]

ARE TWO IGNITION SYSTEMS NECESSARY?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very interested in the opinions you published in the last issue of the *M.C.J.* from manufacturers and agents with regard to the question of whether it is necessary to fit two systems of ignition on modern motor-cars. Analysing the views expressed, I find that while one or two firms maintain an open mind on the subject the majority are in favour of a single system, that being—with one exception—the magneto.

Having heard the trade side of the question, it would, I think, be useful if users of motor-cars would now give their views on the subject. I would like to hear, for example, from motorists who have two systems of ignition whether they have found, in the course of their motoring career, the reserve method to be of practical use, and also to be in working order when required, and from those who rely on a single ignition whether this has carried them through safely.—Yours truly,

PRESTONIAN.

[We shall be glad to have the views of motorists on the subject as suggested by our correspondent.—ED. *M.C.J.*]

AN AUSTRALIAN DOCTOR'S EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Under separate cover I am sending you a photograph of Mrs. Grimwade and myself in my 10-h.p. Humber car. This is the second car of this make that I have driven in the last four years, during which time I have done about 35,000 miles. With the exception of tyres, I have had very little trouble on the road at all. I always drive myself, my man only cleans the car. I may also add that my wife drives the car a good deal by herself.



Until the last two years, when I came to Geelong, there were hardly any cars in the town running regularly. Now there are about a dozen, although our roads are far from good. In fact, the main road from Geelong to Melbourne, about forty-eight miles, is one of the worst, several miles of it are unmade, and for some distance one has to travel over open clay pans. In the summer this is delightful, but in the winter after heavy rain these pans are almost impassable without non-skid tyres.

As a doctor I go to all out of the way places at times, and often travel miles over mere tracks, and sometimes across paddocks without any tracks at all. I find that the car is preferable to a horse-drawn vehicle in spite of all these drawbacks, and a great saving of time.—

Yours truly,

A. SHEPPARD GRIMWADE.

Geelong, Victoria.

THE SETTING OF VALVES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to the letter of the Larrad Syndicate, I note with regret that these people have come down to that very undesirable practice of throwing out challenges. I believe I originally started the discussion *re* valve setting in your journal, but I never had the slightest wish to either enter or be drawn into what are practically personalities. I simply stated the question as I was very interested in the extreme difference of opinion expressed by different manufacturers. I wished to see the matter discussed in an open scientific way, with the different opinions of various manufacturers expressed. When, however, I read the letter in your issue of to-day, which in so many words accuses me of untruths, and further goes on to throw out challenges, I feel sorry I started the discussion. Why cannot gentlemen treat the matter in a gentlemanly manner, and leave commercial instincts out of the question? There are one or two points worthy of note in the letter of the Larrad

Syndicate. They ask what will be the effect on various engines if the inlet valve opens 5 deg. on the suction stroke before the exhaust closes? Well, I have already told them what happened to one engine which had the valves overlapping, though, of course, I did not then take mathematical measurements (as a matter of fact the exhaust period was as near as no matter to that of the Larrad, and I should say the inlet was too), but, as they apparently do not believe the story, what is the use of telling them any more? If I tell them of other engines, and I can too, which did not run satisfactorily with the valves overlapping as per their setting, they simply say, "No, you can't prove it; our setting is right, you must be mistaken." There is no hope of scientific argument with people like this.

If I may make a suggestion as regards the ounce of fact and pound of theory, I would suggest that the finest plan the Larrad Syndicate can adopt, if they wish to prove to the motoring community that their setting is the best and absolutely infallible, is to go far and wide and set anyone's engines for them, on the strict understanding that "no cure, no charge" is the arrangement. They will find plenty of people ready to take them on, and, if they are successful every time, they will get together a very nice business. Personally, had I the knowledge which they claim to have which will prove that practically all engines are timed wrong, I should start to-morrow on my valve-setting journey and expect to reap a full harvest! About that test, I believe the Bexhill track is somewhere about a kilometre in length, with a hill at one end? Might I point out that no fair test is possible on such a track? The only really fair test is a brake test of the engines, the next best being a fifty or sixty mile run on a known road.—Yours truly,

INTERESTED ENQUIRER.

Re THE ORGANISATION OF DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Amongst the ornaments of any account on the walls of my office are the two "Special" certificates granted me by the Automobile Club of Great Britain and Ireland, now the Royal A.C. They have helped me beautifully in the course of my business, having in some cases been the turning point in my arguments with clients, who must be absolutely satisfied before coming to terms. Now I am quite sure they must be of inestimable value to the man who drives for his living, and in the meantime has charge of several hundred pounds worth of intricate machinery.

I have noticed an opinion among many men connected with the motor trade in some way or other, that these certificates are useless and not worth the trouble of getting them. Needless to say, these men have neither of the four grades of certificates issued by the R.A.C., and to the man who imagines they are the property of anyone who will pay the fees, I say, "Go in and win, if it is so easy." I think that it is one of the finest things connected with the new industry that has been accomplished, but I have always thought that there was something more wanted, and that is, the organisation referred to on the first page of the *M.C.J.*, No. 467.

I have already attempted something of the kind myself, but I came early to the conclusion that it could not be founded on anything like a substantial basis without the support of the Club itself. I should be pleased to furnish the R.A.C. with particulars of the association as I would have had it, should they intimate any desire to know. I shall also be happy to place my services and my workshops at the disposal of the R.A.C. in the interests of such an undertaking.—Yours truly,

HERBERT J. CHAPMAN.

CHANGE OF OWNERSHIP.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I ask you to kindly let me know what is done, when one buys a second-hand car, in regard to the number?

I own a car which was registered and a number given. Since then I have bought another car. I have not yet sold my first one. Shall I have to give notice to the L.C.C., and what shall I have to pay? The car I have just bought is a second-hand one, and of course has its number. I am not particular which number I have for my present car. I may add that I shall dispose of the first one as soon as possible. Further, I shall not be running same. Thanking you in anticipation.—Yours truly,

W. B.

[The point is dealt with in our Comments on another page.]

A SUGGESTION REGARDING MUD GUARDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I do not know whether you have noticed the fact that the engine under the bonnet of a petrol car is not so accessible as it was a year or so ago. As a general rule the motor adjuncts are so made that it is possible to take off almost any part without disturbing others; but this improvement of the individual parts has been in a great measure offset by the difficulty of getting at the engine as a whole. In other words, while it is easier to take the parts off when you can reach them, they are harder to reach than before, a state of affairs which has been brought about by two causes, namely, the increase in the length of the engines and the development of the wide enclosed mudguard. At present most motors are rendered inaccessible by a high radiator in front, the dash-

board at the rear, and long, wide mudguard at the side, which extend down to the frame. All work on the upper part of the engine must be done by reaching over one or the other of these obstructions, and the larger the car the farther the operator must reach. Could it not be possible to so fit the front mudguards, or in fact all of them, in such a way that they can be readily detached? The idea might be worked out in a number of different ways, and on many cars would not only materially facilitate the work of adjusting the engine, but would also be of service when tyre troubles are encountered.—Yours truly,

W. J. STEPHENSON.

THE ACTION OF SPRINGS.

To the Editor of *The Motor-Car Journal*.

SIR,—In the correspondence columns of your issue dated October 12th, Mr. A. E. Gelder, of the K.T. Syndicate, Ltd., makes the following statement:—"The rapidity of action of the best steel springs is about eighty-six times per minute, the rapidity of action of the best commercial rubber, such as is used in high-class tyres, is about ninety per minute, but the rapidity of action of air is approximately 1,800 times per minute." Is it too much if I ask Mr. Gelder by your favour to explain through the medium of the *M.C.J.* (1) what he means by the phrase "rapidity of action"? and (2) how does he get, or who is his authority for the particulars quoted?—Yours truly,

Melbourne.

J. E. BISHOP.

THE IRISH RELIABILITY TRIALS.

THE itinerary of the trials to be organised by the Irish A.C. in May next will be as follows:—

First day.—Dublin to Portrush, 149½ miles.—Dublin, Balbriggan, Drogheda, Dunleer, Dundalk, Newry, Banbridge, Lurgan, Moira, Crumlin, Antrim, Ballymena, Ballymoney, Portrush.

Second day.—Portrush to Dublin, 173 miles.—Portrush, Coleraine, Downhill, Limavady, Dungiven, Maghera, Tobermore, Moneymore, Cookstown, Dungannon, Moy, Armagh, Keady, Oastleblayney, Carrickmacross, Ardee, Collon, Slane, Dublin.

Third day.—Dublin to Killarney, 178 miles.—Dublin, Rathcoole, Kill, Johnstown, Naas, Newbridge, Kildare, Monasterevan, Ballybrittas, Ballydavis Cross Roads, Ballyroan, Abbeyleix, Durrow, Johnstown, Urlingford, Littleton, Cashel, Goldenbridge, Tipperary, Emily, Knocklong, Kilmallock, Charleville, Freemount, Newmarket, Boherboy, Killarney.

Fourth day.—Stay at Killarney.

Fifth day.—Killarney to Cork, 156½ miles.—Killarney, Beaufort, Kilgobnet, Lough Acoose, Ballochoheen, Spunkane Chapel, Waterville, Top of Coomakista, Derrynane, Cahirdaniel, West Cove, Parknasilla, Blackwater Bridge, Templemore, Kenmare, Glengariffe, Ballylicky Bridge, Pass of Keimaneigh, Tarn to Gougane Barra, Bealnagarry, Inchigeela, Toon Bridge, Macroom Bridge, Carrigadrohid, Coachford, Dripsey, Iniscarra, Carrigrohane, Cork.

Sixth day.—Cork to Dublin, 161½ miles.—Cork, Glanmire, Watergrasshill, Rathcormac, Fermoy, Kilworth, Ballyporeen, Clogheen,



A Road to the Soudan.

The town of Eneh is a provincial capital of Egypt, with a road leading to the Soudan, along which a considerable trade is done. It provides an object lesson in the progress that is taking place in Egypt.

From "*The Mediterranean*."

[George Philip and Son, Ltd.]

MESSRS. HARPER AND LANE, Granby Street, Leicester, agents for the Humber cars, write us in regard to a paragraph which appeared in this column last week, that it is the chief constable of Leicestershire who has been provided with a 15-h.p. Coventry-Humber car. The vehicle which was supplied by them has given every satisfaction, and proved to be of great value to the chief constable during the recent series of burglaries, &c., in Leicestershire.

BARON ADRIEN DE TURCKHEIM, of the De Dietrich Company, has written to Mr. W. M. Letts with regard to the prohibition of detachable wheels in the A.C.F. Grand Prix Race, stating that he considers "that the Sporting Commission of the A.C.F. could not reverse a decision which has already been made some considerable time, and which has been adhered to in previous races: but, on the other hand, and from a purely sporting point of view, I think it would have been interesting to see Mr. Edge's car run against ours, even with the detachable wheels, we, ourselves, not having them."

MR. W. E. GELDER, secretary of the Chauffeurs' Commercial Motor Men, 71, Horatio Street, Moston, Manchester, writes to say that at a meeting of his society it was resolved that Mr. Councillor T. Fox should ask the Chief Constable of Manchester if anything could be done towards securing instruction in driving before granting licences to drive cars. The reply was that the Chief Constable had no such power. Mr. Gelder also adds that he did not know of the views of the Chief Constable as expressed to the L.G.B., a point raised by the Chief Constable of Manchester at the opening of the recent Manchester Motor Show.

Ardfinnan, Clonmel, Glenbower, Nine-Mile-House, Callan, Kilkenny, Royal Oak, Leighlinbridge, Carlow, Baltinglass, Hollywood, Poulaphuca, Blessington, Brittas, Embankment, Tallagh, Balrothery, Templeogue, Terenure, Dublin.

THE INTERNATIONAL TOURING CAR TRIAL, 1908.

THE following entries have already been received for this trial, which begins on Thursday, June 11th next:—

Class 7.—Six-cylinder Napier, entered by Mr. S. F. Edge.

Class 9.—Six-cylinder Rolls-Royce (2), entered by Messrs. Rolls-Royce, Ltd.

Class 10.—Six-cylinder Napier, entered by Mr. S. F. Edge.

Class 3.—De Dion car, entered by Mr. J. W. Stocks.

Classes 5 and 6.—Beeston-Humber cars, entered by Mr. T. C. Pullinger.

Class C.—20-h.p. and a 30-h.p. White steam car, entered by Mr. F. Coleman.

The ten classes are based on R.A.C. rating, as follows:—Up to 6.4, from 6.4 to 13.0, from 13.0 to 16.0, from 16.0 to 20.8, from 20.8 to 25.6, from 25.6 to 32.4, from 32.4 to 40.0, from 40.0 to 46.4, from 46.4 to 52.8, from 52.8 to 60.0.

THE correspondent who wrote last week with reference to the police trap at Crawley now informs us that the police stand between the buildings named and not behind.

DEPUTATION TO THE CHANCELLOR OF THE EXCHEQUER.

On Tuesday a deputation from the Motor Union waited upon the Chancellor of the Exchequer at the House of Commons. It consisted of Mr. Joynson-Hicks, Captain D. Hughes Morgan, J.P. (Cardiff), Messrs. Chas. H. Dodd (Maidenhead), W. Ballin Hinde (hon. treasurer), Major J. A. Cole, J.P. (Sleaford), Col. Howard Fairtlough (Godalming), A. Lyle Rathbone, J.P. (Liverpool), W. Jackson (Liverpool), J. E. Hodgkin (Newcastle), C. P. Wilson (Leeds), P. A. Sharman (Hitchin), H. J. Wells (Barnsley), Walter Bourke (Maidenhead), Earl Russell (London and Chichester), C. McWhirter (Herts), P. Runciman, Dr. J. L. Lock, M.A. (Uxbridge), Rev. F. W. Hassard-Short, (Cardiff), H. Howard Humphreys, M.I.M.E. (representing Commercial Motor Users' Association), Rees Jeffreys (secretary).

Mr. Joynson-Hicks submitted that any increase in motor-car taxation should in any event be moderate, and that the interests of motorists of moderate means should be specially considered. He pointed out that to specially tax motorists as road-users would be to revert to the obsolete principle of the turnpike. He urged that (a) Such taxation should not be inequitable as compared with the taxes on other classes of road vehicles. (b) That no taxation should be imposed that would materially restrict the use of motor vehicles or confine their use and enjoyment to the comparatively wealthy. (c) Motorists should not be called upon to pay several times over for the maintenance of the roads they use. The great majority of motorists are house occupiers and therefore ratepayers. In the capacity of ratepayers they are already contributing through the ordinary channels to the maintenance of public highways. Those of them who are income tax payers again contribute to the Imperial grants in aid of local taxation towards road maintenance. It would be grossly unfair to make them contribute to a large extent through a third channel for the same objects. The question was, Are the roads to be paid for by the users of them, or are the roads to be considered as general thoroughfares to be supported by the State for the benefit of the people as a whole. Mr. Hicks went on to urge that any new taxation should be calculated according to the weight of the vehicle, and not on any horse-power formula. He entirely concurred in the recommendation of the Royal Commission that taxation should be levied on the basis of weight. The Union proposed that the responsibility should be placed upon the chassis maker and carriage builder to stamp the weights of the chassis and body upon their respective productions, and upon the user of the car to return the sum of these weights to the proper authority. The Motor Union, provided that monies derived are appropriated for highway purposes, as previously indicated, would acquiesce in a scale of taxation as suggested below:—

(a) Motor-cars unladen:—

Motor-bicycles weighing less than 2 cwt., 7s. 6d.

Motor-cycles weighing less than 7 cwt., 15s.

Motor-cycles and motor-cars not exceeding 12 cwt. unladen, 30s.

Motor-cars exceeding 12 cwt. and not exceeding 15 cwt., £2.

Motor-cars exceeding 15 cwt. and not exceeding 20 cwt., £3.

Motor-cars exceeding 20 cwt. and not exceeding 25 cwt., £4.

Motor-cars exceeding 25 cwt. and not exceeding 30 cwt., £6.

And £2 for every additional 5 cwt.

Trade and public service motor vehicles to pay 5s. per ton of registered axle weight.

(b) Horse-drawn vehicles:—

2-wheeled, drawn by one horse, £1.

4-wheeled, drawn by one horse, £2.

4-wheeled, drawn by two horses, £4.

4-wheeled, drawn by more than two horses, £6.

Trade and public service vehicles to pay half the above rates.

The speaker went on to remark that the Royal Commission recommended that revenue derived from the taxation of motor-cars should be devoted to the improvement of roads, and that a central department should direct the allocation of the moneys raised.

Mr. Asquith remarked that he did not think a Chancellor of the Exchequer would get any profit out of such a transaction at all. He would incur the odium of creating a new and expensive department, and that having paid the costs of the thing the department would hand over the profits of the tax to the various local authorities. He did not see much advantage to the Chancellor of the Exchequer in that.

Mr. Howard Humphreys referred to the question of the basis upon which the taxation should be made. They advocated that it should be on the basis of weight and not horse power. The latter could not be rightly applied to steam vehicles. In the case of other motors there were different types of engines which gave different rates of efficiency. The proposal of the Royal Commission would press unfairly on both pleasure and trade cars. The deputation suggested that trade and public service vehicles should pay 5s. per ton of registered axle weight.

Earl Russell, having spoken on the general principles of taxation, said it was now stated that it was proposed considerably to increase the tax payable by motor-cars and that these taxes should be proportioned in some way to the size and magnificence of the car. Such an increase based upon considerations of weight was recommended by the Royal Commission, while other persons who ignorantly thought that horse power was as easily ascertainable as pounds avoirdupois had occasionally supported a taxation graduated on this basis. If it was taken on the

basis of luxury, and it was said that persons who owned two or three cars of 30-h.p. and upwards could well afford to pay a licence of £10 per car instead of 4 gs., he admitted that that was probably true. To precisely the same extent it was true that those who employed powdered footmen could probably afford to pay £5 a head for them instead of 15s. But it was perfectly clear that in all these cases there would always be a limit line where the additional tax will press hardly. A 30-h.p. motor-car costing from £500 to £700, and which could be run fairly inexpensively by the man who drove it himself, might well be used by a superior commercial traveller for the purpose of his business, but to him an additional £5 or £6 a year in taxation would be quite a serious consideration. Another still more specious argument most frequently used, was that motors, while damaging the roads in excess of other classes of vehicles, escaped their fair share of taxation and did not contribute enough to the upkeep of the roads. He denied the premises and said that if all the roads of the country were taken, far more damage was done to them by farm carts and in some cases by traction engines, than by all the motor-cars. If all the owners of motor-cars in the kingdom were tabulated it would probably be found that they paid a larger sum per head in rates and taxes than any other single class of persons outside the House of Lords. The suggested reason was that those who used and damaged the roads should pay proportionately for their upkeep. This was exactly the reasoning which obtained when the country was permeated with toll gates, at each of which tribute was levied on passing vehicles on a scale proportioned to the damage they were supposed to have done or the benefit they had had of the road. This system had been condemned and abolished. Motorists were therefore entitled to say that this system of charging for the use of the roads was an obsolete and a discredited system. They were entitled to contend that if this was the ground on which increased taxation was to be imposed on motor vehicles the reasoning should be extended to all other classes of vehicles, and that a commission should sit to enquire what was the proper contribution to exact towards road making from all vehicles that use the roads.

The Rev. Hassard Short submitted that motor-cyclists were already overtaxed in comparison with pedal cyclists and motor-car owners.

Dr. Lock spoke of the unfairness of a system under which a medical man, after giving up his horse and carriage for a motor, would be called upon to pay considerably increased taxation. The Chancellor of the Exchequer said he was much obliged to the deputation, whose case would have due consideration.

AUTOMOBILE ACCIDENTS.

In the Westminster Court Mr. Troutbeck held an inquiry with reference to the death of John Ash, who was fatally injured by a motor-car in Kensington Gore. Mr. Isaac McGieham stated that he and his wife were walking along High Street, Kensington, where a great many motor-cars were being driven at a very rapid pace. He saw the deceased man come out into the road, and he was struck by the wheel of a motor-car, which was nearly in the centre of the road, and was evidently in the act of passing a cab. He heard the chauffeur shout very loudly. The vehicle was not pulled up within its own length, and he had not heard the hooter sounded. P.C. Gilderspoke of taking Ash to St. George's Hospital, where he was found to be dead. To witness the driver said, "I was coming from High Street, Kensington, at eight miles an hour, when the man came from behind a hansom cab. I shouted and applied my brakes. The jury returned a verdict of accidental death, and said they thought the chauffeur should be severely cautioned.

At the City of London Court, Dr. F. J. Waldo concluded an inquiry with reference to the death of James Garner, steward of the Press Club, Wine Office Court, E.C., who was run over and killed by a Vanguard motor-bus in Fleet Street on the 6th inst. Herbert Allen, who witnessed the accident, said that Mr. Garner in crossing the road passed behind a four-wheeled van going west, and got right in front of the motor-omnibus, which was going east. The speed of the bus was about six miles an hour, and the driver had no opportunity of averting an accident. Mr. Garner fell, and both near-side wheels went over him. The driver at once applied his brakes. The jury returned a verdict of "Accidental death," and exonerated the driver from all blame.

An accident occurred to a man named Charles Stocks, at the Cinque Ports Hotel, Rye, on Sunday morning. He was trying to start a motor-car, and was holding the starting handle, when the engine back-fired. The force threw him upon the lamp bracket, the spikes of which pierced his forehead above his eye. The unfortunate man was rendered unconscious. At seven o'clock on Monday evening he was still unconscious, and his condition was about the same.

The coroner at West Bromwich has held an inquest relative to the death of a cyclist who collided with a motor-car and sustained injuries from which he died. Several witnesses gave evidence and the jury returned a verdict of accidental death, adding that no blame could be attached to the driver of the car.

THE Stepney spare wheel gave Mr. W. T. Lord a feeling of confidence on his recent trip from Bombay to Calcutta, and now Mr. H. Dutton, who is attempting the journey across Australia by motor-car, is stipulating that his automobile shall be fitted with Stepney wheels.

CLUBS AND ASSOCIATIONS.

ROYAL A.C.

TWENTY-ONE provincial automobile clubs have decided to remain affiliated both to the Royal A.C. and to the Motor Union during 1908. To the members of these clubs, and those which have not yet decided, the Royal A.C. proposes to offer the full advantages of associateship of the R.A.C., including the use of its legal department and the services of its legal adviser, and the use of the premises at 112, Piccadilly, which have been provided as a London address, &c.

The first meeting of the newly-constituted R.A.C. general committee has now been convened. It was to meet at 119, Piccadilly, W., on Wednesday, the 19th inst., at 5 p.m. The clubs that have notified their decision to become associated with the R.A.C. have been invited to nominate representatives to the committee, and a similar invitation has been sent to the clubs that have decided to retain affiliation to the R.A.C. and the Motor Union during 1908, under their old agreements.

The premises taken for the members of clubs associated to the Royal A.C., and for the individual associates, are being opened this week. These premises are easily found, being situated at 112, Piccadilly, only seven doors from the R.A.C.'s Club House, whilst one of the R.A.C.'s motor houses is four doors away in the other direction. The windows look out over the Green Park towards the gardens of Buckingham Palace. Accessibility is a strong point as regards the building, for the Down Street Station on the Piccadilly-Brompton Tube Railway is within half a minute's walk.

As reported last week, the representatives of certain provincial automobile clubs recently asked the R.A.C. to receive a deputation on the subject of the differences existing between the R.A.C. and the Motor Union. The Club cordially acceded to the request, and the deputation duly attended. It was composed of the following:—Mr. A. Armitage, J.P. (Somerset A.C.), Mr. R. W. Buttemer (West Surrey A.C.), Mr. T. W. Grace (Manchester A.C.), Mr. Sidney F. Harris (Northants A.C.), Mr. J. E. Hodgkin (North-Eastern Automobile Association), and Mr. H. A. Watson (N. Yorks A.C.). A committee had been appointed on behalf of the R.A.C. to meet them, and the following were present:—Mr. C. D. Rose, M.P. (chairman), Prof. Vernon Boys, F.R.S. (vice-chairman), Col. H. C. L. Holden, R.A., F.R.S. (ex-chairman), the Hon. Arthur Stanley, M.P., M.V.O. (ex-chairman), Mr. T. H. D. Berridge, M.P., Mr. J. R. Nisbet, Sir Boverton Redwood, D.Sc., Mr. Robert Todd, Sir J. H. A. Macdonald, K.C.B., Lord Justice Clerk of Scotland, and Mr. Alexander Ure, K.C., M.P.

THE AUTOMOBILE ASSOCIATION.

THE band of H.M. Coldstream Guards will be one of the attractions at the Automobile Association's third annual dinner, which will take place at the Hotel Cecil, London, on the 18th prox.—a few days prior to the opening of the Spring Motor Show.

THE INCORPORATED INSTITUTION OF AUTOMOBILE ENGINEERS.

A MEETING of the Committee of the London Branch of the Graduated Section of the Incorporated Institution of Automobile Engineers was held on the 11th inst., representatives being present from Clement-Talbot, Ltd., Hutton, Ltd., Simms Manufacturing Company, Ltd., St. James's Electric Light Company, Regent Street Polytechnic, Armstrong-Whitworth and Co., Ltd., the Motor Manufacturing Company, Ltd., Acer, Ltd., Royal College of Science, Dennis Bros., Milnes-Daimler, Ltd., and the University College. Mr. L. H. B. Cosway has been appointed hon. secretary *pro tem.*, and Mr. F. Thomas chairman *pro tem.* No time has been lost in preparing for the present session, and already papers have been promised for the remainder of the session to be read at the monthly general meetings. The first is by Mr. L. H. B. Cosway, entitled "Methods of Testing a Motor-Car," and will be read on Tuesday next, at 8 p.m., at 1, Albemarle Street, Piccadilly, W.

Particulars of membership of the Graduates' Section of the Institution may be obtained on application to the hon. sec., Mr. L. H. B. Cosway, 6 (Engineers') Quarters, H.M. Prison, Wandsworth, S.W., or of the secretary of the Institution, Mr. Rees Jeffreys, 1, Albemarle Street, Piccadilly, London, W.

AUTO-CYCLE UNION.

ON Saturday the Auto-Cycle Union held its fifth annual dinner at the Hotel Cecil, London. Colonel H. C. Holden, R.A., presided, and was supported by Messrs. J. W. Orde, J. Lyons Sampson, Robert Todd, A. J. Wilson, J. Van Hooydonk, A. G. Reynolds, W. G. Williams, C. A. Smith, H. A. Collier, Stenson Cooke, C. R. Collier, Dr. Hele-Shaw, F. Straight (secretary, A.C.U.), and many others.

The chairman (Colonel Holden), in proposing the toast of the evening, "The Auto-Cycle Union," stated that since their last dinner they had changed their name from the Auto-Cycle Club to that of the Auto-Cycle Union. He remarked on the great advantages of the motor-cycle for the active man, which had all the merits of the motor-car and none of its drawbacks. This made it in some respects the most wonderful outcome of the motoring movement. The union was

fortunate in having its affairs controlled by such able officers and officials, and in Mr. Robert Todd they had the best of all chairmen.

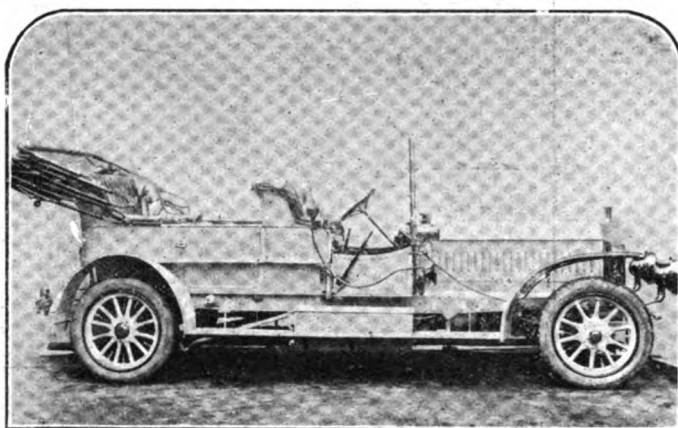
Mr. ROBERT TODD, in reply, could hold out little hope for reduced taxation for the motor-cyclists, but the work of the Union was to see that this was kept as low as possible. He was able to state that the affairs of the Auto-Cycle Union had now got to the stage of work instead of talk, as well as being at peace with all kindred bodies.

The toast of "The Affiliated Clubs" was proposed by Mr. Julian Orde, who spoke at length of the sphere of usefulness of the Union, remarking that there were no less than 2,100 members therein. These would no doubt induce all the great number of members of motor-cycling clubs and riders at present unattached to join the union.

Mr. R. H. HEAD (chairman of the Motor-Cycling Club) replied, stating that his club was one of the staunchest supporters of the union, and hoped long to be associated with it in its good work for the benefit of the individual as well as the pastime. Mr. A. Carpmael (Richmond District M.C.) also replied.

NORTH-EAST LANCASHIRE.

AT the sixth annual dinner of the North-East Lancashire A.C., held in the Town Hall, Blackburn, last week, ladies were invited, and the company numbered close upon 120. Mr. W. Birtwistle, the president of the club, presided, and, after the loyal toasts, Major F. G. Hindle proposed "Our Guests." Though they might consider the laws placed on them as motorists much too strict, whilst it was the law of the land he (Major Hindle) was sure they would try to act loyally and obey it. They had an organisation whose principal object was to discourage reckless driving, though at the present time they were



The 80-h.p. Six-Cylinder Napier just delivered by Messrs. S. F. Edge, Ltd., to Captain C. E. Hamilton, of Great Somerford, Chippenham.

The car is claimed to be not only the most powerful, but by far the fastest genuine touring car in the world. The dimensions of the cylinders are 6½ in. bore by 5 in. stroke. The car is rated as 93.7-h.p. (R.A.C. rating). The body, built by H. J. Mulliner, of Northampton, has an innovation, the doors being hinged to the front, so that should a door be left open it will close itself automatically as the car moves off. The vehicle is painted in cream picked out with green, and finished with green upholstery.

passing through a troublesome period. They all knew of the dissensions which had taken place, and he was sure they all hoped that a satisfactory decision would soon be arrived at. The club had had a committee appointed in regard to the roads. He was glad to say that they had had many interviews with the road authorities and he believed some improvements had taken place, and were to take place, which would not only be appreciated by motorists, but by all who used the roads. Mr. Smitton responded on behalf of the guests. The final toast was "The Chairman," proposed by Dr. Stephenson, who coupled with Mr. Birtwistle's name that of his son, Mr. A. Birtwistle, the club secretary. In response the president said he was always willing to do what he could for the club and its members, and he thanked them for the toast.

Amid applause for the respective recipients, the Mayor of Blackburn (Mr. F. T. Thomas) then presented the following prizes to members of the club. Silver cups, for absolute non-stops in the club's run to Callender and back:—Mrs. T. M. Crook (car driven by Mr. Hodgson); Mr. A. S. Bury (Accrington); Mr. A. E. Crowdy (Manchester) (car driven by Mr. T. A. Garnett); Mr. F. Birtwistle; Mr. Stafford, and Mr. A. Birtwistle.—Gold medals for open hill climb on Rimington Pike:—Mr. A. E. Crowdy; Mr. W. D. Coddington (two medals), and Mr. F. Birtwistle (three medals). Several other medals in connection with the competition had been presented previously.—Motor Union medal (Motor Gymkhana):—Mr. J. Robinson (Preston).—The last prize was a handsome silver cup, presented by Mrs. T. M. Crook, for the best performance on formula in the members' open hill climb, and this was won by and presented to Mrs. A. E. Riley, of Haslingden.

HARTLEPOOLS.

THE membership of the Hartlepool A.C. now stands at fifty. When the members met at the Grand Hotel, West Hartlepool, on Thursday of last week, the familiar sound of the motor horn was frequently heard, and the proceedings were of a most interesting character. Mr. Geo. Jones, J.P., presided, and amongst others present were The Mayor of West Hartlepool (Alderman Robson), Mr. H. C. Pyman (hon. secretary), Mr. J. Natras (hon. secretary Stockton Automobile Club).

After the loyal toasts Mr. C. E. Smith proposed "The Visitors."

Dr. Macgregor submitted "The Hartlepool Automobile Club," referring to the developments of the motor industry. Speaking of the progress of the club, he said the increase in the membership proved that it had been very successful. The Chairman, replying, said that the club had been very successful during the year, and had established a good record, because none of the members had been before the magistrates. It was undoubtedly a model club, and the members were most considerate to others they met on the road. Much of the success depended upon the hon. secretary, and in Mr. H. Pyman they had a gentleman who took a great interest in the club, and in all matters appertaining to motoring.

BASINGSTOKE.

MR. GEO. WATSON'S lecture on "Steam Road Vehicles" before the Basingstoke and District Motor Club proved very interesting to a good attendance of members last Saturday, the 15th inst. Mr. Robinson, of Wallis and Stevens, occupied the chair, and in introducing the lecturer

they can display to advantage. Ten in number, the rules are printed in bold type on durable board, and are bound to attract attention wherever exhibited. The headings are:—Taking Corners, Main Road Traffic, Signals, Meeting or Overtaking, In Traffic, In Descending Hills, The Horn or Bell, When Pulling Up or Stopping, Accidents, Avoid Splashing Pedestrians with Mud.

Arrangements have been made with the following railway companies for the issue of passenger tickets as far as Paris, and for the booking of cars across the English Channel:—South-Eastern and Chatham, Folkestone-Boulogne; London, Brighton and South Coast, Newhaven-Dieppe; London and South-Western, Southampton-Havre.

LADIES.

ON Wednesday of last week Mr. R. Sedgwick Currie delivered his third technical lecture at the Ladies' A.C. The subject was "Old and Modern Types of Ignition and Carburettors." Practically every known method of ignition was dealt with, from the early tube ignition, the catalytic, the coil and accumulator and modern distributor to the present high and low tension magneto. The windings of the latter and the method of construction were carefully explained, and then Mr. Currie told how the electric current was produced. Next carburettors and carburation were lightly dealt with, but as the time was short, further discussion on this interesting subject was postponed to the fourth lecture. A great number of ignition specialties were kindly supplied to the club by the following firms:—Messrs. the United Motor Industries, G. T. Riches and Co., Simms, Panhard and Levassor, the Itala Automobiles, and Vandervell and Co.



Motor Wagons in the Austrian Army.

The Austrian War Office have lately established works at Klosterneuburg for the repair of the motor vehicles employed in connection with the Austrian Army. The above illustration depicts one of the vehicles with which some trials are being made as to the best type of tyre for military motor lorries. [Allgemeine Automobil Zeitung.]

mentioned the difficulties placed before the pioneers of steam traction engines in this country. The lecture included lantern illustrations of mechanically propelled vehicles existing 2,000 years ago, one of which was worm driven, although, as Mr. Watson stated, it was not a Dennis. Early Hancock, De Dion and other vehicles were described, and those in the Liverpool Trials were of special interest, as Mr. T. Baker, who was present, drove the Thornycroft vehicles which won prizes on those occasions. The Serpollet cars were fully described and a favourable future for steam vehicles foretold by Mr. Watson.

Mr. T. Baker was called upon to give some of his experiences. Mr. Baker, in proposing a vote of thanks to the lecturer, said he was still in favour of steam, although petrol and paraffin occupied him nowadays.

After the other usual votes of thanks to chairman and lantern operator were passed the hon. secretary, Mr. R. K. Hubbard, reported that the danger notice board on the London road entrance to the town would be erected by the 22nd inst., and that the subscription for purchase of a second-hand lathe had been started with a donation of 10s. 6d. from the president, Mr. H. Niblett. The question of affiliation to the Autocycle Union was raised but was not voted on owing to the small number of motor-cyclists present.

THE MOTOR UNION.

A THOUSAND copies of Rules and Courtesies of the Road are being distributed to affiliated clubs, hotels, and motor houses, and Secretaries are invited to make application for any special number of copies which

SOCIETY OF MOTOR MANUFACTURERS AND TRADERS.

THE secretary attended the first meeting of the newly-formed South-Western Section at Yeovil. Mr. J. H. Boll (Messrs. Hill and Boll, Yeovil) was in the chair. A first committee was formed as follows, with power to add to their number:—Mr. J. H. Boll, chairman; Mr. M. H. Tilley (M. H. Tilley and Son, Dorchester), vice-chairman; and Messrs. H. B. Petter (B. and H. Petter, Motor Company, Yeovil), Allen, jun. (Allen and Son, Taunton), Conyers (Blandford), Carver (Bridgwater Motor Company, Bridgwater), and Strickland (Gillingham). Mr. E. H. Fletcher (of Messrs. Denman and Fletcher, chartered accountants, Bank Chambers, Yeovil) has been elected secretary.

The secretary of the society attended a meeting of the agents at the St. James' Hall, Manchester, on February 10th. Mr. W. M. Letts chairman of the committee of the Agents' Section, presided, and was supported by Mr. Tom Garner, chairman of the Lancashire and Cheshire section. This new official, who has been appointed to supervise the organisation of these centres, is Mr. J. S. Stafford.

A 100-MILES reliability trial will be held this year by the Walthamstow M.C.

THE Hotel Portland, Chesterfield, is the headquarters of the Chesterfield and District M.C.

MR. W. J. WILSON, 2, Hergentfelt Villas, Sussex Road, Sidcup, is the hon. secretary of the Cray Valley Cycle and Motor Club.

CASES UNDER THE MOTOR CAR ACT.

RECKLESS DRIVING.

At the Drogheda Petty Sessions, George Durnin, chauffeur in the employment of Captain Taaffe, Smarmore Castle, Ardee, was charged with recklessly driving a motor-car through the town on January 21st, and in a manner dangerous to the public. He was further charged with failing to stop the car when signalled to do so. A fine of £1 was imposed, and Captain Perry, R.M., said he hoped the other motorists who drove at a high rate through the town would be prosecuted, as it would be in the interests of the public and the motorists themselves.

A HAUL AT KINGSTON.

Eight motorists were summoned at Kingston, on the 13th, for exceeding the legal limit. The fines aggregated £39.

Four others were fined sums of £2 and £3 for exceeding the ten mile speed limit in Richmond Park.

A DISMISSAL.

Curling Hunter, of 6, Westbourne Terrace, W., was summoned for driving to the danger at Esher, on January 12th, and with refusing to stop his car when requested by a constable. P.S. Stringer said he timed the car, and found it to be travelling at thirty miles an hour, and as it passed him he took down the number, "K. 70," which he saw distinctly. P.C. Matthews said he also took the number, and had not the slightest doubt about it. P.C. Hibberd said he knew the car well. An independent witness, who was cycling, said, owing to the speed of the car, he also took the number, and gave it to the police at the time. Defendant went into the box, and declared that the car was not in Esher on the day in question, and he called his wife, his son, and two other witnesses to corroborate his statement. Mr. G. C. Sherwood, who appeared for the defence, said it was clear that the police had made a mistake, and that some other motorist had been using the defendant's number. The chairman said the Bench were satisfied that the police took the number correctly, but they thought the defendant was not the driver of the car, and they accordingly dismissed the summons.

AN ENDORSEMENT QUASHED.

In the Divisional Court, on the 12th inst., before the Lord Chief Justice, Mr. Justice A. T. Lawrence, and Mr. Justice Sutton, an application was made in *Moffat v. the Northfield Justices* for a rule absolute to quash the justices' endorsement upon the licence of Mr. Moffat, made in respect of a conviction under Section 72 of the Highways Act, 1835, for obstructing High Street, Bournbrook, Worcestershire, on July 27th, 1907, by allowing a motor-car to remain there for forty-five minutes. Mr. Horace Avory, K.C., briefed at the suggestion of the Motor Union, appeared for the appellant, and argued that an offence under the Highways Act could not be made an offence under the Motor-Car Act. It was only in respect to the latter Act that endorsements could be made on a licence. The Court made the rule absolute to quash the endorsement.

EXCEEDING LEGAL LIMIT.

On Saturday fines of £5 with costs were imposed on five motorists at Croydon; fines of similar amount were also inflicted on three motorists at Grantham.

NO LIGHTS.

At the Shoreham Petty Sessions, Claud Warren, of the Palmeira Motor Works, Hove, summoned for not having the rear identification plate of his motor-car illuminated during prohibited hours, at Southwick, on February 2nd, stated that this was due to the fact that one of the accumulators had run down. P.C. Brett related the facts, and defendant had to pay 6s. costs, no conviction being registered.

ROAD REPORTS.

LLANDAFF AND DINAS POWIS.—Mr. James Holden, the surveyor to the rural district council, has presented a report on the results of experiments in connection with road-making. The experiments were carried out on Pencisely road, over a piece of road 860 ft. long, and with an average width of 20 ft. Upon the surface of the old road was placed a layer of small stones $\frac{1}{2}$ in. in size coated with a special preparation of tar. Over this layer Cleve Hill road metal was spread and rolled slowly, the slow process of rolling enticing rather than forcing the underlayer to penetrate upwards through the voids, abolishing altogether the old binding of gravel and water. The experiments were carried out last August, and Mr. Holden reported that nothing had since been spent in maintenance on this particular portion of the road, and that it created neither dust nor mud.

GIFFNOCK.—At the meeting of the District Committee of Upper Renfrew, a letter was read from Giffnock directing attention to the excessive speed of tramway and motor cars on the Kilmarnock road through that village, and the clerk was instructed to write the Glasgow Corporation Tramways Department, informing them of the complaint, and requesting that the drivers of tramway cars be cautioned not to exceed the authorised speed limit on Kilmarnock road. Regarding the complaint as to motor-cars, it was agreed to request the Automobile Club to provide two of their caution boards, to be erected on the side of the road at Giffnock in positions to be arranged with the road surveyor.

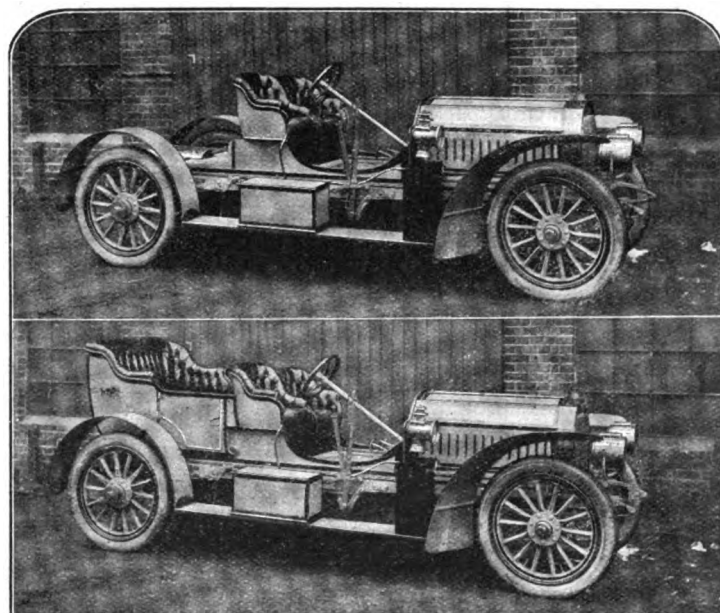
BARNSELY.—Care should be taken when passing along the main road from Barnsley to Penistone between Dodworth and Silkstone Common, owing to a depression caused by colliery workings. The main road through Silkstone to Hoylandswaine is suggested as an alternative route by Mr. J. H. Taylor, the Borough Surveyor.

HAMPSHIRE.—The "Hampshire Chronicle" continues to publish lists of roads under repair. These include the road leading from Christchurch to Wimborne through Holdenhurst district, the Fareham, Droxford, and Alton main road at Warnford, Winchester, and Morestead, and the road from Christchurch to Fordingbridge.

EAST SUSSEX.—The estimate for the repair of roads in East Sussex has increased this year by over £1,700, and the County Council have been informed by their surveyor that the increase is mainly due to the extra wear and tear on the principal roads caused by the studded or armoured tyres of motor-cars. He cited an instance of this on the London and Brighton main road, where there were perceptible tracks on a section of that road which had been prepared with Queenast stone last season. The main roads between Rottingdean and Brighton, Hurst Green and Flimwell, Hassocks and Albourne, and Eastbourne and Wilmington, are under repair.

THE COURTESIES OF THE ROAD.

WILLIAM ROBINSON, carman, has been summoned at West London police court for driving on the wrong side of the road. Mr. Basil H. Thomson, governor of Wormwood Scrubs Prison, said he was driving his motor-car along Ducane Road, when he came upon the defendant's cart in the middle of the road. The defendant was thirty yards behind the cart, and when the witness blew his horn he merely laughed, and made no attempt to pull his horses on one side. A passing postman performed that service, and the witness was thus allowed to go on his way. The defendant, who said there was room on either side of his cart for the motor-car to pass, was fined 18s., with 2s. costs.



Two views of the 35-h.p. Dennis Car recently delivered to Mr. Charles Campton, of The Nook, Tudor Road, New Barnet. As will be seen, the rear part of the body is made detachable, converting the car into a speedy touring vehicle for two persons.

INLAND REVENUE.

MR. W. H. BERRY, Clissold Road, Stoke Newington, was summoned by the excise authorities, before Mr. d'Eyncourt, at the North London Police Court, for keeping a carriage, on September 26th last, without a licence.

Francis MacMahon, an excise officer, said that he found the defendant in possession of, and using, a motor-car which was registered in the previous April. He admitted that he had no licence from the excise, but said that he was registered and licensed by the London County Council, and he thought that was all that was necessary. The solicitor who appeared for the prosecution said that it was necessary for a person within twenty-one days of becoming the registered owner of a motor-car to take out an excise licence. The defendant now repeated that it was a genuine mistake. He was under the impression that his payments to the County Council covered the licence. He took the licence out after the officer called, but shortly afterwards disposed of the car. Mr. d'Eyncourt said that many people were under the misapprehension that the County Council licence covered a motor-car. It seemed to be a slip in this case, and he should only impose a nominal fine of 5s. with 2s. costs.

The representatives of the Kent A.C. on the General Committee of the Royal A.C. are Dr. C. Firth, Capt. S. H. Page, and Mr. G. M. Kenyon.

FORTHCOMING EVENTS.

FEBRUARY.

- 24th (M.).—Motor Show opens at Bcmhay.
 26th (W.).—Prof. H. S. Hele-Shaw and Mr. Douglas Mackenzie will read a paper on the "Problem of Road Construction" before the Society of Arts.
 The Motor Club's Special House Dinner at 7.15 p.m.
 27th (Th.).—Mr. Mervyn O'Gorman at the R.A.C. on "Gear Transmission."

MARCH.

- 2nd (M.).—Annual meeting of the private members of the Auto Cycle Club at the Royal A.C., 7.30 p.m.
 5th (Th.).—Paper by Dr. W. Watson at the R.A.C.
 11th (W.).—Annual meeting of the Incorporated Institution of Automobile Engineers.
 11th (W.).—Mr. F. W. Lanchester on "Problems of Automobile Design," at the Incorporated Institute of Automobile Engineers.
 12th (Th.).—Annual meeting of the Royal A.C.
 Annual dinner of the Royal A.C. at the Covent Garden Theatre.
 18th (W.).—Annual dinner of the A.A. at the Hotel Cecil, London.
 19th (Th.).—Monthly meeting of the General Committee of the Motor Union.
 21st (Saturday)—28th (S.).—
 CORDINGLEY'S THIRTEENTH INTERNATIONAL MOTOR-CAR EXHIBITION will be held at the Royal Agricultural Hall, London.
 21st (Sat.).—Annual general meeting of the Council of the Auto Cycle Union.
 29th (Sun.).—Opening Run of the Southend Motor Club to the White Hart Hotel, Witham.
 31st (Tu.).—Last day for receiving entries, at ordinary fees, for the International Touring Car Race.

APRIL.

- 11th (Sat.).—Annual Open Flexibility Contest of the Crystal Palace A.C.
 16th—20th.—Easter Tour of the Motor Cycling Club.
 18th and 20th.—First meeting of the Brooklands A.R.C. for 1908.

MAY.

- 1st (F.).—The Frome's Hill Climb of the Herefordshire A.C.—provisional.
 10th (Sun.).—Targa Florio Race.
 21st (Th.)—2 h Reliability Trial of the Irish A.C.
 25th.—Industrial Vehicle Competition of the A.C. de France.

JUNE.

- 5th—6th.—London-Edinburgh twenty-four hours' run of the Motor Cycling Club.
 8th (M.).—Cars competing in the International Touring Car Trial will arrive at the depot.
 Start of the International Touring Car Trial of the R.A.C.
 15th—19th.—Scottish Reliability Trial.

JULY.

- The Land's End to John o' Groat's Trial of the Auto C.C. will be held.
 25th (sat.).—Petrol Consumption Tests of the Motor Cycling Club.

LIGHTING-UP TIMES—LONDON.

Feb. 22nd—6.24	...	24th—6.28	...	26th—6.32	...	28th—6.35
" 23rd—6.26	...	25th—6.30	...	27th—6.34	...	29th—6.36

CRYSTAL PALACE A.C. FLEXIBILITY EVENT.

THE first open event in which the car standards drawn up by the Society of Motor Manufacturers and Traders, adopted by the R.A.C., will be used is to take place under the auspices of the Crystal Palace A.C. on April 11th. The cars will be divided into five classes, according to the engine rating, not being greater than 6'4, 16, 25'8, 40 and 60. Entries accompanied by a fee must be made to the hon. secretary, Crystal Palace A.C., 35, Earlethorpe Road, Sydenham, on Tuesday, April 7th. The competitors will meet at the Crystal Palace on Saturday, each furnishing an observer, who will not, however, travel on his nominator's car. His duties will be to note every change of gear on the route to Bexhill and the time in seconds when such gear other than the top is used.

MR. CHARLES FRISWELL has arrived at Colombo on his return journey from Bombay, where he has been engaged in fixing up agencies for Standard cars.

CARBURATION, LTD., Byron House, 85, Fleet Street, E.C., proprietors of the G. & L. carburettor, have sent us a copy of an instructive pamphlet they have lately issued describing and illustrating it. The design is the outcome of a long and scientifically conducted test of carburettor action. There are numerous points in the G. & L. carburettor which are fully gone into in the pamphlet, which also includes instructions for fixing the apparatus.

THE EXPIRATION OF A TIME LIMIT.

BEFORE Mr. Justice Bray and a common jury, in the King's Bench Division, on the 13th inst., Miss Ada Hewlett, a dressmaker, living at Wimbledon, sued the London County Council for damage for injuries sustained and business lost as the result of being knocked down by a motor fire engine in the Westminster Bridge Road, on September 25th, 1906. The defence was that the action was not brought within six months, and therefore the defendants were not liable under the Public Authorities' Protection Act. The jury found for the plaintiff and awarded her £425 damages. His Lordship, however, gave judgment for the defendants, holding that their contention succeeded.

COMPANY NEWS.

DION DUNLOP MOTOR COMPANY.—£100. Agreement between W. H. White and R. Poole for acquisition of the right to use name of Dion Dunlop Motor Company, Limited (now being wound up). To take over an agency for sale of motor vehicles, &c.

PROVINCIAL MOTOR CAB COMPANY.—£303,000. To adopt an agreement with the United Investment Corporation, Limited, and to carry on the business of proprietors and manufacturers of, and dealers in motor-cabs, omnibuses, cars, carriages, vans, and other public or private conveyances, carriers of passengers and goods, garage keepers, &c.

PARK MOTOR CAB COMPANY.—£2,000. To give guarantees and act as surety in respect of the drivers of motor-cabs owned by Motor Cabs, Limited, and contracted to ultimately become property of such drivers on hire-purchase system, &c. 39, Gerrard Street, W.C.

MONTAGUE HAWNT AND CO.—Capital of £15,000. To acquire the business carried on at 136-142, Clerkenwell Road, London, and 56-8, Dudley Street, Birmingham, as Montague Hawnt and Co., together with the rights (subject to the obligations and liabilities of the vendor under an agreement dated October 2nd, 1907, between himself and J. Mason), to adopt an agreement with W. M. Hawnt.

STEPNEY SPARE MOTOR WHEEL, LTD.—The directors of this company have decided to pay an interim dividend for the six months to February 29th at the rate of 10 per cent. per annum, payable on March 7th.

POLICE TRAPS.

AT many of the familiar places on the Great North Road police traps have been revived lately.

THERE is a trap in the Portsmouth road, Putney. Motorists caught therein are given a chance of examining the stop watches used by their captors.

THERE is a police trap in the parish of Long Bennington, on the Great North Road, near Grantham.

BUSINESS NEWS.

MR. FRANK BOLTON, of Oakamoor, has placed an order with Ariel Motors, Ltd., for one of their 40-50-h.p. cars.

MESSRS. ALFRED HERBERT, LTD., of Coventry, send a copy of their new catalogues of horizontal and vertical milling machines.

MESSRS. BALDOCK AND CO., of Tamworth Road, Croydon, are letting motor-cars on hire.

MESSRS. W. PARKYN AND SONS, LTD., are specialising on motor-body building at Holmes Road, Kentish Town, N.W.

EVERYWHERE the 10-12-h.p. Coventry Humber is winning golden opinions. Writing from Oude Pekela (Holland), Mr. H. V. Russum states that his 10-12-h.p. vehicle has given him the highest satisfaction. "I have not had the slightest trouble with the car, the consumption is very small and the most pleasant feature is that the car runs so noiselessly. It took seven and a half hours from Amsterdam to Pekela via Amersfoort, Harderwijk, Zwolle, Mappel, Assen, Gieten and Stadskanaal."

Dr. MILSOM REES, of Upper Wimpole Street, London, W., has recently taken delivery of a 24-32-h.p. Porthos car.

MESSRS. G. W. HOUK, LTD., 46, Knightsbridge, S.W., have been appointed West End agents for Peugeot cars by Messrs. Friwell, Ltd.

MESSRS. MERO, LTD., of Sheffield, the patentees and makers of the Mero silent change-speed gears, have appointed Mr. J. H. Burgess, late with the Simms Weilbeck Company, their London agent. They have opened offices at No. 8, on the Mezzanine floor, Albion House, New Oxford Street, where they have a working model, while trial cars will be at the disposal of anyone who wishes to try the gear.

IN March of last year the Wick Nurseries Company, of Barton, Oxford, fern, plant and fruit growers, purchased a 2-ton 18-22-h.p. four-cylinder petrol motor lorry from the Argyll Company. Mr. H. Locke, the manager, informs us that "We are quite satisfied with the work the vehicle has done for us during the time we have had it; also that we have had very little trouble so far. As you are probably aware, we have some stiff hills in this district, but the lorry faces all quite comfortably with two tons up. We use it for transporting coke, manure, vegetables, plants, trees, &c.; in fact, whatever we have to haul about. When in full work the lorry does the work of six horses daily. A week's running was as fellows, for a two-ton load—240 miles, using 22 gals. of petrol, 6 gals. lubricating oil and 3 lbs. grease."



